

Fitness vs. Obesity in Cuban Children: Battling the Biases of Gender and Geography

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Over one-third of Cuban adults live sedentary lives, accompanied by a not-surprising overweight and obesity prevalence of 43% by 2001, the year the last national survey was conducted.[1] Today, we can wager that figure is even more bloated. The associated climb in chronic disease is well-documented in our country and the world over, threatening to outstrip the resources at hand to manage such a burgeoning epidemic. In Cuba, in particular—a developing country where all are entitled to health care—population-wide weight gain forebodes a heavier chronic disease burden and an unbearable financial burden on the health system.

Where to begin to avert such disaster on the horizon? One obvious place is more exercise, most importantly for the younger generations when habits are still being formed. And the sad truth is that they, too, are already over-tipping the scales in Cuba. Studies in 2004 show 13.5% of pre-schoolers carry excess weight, with type-2 diabetes and early atherosclerosis on the rise among young people in general.[2–4]

For the last 10 years, our Energy Metabolism Laboratory at the Nutrition and Food Hygiene Institute has conducted research to generate more detailed evidence for tackling this public health problem, measuring total energy expended in pre-schoolers in rural areas, small towns and large urban centers in Cuba. We have also compared physical activity between boys and girls in the same age group.[5] The baseline for our studies is daily exercise equivalent to walking 60 minutes at over 6 kilometers per hour. This is the minimum advised in the 2008 nutritional recommendations for the Cuban population, the 2005 Dietary Guidelines from the US Centers for Disease Control and Prevention (CDC), the new Nordic Nutrition Recommendations, and similar Canadian and British guidelines.

Our findings across Cuba show cause for alarm: only pre-school boys carry out the required 60 minutes of moderate physical activity, and then only boys in rural areas (68 minutes) and small towns (60 minutes). Boys in urban settings spend only 37 minutes, the same time as city girls.

However, girls in rural settings (at 31 minutes) are the most sedentary of all, followed by urban girls, then those in small towns (at 38 minutes). In addition, we found marked physical inactivity among both pre-school boys and girls living in highly urban settings such as Havana, where average daily energy expended is 1400 kcal, below the 1500 kcal registered in 11 isotopic studies in industrialized countries' metropolitan areas.

In other words, the influence of habitat and gender on Cuban lifestyles conducive to unhealthy childhood weight gain is evident. The causes are associated with a plethora of factors that require further study. But we can already surmise that family sedentary habits; over-consumption of sweets, carbohydrates and fats; indiscriminate use of television; and, in some cases, video and computer games all play a role when it comes to urban living in particular. What's more, we see that some of our cities lack sufficient open spaces appropriate for sports and outdoor play; not all primary schools are fulfilling the curriculum's full schedule of weekly physical education hours; and we still have a ways to go


to effectively use the mass media and the strengths of the health system itself to get our message across.

In the case of pre-school girls, the problems are more pronounced and predictive of gender-associated weight gain. In fact, excess weight among adult women in Cuba is already higher than among men. In 2001, 49% of women in the country were either overweight or obese, compared to 38% of men. When it comes to obesity, the difference is even more acute, nearly double among women (15.4% vs. 8.0%). Here, cultural traditions are influential, with girls tending to play indoors at less strenuous games than boys—patterns that extend into adulthood gender roles.

As with geographically-associated weight gain, the gender outcomes also challenge us to review our institutions: do our schools foster and organize sports teams for girls as well as boys? Or are girls sitting on the sidelines, reflecting a historical gender bias in early childhood? Are there enough high-energy extracurricular activities for girls and young women?

Cuban children are immunized against 13 infectious diseases. Laudable results have been achieved to reduce infant mortality and childhood malnutrition, improve health services and educational levels of the entire population. However, these advances can boomerang if we are not capable of convincing, prompt and coordinated intersectoral action to alter lifestyles that have already resulted in increasing rates of obesity, atherosclerosis, diabetes and other chronic conditions.

The recently created national physical activity program to combat sedentary lifestyles, obesity and chronic disease holds the promise of more serious and comprehensive attention to this public health drama. Coordinated by the Ministry of Public Health's National Center for Health Promotion and Education, the program brings together the Nutrition and Food Hygiene Institute, Institute of Hygiene, Epidemiology and Microbiology, National Sports and Recreation Institute, and Ministry of Education. Still others need to be brought on board, such as TV and film actors and directors; writers of children's stories; painters and musicians. And we need young people themselves to help us figure out how to slim down the generations to come.

The stakes are high, as an abundance of overweight children foreshadows an expanding population of chronically-ill adults, threatening to overburden health services and quite literally crush the health system's ability to respond. 

1. Jiménez S, Díaz ME, Barroso I, Bonet M, Cabrera A, Wong I. Estado nutricional de la población cubana adulta. *Rev Española Nutr Comunitaria*. 2005;11(1):18–26.
2. Jiménez S, Rodríguez A, Selva I. Sobrepeso en preescolares cubanos. Un análisis de la vigilancia nutricional pediátrica mediante sitios centinela. *Rev Española Nutr Comunitaria*. 2004;10(2):70–73.
3. Licea ME, Bustamante M, Lemane M. Diabetes tipo 2 en niños y adolescentes: aspectos clínico-epidemiológicos, patogénicos y terapéuticos. *Rev Cubana Endocrinol*. 2008;19(1).
4. Fernández-Britto JE, Barriuso A, Chiang MT, Pereira A, Toros H, Castillo JA et al. La señal aterogénica temprana: estudio multinacional de 4 934 niños y jóvenes y 1 278 autopsias. *Rev Cubana Invest Biomed*. 2005;24(3).
5. Hernández M, Salazar G, Díaz E, Sánchez V, Basabe B, González S et al. Total energy expenditure by the doubly-labeled water method in rural preschool children in Cuba. *Food Nutr Bull*. 2002;23(3 Suppl):S76–81.