

## Fighting childhood obesity

This *South African Journal of Clinical Nutrition (SAJCN)* issue comes at a time when childhood obesity is attracting considerable attention in the country. South Africa is a middle-income country and regarded as being in the final stage of nutrition transition.<sup>1</sup> Thus, while successive national surveys in South Africa have shown some decrease in the prevalence of undernutrition, particularly underweight, in children, the prevalence of chronic overnourishment (overweight and obesity) is growing progressively and is a public health concern. This was highlighted in the recently released report of the 2012 South African National Health and Nutrition Examination Survey (NHANES-1),<sup>2</sup> which concluded that “interventions are needed to address the dual problems of chronic undernutrition (stunting) and the rapidly rising trend of overweight and obesity in children in South Africa”.

The South African NHANES-1 documented a combined overweight and obesity prevalence of 13.5% for South African children aged 6-14 years. This is higher than the global prevalence of 10% in schoolchildren,<sup>3</sup> but lower than current levels in the USA [18% for obesity and 32.6% for combined overweight and obesity in children aged 6-11 years (2009-2010)].<sup>4</sup> The global data show that some developing countries also have a very high prevalence of combined overweight and obesity in schoolchildren, for instance Brazil (7-10 years of age, 2005) 22.1%, Argentina (10-11 years of age, 2010) 27.9%, and Mexico (5-14 years of age, 2004) 41.8%. If action is not taken to halt this epidemic, the expected increase in overweight and obese South African children will become a major concern. It would be advantageous if South Africa could avoid following the pattern of the above countries.

Childhood overnourishment is a complex disease, with genetic, social and environmental components. An urgent and comprehensive approach is needed to potentially reverse this epidemic in the country. Studies performed on small, local and regional samples of South African populations suggest that familial, cultural, social, economic and environmental factors encourage or promote unhealthy eating and sedentary behaviour.<sup>5-7</sup> These factors have been shown to have a significant influence on the behaviour of eating healthily or otherwise, and engaging in physical activity. Some of these factors include industrialisation and urbanisation, dietary behaviour, lack of access to healthy and affordable foods, limited access to health information, physical inactivity, and social and physical environmental factors. Similar determinants of childhood obesity in developing countries have been cited in the international literature.<sup>3</sup>

Therefore, the article by Kirsten, Marais and Schübl, *The influence of socio-demographic factors on the nutritional intake of overweight and obese children in the Stellenbosch area, Western Cape*, in this current issue of the *SAJCN* on the determinants of overweight

or obesity in children living there, is of interest.<sup>8</sup> The levels of overweight and obesity (9% overweight and 4% obesity in 6- to 13-year-old schoolchildren), although specific to that area in the country, are nevertheless similar to the South African NHANES-1 data.<sup>2</sup> This small, localised study<sup>8</sup> provides information on the socio-demographic factors associated with childhood overweight and obesity. It also contributes to bridging the gap of regional childhood overweight and obesity data in the country. This study highlights the persistence of gender disparities in overweight and obesity prevalence. It also emphasises the role played by family factors in the development of obesity.

Statistically significant findings were that:

- Children whose mothers spent more than 36 hours at work were more likely to be overweight and obese.
- A smaller family size, namely the number of children in the family, was positively associated with an overweight or obese child.
- The majority of children who spent less than an hour participating in sporting activities were more likely to be overweight and obese.

Encouraging trends, such as set meal times, was also observed to be protective of overweight and obesity. This kind of evidence is especially important in a country such as South Africa, where the prevalence of overweight and obesity is becoming an epidemic.

Owing to the rapid increase in industrialisation, urbanisation and economic development, available evidence indicates that women are increasingly spending most of their time in working environments, leaving limited time outside of work.<sup>9</sup> This aspect of daily living was reflected in the study in Stellenbosch which showed that children whose mothers worked more than 36 hours a week were significantly more overweight or obese.<sup>8</sup> A possible cause of this is the replacement of home-prepared, traditional, low-fat, high-carbohydrate, high-fibre diets with diets that are high in energy and fat, and whereby reliance by mothers on fast food to feed their families is also a feature. The effect of urbanisation on dietary behaviour is also clearly shown in the South African NHANES-1. There was a higher prevalence of dietary risk factors for noncommunicable diseases in urban formal areas of 23.1% for a high-fat and high-sugar intake, compared to 9.8% and 11.7%, respectively, in the rural formal areas.<sup>2</sup> The South African NHANES-1 also showed that the price of food influenced the majority of women (64.5%) and 35.9% of the men when grocery shopping. A far smaller percentage of the population considered health to be a determinant of food purchases (14.3% of women and 7.3% of men). Energy-dense foods in South Africa cost less per unit of energy than animal products, fruit and vegetables.<sup>10</sup> Thus, women who lack adequate resources may purchase less expensive, energy-dense food to alleviate hunger.

South African researchers have clearly shown that there is lack of health knowledge in the country, despite improved education levels in recent years.<sup>11-13</sup> For example, few pre-adolescent girls of different ethnicities could determine a suitable amount of time needed engaging in physical activity.<sup>14</sup> It is interesting to note that the Stellenbosch study<sup>8</sup> showed a significant association between increased sporting activity and the prevention of obesity and overweight. Knowledge scores were low for food that was high in fat, salt and sugar in a study that measured the health knowledge of preadolescent children and their mothers.<sup>5</sup> This was also reflected in the South African NHANES-1 at national level, where only 14.3% of women and 7.3% of men applied health considerations to their grocery shopping.<sup>2</sup> As concluded by Kirsten, Marais and Schübl,<sup>8</sup> preventative initiatives are needed to proactively promote healthy eating and physical activity in children at a young age.

In addition, the broader context needs to be addressed by government. In this regard, studies have shown that social and physical environmental factors drive the unhealthy dietary and physical behaviour of individuals via various mechanisms. These include the overuse of technology-based equipment, and television in particular,<sup>15,16</sup>

reliance on automobiles for transportation, and overcrowding and crime which reduce participation in physical activities.<sup>16-18</sup>

Factors that drive dietary behaviour include television advertisements in the country which promote less healthy food products<sup>19</sup> and widespread misleading health claims. Only a handful of advertisements on television pertain to foods with a high nutrient content, such as vegetables, fruit, and low-fat milk and milk products.<sup>19</sup> Moreover, it has been reported that on the South African Broadcasting Corporation channels 1 and 2, the advertising of food of poor nutritional value to children is prominent. Less than 50% of advertisements concentrate on healthy food.<sup>20</sup> Taken as a whole, the findings of these South African studies indicate that government intervention is needed to reduce the advertising of unhealthy food-related products, to encourage more advertising that pertains to healthy foods, and to promote physical activity. Therefore, it is essential that resources are directed at understanding social and physical environments that promote and influence South Africans to adopt unhealthy behaviour and practices. International guidance is available,<sup>9</sup> and an urgent and comprehensive approach is needed to potentially reverse this epidemic in the country.

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