

Debate sobre o artigo de Sichieri & Souza

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The thorough and insightful review by Sichieri & Souza clearly describes the complexity of strategies used to prevent or reverse the trend of childhood obesity. The most salient aspect of the review was the sheer variety of programs that have been attempted and the remarkably few that were successful, even in the short term. This observation was remarked upon quite well by the authors and illustrates the problem with solving this dilemma once it has been underway. The authors make good use of their critical writing to emphasize that this global problem is multifactorial and that most prevention or treatment programs address at most two to three factors associated with obesity. The sheer number of factors that are associated with childhood obesity is the underlying problem left unresolved by most programs and my response will focus on this issue by expanding on the observations of Sichieri & Souza.

Obesity is the accumulation of excess body fat associated with the development of chronic metabolic diseases (e.g. type 2 diabetes, hypertension, cardiovascular disease, etc). The route to the development of this pathological state begins with a seemingly mild disruption of energy balance normally maintained by the human body. It can be estimated that a difference of as little as 1-2% of total energy expenditure (estimated at an extra 50-100Kcal a day in combination of calories consumed or decreased energy expended) can promote a gain of 20-50 kilograms over a decade. Determining the origin of this positive energy balance is the 10 million dollar question as an extra cookie a day, parking closer to a store, using a car instead of walking, sitting versus standing, using an elevator versus stairs, an extra serving of ice cream, or a slightly larger portion of food, can each contribute to the 1-2% change in energy balance. More importantly, exploring the vast socio-environmental factors that foster and support any of these changes in diet or activity is daunting for any investigator. Attempting to influence the correct combination or combinations within any one program or to statistically control for all confounding factors is impossible. Thus, the review presented rightly describes the

“absence of positive results” to be found with existing programs to prevent or reverse the current trend in childhood obesity. Specific programs that have studied various aspects of obesity, including promoting physical activity, consumption of nutrient and fiber rich foods, sugar-sweetened beverage consumption, portion sizes, family dynamics, and even industry-related aspects highlight factors that are associated with obesity, but are not easily controlled or have little influence on maintaining body weight or promoting weight loss.

First, school-based interventions and programs will continue to fail if family dynamics are not integrated as a child spends approximately 30-40% of his/her day at school, the remainder being at home. Thus, opportunities to influence behavior are shared by schools and home and attempting to influence one without the other challenges only a portion of the status quo and leaves the child in essentially the original setting with limited tools to change the whole environment that surrounds him/her.

Second, the food environment that a child confronts each and everyday is moving more rapidly away from foods that promote health and prevent disease and towards foods that promote excess energy intake. Still, this is the dietary reality in which children are now forced to face beginning at early ages when the even the golden arches of fast food restaurants are recognized long before letters of the alphabet. The need to accept the fact that the opportunity for eating less than healthful foods is not going to diminish over the next several decades, if ever, sends a clear message to nutrition professionals and parents that children need to learn how to incorporate such foods into a healthful lifestyle. This can be accomplished by emphasizing that eating such foods is an occasional, rather than regular, event, helping them choose healthful meals (such as milk over soda), suggesting smaller portion sizes, exposing the marketing tricks companies use to encourage consumption of their products, and so on.

Third, maintaining a moderate level of physical activity is key and begins at home and continues at school and during free time. Parents and schools are again essential for promoting physical activity by encouraging children to simply move. This movement does not need to be organized sports or other activities, but simply moving by using stairs, taking short walks, not sitting at a computer or in front of a television, and performing activities together can result in an extra 20-30Kcal burned each day. Promoting physical activity early in life is key as it is far easier and better to prevent fat gain than to attempt to

lose fat through diet and exercise. However, challenges face parents and educators as many report a shortage of time to engage in physical activity. These challenges can be overcome with clear, focused messages from leaders in academia and governments that recognize that health and wellness promote academics, productivity, and family relations.

Fourth, a major problem with family interventions is the need to overcome two very strong predictors of childhood obesity, namely family income and level of parental education. How these two factors influence diet and activity levels of children is unclear, but one can speculate that income limits food choices and education limits the recognition that excess fat mass is associated with future disease risk. Thus, income and education will clearly confound any program that attempts to change diet and/or activity if the family or school lacks the means, either financially or intellectually, to implement changes, such as eating more fruits and vegetables, living in areas that are safe to walk or play, and so on. Therefore, it can be seen that even promising programs that attempt to integrate schools and families may disintegrate when faced with issues that are more sociological and economic rather than medical or nutritional. Again, the need for focused leadership at high levels of academic and government can facilitate part of this change, but even then may not touch on all aspects of childhood obesity (such as industry-related aspects).

Finally, current methods used to assess either dietary intake or components of daily energy expenditure (e.g. basal metabolism, physical activity, or non-exercise physical activity) need to be able to capture components that contribute to a positive energy balance of less than 3% of total energy expenditure. Unfortunately, even the best techniques available are only precise to within $\pm 5\%$ of gold standard measurements and may only capture differences in energy balance between 5 to 10% of total energy expenditure. Thus, amidst the multitude of studies reviewed by the authors, the underlying problem when evaluating such studies is the fact that none of the protocols described can accurately assess or address the seemingly minor changes in energy balance that may result in either weight gain or weight loss.

In conclusion, attempting to describe and understand why or how programs to reverse or prevent childhood obesity succeed or not unknowingly brings the authors and readers into a plethora of issues that cannot be overcome until more precise for studying energy intake or physical activity exist. In the meantime, despite the apparent pessimistic view of obesity prevention or treatment programs, the nutrition and medical

field can still emphasize the decades-old wisdom that diets moderate in fat and abundant in fruits and vegetables, low in processed foods, coupled with daily activity are the best preventive measure available for obesity and other diseases.

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Sichieri & Souza nos apresentavam com uma sistematização consistente que discute o efeito das estratégias de controle e prevenção da obesidade para crianças e adolescentes disponíveis na literatura científica. Reforça que as intervenções para essa epidemia devem considerar medidas voltadas ao ambiente “obesogênico”, conjugadas às voltadas ao indivíduo, família e coletividade, de forma a favorecer que as escolhas mais saudáveis sejam factíveis aos indivíduos ¹.

Reverter e controlar essa epidemia consiste num dos principais desafios da saúde pública, sobretudo para os países em desenvolvimento como o Brasil, que convive com a dupla carga de doenças. A persistência da desnutrição e das carências nutricionais, frutos das desigualdades sociais do país, e o aumento epidêmico da obesidade, nos remetem a um debate sobre o modelo atual de atenção à saúde, que ainda privilegia a doença, como fenômeno individual e a assistência médico-curativa. É necessário considerar a obesidade enquanto um fenômeno multicausal que tem forte determinação ambiental e comportamental. Dentre outros fatores, está relacionada com os modos de produção, comercialização e *marketing* de alimentos industrializados, e com o estilo de vida dos indivíduos, que determinam as práticas inadequadas de alimentação (quantidade e qualidade) e o sedentarismo ².

Promover uma alimentação saudável, aliada à atividade física, constitui-se numa das estratégias de saúde pública de vital importância para o enfrentamento desses problemas. Consiste em desenvolver mecanismos, com base em uma abordagem multisetorial, que apóiem os indivíduos a adotar modos de vida saudáveis, revendo hábitos alimentares pouco saudáveis. Isso implica um arcabouço de ações intersetoriais que faça dialogar as diversas áreas do setor sanitário e outros setores de governo (agricultura, abastecimento, educação, trabalho, desenvolvimentos social e agrário), os setores privado e não-governamental, compondo redes de compromisso com a qualidade de vida da população ³.