

## DIETARY HABITS IN THE CARIBBEAN BASIN AND CENTRAL AND SOUTH AMERICA

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### ABSTRACT

Large numbers of health organizations, groups of experts, and nutritionists are looking with increasing concern at the spread of obesity and obesity-related non-communicable chronic health problems throughout the Caribbean Basin and Central and South America. The region has enjoyed unprecedented economic growth as a result of what has been called the “smokeless economy”—increased international tourism together with unparalleled advancement in communications technology and the specialized services industry. This economic boom has also led to the development of new dietary habits typical of so-called First World societies, which are largely replacing traditional regional diets. The obesity resulting from this “overnourishment” goes hand in hand with severe nutrient deficiencies, ranging from a lack of specific micronutrients such as iron and vitamin A to outright malnourishment. The author provides an overview of the current situation and offers policies and recommendations in an attempt to promote successful intervention. A significant impact on the current situation can only be made through joint effort by government authorities, health officials, professionals, and the population in general.

DeCS Subject Headings: Obesity, Food Habits, Noncommunicable Chronic Illness, Caribbean Basin, Central America, South America.

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## INTRODUCTION

Nutritional state is one of the most important factors in determining the health of a population.<sup>1,2</sup> The nutritional state of a population is directly related to the level of food security enjoyed by each of the members of that population, and an ideal nutritional state is attained when each member has physical and economic access, at all times, to a sufficient amount of safe and nutritious food that satisfies his or her nutritional needs, personal preferences, and tastes, allowing him or her to lead an active, healthy life.<sup>3</sup> However, the ideal nutritional state of a population is not only dependent upon the global availability of food that will, in practice, fulfill its energy and nutritional needs, as any combination of economic, geographic, social, and cultural factors may also negatively affect physical access to food and families' ability to purchase or produce food.<sup>4-7</sup>

Human beings' physical, psychological, mental, and spiritual health also depends on the economic, political, social, cultural, and educational environment that surrounds them, and where, based on these factors, they ultimately develop their particular lifestyle.<sup>8</sup>

One of the most important contributors to a population's healthy lifestyle is the development, through proper education, of dietary customs, habits, and conduct which, taken as a whole, allow individuals to achieve and maintain a normal nutritional state.<sup>9,10</sup>

Currently, it is accepted that in order to find the most appropriate solution to dietary and nutritional problems that affect a population, it is necessary to correctly identify specific conditioning factors and focus efforts on those that allow for community involvement. Dietary-nutritional education is one of these factors and its purpose (and goal) is, on one hand, to alleviate as far as possible the negative effects of reduced access to food and, on the other, to minimize, to the extent possible, the consequences of unequal access to specific food sources in specific situations involving free availability and adequate individual purchasing capabilities.<sup>11</sup> Today, as a result, educational intervention designed to solve population-level dietary-nutritional problems is seen as an essential complement to actions designed to improve family and individual food safety. This type of intervention has become the principal strategy in the prevention and control of diet-related, noncommunicable chronic illnesses, based on the development and establishment of proper dietary customs, habits, and behavior.<sup>9,11</sup>

### Considerations on Hunger, Appetite, and Food Intake

The factors involved in the determination of food choice and intake in human beings are diverse and have both physiological and psychological components.<sup>12</sup> The brain is the material and functional substrate for these processes. It, in a sense, acts as a processor for many different types of signals, and in short, regulates energy expenditure and storage through food intake.<sup>13</sup>

The amount of food ingested by a human being depends essentially upon

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an individual combination of sensory and cognitive responses and is directly related to the energetic and nutritional content of the dietary-nutritional substances consumed.<sup>12</sup>

In man, social and cultural experiences serve to drastically alter the effect of signals directly related to his physiological and metabolic state. Likewise, purely psychological factors, such as the presence of dinner companions, specific social situations, the occasion, cultural norms, religious beliefs, and hedonic factors all contribute significantly to the sensation of satiety.<sup>12,14</sup> On a simpler descriptive level, it has been suggested that when the body is in immediate need of energy and nutrition, the intensity of physiological sensations identified as hunger will increase until that need has been properly satisfied. If the person has just eaten, these sensations will be weak; on the other hand, they will be relatively strong and may even cause discomfort if some time has passed since the last meal.<sup>13,14</sup>

The coincident presence of pleasurable cognitive or sensory elements will tend to increase the intake of food. In the absence of such elements, even the signals that activate the hunger response may not be strong enough to force the individual to consume food that is unknown, disagreeable, prohibited by religious belief, or that has an unpleasant appearance, taste, or smell.<sup>14</sup>

From a methodological and conceptual point of view, it is important to make an appropriate distinction between the terms “hunger” and “appetite”. While the former describes the conscious need to ingest food (the underlying sensation), the latter is related to the “desire to eat”, and is thus associated with the pleasant aspects of choosing and ingesting food. It is also important to remember that interdependence may exist between the two terms: appetite may in turn be accentuated by hunger.<sup>12</sup>

The term “appetite” is frequently used to identify the signals that motivate or lead an individual to choose and consume specific foods and nutrients, and may be manifest through such behaviors as choosing a high-calorie diet, a preference for other substances that will satisfy an immediate need for specific nutrients (such as pica), or simply choosing foods that will satisfy the hedonic desire for a specific taste.<sup>12,14</sup>

From the moment that cognitive and sensory satisfaction signals begin to appear, different dietary-nutritional chemical compounds begin to generate their own post-ingestion and post-absorption satiety signals.<sup>13</sup> In short, volume, composition, rate of absorption, as well as the corresponding metabolic responses they trigger, have an influence on the first appearance of the feeling of satisfaction, while the duration of that feeling and the length of time until the next food intake will depend essentially upon the complex set of neural responses occurring within the central nervous system.<sup>14,15</sup>

### **Geopolitical, Economic, and Social Aspects of Diet and Nutrition**

In developing countries (and in rich or developed “first world” countries), families suffering from improper nourishment are a familiar sight, but the consequences of these dietary problems have significant social implications. For example, children with a lack of curiosity in their eyes due to poor nutrition, large num-

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bers of children much too short for their age, young people who cannot breathe hard enough to blow off the flies that mill around their wounded faces, adults who cross the street at a desperately slow pace, and 30-year-old mothers who appear to be over 60 are a sight all too common in countries where malnutrition has become endemic. These images stand in stark contrast to those of men, women, children, youth, and adults whose quality of life and performance are severely compromised due to the accumulation of excess fat in their bodies. And both of these extremes can be found coexisting within the same geographical boundaries at the same point in time—a phenomenon that has recently become known as “Obesity in Poverty”.<sup>16</sup>

Today, it is an accepted fact that human beings are the most important factor in development, that the quality of human existence is precisely the ultimate measure of such development, and that proper nutrition is the most transcendental of all factors affecting the general existence and conditions of an individual. Therefore, the nutritional state of individuals and the population as a whole is the most determining and decisive factor in development.<sup>17</sup>

Poor nutrition, whether due to excess or lack of food, is detrimental to human mental and physical development, to productivity, and to the number of years of active working life, all of which have an adverse effect on the economic potential of man in society.

In recent years, the concept of capital has been extended to human beings. The development of this new theory was driven essentially by the discovery that “increases in national output have been large compared with the increases of land, man-hours, and physical reproducible capital. Investment in human capital is probably the major explanation for this difference”.<sup>18</sup>

Similar attempts have been made to determine the undeniable economic benefits of health investment, comparing the cost of death prevention to future earnings by that worker had he lived.<sup>19</sup> Some have also explained the importance of investment in human capital by comparing it to losses caused by death of the worker at any time before retirement. This capital includes health, food, clothing, housing, education, and other expenses necessary for providing a person with the education he or she must have in order to fully develop his or her particular abilities. Where death is not directly a factor, these costs can also be compared to diminished work capacity.<sup>20</sup> Whether illness results in direct loss of working days or in the reduction of working capacity (whether temporary or permanent), the calculated loss in production, together with the cost of medical attention, can be compared to the proposed costs of preventing the illness in the first place.<sup>21</sup>

Similarly, the earnings obtained from expenses in food for human workers and the resulting improved nutritional state can also be compared. Undoubtedly, improved nutrition will increase the flow of earnings above that which would have been earned in the absence of an increase in general well-being (on both the individual and collective levels), especially if such improvement allows an absent worker to be reincorporated into the active labor force, extends working life, overcomes a reduced state of energy or health that diminishes productivity, helps a child return to school or improves his or her ability to comprehend and retain information, or allows an adult to more effectively assimilate any type of training

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in the workplace.<sup>18-21</sup>

Once a person's well-being has been stabilized, food and nutrition costs immediately become support expenses. Therefore, making and maintaining this type of improvement can play a role in raising (or at least maintaining) the productivity of an active member of the labor force, or it may take the form of an investment by raising expected earnings over the future active working life of a 2-year-old child. All of these ideas emphasize the importance and transcendence, for the economic development of a society as measured by its members' ability to enjoy complete happiness, of a properly assured food supply, in sufficient quantity and quality, that will ensure the best possible nutritional state for that society.<sup>22,23</sup>

In short, poor diet and nutrition is not just a consequence of underdevelopment, but is also a contributing factor—a true stumbling block to the expression of potential that can lead to the improvement of society as a whole, and a dead weight for those groups who have already achieved notable scientific and technological development, but who have paid little attention to dietary-nutritional care. If something is not done immediately to improve the dietary and nutritional situation of the least-favored two-thirds of the world's population, not only will the development of human resources and the development in these countries be held back, but the development of these nations as countries will also be hindered. It is important to note that it is the intrinsic quality of people as human beings that is in jeopardy, and not only individual quality of life. Unless something is done to significantly control the current level of malnutrition, in a short time, it could become a great detriment to the performance, appearance, physical well-being, and even the mental capacity of a large portion of the world's population.<sup>24</sup>

In these times of fast-paced Neoliberal Globalization, preventing this type of damage will require new points of view and new approaches, further research, new organizing entities in the context of a whole new discipline, and, most importantly, renewed interest in the problem and a new plan of action involving the world as a whole. It is sad that so much information is at hand justifying the allocation of the necessary resources that could solve the dietary and nutritional problem, while at the same time corrective action, even on a basic scale, knowing that isolated efforts will always be inadequate and unacceptable, remains unimplemented; because now is the time to realize that, in spite of the fact that some human dietary and nutritional projects yield positive, useful results, the ultimate objective should have a much higher aim: to achieve much more overarching goals.<sup>25-27</sup>

### **An Overview of Dietary Habits of Individuals and Groups**

The organoleptic elements of a diet (e.g. eating pattern), in other words, the factors related to the color, flavor, smell, and texture of food and which determine its palatability and tendency to be chosen as food, play an important role in the development and establishment of customs, conduct, and so-called dietary habits,<sup>28</sup> together with other well-established and recognized factors (elements)

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that form part of the local culture, such as beliefs and traditions, geographic environment, availability of food, economic resources, religion, and psychological and pragmatic differences.<sup>29,30</sup>

These factors evolve over long periods of time and large distances, and it is precisely these factors that form the response to new lifestyles, which are always accompanied by new products that are incorporated into diets designed to satisfy the energy and nutritional needs of each individual (which should be healthy, normal, or balanced diets), but which today seldom do.<sup>31</sup>

Dietary habits are directly related to differences in the economic resources of each individual or group of people (and vary with even small fluctuations in these resources); but they may also be modified through contact between representatives of different dietary cultures. This may help explain changes in traditional eating patterns, just as what occurred with the dietary habits of the Native American communities following the discovery of America.<sup>32,33</sup>

### Important Aspects of a Healthy Diet

In practice, it is not easy to make human beings build their diets around the actual energy and nutritional intake required to maintain the normal structure and function of the cells that make up the different tissues and organs of their bodies, and consequently, develop the capacity to achieve complete normal body function.

Energy is Nature's most valuable attribute. It can be defined as a measure of a system's capacity to perform useful work, whether inside the system itself or by acting on its environment. Therefore, the energy available to a living system or organism will allow it to perform a specific amount of biological work, at a particular speed or with a given force, which will, in short, allow it to adapt to changing environmental conditions.

From a dietary and nutritional standpoint, energy is the most important need that must be satisfied through diet. An organism's energy needs are determined by that individual's energy expenditure, which, in turn, is determined fundamentally by its resting metabolic rate and its level of physical activity.

The energy needs of the individual are satisfied by consuming so-called energy-yielding food chemical substances, or simply food energy, that is: carbohydrates (also known as sugars) and neutral fats. Each of these food categories must make up a fixed, constant percentage of a healthy diet: carbohydrates must make up between 55 and 60% of the total energy content of the diet and neutral fats between 25 – 30%. Proteins must make up the remaining 10 – 15% of the total energy content, although it is important to point out that proteins are not generally included in the diet for their energy content, but rather to satisfy the constructive needs of growth and development in living organisms.

A healthy diet, then, is one that provides the individual with sufficient food energy and the required amounts of nutrients to perform different types of biological work. This is achieved through an adequate, varied, and balanced diet. A healthy diet must also provide specific amounts and types of dietary fiber, as well as other nutrients such as vitamins, minerals, and trace elements—all of

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which are essential to the health of the individual.

The energy provided by the diet must be consumed in “discrete packets”; that is, not all at once, but rather distributed over several meals throughout the day—no fewer than 6—where each meal satisfies, in terms of energy requirements, a specific percentage of the total required energy consumption for that individual. Therefore, the following distribution is recommended: breakfast – 20%, morning snack – 10%, lunch - 30%, afternoon snack - 10%, dinner - 20%, and supper – 10%. As long as people maintain correct dietary habits, they will be able to achieve healthy, normal, or balanced diets, which in essence, is the ultimate goal of the Food Science, Nutrition, and Dietetics disciplines.

### **An Overview of Dietary Habits in the Central American, South American, and Caribbean Basin Regions**

In the group of small Central American and Caribbean Basin countries, as well as in the large area covered by the South American nations, so-called “principal conditioning factors of dietary behavior”, or “regional dietary habits”, have been identified, at least schematically. These include geographic characteristics, availability and choice of food, economic availability, cultural level, educational frameworks, advertising or marketing, social frameworks with their heavy payload of customs, religious taboos, family structures, food preferences, nutritional education, the results of health studies, social infrastructure, communication, politics, economics, and important traditional factors.<sup>28,29</sup>

Today, a large portion of the Caribbean, Central American, and South American populations suffers the negative biological-functional consequences of poor nutrition due to lack of food, while another significant portion clearly suffers from the effects of over-eating, and is consequently exposed to illnesses due to “overnourishment”. An abundance of traditional, mythical, and symbolic factors related to everyday food choices are manifest in both groups, and have so strong an influence on individuals’ food preferences and aversions that they are among some of the principal defining elements in food preparation, distribution and food services.<sup>30</sup>

As in many other places around the world, the dietary habits of the Caribbean, Central America, and South America depart drastically from those necessary, in practice, for a healthy diet. While the lack of understanding with regard to the nutritional value of food is cause for concern, there are other factors that, taken together, paint an even bleaker picture for short-, medium-, and long-term health and well-being in the region: the economic insecurity of the vast majority of people living in the region, lack of access to the elements of a healthy diet, and inadequate availability of food in local markets.<sup>28,34,35</sup>

In the midst of this complex and chaotic situation, new negative trends in the dietary habits of Latin American communities are observed with increasing frequency. First, food distribution and consumption, a highly indicative measure of the functionality of family, work, and school organizations—social relationships typically established around food—are less than ideal and depart drastically from what they should be.<sup>35</sup> A similar thing occurs with the so-called food preferences

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that identify and classify individuals into different groups: the “junk-food junkies”; the fast-food lovers, who are mainly teenagers; the “snackers”, which includes a large number of adults; the “self-service” group, which has turned people into waiter-diners, just to name a few.<sup>36</sup>

Today, the inhabitants of the Caribbean, Central Americans, and South Americans are suffering the consequences of a notable change in their dietary habits due to the impact, on one hand, of new lifestyles, which cause drastic changes in both family and social organization, and on the other hand, of the development of advanced agronutritional technology which has provided consumers with “convenience foods”, specially designed to ease preparation and consumption, in large measure without accounting for the true nutritional value that each component of the diet should have.<sup>34,35</sup>

The World Health Organization (WHO) has recently acknowledged that the implementation of intense educational efforts with regard to diet and hygiene, the general improvement of living conditions, and increased access to socio-economic work and production areas (which are currently very small) by large numbers of the population are necessary for the entire Caribbean Basin and Central- and South-American regions. Within a framework of long-term political stability and increased governability, actions like these must facilitate the re-establishment of the best individual and community dietary customs, and lead to subsequent changes in dietary habits and behavior. Finally, such actions must also influence the operation of primary and secondary medical care services, which, if allowed to remain in their current state without proactive intervention, will only increase the death count, especially among the most vulnerable age groups—during the first 5 years of life on one hand, and during the so-called “golden years” on the other—which currently falls in the tens of thousands in this (our) geographical region. At the same time, the WHO has also stated that “this will only be possible by uniting our efforts, and with the conscious involvement of governments and the population in general”.<sup>37-39</sup>

The WHO, together with other institutions and bodies of experts, has proposed that it is necessary to work with the goal of helping people understand and put into practice as far as possible the fact that, with regard to diet, healthy dietary habits can only be developed to the extent that the nutritional value and safety of food is known and understood, and only if there is a sufficient supply of such food on the market and the necessary economic resources are available for its purchase. The idea is not to make cold, analytical recommendations for radical changes to consumption tendencies, but rather to reinforce the population’s traditional customs as it progresses toward a nutritional state that does not center around the excessive consumption of saturated fats, red meat, salt, and so-called refined sugars, and around the rejection of dietary fiber, disdain for fish, and a patent distaste for fresh vegetables and fruits—tendencies that have become extremely common throughout the region.<sup>39-41</sup>

Improper dietary habits lead to dietary deficiencies, reduced resistance to illness, retarded growth and development, decreased labor productivity, and poorer performance in school and sports. It is also important to remember that excess food intake, together with a sedentary lifestyle, promotes the onset of

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obesity with its long list of chronic illnesses, including high blood pressure, arteriosclerosis, diabetes, and even cancer.<sup>40</sup> Unfortunately, situations like these have become very widespread throughout the Caribbean Basin and Central and South America among both economically advantaged and disadvantaged populations and among populations in various phases of social, political, and economic development. The transformation of the region's current dietary habits into healthier dietary practice must include the establishment of necessary and proper food handling hygiene.<sup>39</sup>

This essay would not be complete without mention of alcoholism as a regional health problem. The intake of alcoholic beverages is wrong in every aspect, and a growing number of individuals in the region are becoming involved with alcohol. Alcoholism, in addition to being addictive, can lead the drinker to develop improper dietary habits, such as eating at inappropriate times, or even drinking instead of eating. Similar reasoning could be applied to other addictions such as drug use. The pernicious effects of alcoholism on the health of the drinker have been shown time and again: individuals who drink show high levels of cholesterol and triglycerides in the bloodstream, a predisposition to obesity, and a significant decrease in their body's capacity to use certain vitamins and minerals.<sup>40,41</sup>

## CONCLUSIONS

The need to promote the development of proper dietary habits in the Caribbean Basin and Central and South America is imperative, despite the many difficulties involved; and only by doing so will it be possible to realize the nutritional goals that will promote good individual and collective health, which in turn will insure the economic development necessary to sustain greater social well-being.

## ABSTRACT

Large numbers of health organizations, groups of experts, and nutritionists are looking with increasing concern at the spread of obesity and obesity-related noncommunicable chronic health problems throughout the Caribbean Basin and Central and South America. The region has enjoyed unprecedented economic growth as a result of what has been called the "smokeless economy"—increased international tourism together with unparalleled advancement in communications technology and the specialized services industry. This economic boom has also led to the development of new dietary habits typical of so-called First World societies, which are largely replacing traditional regional diets. The obesity resulting from this "overnourishment" goes hand in hand with severe nutrient deficiencies, ranging from a lack of specific micronutrients such as iron and vitamin A to outright malnourishment. The author provides an overview of the current situation and offers policies and recommendations in an attempt to promote successful intervention. A significant impact on the current situation can only be had through joint effort by government authorities, health officials, professionals, and the population in general.

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