

Nutritional environment at secondary schools in Bloemfontein, South Africa

Meko L, PhD, Lecturer; Slabber-Stretch M, PhD, Lecturer; Walsh C, PhD, Lecturer

Department of Nutrition and Dietetics, Faculty of Health Sciences, University of the Free State, Bloemfontein

Kruger S, PhD, Lecturer; School of Physiology and Nutrition, North-West University, Potchefstroom

Nel M, MMedSc, Biostatistician, Department of Biostatistics, Faculty of Health Sciences, University of the Free State, Bloemfontein

Correspondence to: Lucia Meko, e-mail: mekonml@ufs.ac.za

Keywords: nutritional environment, secondary school, Bloemfontein

Abstract

Objective: The objective was to determine the nutritional environment at secondary schools in Bloemfontein, Free State province.

Design: This was a cross-sectional, descriptive study.

Subjects and setting: The subjects were secondary school principals in Bloemfontein, Free State province, in 2006.

Method: Principals of 10 secondary schools who were already participating in a larger study on 26 schools completed structured questionnaires on nutrition practices.

Results: Four schools utilised nutrition education programmes. None had vending machines. Two schools sold dairy products. Biscuits and chocolates were sold at eight schools, and sweets, crisps and fast food at all of the schools.

Conclusion: The nutrition environment at Bloemfontein secondary schools does not support healthy eating habits. Nutrition policies need to be introduced to improve the nutritional environment at schools as the available food for learners at the tuck shops and/or via the vendors was mostly unhealthy.

© Peer reviewed. (Submitted: 2014-06-19. Accepted: 2014-09-13.) © SAJCN

S Afr J Clin Nutr 2015;28(1):53-54

Introduction

The double burden of over- and undernutrition in South African communities and households has been well documented. Data from the South African National Youth Risk Behaviour Survey, carried out in 2002 and 2008, confirmed that the nutrition transition in South Africa has led to an increased rate of overweight and obesity in children and adolescents.¹

Parents should attempt to establish good eating habits with respect to their children at home, but children also learn about food and nutrition in the classroom and from their peers. These school-based relationships affect food habits through mechanisms such as modelling, reinforcement, social support and perceived norms.²

Most schools have tuck shops that offer a variety of food for learners to buy. Learners in South Africa, and particularly those in township schools, also have the option of buying food from vendors who sell food outside the school gates, or from the surrounding shops and supermarkets. The food sold by vendors is not regulated for nutritional adequacy and is often low in nutritional value.

Overweight and obesity in childhood and adolescence often continue into adulthood, and are central to the development of noncommunicable diseases (NCDs). Low- to middle-income countries, such as South Africa, are the most affected by the high

mortality rates due to NCDs.³ In order for nutrition-specific and -sensitive interventions to succeed, factors in the environment which lead to the development of obesity in children and adolescents need to be understood. Limited data exist on the availability of nutrition policies and the quality of food sold in and around secondary schools in South Africa. This study aimed to determine the nutrition environment at selected secondary schools in Bloemfontein, Free State province.

Method

This study formed part of a larger cross-sectional study in 2006 in which the nutritional status of adolescents in 26 secondary schools in Bloemfontein was investigated. The Free State Department of Education and the schools' principals gave permission for the study to be conducted. The Ethics Committee of the Faculty of Health Sciences, University of the Free State, Bloemfontein, approved the study (ETOVS NR. 245/05).

The nutrition environment refers to the types of food sold on the school premises and the presence or absence of policies which promote healthy food choices in schoolchildren.² A nutrition environment questionnaire was developed and used to collect the data. Information was gathered on the existence of nutrition policies and education campaigns at the schools, and the presence of tuck

shops, vending machines, and vendors and shops on or close to the schools' premises, and the types of food sold. The questionnaires were completed by the principals of the schools participating in the study.

Descriptive statistics, namely frequencies and percentages for categorical data, were calculated using SAS® software.

Results

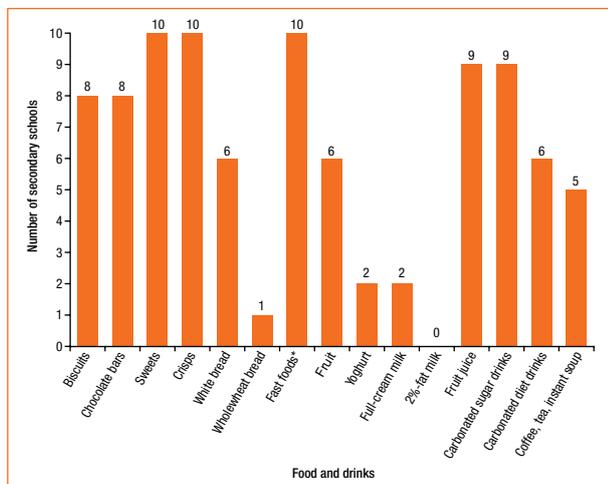
Of the 26 schools who participated in the study, the principals of 10 schools (38.5%) completed the nutrition environment questionnaire. The remainder of the principals did not submit the form as reportedly, they did not have enough time in which to complete it.

Four of the 10 schools ran nutrition education programmes, and in three of these schools, the programmes were run annually by the educators. The content of the programmes was not examined. Therefore, their nutritional accuracy or usefulness could not be established. None of the schools had vending machines, but all 10 schools had tuck shops, vendors or other shops on or near the school premises. Only two schools sold dairy products (Figure 1). One school sold wholewheat bread products and fresh fruit was sold at six schools. Sugarsweetened carbonated beverages were sold at nine schools, while sweets, crisps and fast food was sold at all of the schools.

Discussion

All 10 schools in this study indicated that learners could buy food from either a tuck shop or vendors on and off the premises. A cross-sectional survey,⁴ conducted in poorly resourced primary schools across the nine provinces of South Africa, found that most schools either had a tuck shop and/or informal vendors selling food on or off the school premises.

Similar to the South African survey,⁴ this study found that dairy and wholewheat bread products were sold at very few schools, and that carbonated drinks, biscuits, sweets and fast food were sold at the majority of them. When recommendations for healthy eating habits are made, the environment has to be conducive to the adoption of those habits, which was not the case in the Bloemfontein secondary schools surveyed.



*: Including pies, *vetkoeks* and burgers

Figure 1: Food and drinks sold in the tuck shops and/or by vendors at the selected secondary schools in Bloemfontein

Learners' food preferences influence the type of foods sold at schools, and because health and nutrition are often not a priority for adolescents, items such as milk and wholewheat bread were not well stocked by the vendors and tuck shops because of low demand. Fruit and most dairy products are perishable. Therefore, tuck shops and informal vendors find that stocking these items is inconvenient and unattractive.⁵

Schools have access to a large number of children, and are a suitable platform for health promotion programmes. Schools reach children at a critical age when they could be taught to practise healthy eating and to resist the pressure of unhealthy eating habits.⁶ Nutrition education programmes were not in place in most of the schools surveyed in this study. When they were in place, most of them were run annually by the educators, and not by the learners themselves. Hamdan et al⁵ report that peer-led health promotion programmes are more effective in changing learners' food choices. Young people prefer to educate and to be educated by their peers.⁵ The presence or absence of learner-led nutrition education programmes in South African schools is not well documented. However, the inclusion of nutrition in the current South African curriculum presents an opportunity for additional learner-led programmes to be introduced.

Conclusion and recommendations

Although our results cannot be generalised because of the small number of participants, this study confirms findings from other provinces which have indicated that an unhealthy nutrition environment exists at schools in the Free State province. School nutrition policies aimed at improving the nutritional quality of foods available to learners during school hours should be established in order to prevent and address overweight and obesity in childhood and adolescence.

Acknowledgements

Dr Daleen Struwig, medical writer, Faculty of Health Sciences, University of the Free State, is acknowledged for the technical and editorial preparation of the manuscript for publication.

Conflict of interest

The authors declare that they have no financial or personal relationships which may have inappropriately influenced them in writing this article.

References

- Reddy SP, Resnicow K, James S, et al. Rapid increases in overweight and obesity among South African adolescents: comparison of data from the South African National Youth Risk Behaviour Survey in 2002 and 2008. *Am J Pub Health.* 2012;102(2):262-268.
- Vereecken CA, Bobelijin K, Maes L. School food policy at primary and secondary schools in Belgium-Flanders: does it influence young people's food habits? *Eur J Clin Nutr.* 2005;59(2):271-277.
- Murray CJL, Vos T, Lozano R, et al. Disability-adjusted life years (DALYs) for 291 diseases and injuries in 21 regions, 1990-2010: a systematic analysis for the Global Burden of Disease Study 2010. *Lancet.* 2012;380(9859):2197-2223.
- Faber M, Laurie S, Maduna M, et al. Is the school food environment conducive to healthy eating in poorly resourced South African schools? *Public Health Nutr.* 2014;17(6):1214-1223.
- Hamdan S, Story M, French SA, et al. Perceptions of adolescents involved in promoting lower-fat foods in schools: associations with level of involvement. *J Am Diet Assoc.* 2005;105(2):247-251.
- World Health Organization. The physical school environment: an essential component of a health-promoting school. WHO [homepage on the Internet]. 2003. c2014. Available from: http://www.who.int/school_youth_health/media/en/physical_sch_environment.pdf