

Is Obesity a Health Problem in Cuba?

Arturo Rodríguez-Ojea Menéndez and Santa Jiménez Acosta

INTRODUCTION

Changes in dietary patterns and physical activity are reflected in nutritional outcomes, e.g. changes in average stature and body composition. Modern societies seem to be converging on a pattern of diet high in saturated fat, sugar and refined foods and low in fibre, usually termed the “Western diet” (Popkin, 2002). These changes, among others, have contributed to an increased life expectancy, but at the same time, to an increased morbidity and mortality from the diet-related non-communicable diseases (NCD) mostly associated to obesity not only in affluent societies, but also in many sectors of populations in low-income societies. Obesity, a well known disease, has emerged with new epidemic features as a negative outcome of the different patterns of transition and as an unhealthy well identify common factor for NCD and its increasing rate of morbidity and mortality.

In Cuba, undernutrition and specific nutrient deficiencies, infectious diseases, infant mortality, low birth weight (LBW) and maternal mortality decreased drastically shortly after 1959, as a result of better access to better health services, enhanced food security, and a permanent and nationwide vaccination campaigns, among other factors (Porrata et al., 2000).

Dietary changes observed were marked by increasing amounts of total energy per capita, particularly from fat and refined carbohydrates and by an increased availability of animal protein which lead to higher rates of overweight and obesity in the overall population.

However, a sudden change in this trend came about in the early nineties. A severe economic crisis emerged from the collapse of the European Socialist countries and the Soviet Union, the main Cuba’s trade partners since the 1960s and the reinforced long lasting United States’ blockade (National Plan of Action, 1994). The acute reduction of food and essential supplies had a large impact on population’s nutritional status and physical activity. Overweight decreased both in adults and children (Porrata et al., 20002). In addition, an outbreak of optic neuropathy was associated, among others, to this nutritional and physical stress, and to some specific nutrient deficiencies (Gay et al., 1994).

Currently, there are some indicators of body weight recovery, less physical activity and increasing percentages of NCD in population as an outcome of an improved economic situation.

This paper describes current trends in dietary habits and food consumption, prevalence of overweight and their relationship to the post critical stage in Cuba.

MATERIALS AND METHODS

Per capita availability of energy and specific nutrients is from the national food balance sheets. Information on food availability and consumption are from the “National Statistics Office”, the Institute of Nutrition and Food Hygiene and the Food and Agricultural Organization (FAO) “Nutrition Countries Profiles” Cuba 2003; as well as from the FAO statistics data base “FAOSTAT” WebPages 2003. Information on prevalence of overweight and obesity is from studies carried out in 1982 (urban/rural nationwide representative sample); and in 1993 and 1998 in urban areas of Havana City, by the Department of Growth and Development, “Julio Trigo” Faculty of Medical Science, University of Havana and the “Second National Survey on Risk Factors and Preventive Actions for Non Communicable Diseases in 2001”, by the Institute of Nutrition and Food Hygiene and the Institute of Hygiene, Epidemiology and Microbiology. Body mass index (BMI) cut-off points (kg/m²) for adults were: <18.5 chronic energy deficiency; 18.5-24.9 normal; 25-29.9 overweight; and ≥30 obesity. Data on food consumption and dietary habits are from the 2001 “National Survey on Food Choice, Consumption and Preference” conducted by the Institute of Nutrition and Food Hygiene. Data from health promotion and preventive activities in the population are from the “Primary Health Care and Family Medicine Methodological dossier”.

FOOD CONSUMPTION AND DIETARY HABITS

The current Cuban population dietary habits is a mixture of three main streams; Spanish, western coast Africans and, to a less extent, south Chinese. Native population was almost exter-

nated before the end of the XVI century, although some traditional foods are represented in the contemporary Cuban population diet, e.g. manioc, beans, and wild animals. Spanish colonization introduced rice, wheat, coffee, and potato, whereas sugar cane as cash crop. The final result was a merge of aborigine and foreign foods and dietary habits. A good example is the combination of rice and beans that became the staple food up to date (Nuñez and González, 1999)

For the last 15 years, carbohydrates contribution to energy has steadily increased. In 1980, carbohydrates contributed 65.4% of energy supply. In 1993 this proportion rose to 79.4% and stabilized around 70-75%. The proportion of energy from fat has shifted from 23.5% in 1985 to 10.7% in 1993 and 17.2% in 2001. Vegetables and fruit availability has increased during the last few years and currently represents 8.8% of energy supply. Urban agricultural production has increased as part of the government strategies to improve population nutritional status and to prevent the development of NCD (Oficina Nacional de Estadísticas, 2002).

On the other hand, the dietary habits of the Cuban population consist mainly of high energy-dense foods, e.g. fried pork meat and chicken, and high glycemic index carbohydrates, as polished rice, white bread, potatoes, soft drinks and sugar cane. In spite of a permanent campaign to promote a healthy diet and the increasing availability of fresh vegetables and fruits, the food preferences of the population are not particularly healthy (Jiménez, 2003).

Food preference was investigated in adults. Selected people were asked about their food choice if all food groups were affordable and available, and their choice was compared to real food consumption. Results show that fruit and vegetables would be consumed in adequate amounts by less than 20% of the population, while fat and sugar consumption would be more than double the dietary recommendation. (Porrata, 2004. Personal communication).

Dietary habits during the last few years have shown a positive trend toward an increasing intake of fruits and vegetables but also of fats and sugar. Sugar consumption per capita (160 g/d) is one of the highest in the world and represents over 20% of the total daily energy intake.

In a survey of food preferences, 23% of interviewed households reported predilection for a high energy-dense diet, including pork meat and poultry as animal protein, bacon and lard; rice and beans as staple foods, cassava, plantain, and usually high in sugar beverages and dessert, and

consequently low in non-starch polysaccharides (NSP)/ dietary fibre (Jiménez, 2003).

Marketing of fast food and energy-dense foods and beverages with a poor content of micronutrients is absent, and there is a national media campaign promoting healthy dietary habits. In elementary as well as in high schools, curriculum includes food and nutrition lessons as part of such campaign.

EPIDEMIOLOGICAL ASPECTS OF OBESITY

The first national survey to assess the nutritional status of children was conducted in 1957, in 2171 children 11-13 years old, in selected elementary schools in urban and rural areas in Cuba. The prevalence of obesity was 6.6% (9.8% urban; 3.8% rural), and of underweight 41.2% (36.2% urban; 45.6% rural). Multiple vitamin deficiencies were also reported. These high percentages of undernutrition highlight the main nutritional problem in Cuba up to end of the 1950s (Jolliffe et al., 1957).

As a consequence of the epidemiological and nutritional transitions starting on the 1960s, this phenomenon reverted: undernutrition decreased and overweight increased. In the 1980s, overweight prevalence in 6-11 years children from urban areas reached 14.2% and obesity 9.1% (n=2756), while in the 12-18 years group (n=1307) these rates were 11.4% and 4.5%, respectively (Amador and Peña, 1991).

Few national surveys on obesity in adults were conducted before 1992. Statistics from different non-representative sample in studies on the prevalence of obesity in adults in the 1980s showed large differences, ranging from 15% to 31% (men 8-39%, women 20-47%) (Porrata et al., 2000).

The largest survey on the nutritional status in adult population conducted in Cuba assessed a sample of 30063 adults 20-59 years (62.2% females) selected both, in urban and rural areas in 1985. BMI ≥ 30 kg/m² was measured in 5.1% males and 12.2% females. Overweight, (BMI ≥ 25 -29.9 kg/m²) was 26.4% in males and 27.2% females. Overweight and obesity prevalence were higher in urban as compared to rural areas for both genders (Berdasco and Romero, 1992).

Shortly after the early nineties Cuba's economy underwent serious constraints, and prevalence of obesity decreased sharply. The percentage of adult population with chronic energy deficiency (BMI ≤ 18.5 kg/m²) more than doubled in women and increased 88% in men in Havana

City; whereas overweight and obesity prevalence rates significantly decreased, both in men and women (National Plan of Action, 1994).

In a survey of 3995 adults 20 to 60 years old (3079 females) from urban areas in Havana City in 1993 conducted by Berdasco et al. prevalence of overweight and obesity were 16,8% and 2,7% in men and 18,6% and 6,2% in women; in other words, a 52,3% reduction in males and 44% in females (Porrata et al., 2000).

In 1998 Berdasco et al. conducted a new survey of 4197 adults 20 to 60 years old (3618 females) in a sample similar to the study in 1993. Results showed higher percentages of overweight (25.1%) and obesity in men (7.1%) and in women, 26.7% and 10.2%, respectively, as compared to figures in 1993 (Rodríguez-Ojea et al., 2001).

In 1995, a nationwide representative sample of adults 20-59 years in urban areas (n=20046) was surveyed. Prevalence of overweight was 20.3% in males and 25.3% in females; while obesity was 6.0% in males and 11.1% in females.

In the other hand, physical activity increased during the 1990s. Sedentary population in urban areas was estimated at 33% in a nationwide representative sample of adults in urban areas in 1995 as compared to 70% in 1987 in a sample of adults in Havana City. In a survey in 2230 adults 25 to 64 years, also in Havana City in 1999, prevalence of physical inactivity was 45.1% in men and 32.5% in women.

During the last few years, a relapse in body weight has been confirmed. In 2001, preliminary findings from the Second National Survey of Risk Factors and Non-Communicable Diseases showed an increasing percentage of overweight

in urban population above 19 years (n=22851) in both genders. In the 6 years period between the 1995 and the 2001 surveys, the overall prevalence of overweight increased from 26.1% to 42.3%.

A noteworthy data issued from these two studies, is the difference in BMI mean values when comparing eastern to western provinces. Although every selected area shows increasing percentage of overweight, both the 1995 and the 2001 survey show higher figures in the western provinces (29.5% and 45.4%) as compared to the eastern (22.7% and 39.2%) respectively. Dietary, ecological and other associated factors may need to be investigated to find out the reasons of this disparity.

DISCUSSION

Evidences presented support the fact that adult's body composition has kept his pace to higher body weight associated to sedentary life styles and higher energy intake, in spite of the shift observed during the 1990s. A question arising from this evidence is whether there are enough components to talk about an obesogenic environment in Cuba and to what extent it is understood. Available information confirms that once food shortage is overcome, as it happened in the 1960s, and again after the 1990s, overweight regains its place. Therefore, there are evidence that population's weight relapse has been a consequence of inappropriate life styles, particularly a diet associated to high intake of energy-dense micronutrient-poor foods and sedentary life style. Associated risk factors as smoking and alcohol consumption have been also identified as well as risk factors to the main causes

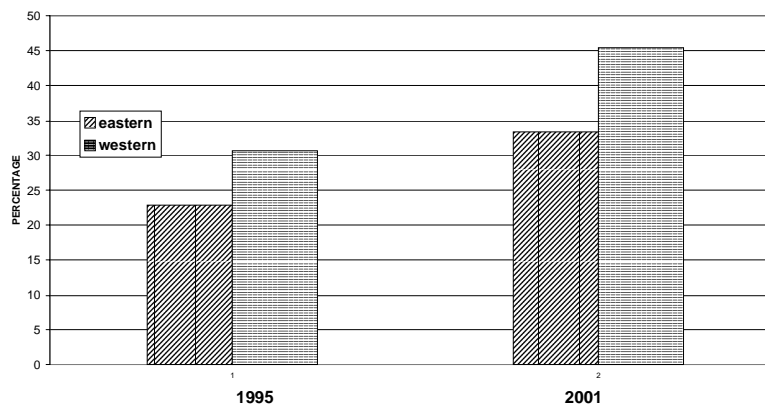


Fig. 1. Prevalence of overweight (BMI \geq kg/m²) in 1995 and 2001 in different areas in Cuba

of death in Cuba: cardiovascular diseases and cancer.

One of the reasons behind this relationship is that all these risk factors may be considered as part of tradition and cultural patterns, seen in its anthropological sense, which involves learned patterns of behavior and belief characteristics of a particular society. This dimension of the anthropological perspective includes variables demonstrably related to the prevalence of obesity in a particular group, as material aspects of lifestyles, like diet and productive economy, as well as more idealistic variables, the relationship of which to obesity is more speculative, such as aesthetics standards of ideal body type or the symbolic meaning of fatness (Brown and Konner, 2001).

As part of culture and tradition in Cuba, overweight and obesity are considered in a favorable way when assessing people's body self-image, an aspect considered as a negative behavior and as a reflex of cultural aesthetics standards, and ignorance of appropriate nutritional principles (Porrata et al., 2000).

In the Latin American context, obesity has been considered as well as a positive health value and never as sign of disease. Even more, obesity could be considered as an external sign of wealthy and prosperity, and as a cultural pattern of beauty by the media (Peña and Bacallao, 2001).

On the other hand, dietary habits and leisure time activities habits are difficult to change. The impact of the sudden shortage of food and other essential supplies could have provoked the relapse in population's body weight gain when the food availability and the energy supply increased (Jiménez, 2003).

Promotion of healthy life styles and diet could be misinterpreted as a negative message as suggests restrictions comparable to the previous stage. The WHO Process for a Global Strategy on Diet, Physical Activity and Health underline that "foods are not deadly products. We all need foods for living and we all want to enjoy the food we eat" (Chopra et al., 2002). This assertion would support the idea that food shortage could be a risk factor in the development of an obesogenic environment in Cuba.

To deal with this problem, a medical model approach has been the dominant paradigm in prevention strategies. Unfortunately, this approach ignores the repeated and expensive failures to change diets solely through the improvement of knowledge (Beaglehole, 2001).

The epidemic of obesity in Cuba shows remarkable differences as compared to the rest of

Latin American countries. For instance, fast food, soft drinks and energy dense micronutrient-poor foods and beverages advertisements are absent; there is not a pharmacological industry promoting body weight reduction pills, nor fancy clinics for aesthetics obesity treatment. Safe places for children to play are granted. Therefore is conceivable to support campaigns to prevent obesogenic factors, particularly in the area of healthy diet and promotion of more physical activity.

The role of the primary health care system is essential to deal with the epidemic. Its approach is the systematic screening of NCD, the early diagnosis, treatment, and rehabilitation when required, and as part of this strategy, overweight is under surveillance. Furthermore, the Cuban educational TV broadcasting promotes healthy diet and lifestyles, including breastfeeding and national dietary guidelines (INHA, 2003). There is also a similar campaign at schools and nurseries.

Promotion of physical activity has received a similar support in the media and periodically, popular marathons and massive physical activities are encouraged. Although selected groups may need a more targeted intervention to promote physical activity as a tool to counteract overweight and its risk factors. The Agita Sao Paulo experience in Brazil shows the effectiveness of a campaign promoting physical activity at working sites and schools (Matsudo et al., 2001).

On the other hand, it is difficult to predict how long it would take before an intervention positively affects the individual. The experience of North Karelia in Finland shows the complexities of a population intervention program to reduce cardiovascular mortality through a remarkable shift in population dietary habits and lifestyle (Pietinen et al., 2001). Nevertheless, intervention goals in the Cuban context need to be defined on a different perspective. It would take presumably some more time before population understands prevention of obesity and promotion of physical as beneficial. As an example, while cardiovascular disease and DMNID mortality decrease slightly but steady as an outcome of an efficient health system, high blood pressure, and DMNID morbidity increase, as a result of inadequate dietary habits and physical inactivity.

The expected pace of the nutrition transition has been disturbed by unexpected events which have had a great impact in the population's behavior. As prevention must aim at risk reduction across the life span, the challenge is to develop vigorous strategies to prevent an unfavorable environment leading to increasing percentages

of overweight, physical inactivity and early development of NCD.

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KEYWORDS Obesity. Overweight Dietary Habits. Physical Activity. Food Consumption

ABSTRACT The study describes the current problem of obesity and its trends as part of the nutrition transition in Cuba. Data on food consumption and dietary habits were obtained from Cuban reports to FAO and the Institute of Nutrition. Information on the prevalence of overweight and obesity was obtained from local surveys and from the 2001 National Survey on Risk Factors and Preventive Actions. As compared to the 1990s, food availability increased as well as total energy per capita supply. Carbohydrates as a source of energy remained high. Food choice revealed a lower preference of fruit and vegetables and high preference of fat and sugar energy-dense diet. Prevalence of overweight increased since the 1960s and kept that pace until the 1990s, when the sudden shortage of food, fuel and essential supplies provoked a reduction of energy and essential foods. However, after the economic revitalization, energy intake increased physical activity decreased and overweight increased as well. Figures in 2001 show a remarkable number of overweight people in urban areas all over the country, but higher in the western provinces. The current nationwide strategy to prevent overweight and obesity is part of the Public Health System approach to prevent non-communicable diseases morbidity and mortality. Obesogenic factors are dealt with as part of this strategy and high-risk groups are targeted in a selective way. Cuban nutrition transition shows remarkable differences when compared to other Latin American countries

Authors' Addresses: Arturo Rodríguez-Ojea Menéndez, Department of Nutrition, Faculty of Medical Science "Calixto García", Infanta 1158, CP 10300, La Habana, Cuba

E-mail: arojea@infomed.sld.cu

Santa Jimenez, Deputy Director Institute of Nutrition and Food Hygiene, Infanta 1158. CP 10300. La Habana, Cuba

E-mail: vdninha@infomed.sld.cu