

## Childhood obesity in Brazil: lessons to be learned from the Northern Hemisphere

### Obesidade infantil no Brasil: lições a serem aprendidas do hemisfério norte

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**Abstract:** Childhood obesity in Brazil has increased by 600% over the past forty years, with studies indicating that more than 30% of the nation's children are overweight or obese. This epidemic poses a substantial threat to these children, as well as an excess burden to the nation's health care system. This paper reflects on parallels between Brazil and the U.S., in terms of history, options, and responses to the threat. Individualistic and collectivist approaches are weighed, with the suggestion that a policy-based revision of the nation's obesogenic environment may be the starting point to safeguard the future of the nation's children.

**Keywords:** Obesity; Children; Adolescents; Brazil; Public Policy.

**Resumo:** A obesidade infantil no Brasil aumentou 600% nos últimos 40 anos e os estudos indicam que mais de 30% das crianças brasileiras estão acima do peso ou obesas. Esta epidemia representa uma ameaça substancial para estas crianças, bem como uma sobrecarga para o sistema de saúde público do país. Este artigo apresenta reflexões sobre paralelos entre o Brasil e os EUA em termos de história, opções e respostas a estas ameaças. Abordagens individualistas e coletivistas são sopesadas sugerindo uma política de revisão dos ambientes brasileiros obesogênicos como um ponto inicial para salvaguardar o futuro das crianças do país.

**Palavras-chave:** Obesidade; Crianças; Adolescentes; Brasil; Políticas Públicas.

Over the past forty years, childhood obesity in Brazil has increased by 600% (PITANGUEIRA, SILVA, DE SANTANA *et al.*, 2014). Recent studies indicate that 30 to 40% of Brazil's children are overweight or obese (INSTITUTO BRASILEIRO DE GEOGRAFIA E ESTATÍSTICA, 2009; PITANGUEIRA, SILVA, DE SANTANA *et al.*, 2014), with the highest prevalences in the north- and the southern regions of the country. This weight risk poses a substantial threat to these children's physical and emotional health, as well as a burden to the nation's health care system, with increased treatment of weight-related illness.

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Explanations for this epidemic increase in obesity among children point to lifestyle change (NIE-HUES, GONZALES, LEMOS *et al.*, 2014), which has resulted in a nation of endangered youth. This offset of healthy energy balance (caloric intake = caloric burn) has resulted from increased consumption of hi-caloric, fattening foods, along with decreased physical activity (MAJUMDAR, KOCH, LEE *et al.*, 2013). But what can be done?

In response to the epidemic increase in obesity among the children in Brazil, there have been both educational and institutional responses. In 1999 the Brazilian Ministry of Health developed the National Policy on Food and Nutrition (Política Nacional de Alimentação e Nutrição [PNAN]), with the goal of promoting and protecting health, while addressing food- and nutrition-related issues (BRASIL, 2005). In the school environment, nutritional education has been mandated at all levels, as well as restrictions on the sale of snack foods high in sugar, salt, and fat (BRASIL, 2004). In addition, foods whose sugar, salt, or fat content exceed recommended levels must include this information on their labels (REIS, IVANA e JULIANA, 2011). Efforts to increase physical activity have also been introduced, with the goal of increasing availability of exercise facilities nationwide (BRASIL, 2011).

In hindsight, the Brazilian response to the epidemic increase in obesity among children has been very similar to the response in the U.S. It has been so in its emphasis on behavioral change and its reliance on education. Unfortunately this approach of “educate and motivate” has not succeeded for the U.S., a country in which 31.8% of children age 2-19 years are currently overweight or obese (OGDEN, CARROLL, KIT *et al.*, 2014). But schools and education should make a difference with our children. They should inspire health behavior change. Right?

Not necessarily, is the response from a recent meta-analysis on the efficacy of school-based physical activity and nutritional education programs in reducing the body mass index (BMI) of children (GUERRA, NOBRE, DA SILVEIRA *et al.*, 2014). In this review of 38 studies, the authors found no statistically significant benefits of BMI reduction associated with school-based physical activity and nutritional education programs for children. These findings offer support to the position of Schwartz and Brownell (2010), who insist that the current approach to weight management focused solely on upgrading children’s diet and activity is not sufficient.

But what about change within the family?

An ecological systems approach (BRONFENBRENNER, 1979) would suggest that, compared to the school, the family may have stronger impact on the child’s weight-related habits. In a review of family-based lifestyle interventions, the authors examined 15 randomized controlled trials for overweight children and adolescents, aged 2-19 years (SUNG-CHAN, SUNG, ZHAO *et al.*, 2013). Consistent with Bronfenbrenner (1979), the authors state that the family plays “an important role in modifying the lifestyles of overweight children” (SUNG-CHAN, SUNG, ZHAO *et al.*, 2013, p. 14). In comparing different interventions, the authors noted that family-based lifestyle interventions based around one parent showed better treatment outcomes than did family-based interventions with supplemental training in parenting and child management. The authors also noted that interventions based on behavior theory outperformed those based on family system theory, in terms of overweight reduction in the child (SUNG-CHAN, SUNG, ZHAO *et al.*, 2013).

While these family-based findings appear promising, it is important to remember that these findings

require participation. The challenges of participation became evident in a recent family-based intervention (GARISO, 2014) among lower class families in the south of Brazil. As an effort to reduce infantile obesity, this intervention was faced with an attrition rate of 73% (over 4 weekly sessions), which highlights the challenge of adherence.

So if the current programs in Brazil and in the U.S. are lacking in addressing obesity among children, in what direction should future efforts lead?

As scientists and policy makers, we are at a crossroads. In order to move forward, we must first acknowledge that our efforts to modify weight-related behavior in children are insufficient on their own (SCHWARTZ e BROWNELL, 2010). We must then face an unpleasant truth: That in today's obesogenic environment—with omnipresent handheld devices for communication and convenience, with drive-through fast food for convenience, with reductions in physical education programs—we, as a species, do not prioritize the fitness of our bodies. This is evident through the years of nutritional education and promotion of physical activity that has not kept pace with our threatening environment, and has led us to the place that we are now: victims of a global epidemic.

At this juncture, focus on children is essential. It is essential because weight-related behaviors from childhood, and early adolescence, ingrain patterns that sustain into adulthood (WINDLE, GRUNBAUM, ELLIOTT *et al.*, 2004; WORLD HEALTH ORGANIZATION, 2004). For the most part, overweight children become overweight adults.

But since behavioral-modification efforts on their own, have not kept pace with the threat, where should future efforts lead?

This question keeps repeating. In the U.S., regional progress has been made in terms of limiting the use of film and cartoon heroes in promotions run by fast-food corporations. In Santa Clara County, for example, outside San Francisco, fast-food promotions tied to film and cartoon heroes were banned in 2010 (OTTEN, HEKLER, KRUKOWSKI *et al.*, 2012). In other regions of the country, sugar-sweetened beverage taxes have been proposed, with the goal of decreasing consumption of sodas and soft drinks through increased pricing (BROWNELL, FARLEY, WILLETT *et al.*, 2009). Regulation and limitation of the child-targeted marketing practices of fast-food corporations is an ongoing mission of the Yale Rudd Center for Food Policy and Obesity, with efforts directed at marketing that targets such vulnerable groups as Hispanic preschoolers and African American children and teens (HARRIS, SCHWARTZ e BROWNELL, 2010).

These instances are examples of weight-risk intervention through policy- and not behavioral-change. They are examples of a collectivist, vs. individualistic, response to threat. An historical example of how such a collectivist approach has served the public can be seen in the mass immunization campaign against polio that took place in the U.S. in the 1950s (FARIA JR., 2000). This policy-based intervention was successful in virtually eliminating the threat of polio in the U.S. within one generation. In the twenty-first century, obesity poses a similar threat.

The obesity threat is similar to polio (in the 1950s) in that it threatens people of all classes, of all races and ethnicities, both men and women, boys and girls, and babies. It is similar also in the type of action that is required. Whether in Brazil or in the U.S., the needed response must come from policy (SCHWARTZ e

BROWNELL, 2010). While acknowledging the conflict between individualistic and collectivist approaches, Brownell and colleagues (2010) remind us that, “A safe water system prevents waterborne illness such as cholera and is far more effective than asking each person to purify water.” And likewise, Brownell and colleagues (2010) present their case for policy-based change in response to the obesity epidemic.

What specifics might Brazil consider in addressing childhood obesity?

As studies show that increasing prices decrease units sold (BROWNELL e FRIEDEN, 2009), Brazil might consider taxes on foods high in sugar, fat, or salt (i.e., fattening snack foods, desserts, sugar-sweetened beverages). It might also consider limitation on, or banning of, child-targeted marketing by fast-food corporations (including television, Internet, magazines, and radio). A more extreme, and more committed, approach would involve treating foods high in sugar, fat, and salt as toxins, and banning them outright, removing them from shelves.

Brazil is in a fortunate position, in terms of addressing its childhood obesity epidemic. It is fortunate in that it can learn from its neighbor to the north. It can embrace the successes of the U.S. (e.g., mass immunization programs fighting polio) and it can learn from the mistakes what not do. By doing so, Brazil can assess 40 years of programs in the U.S. that have failed to keep pace with obesity, and decide to forge forward with an alternate approach. At this moment in its history, Brazil has the option of addressing obesity as a public health threat, and by doing so protect its population.

To do so, a network must be built. Commitment must be tendered by all players. By teachers, parents, children, scientists and scholars; by social workers and the fast-food corporations. If we value the future of children, we will take the steps to move ahead. But to do so, we need to move together. To the legislators: Not only policy is needed, as mentioned earlier, but enforcement of that policy as well. To the educators: You bring knowledge to the classroom, but also you must serve as an example. To cleanse Brazil of its obesogenic environment will require commitment at each and every level. It will require vision that transcends our comfort needs.

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