

## Obesity: diagnosis and prescription for action in the English-speaking Caribbean<sup>1</sup>

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A brilliant cartoon in *Newsweek* magazine eloquently depicts the paradox of world nutrition today: a grossly obese man from the United States of America is gorging himself from an enormous tub of ice cream, while a malnourished Rwandan child holds out an empty bowl, begging. The message from the lips of both is, "I've got a weight problem." While 20% of the world remains malnourished or undernourished, 20% are now "dysnourished," that is, overfed and grossly overweight, with serious consequences.

Obesity has been the silent global epidemic of the last 30 years (1). Almost every country that has statistics has documented a progressive, often-dramatic increase. And ironically, while obesity was previously associated with perceptions of wealth and plenty, a large and increasing number of victims today are trapped in poverty and are from developing countries with high levels of poverty, particularly in Latin America and the Caribbean (2). But unlike AIDS, which appeared "out of the blue" and carries the stigma of both infectious and fatal features, obesity, as an epidemic, has been insidious, is not infectious in the accepted sense, and leads to death indirectly and surreptitiously. It has therefore been ignored as the major public health problem that it most surely is. This paper will briefly outline the dimensions of the problem in the English-speaking Caribbean; its enormous impact on health, quality of life, morbidity, mortality, and health care costs; its major causes; and a prescription for concerted, urgent regional action.

### THE DIMENSIONS OF THE PROBLEM

Among the so-called developed countries, figures for obesity (defined as a body mass index (BMI), that is, weight divided by height squared,  $> 30 \text{ kg/m}^2$ ) are highest in the United States, where more than 30% of the female population are obese (3) and 55% are overweight (BMI  $> 25 \text{ kg/m}^2$ ). In the United Kingdom, 12% of adult females are obese and 24% overweight, but the rate of increase is faster (4). A large standardized study across the African diaspora, called the International Comparative Study of Hypertension in Blacks (5-7), found a dramatic increase in obesity with the Westernization of the cultures. Prevalence increased from a very low figure in rural Nigeria to a high one in an urban black population sample in the city of Chicago, in

the United States, but it was almost as high in Barbados, where there have been dramatic changes in lifestyle and socioeconomic status since the achievement of independence in 1966. The gradient in obesity in women (Nigeria 5%, urban Cameroon 13%, Jamaica 18%, Barbados 30%, Chicago 36%) was closely correlated with economic development and with the prevalence of hypertension.

In Barbados our data show an increase in obesity prevalence across four surveys, which were done in 1969, 1981, 1987, and 1992 (8). And the Wildey population study of Barbadians aged over 40 showed a prevalence in women three times that of men, 30% versus 10% (9).

### Morbidity and mortality

It has taken a very long time for the morbidity associated with obesity to be recognized, although Shakespeare saw it clearly when his fat Falstaff comic character, boon companion of Prince Hal (Henry V), was asked, "Know thee not the grave doth gape thrice more for thee than for other men?" Because of its association with hypertension, diabetes, hyperlipidemia, and other risk factors for coronary heart disease, obesity often disappears in multiple regression analyses. Its strong relationship with hypertension has been known, and a fall in blood pressure with weight loss shown, since early in the last century! As demonstrated by the Nurses Health Study, the relationship with diabetes is much stronger than previously realized (10). In that enormous study of women in the United States, diabetes increased exponentially with increase in BMI, to 90-fold in the morbidly obese, as compared to those with an ideal BMI of 23 kg/m<sup>2</sup>. And the association between obesity and hyperlipidemia is well established. In both Barbados and Jamaica several recent surveys confirm the strong associations between obesity and the other risk factors for coronary heart disease (CHD) (9, 11–13).

As reported in a recent publication (12), among 4 314 predominantly black participants of the Barbados Eye Studies, the prevalence of known diabetes was already 9.1% in the fifth decade of life and rose to 24.0% in the eighth decade. The overall prevalence was 19.4%, remarkably similar to the 18% found in the smaller Wildey population sample in Barbados (9). In the large national population sample of the Barbados Eye Studies, diabetes was strongly associated with overweight (BMI > 25 kg/m<sup>2</sup>, odds ratio (OR) = 1.74), with hypertension (OR = 1.71), and with a positive family history of diabetes (OR = 2.85) (12).

The relationship among obesity, hypertension, diabetes, and dyslipidemia has been described

over many years, and it goes under many names. Perhaps the best known are Reaven's Syndrome and the metabolic syndrome, the latter expressing the complex metabolic associations of glucose intolerance and lipid abnormalities (14). In Barbados the prevalence figures for obesity are 25% to 30%, for hypertension over 40% in the over-40 population, for dyslipidemia (high cholesterol) more than 50% (no figures are available for HDL cholesterol or triglyceride) (9), and for diabetes almost 20%. Given these figures, even if the prevalence of this chronic disease complex, the metabolic syndrome, is not precisely known in Barbados, it surely must be rising rapidly, along with its many complications.

Lowest mortality risk is associated with a BMI between 18 and 25 (3). There is an almost-linear, continuous relationship between obesity and mortality, with a relative risk of overall mortality of 2–2.5 with a BMI of > 30 (15). The total cost of obesity must therefore be considered both in terms of mortality and the enormous expenses of the care of multiple diseases. While there are no figures for obesity-related mortality in the English-speaking Caribbean overall, there was a 9% increase in mortality for every 1% increase in glycated hemoglobin in the Barbados Eye Studies cohort (12).

### Cost of obesity

The limited data available on the cost of obesity suggest that up to 7% of total health care costs are directly attributable to obesity, that is, a BMI of > 30. But most studies consider costs associated only with higher levels of obesity rather than costs associated with the continuum of overweight or Grade 1 obesity, that is, a BMI of 25–29.9 (1).

There are still very few studies on the long-term benefits and cost-effectiveness of obesity treatment, but there has been a large multifaceted intervention study of 1 700 obese subjects in Sweden. Extrapolating their results to the United States, costs of obesity could be reduced by 20% (16). There are few data for developing countries, where the complications of the epidemic are overwhelming health services. However, some estimates do exist for the cost of diabetes, which is so closely related, and which is estimated to account for about 10% of overall health care costs in Barbados (17).

### Quality of life issues

Obesity impacts on many other aspects of health and life: obstetric difficulties, respiratory infections, musculoskeletal disorders, cancers, mental health, job opportunities, recreation, and produc-

tivity. Many obese people suffer from multiple problems, and the sum of these has a major impact not only on physical health but also on the quality of life. Most doctors and health services focus on the physical problems, illness, and sick leave, but recent research suggests that obesity also has a severe negative effect on psychosocial functioning and quality of life (18). Many obese people seek help not just for the medical problems but more because of the impact that their excessive weight has on their lives, e.g., decreased psychological well-being, poor socialization, discrimination in the workplace and other forms of stigmatization, and dealing with basic things such as movie seats and other public facilities and services (19).

In Western countries there is a strong drive to promote self-esteem through clubs and societies for the obese or the “big and beautiful.” This may serve an important role for some, but at the expense of brushing the health problems under the carpet.

## THE CAUSES OF THE PROBLEM

Part of the Caribbean problem has been the tradition that obesity is healthy and that fat women are preferred. This belief goes back to Africa, where in some places it was customary to place brides-to-be in “fattening huts,” while in the Caribbean new mothers have been advised to “eat for the baby” or “eat for two.” Such practices have been reinforced by three centuries of slavery and undernutrition and also embedded in the psyche of males and females, with the constant refrain that “our men like us fat,” although there is some evidence that this tradition may be changing (20). Two recent studies of obesity, attitudes, and body preferences in Barbados show continuing change in male preference, towards a normal or near-normal female figure, but a continuing increase of prevalence and acceptance by females of obesity (21, 22).

Against that background, the epidemiological transition in the Caribbean, from a poor, agricultural region to a developing society based on tourism, from a highly physically active society with a limited diet to one of low physical activity and excess food, in just one generation, has had a dramatic effect.

In the United Kingdom, obesity prevalence has been rising steadily although food consumption has been falling. Physical activity, especially in children, has been falling faster, while TV watching rises (23). In Barbados, available dietary fat is now more than twice the population recommendation, according to data from the Caribbean Food and Nutrition Institute. Cultural penetration or acculturation to the pattern of unlimited consumption seen

in the United States is now the norm in Barbados. In the recent Adolescent Health and Fitness Study in Barbados, 18% of the children were already overweight, and many girls were becoming “couch potatoes” (24). A shocking 20% of girls, compared to 8% of boys, reported no regular physical activity. So the problem is entrenched in our traditional culture, is compounded by our acquired culture, and begins at an early age.

## WHAT SHOULD BE DONE?

Prevention of obesity through adoption of healthy lifestyles is widely recognized as a logical approach but difficult to attain. Prevention should target both those at highest risk and the entire population. Population strategies can result in small benefits to large numbers, with significant reduction in risk factors. Perhaps the best-known success story is the North Karelia Project in Finland, which achieved significant behavior changes, risk factor changes, and a reduction of coronary heart disease (25).

But there are many barriers to successful prevention of obesity. There is inadequate information. Few developing countries have up-to-date figures on risk factors, morbidity, or mortality. There are few studies of effective intervention methods in the Caribbean, which has many unique cultural practices and popular myths. Among these are the beliefs that cold or “iced” water makes you fat, that one meal a day promotes weight loss, that margarine is not fattening, and that pregnant women must eat for two. Barriers include serious limitations in the health care systems, with a shortage of nutritionists, health educators, physiotherapists, and exercise therapists in most countries. And there are many environmental barriers, such as a lack of open spaces, no sidewalks, crime on the streets, no parks or cycling paths, and costly or limited supplies of vegetables and fruits, which are key to healthy eating and prevention of obesity.

Given all of these factors in the English-speaking Caribbean, action must be taken on seven fronts:

1. Recognition that obesity prevention and management are an urgent priority. They cannot be “business as usual.”
2. Obesity is a public health problem, and not just a doctor’s office problem. But the doctor must measure the BMI and the waist circumference and spell out the dangers, as doctors remain the key health promotion influences for most people.
3. The medical paradigm of the last 50 years, with its apparent reliance on pills (26), must be radically transformed to the healthy-lifestyle model,

with its core focus on exercise, healthy eating, positive social values, and strategies targeting the general population.

4. Rather than making available just curative specialists, health services must also provide nutritionists, behavioral scientists, counselors, and exercise trainers. There is a dearth of these skills in the Caribbean and most developing countries.
5. Researchers must monitor knowledge, attitudes, and practices; risk factors; and outcomes. Ongoing, comprehensive risk factor surveillance is an essential component of public health strategies, to provide baselines and to examine needs and the effects of interventions.
6. Universities must address these issues and teach appropriate skills to medical students and other health professionals in their courses and curricula as well as provide postgraduate training and research.
7. The health-problem model must shift to the multidisciplinary or intersectoral model, as has been recognized in the new approach to HIV/AIDS. Obesity affects national development at all levels. Therefore, it is a problem not only for the ministry of health but also for the ministries of transport and works, education, sports, welfare, culture, agriculture, and finance.

The obesity epidemic is numerically much larger than the AIDS epidemic but risks being left on the back burner because we will not tackle issues that embarrass us or we think can be ignored because there is so much acceptance. Over the past year, a number of organizations have considered the Caribbean's obesity problem. These include the International Obesity Task Force, the Chronic Disease Initiative of the World Health Organization and the Pan American Health Organization, the Caribbean Food and Nutrition Institute, and the Caribbean Health Research Council. But the obesity epidemic in the English-speaking Caribbean is a prime example of a major health problem that is not being seriously addressed, as it should be, at a national policy-making and planning level. It is a major challenge for the leadership of researchers and policymakers to recognize the urgency of the problem, to design the relevant local studies as well as regional ones that take

into account the added value of comparative work in similar societies, and to translate research and analyses into policy, planning, and prescriptions for action.

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## SINOPSIS

### **La obesidad: diagnóstico y medidas recomendadas para el Caribe anglófono**

*La obesidad ha sido una epidemia silente de alcance mundial durante los últimos 30 años. A diferencia del sida, que apareció de repente y lleva el estigma de ser una enfermedad infecciosa y letal, la obesidad, como epidemia, se ha comportado de manera insidiosa. Por no ser una infección —en el sentido más aceptado de la expresión— y por conducir a un desenlace mortal de manera indirecta y solapada, se ha hecho caso omiso de que constituye un importante problema de salud. Este artículo describe brevemente la magnitud real de este problema en los países caribeños de habla inglesa; su enorme impacto sobre la salud, la calidad de vida, la morbilidad, la mortalidad y el costo de la atención sanitaria; sus causas principales, y posibles remedios. En el Caribe, este problema se debe en parte a la creencia de que la obesidad es reflejo de salud y que se prefiere a las mujeres obesas. Además, la transición epidemiológica en el Caribe —que ha pasado en solo una generación de ser una región agrícola pobre a una sociedad en desarrollo basada en el turismo, y de una sociedad muy activa físicamente con dieta limitada, a una de baja actividad física y exceso de alimentos— ha tenido un efecto impresionante. Existen muchas barreras para lograr la prevención de la obesidad en el Caribe. Por un lado, no hay suficiente información acerca de los factores de riesgo, la morbilidad y la mortalidad, y son pocos los estudios que proponen métodos de intervención eficaces. Por otro lado, los sistemas de salud de los países caribeños carecen de suficientes nutricionistas, educadores de salud, fisioterapeutas y quinesiólogos. Entre las barreras ambientales figuran la falta de parques y otros espacios abiertos, la escasez de aceras y áreas para ciclistas, así como la presencia de delincuencia en las calles. En respuesta a esta situación, en este artículo se recomiendan medidas urgentes que deben ser concertadas a escala regional en siete frentes específicos, que van desde reconocer que la obesidad es un problema de salud pública que atañe a los médicos, hasta la importancia de la prevención y la necesidad de pasar a un enfoque multidisciplinario y multisectorial para abordar su solución.*

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## 8.º Curso Internacional: El dengue y la fiebre hemorrágica del dengue, todavía una amenaza para la salud pública en las Américas

*Fechas:* 11 a 22 de agosto de 2003

*Lugar:* Ciudad Habana, Cuba

El año en curso marca el 170.º natalicio del eminente científico cubano, Carlos J. Finlay, descubridor del papel de *Aedes aegypti* en la transmisión de la fiebre amarilla. En su honor, el Instituto de Medicina Tropical "Pedro Kourí", junto con el Ministerio de Salud Pública de Cuba, la OPS y el Programa Especial de Investigación y Entrenamiento en Enfermedades Tropicales de la OMS, se complacen en celebrar este curso, en el que participarán profesores invitados de prestigiosas instituciones de distintas partes del mundo, con objeto de examinar, en sesiones teóricas y prácticas, los aspectos virológicos, inmunológicos, clínicos, sociológicos y epidemiológicos del dengue y dengue hemorrágico y particularmente las medidas de control de sus vectores. El curso, que será dictado en español, está dirigido a médicos, microbiólogos, infectólogos, bioquímicos, epidemiólogos, entomólogos y técnicos con especial interés en el tema.

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