

## The "Saúde na Boa" project in promoting a healthy lifestyle among high school students

O projeto "Saúde na Boa" na promoção de um estilo de vida saudável em escolares do ensino médio

Markus Vinicius Nahas<sup>1</sup> Mauro Virgílio G. de Barros<sup>2</sup> Maria Alice Altenburg de Assis<sup>1,3</sup>

The "Saúde na Boa" project was a school-based randomized trial that was performed in Brazil to promote positive changes in physical activity practices and nutritional behaviors among high school students between 15 and 24 years of age, who were attending night classes and public schools in two Brazilian cities1. Recife, a municipality in northeastern Brazil, and Florianopolis, a municipality in southern Brazil, were selected because of their environmental and socio-cultural distinctions. This choice allowed for an analysis of the intervention effectiveness in different contexts. A review of international and national literature revealed that there had been no intervention studies aimed at promoting health behavior changes among night shift students. The lack of school-based health interventions focusing on this specific population and their psychosocial characteristics guided our choice to target this group. Additionally, since the structuring phase of the project we recognized that this was a challenging population group because high school students generally have established lifestyle behaviors. School and life obligations, such as working and preparing for college entrance exams; along with a lack of opportunities to eat healthy and be physically active at school, were all barriers to behavior change in night shift students.

The intervention strategies and the theoretical model of the "Saúde na Boa" project¹ were developed considering night shift student characteristics, and based on the logical models of the World Health Organization (Health Promoting School's Philosophy)² and the Center for Disease Control and Prevention (Guidelines for School and Community Programs)³. Three primary intervention areas were defined: 1) education on physical activity practice and healthy eating habits, 2) environmental and organizational changes, and 3) personnel engagement and training.

In this supplement of the Brazilian Journal of Kinanthropometry and Human Performance, new researchers in the field of Physical Education and Nutrition partnered with the "Saúde na Boa" researchers to disclose data relevant to "Saúde na Boa" that had not yet been published.

This particular supplement is an important repository that centralizes several key points about the "Saúde na Boa" project. Silva et al.<sup>4</sup> detailed the

- 1 Federal University of Santa Catarina. Graduate Program of Physical Education, Florianopolis, Brazil.
- 2 University of Pernambuco/ Federal University of Paraiba. Associated Graduate Program of Physical Education, Brazil.
- 3 Federal University of Santa Catarina. Graduate Program of Nutrition, Florianopolis, Brazil.

Received: 26 February 2014 Accepted: 29 March 2014



**Licença** Creative Commom

"Saúde na Boa" evaluation process and described the differences between participants and dropout students, a relevant yet underexplored topic in school-based interventions. The intervention effectiveness on proximal outcomes of the project was also highlighted, including physical activity practices (exercise for muscular strength/endurance and active commuting to school) reported by Duca et al. 5; screen time indicators (TV watching and video games/computer using) presented by Hardman et al.6; and assessments of the effectiveness of the intervention on increasing the consumption of fruits, vegetables, and other healthy foods (beans and milk); and reducing the consumption of unhealthy foods (snacks, sweets, and soft drinks) by Costa et al.7. Intervention effectiveness on distal outcomes was also presented including anthropometric indicators of general and abdominal obesity evaluated by Sousa et al.<sup>8</sup> Barbosa Filho et al.<sup>9</sup> analyzed the associations between lifestyle changes (physical activity, TV watching, eating habits, alcohol and tobacco use, and sleep duration) and self-rated health. Hoefelmann et al. 10 used cross-sectional and prospective evidences to test the relationship between behavioral variables and self-reported sleep quality and duration. Finally, Silva et al.11 evaluated whether health behavior changes influence body weight dissatisfaction.

Positives health outcomes were documented in this supplement and the lessons learned during the "Saúde na Boa" project supersede the limitations imposed by the "real world", such as school strikes and sample loss due to dropout. In the future, interventions should focus on both efficacy and effectiveness. Effectiveness concerns the evaluation of the intervention in the structuring phase of the project, i.e., its development under "ideal" conditions, whereas efficacy refers to the assessment after the intervention, i.e., how the intervention works under "real world" circumstances<sup>12,13</sup>.

The information published in this supplement and the lessons learned from the "Saúde na Boa" project can guide the structuring of future school-based interventions concerning health lifestyle and behaviors in high school students. Additionally, we emphasize the importance of interventions similar to the "Saúde na Boa" project in contributing to debates and discussions on public health policies in Brazil. Examples of national programs include the School Health Program (Programa Saúde na Escola); the National Program for School Food Security (Programa Nacional de Alimentação Escolar)<sup>14</sup>, which was recently expanded to the high school system; and Strategic Actions for Non-communicable Chronic Diseases Combat (Plano de Ações Estratégicas para o Enfrentamento das Doenças Crônicas não Transmissíveis)<sup>15</sup>, which performs interventions aimed to encourage fruit and vegetable consumption and physical activity, while reducing the consumption of salt, sugar, and fats.

Our thanks to all the contributing authors for the dissemination of the "Saúde na Boa" project in this supplement.

## Financial support

This study was financially supported by the Healthy Lifestyles, Healthy

People Project of the International Life Sciences Institute Research Foundation (ILSI RF), Pan American Health Organization (PAHO), and the US Centers for Disease Control and Prevention (CDC).

## **REFERENCES**

- Nahas MV, Barros MVG, de Assis MA, Hallal PC, Florindo A, Konrad L. Methods and Participant Characteristics of a Randomized Intervention to Promote Physical Activity and Healthy Eating Among Brazilian High School Students: The Saude na Boa Project. J Phys Act Health 2009; 6(2):153-62.
- World Health Organization. Global school health initiative. WHO 1995. http:// www.who.int/school\_youth\_health/gshi/en/index.html. Accessed March 2005.
- 3. CDC. Guidelines for school and community programs to promote lifelong physical activity among young people. MMWR 1997;46(6):1-36.
- 4. Silva KS, Barros MVG, Barbosa Filho VC, Garcia LMT, Wanderley Júnior RS, Beck CC, Nahas MV. Implementation of the "Saúde na Boa" intervention: process evaluation and characteristics of the study participants and dropouts. Rev. Bras. Cineantropom. Desempenho Hum 2014;
- Duca GFD, Barros MVG, Silva KS, Garcia LMT, Bezerra J, Nahas MV. Intervention to promote physical activity in high-school students: effectiveness on active commuting, strength exercises and stages of behavior change. Rev. Bras. Cineantropom. Desempenho Hum 2014;
- Hardman CM, Barros MVG, Lopes AS, Lima RA, Bezerra J, Nahas MV. Effectiveness of a school-based intervention regarding screen time exposure in high school students. Rev. Bras. Cineantropom. Desempenho Hum 2014;
- 7. Costa FF, de Assis MAA, González-Chica DA, Bernardo C, Barros MVG, Nahas MV. Effect of school-based intervention on diet in high school students. Rev. Bras. Cineantropom. Desempenho Hum 2014;
- 8. Sousa TF, Nahas MV, Hardman CM, Garcia LMT, Duca GFD, de Assis MAA. Effect of intervention on total and central obesity in students: The Saúde na Boa project. Rev. Bras. Cineantropom. Desempenho Hum 2014;
- Barbosa Filho VC, Silva KS, Rech CR, Brito ALS, Oliveira ES, Nahas MV. Changes in lifestyle and self-rated health among high school students: A prospective analysis of the "Saúde na Boa" Project. Rev. Bras. Cineantropom. Desempenho Hum 2014;
- 10. Hoefelmann LP, Silva KSS, Barbosa Filho VC, Silva JA, Nahas MV. Behaviors associated to sleep among high school students: cross-sectional and prospective analysis. Rev. Bras. Cineantropom. Desempenho Hum 2014;
- Silva DAS, Pelegrini A, Lopes AS, Wanderley Júnior RS, Barros SSH, Barros MVG. Changes in health-related behaviors and their effect on dissatisfaction with body weight in youths. Rev. Bras. Cineantropom. Desempenho Hum 2014;
- 12. Baranowski T. School-based obesity-prevention interventions in low- and middle-income countries: do they really work? Am J Clin Nutr 2012;96:227–8.
- 13. Flay BR. Efficacy and effectiveness trials (and other phases of research) in the development of health promotion programs. Prev Med 1986; 15:451–74.
- 14. Ministério da Educação. Resolução/CD/FNDE Nº 38, de 16 de julho de 2009. Dispõe sobre o atendimento da alimentação escolar aos alunos da educação básica no Programa Nacional de Alimentação Escolar PNAE.
- 15. Brasil. Plano de ações estratégicas para o enfrentamento das doenças crônicas não transmissíveis (DCNT) no Brasil 2011-2022 / Ministério da Saúde. Secretaria de Vigilância em Saúde. Departamento de Análise de Situação de Saúde. Brasília: MS, 2011.

## Endereço para correspondência

Maria Alice Altenburg de Assis Departamento de Nutrição, Centro de Ciências da Saúde, Universidade Federal de Santa Catarina. CEP: 84040-900

E-mail: maria.assis@ufsc.br Telephone: +55 48 3721-8014