

The global challenge of childhood obesity and its consequences: what can be done?



Although there is concern over the changing epidemiology and increasing trends of obesity in childhood and adolescence, which has risen steadily over the past decade,¹ including a robust call for action by WHO,² progress in reducing the burden at a global level has been negligible. Of greater concern is the recognition that the relative increase in overweight and obesity is greater among poorer sections of the population and in rural areas,³ representing nutrition transition that foretells a future increase in the burden of non-communicable diseases in low-income and middle-income countries (LMICs). There is further concern about the association between overweight and obesity in childhood and adolescence and the increased burden and severity of non-communicable diseases driving increasing costs of care, associated premature morbidity and mortality, and possible intergenerational effects.⁴

Understanding the social determinants, biological and genetic risks, and environmental conditions leading to childhood overweight and obesity is fundamental to the development of strategies for its recognition and management. Although the heritability of both obesity and type 2 diabetes has been estimated to range from 30% to 70%,⁵ exposure to an obesogenic environment early in life (including the prepregnancy and pregnancy periods) is key to the development of obesity. There is a clear link between maternal overweight, obesity, and gestational weight gain and the risk of childhood obesity⁶ and type 2 diabetes in childhood and adulthood.⁷ In the postnatal period, not breastfeeding and exposure to commercial formula are recognised risk factors for the emergence of childhood overweight and obesity. These risks are clearly compounded by the food environment and subsequent exposure to ultra-processed foods.⁸ This overconsumption of energy-dense foods, often a consequence of relentless direct and indirect marketing, is also accompanied by growing physical inactivity across childhood and adolescence. These gendered dimensions of overweight and obesity are often marked among girls and women in LMICs, especially among urban informal settlements with limited space and opportunity for physical activity.

Much of the evidence in support of preventing overweight and obesity in the preconception period or during pregnancy stems from studies undertaken in high-income settings, and shows limited effects of lifestyle modification interventions on gestational weight gain, gestational diabetes, and childhood overweight and obesity, especially among socially disadvantaged population subsets.¹¹ Similarly, although postnatal interventions aimed at reducing weight do show promising results,¹² most follow-up durations have been relatively short and, as indicated, none of these studies are of direct relevance to populations in LMICs where the contexts differ considerably. The paucity of clinical trials and studies in LMICs should not detract from action given the strong evidence of epidemiological transition and health effects.

Within services such as preconception care, antenatal services, and baby wellness clinics, every contact is important and could address the following problems: nutrition, physical activity, and sedentary behaviours in both parents; mental health support before, during, and after pregnancy; linkage to effective programmes for postpartum weight loss; and exclusive breastfeeding support and teaching parents about feeding cues, appropriate weight gain during infancy, and rethinking catch-up growth parameters for infants. Gender-specific strategies to improve lifestyle and reduce sedentary behaviour work, and work best when started early targeting school-age children and young adolescents.¹³

Further, examining interventions that target broader social determinants and living conditions and the food environment rather than narrow behaviour-modification strategies is crucial. To illustrate, the imposition of taxes on sugar-sweetened beverages and ultra-processed foods has shown some promising benefits on reducing consumption and sales,¹⁴ but needs to be evaluated across a range of contexts for impact and sustainability. Investing in and promotion of implementation research to better understand how best to scale up evidence-informed strategies, especially among disadvantaged and marginalised populations, is a priority. Irrespective of equity

considerations and the burgeoning interest in deploying pharmacological and surgical interventions for obesity management in children and adolescents, we must ensure that appropriate emphasis and attention is paid to preventive public health strategies. Prevention is particularly important for LMICs where many treatment strategies for obesity used in richer countries are likely to be unaffordable. Given the US\$35 billion spent on marketing by the milk-formula industry,¹⁵ approaches to prevention of obesity and non-communicable diseases must start early and effectively. These include clear targeting of appropriate care and education for schoolgirls and adolescents, and working with families and communities to promote a healthy lifestyle, physical activity, and reduction in the intake of ultra-processed commercial foods. Obesity prevention and management will mean working across sectors, including social protection and education, and require the development of strategies for regular monitoring and tracking of outcomes.

WHO and major funding bodies have a key role in the promotion of high-quality and high-impact implementation research in obesity prevention and management. These strategies will cost money, but as the world has demonstrated during COVID-19, funds for research and development can be mobilised rapidly and can make a difference. Given the looming emergency of obesity and non-communicable diseases, this investment is a priority, not an expense.

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