Obesity Prevention: The Key to Non-communicable Disease Control
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ABSTRACT

Non-communicable diseases (NCDs) are the main public health problem in the Caribbean and they place a severe economic burden on the health systems in the region. This paper contends that preventing obesity is a critical factor in controlling NCDs. The paper further argues that obesity prevention is more likely to come from structural and policy-related changes to the environment than from medical interventions targeted at the individual. Rolling back the rapid increase in obesity in the Caribbean requires much more than the traditional passive approach that relied almost entirely on education for individual behavioural change. The traditional models of obesity control have generally failed globally and a new public policy approach needs to be instituted to attack this epidemic in a multisectoral way. Effective control of obesity will require a shift away from the traditional focus on clinical management and individual behaviour change towards strategies which deal with the environment in which such behaviours occur. Outlined in this paper are key policy changes required by the various sectors whose inputs are vital to the success of prevention efforts.

Keywords: Caribbean, NCDs, non-communicable diseases, obesity, public policies

Prevención de la Obesidad: Clave del Control de las Enfermedades no Comunicables
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RESUMEN

Las enfermedades no comunicables (ENCs) constituyen el problema principal de la salud pública en el Caribe y representan una pesada carga económica para los sistemas de salud en la región. Este trabajo sostiene que la prevención de la obesidad es un factor crítico a la hora de controlar las ENCs. El trabajo sostiene además que la prevención de la obesidad tiene mayor probabilidad de producirse como consecuencia de cambios estructurales y relacionados con las políticas hacia el medio ambient, que como resultado de intervenciones médicas dirigidas al individuo. El retroceso del rápido aumento de los niveles de obesidad en el Caribe requiere mucho más que el enfoque tradicional pasivo basado casi totalmente en la educación encaminada a cambios en la conducta individual. Los modelos tradicionales de control de la obesidad han fallado por lo general globalmente. Se necesita instaurar un nuevo enfoque en materia de políticas públicas para atacar esta epidemia de una manera multisectorial. El control efectivo de la obesidad requerirá un cambio del foco de atención – tradicionalmente centrado en el tratamiento clínico y el cambio de comportamiento individual – hacia estrategias que traten con el ambiente en que tales comportamientos ocurren. El trabajo bosqueja cambios claves en materia de políticas, requeridos por diversos sectores cuya contribución es vital para el éxito de los esfuerzos por la prevención.

Palabras claves: Caribeño, ENCs, enfermedades no comunicables, obesidad, políticas públicas
INTRODUCTION

The obesity-NCD link

The silent escalating epidemic of obesity is the underlying cause of most deaths in the Caribbean today. During the last few decades, deaths from diabetes show the highest rate of increase among all causes of death (1). It is significant to note the corresponding increased rates of obesity during the same period. (2).

Figure 1 shows the increased risk of diabetes with increased prevalence of obesity. Although cut-off points such as body mass index (BMI) = 25 and BMI = 30 are used to assess and compare overweight and obesity, Fig. 1 shows no threshold effect of these cut-off points in relation to diabetes. Clearly, the risk of developing diabetes increases dramatically as BMI rises, even from low levels as BMI = 22 without regard to cut-off points. For disease control purposes, it is therefore not appropriate to consider the increased risk in the population within these distinct BMI categories, but rather as a continuum. This argues for a population approach (rather than risk approach) to control obesity because all will benefit from a lower BMI. Public policies should therefore be the approach of choice to control obesity, and consequently diabetes. The effect of obesity on risk of developing Type 2 diabetes is probably mediated by its effect of worsening insulin resistance. Component factors of insulin resistance such as increased blood pressure, raised triglyceride and low high-density lipoprotein concentrations also predict the development of Type 2 diabetes (3, 4).

The rapid increase in obesity in the Caribbean has been accompanied by increasing mortality in diabetes and hypertension. Figure 2 shows a consistent link among the rates of obesity prevalence and deaths from diabetes and hypertension in several Caribbean countries. This link between obesity, diabetes and hypertension is a global phenomenon (5). For the Caribbean, the higher prevalence rates make the problem more urgent. There is little doubt that the increases in diabetes and hypertension deaths are related to the increases in obesity (6).

But this burgeoning prevalence of Caribbean obesity has devastating effects beyond diabetes and hypertension as obesity plays an important aetiologic role in several major
chronic diseases such as coronary heart disease, gall bladder
disease, colon cancer, breast cancer and stroke. Disease bur-
den increases with increasing obesity (4, 7). Despite these
grim consequences, the most positive aspect of the obesity
epidemic is that these debilitating effects are largely rever-
sible. It was estimated (8) that a 10 kg weight loss in obese
persons can have a significant impact on health status, thus:

- Mortality: 20–25% fall in total mortality
- Blood Pressure: Fall of 10 mmHg systolic pressure
- Lipids: Fall by 10% in total cholesterol
- Diabetes: Fall of 30–50% in fasting blood glucose

Further, studies have shown that using a dynamic
model of the relationship between BMI and the risks and
costs of diseases, a 10% reduction in body weight can result
in a reduction of 1.2–2.9 years of life with hypertension,
0.3–0.8 years with hypercholesterolaemia and 0.5–1.7 years
with Type 2 diabetes. (9) While these potential gains exist,
in practice, we note that weight loss programmes have not
been very successful. The successful challenge to obesity
therefore lies not in medical interventions at the individual
level but in the public policy domain which can create the
environment for individual behaviour change. Unfortun-
ately, there is relatively little attention given to developing
strategies aimed at preventing obesity. This paper suggests
that investing in obesity prevention, using a population
approach, is the most sustainable option to control obesity.

**PREVENTING OBESITY**

During the decade 2001–2010, the prevalence of overweight
in children less than 5 years old rose from 6% to 14%. For
boys 11–13 years old, combined overweight and obesity
prevalence was 27% while for girls it was 33%. With such
high prevalence in youth, it is not surprising that more than
55% of Caribbean women are overweight or obese, almost
twice as many as men (2). Obesity was once believed to be
a problem of abundance, affecting only the rich in society.
It is now recognized that even the poorest in society are facing
problems of obesity and its consequences. Those who are
poor may not have access to healthy foods but do have access
to calories of low health value, such as high-fat, high sugar
foods, resulting in excessive energy consumption. Similarly,
options for recreational physical activity and access to
preventive healthcare may be limited in poor communities,
indicating that obesity in the Caribbean is closely associated
with economic and health disparities.

There is no simple direct solution to obesity because it
involves multiple complex human functions and actions,
such as eating, daily activities, workplace, food production,
marketing, cultural and lifestyles influences. The Caribbean
is experiencing a nutrition transition reflected in a shift in
diets away from indigenous staples (grains, starchy roots),
locally grown fruits, vegetables, legumes, and limited foods
from animals, to diets that are more varied and energy dense,
consisting of foods that are more processed (including
processed beverages), more from animals, more added
sugars, high in fats/oils and sodium, and often more alcohol.
Fueling this transition is also the wide penetration of com-
mercial food markets and globalized dietary sources.

Further, the urban communities are characterized by predo-
minantly sedentary employment, mechanized transportation
and lower levels of recreational physical activity. A fully
commercialized food chain results in more dietary energy
consumed outside of the home, with less personal control
over its content, increased dependency on food prices, pro-
motion and advertisements. Collectively, these forces lead to
higher consumption of low-cost energy dense foods and
reduced energy expenditure, which translates to excess
weight gain and obesity.

Although the effects of obesity are felt mainly in the
health sector, ironically, the successful efforts to prevent it lie
mainly outside the health sector. Traditional research on the
determinants of obesity has focussed more on individual
behaviours with very little attention to the social and
environmental contexts that facilitate and sustain certain
behaviours, or detract from others. Hence, it is clear that
only multisectoral, multi-level programmes will be able to
stop the obesity epidemic. Caribbean governments need to
act on the social and environmental factors operating at
higher levels of organization, *ie* public policies.

**THE STRATEGY**

The complex causation of obesity suggests that successful
preventive measures are likely to come from policy-related
changes to the environment than from educational inter-
ventions targeted to the individual. The strategy is to create
and promote environments conducive to obtaining balanced
nutrition and an active lifestyle. In so doing, individuals,
families, and communities will be encouraged to con-
tinuously opt for healthier choices.

To create such a healthy environment, several sectors
must be involved. Historically, government ministries,
acting independently of one another, have been responsible
for health, nutrition and food security. Given their inter-
dependent and overlapping characteristics, these public
policy issues can no longer be narrowly circumscribed by the
traditionally vertical functions of individual ministries.
Rather, a broad-based, multisectoral and collaborative
approach involving all stakeholders is required. We need to
build consensus among, and effectively engage, agriculture,
trade, education, finance, other government ministries, the
private sector and other stakeholders on actions to improve
nutrition and health in the region. This is essential if we are
to reap synergistic benefits and leverage key sectors to
address obesity and other food and nutrition problems. In the past, there have been several programmes to deal with food and nutrition insecurity, but there was no systematic attempt to engage several sectors to address our major health problems. The September 2011 High Level Meeting of the United Nations on NCDs provides a good opportunity for policy-makers to take a new approach, one that seeks to address obesity, nutritional well-being and other public health issues through a multisector approach.

INTERVENTION OPTIONS
To impact NCDs through obesity prevention, efforts must start with ensuring that more healthy foods are made available and affordable so that individuals and communities can exercise their right to healthier choices. The access to healthy foods and the consumption of those foods must be part of one plan and strategy, not separately. Unfortunately, the tradition has been for food availability to be the remit of the Ministries of Agriculture and Trade by facilitating the achievement of quantitative food production and food import goals. On the other hand, the health and nutritional aspects of consumption have been addressed by the Ministry of Health, and even so the focus has been on curative rather than the preventive approach to health and nutrition. The continuous link between agriculture, food, nutrition and health has been absent from the developmental plans. The resulting effect is that one sector (eg agriculture) may boast their success in achieving a particular goal but this often has a deleterious effect on another sector (eg health).

Below are proposals for specific policy actions which are recommended for six key sectors to prevent obesity:

* Agriculture
* Trade
* Education
* Health
* The Built Environment
* The Private Sector

1: Proposed agricultural policies/activities to combat obesity/NCDs

* Define national population health and food goals for the country. This should include identification of foods to be promoted through various policy and programme measures as well as foods to be “discouraged”.
* Integrate these goals into an overall policy and plan with roles and responsibilities for key sectors identified and spelt out.
* Provide incentives that support the production, productivity, supply and consumption of legumes, complex carbohydrates (indigenous roots and tubers), fruits and vegetables and low fat foods to meet the recommended national population and health goals.
* Collaborate with other stakeholders (ministries of health, education, communications) to promote local fruits, vegetables and starchy roots and enable people to make healthy dietary choices.

* Sustain and expand the commitment to agriculture diversification and increase production of non-traditional crops and specialty foods such as organic, ethnic and those health-related. In collaboration with others, the specific nutrient content of targeted foods especially fruits and vegetables can be used in the promotional campaign, eg what is currently being done in Jamaica and elsewhere with bananas and coconut.
* Convince farmers that there is no conflict between the sustainability of their livelihoods and producing foods that meet the nutritional goals of the population.
* Establish marketing outlets, including farmers’ markets in rural areas, towns and metropolitan areas to make available indigenous roots, tubers, fruits and vegetables and fish, at affordable prices.
* Organize local farming communities to supply the food items to school-feeding and other food-assistance programmes.

2: Proposed trade policies/activities to combat obesity/NCDs

* Provide domestic support to encourage the production of selected foods and agricultural products that meet the nutritional needs of the region within the limits of the de minimis provisions and Article 6.2 of the World Trade Organization (WTO) Agreement on Agriculture.
* Negotiate, under the WTO Doha Development Agenda and similar future arrangements, for the inclusion of special products (such as fresh fruits and vegetables, roots and tubers and legumes) to meet food security concerns and also address the problem of obesity and chronic non-communicable diseases.
* Use selectively the trade measures (import duties and excise taxes) in combination with other measures such as consumer education, marketing and distribution strategies, to effectively influence the supply, prices, consumer preferences and demand for specific healthy foods.
* Collaborate with local food manufacturers and agro-processors in developing specific standards for processed foods (local and imported) especially in relation to key nutrients—sodium, sugar, fats.

3: Proposed education/information policies/activities to combat obesity/NCDs

* Establish school meal policies that include the development of nutritional standards and guidelines.
* Discontinue the excessive use of sugar-and fat-containing foods offered in cafeterias and by school vendors and encourage students to make healthy diet and lifestyle choices.
* Base food assistance schemes on the supply of nutritious foods, such as skimmed milk as opposed to whole milk, use whole grain cereals as opposed to refined foods, etc.
* Make education in nutrition and physical activity essential parts of the curriculum in schools.
* Develop food-based dietary guidelines aimed at the general population and at vulnerable groups (especially infants and young children, pregnant women and the elderly).
* Promote the low-cost preparation methods of delicious local cuisine.
* Conduct public campaigns aimed at informing consumers about food, nutrition and consumer rights, and about the opportunities to be physically active in different settings of daily life.
* Ensure appropriate marketing practices, especially in the media, for all food products in line with internationally agreed recommendations and dietary guidelines.
* Promote programmes to improve consumers’ understanding of product labels and characteristics which will support healthy choices.
* Reduce the consumption of alcohol, by creating public awareness; providing greater protection from peer, and other, pressures and educating schoolchildren to develop responsible attitudes towards alcohol consumption.

4: Proposed health policies/activities to combat obesity/NCDs

* Develop regulatory guidelines for people in the food service sector taking into account nutritional considerations, eg legislation on nutritional labelling, code of advertising and healthy choices for fast-food franchises.
* Initiate the process of analysis, education, legislation and monitoring to make the Caribbean trans-fat free.
* Require food service establishments (hotels, restaurants, fast-food outlets and vendors) to display information about caloric and fat content of meals eg on menus, place mats and food wrappers.
* Promote the adoption of healthy diets and active lifestyles throughout the lifecourse.
* Advocate for adequate parental leave, breastfeeding breaks and flexibility to support working women during lactation and early childhood.
* Enforce the International Code of Marketing of Breast-milk substitutes.

5: Proposed built environment policies/activities to combat obesity/NCDs

* Design public buildings with attractive staircases to encourage physical exercise.
* Create recreational parks that are safe, accessible and aesthetically appealing to encourage physical activity, including walking for relaxation.
* Allocate space to cyclists to encourage riding to work.
* Encourage worksite wellness programmes and healthy public environments and communities.

* Provide incentives to the private sector to invest in walking/cycling path, swimming pools and recreational facilities.

6: Proposed private sector policies/activities to combat obesity/NCDs

* Partner with government to develop and implement ways to balance the importation of fatty foods (eg milk and meat) and the low fat foods (grains and other cereals).
* Provide incentives for the increased production of a wide variety of appealing low fat, high complex carbohydrate and high fibre foods.
* Invest in governments’ agricultural diversification programmes to promote the production, supply and consumption of legumes, ground provisions, fruits and vegetables and low fat foods to meet the recommended national dietary goals.
* Create storage spaces and establish transportation and marketing facilities for healthy foods.
* Provide staff time for private sector training and monitoring programmes in the use of dietary guidelines in the food industry and trade.
* Tailor advertisement and other promotional campaigns to change the thinking and practices of consumers towards healthy diets and food choices.
* Provide incentives for public amenities (green spaces, pools, multi-purpose ball courts) related to recreation for the local population to encourage outdoor activities for local market.
* Establish programmes for hotels and restaurants to promote a nutritional well-being menu as a hallmark of Caribbean cuisine based on indigenous roots, tubers, fruits and vegetables, legumes and fish.
* Encourage supermarkets and other consumer distribution outlets to promote low energy density foods (eg low fat, low sugar) and foods low in salt content.
* Establish agreements and commitments that promote healthy diets and lifestyles eg between farmers’ organizations and hotels/restaurants for the latter to receive guaranteed supplies of local foods.

No one country will be able to implement all of the actions proposed. The purpose here is for policy-makers to examine the feasibility of the options relevant to their particular circumstance and develop short and medium term goals and actions for immediate implementation.

CONCLUSION

Caribbean countries are faced with obesity and NCD rates that require urgent responses from policy-makers. Over many years, diets have shifted away from locally grown indigenous staples, fruits, vegetables, legumes, and limited foods from animal origin, to diets consisting of more processed and energy-dense foods, more of animal origin, and more added salt, sugars and fats. Because food consumption habits have
a strong influence on nutrition and health status, this shift in diets has led to the increasing prevalence of obesity, a main cause leading to non-communicable diseases (NCDs) such as diabetes, hypertension, stroke, heart diseases and some forms of cancers. This situation threatens the economic development of Caribbean countries because it raises dramatically healthcare costs and, at the same time, reduces productivity in the adult population. This paper contends that only multi-sectoral, multi-level policy actions will be able to stop the increase and reverse the obesity epidemic.

The Port-of-Spain Declaration (in Trinidad and Tobago) on NCDs by Caribbean Heads of Government in September 2007 was historic. The UN High Level meeting on NCDs in September 2011 presents another opportunity for change and action. Preventing obesity poses a pivotal challenge particularly in the Caribbean. It must be addressed now. Left unchecked, the increasingly overweight populations and the resultant burden of NCDs will overwhelm the health systems and ultimately retard overall health and development.

REFERENCES