

Editorial

Mitigating the consumption of sugar-sweetened beverages: the developing country perspective

The current, timely, issue of this journal comes at a time health professionals are reflecting on the costs of an apparent failure to halt the obesity epidemic and its consequences in developing countries^(1,2) and the benefits of interventions directed at combating obesity and its complications^(3,4). This issue of *Public Health Nutrition* includes research done on sugar-sweetened beverage (SSB) consumption in a wide spectrum of countries including South Africa, China, Greece, France, Belgium, Bulgaria, Germany, Poland and Spain. This research suggests that the majority of children in these countries do not meet the recommended intake of healthy beverages (plain water and milk)^(5–7) due to the fact that they are overconsuming sugar-sweetened and carbonated beverages^(1,5–8).

Prior work^(9–13) corroborates these results and further highlights the likelihood that the increased level of SSB consumption since 1999 could be fuelling the obesity epidemic in most developing countries. Energy-dense beverages (sugar-sweetened and carbonated beverages, in particular) are mostly imported into developing countries via emerging markets and food franchises. These markets and food franchises have developed strategies to increase the availability, affordability and acceptability of these beverages in developing countries⁽¹⁴⁾. As such, most of these beverages become popular due to their convenience and lower cost per unit of energy when compared with original nutrient-dense beverages like dairy, fruit and vegetable juices.

The rising prevalence of obesity is unique in developing countries, since it often coexists with a high burden of undernutrition and infectious diseases. Hence, governments need to be creative in affording a high priority to and introducing targeted interventions that do not strain the already fragile economies and health systems in these countries.

The reasoning behind taxation is that if products to which sugar has been added, such as soft drinks, are taxed much in the same way as taxes are levied on products such as tobacco and alcohol, this would lead to a reduction in people's sugar intake. To date, only a few developing countries such as South Africa and Mexico as well as some European countries have responded to these calls, but only recently^(3,15). Their efforts have been motivated by the escalating obesity epidemic and its associated health complications (including diabetes and cardiometabolic diseases), especially in children and adolescents, and increasingly among those in the low socio-economic strata.

A counter-argument is that the imposition of such taxation will have a negative effect on low-income earners in the developing world and, in some cases, the negative effect will be damaging to the nation's economy if beverage producers are forced to downscale their workforce. Unfounded as this concept may be, taxation has been successful in addressing, to a variable but significant extent, tobacco and alcohol. Taxing SSB producers will encourage the industry to produce healthier options if they are to sustain their business. Moreover, taxation may encourage low-income earners in developing countries to adopt healthier practices and consume plain water or other non-sweetened beverages, and/or increase the consumption of healthier fruit and vegetables which will improve their nutrient intake⁽¹⁶⁾.

It has been shown that in fact tax interventions are associated with a reduced consumption of SSB, in addition to the motivation it creates in industry to produce healthier beverage options^(4,9,17). It also acts as a means of generating revenue that governments can use for preventing, treating and managing overall health in their countries. However, country-specific studies are needed to determine the appropriate amount of tax to discourage purchase of SSB while generating revenue that will confer a public health benefit.

Another intervention involves oversight and regulation of media advertisements for fast foods and SSB. In South Africa, Steyn *et al.*⁽¹⁸⁾ have recommended that food and beverage advertisements should be screened prior to being aired by the South African Broadcasting Corporation and other media outlets so as to ensure that they meet the recommendations of the Advertising Standards Authority (ASA) of South Africa⁽¹⁹⁾, and that screening committee members be nominated by the Nutrition Directorate of the Department of Health. The World Obesity Federation⁽²⁰⁾ and Ebbeling *et al.*⁽¹⁷⁾ have recommended these 'common sense' approaches to prevent and treat the 'public health crisis' of childhood obesity.

Despite the dearth of data on food-related advertising in developing countries, Kelly *et al.*⁽²¹⁾ and Mchiza *et al.*⁽²²⁾ have shown that children in developing countries are exposed to high volumes of television advertising for unhealthy foods and beverages. According to the study by Mchiza *et al.*⁽²²⁾, despite the existence of the ASA Code in South Africa, 10% of television advertisements in 2011 were for SSB and the advertisements appeared during family viewing time, when children were most likely to be watching

television. Advertisers featured persuasive techniques to entice viewers, including depictions of exaggerated pleasure sensations and dependency or addiction. These depictions included statements such as 'lovely taste', 'fun and addiction sensation' and 'taste it, crave it'. Advertisers also used popular cartoon characters and attractive adolescents as well as media and prominent sporting celebrities to endorse these beverages. This type of advertising has a negative impact on children's food preferences and eating habits⁽²³⁾. Hence it is important that advertisements should be screened and regulated. Regulation of advertisements in the tobacco and alcohol arena has yielded positive outcomes with regard to lowering consumption.

Amidst the rise of global obesity concern, there has also been a surge of individual products advertised as assuring quick weight loss. One such product group is non-nutritive sweeteners⁽²⁴⁾. Manufacturers of non-nutritive sweeteners are using this as an opportunity to promote their products in developing countries and are marketing them as safe for all ages⁽²⁴⁾. While moderate use of non-nutritive sweeteners may be useful as a dietary aid for individuals with diabetes or on a weight-loss regimen⁽²⁵⁾, experimental studies continue to raise concerns on their use and preliminary studies would appear to associate their use with the development of obesity⁽²⁶⁾.

So far, the only justified and legitimate intervention to counter the obesity problem is replacing the habitual consumption of SSB with plain water and milk⁽²⁷⁾. Intervention studies^(28–30) indicate that this has a positive effect on lean body mass, body fat mass, postprandial glucose and insulin resistance, and HDL cholesterol. Helm and Macdonald⁽³¹⁾ have also shown that consumption of recommended levels of milk is associated with reduced risk of CVD, particularly in relation to blood pressure. A potential concern is the scarcity of clean and treated water in developing countries, and this calls for further investigation. While replacing the habitual consumption of SSB with plain water and milk is an effective intervention, additional interventions that include taxation of SSB and regulation of media advertisements should be explored.

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