

A sugar tax can answer Australia's obesity problem

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Abstract

This article aims to review literature examining the impact of a sugar-sweetened beverage (SSB) tax in order to make recommendations to the Australian Government about the efficacy of a sugar tax in Australia. Due to Australia's ageing population and the changed lifestyle of the population in the twenty-first century, chronic diseases have become the largest cause of death in Australia. A significant common risk factor in the four major chronic diseases is obesity. Obesity is caused by a number of factors, some of which are preventable, including nutrition. Thus, strategies that aim to prevent obesity have become a significant area of chronic disease prevention. One such strategy is the introduction of a sugar tax. This article argues that SSB taxes have a positive impact on lowering obesity. A 20 per cent tax on SSBs is the recommendation to the Australian Government, with revenue being used to fund other obesity prevention strategies. Although the government has previously quashed a proposed sugar tax due to belief that the tax would have little positive impact on Australian population, this article indicates that the tax would provide an inexpensive and effective method of addressing obesity prevalence.

Introduction

The largest public health issue for Australia today is the prevention and treatment of chronic disease (AIHW, 2014). A common risk factor between the four major chronic diseases in Australia (cardiovascular disease, cancer, chronic obstructive pulmonary disease and diabetes) is obesity (AIHW, 2014). The prevalence of obesity has dramatically increased in the past decade; most alarming is the increase of childhood obesity (Australian Bureau of Statistics, 2015). Despite this, there has been little government intervention involved in the primary prevention of the disease (Australian Government, 2013). A sugar-sweetened beverage (SSB) tax, dubbed a 'sugar tax', is a proposed method for reducing obesity by using a taxation model (Sarlio-Lähteenkorva & Winkler, 2015).

This article aims to determine if implementing a sugar tax in Australia would improve public health outcomes, by evaluating research from a number of countries with sugar taxes. The success of the tax will be evaluated on two fronts: the effect on the prevalence of obesity; and the economic impact. All literature discussed is peer reviewed, unbiased and from the last decade. Review of this evidence points

to a recommendation that a 20 per cent sugar tax should be implemented in Australia. This would reduce the prevalence of obesity and create revenue which can be used to create other policies addressing obesity.

Reasons for a sugar tax

Many public health experts and health care researchers have determined that SSBs have had a significant impact on the increase in obesity in Western countries over the last decade (Andreyeva, Chaloupka & Brownell, 2011). The theory highlights the correlation between increase in the amount of SSBs consumed and the increased prevalence of obesity (Pereira, 2014). However, overall there has been an increase in all high-sugar processed foods, not just SSBs (Andreyeva et al., 2011). The major reasons SSBs have become the main target are their high added sugar content and low satiety, combined with their high energy content (Malik, Popkin, Bray, Despres & Hu, 2010). These factors, along with their liquid form, create more rapid absorption of carbohydrates compared to other high-sugar products (Malik et al., 2010). Not only do these characteristics of SSBs contribute to weight gain, they also increase risk factors of type 2 diabetes and cardiovascular disease (Malik et al., 2010). Due to the growing evidence supporting this understanding, taxing SSBs becomes a compelling option to tackle obesity.

Taxation is an effective and inexpensive public health method which has been shown to alter food consumption (Andreyeva et al., 2011). Currently 26 countries have enacted some kind of sugar tax, the first one beginning in the early 1990s (Cabrera Escobar, Veerman, Tollman, Bertram & Hofman, 2013). This has allowed researchers to study whether the tax successfully alters behaviour and can reduce obesity rates (Cabrera Escobar et al., 2013). Results from such studies led the World Health Organization, in their 2016 commission into ending childhood obesity, to recommend implementing ‘an effective tax on sugar-sweetened beverages’ (WHO, 2016).

Impact on obesity

Current literature on sugar taxes demonstrates that they have a moderate but considerable impact on obesity. The main aim of a sugar tax is to reduce obesity by reducing the number of SSBs consumed. A number of studies have aimed to determine if this works in reality. One such study by Fletcher, Frisvold & Tefft (2010) used a correlation study method to evaluate the impact of sugar tax in six US states. The study used national databases from six states with a 1 per cent sugar tax from 1990 to 2006 to correlate the amount of SSBs sold with average body mass index (BMI) and the percentage of people classed as obese and overweight, from a number of demographics including gender, age and income (Fletcher et al., 2010). Results from the study indicated a decrease in BMI of 0.003 percentage points, in obesity of 0.01 points and in people classed as overweight of 0.02 points (Fletcher et al., 2010). While the results demonstrate a moderate decrease in obesity, the tax implemented was not nationwide and

was only 1 per cent, which implies that a greater tax of 20 per cent – as proposed by the World Health Organization (2016) – would likely reduce the average BMI to a more significant degree (Fletcher et al., 2010).

In researching the impacts of a 20 per cent SSBs tax, a study in the UK by Briggs et al. (2013) found promising results. The research aimed to estimate the effect of 20 per cent sugar tax on the prevalence of overweight individuals in the UK prior to its implementation in early 2018 (Briggs et al., 2013). Researchers used modelling software to estimate the effect of the tax by using data from several national surveys recording purchases of SSBs and BMI (Briggs et al., 2013). The results indicate a predicted reduction of obesity by 1.3 per cent and a reduction of 104 mL of SSB consumption per person per week (Briggs et al., 2013). However, the concluding statement of the research warned that a sugar tax ‘should not be seen as a panacea’ (Briggs et al., 2013).

The sugar tax has also positively affected lower-income individuals, as seen through calculating the difference in prevalence of obesity in different income brackets (Briggs et al., 2013). This indicates an important consideration for the introduction of a sugar tax in Australia, where obesity affects individuals from low income brackets most significantly (Lal et al., 2017). In fact, low socio-economic status (SES) is a major risk factor for obesity (Blecher, 2015; Lal et al., 2017). Along with this, it is assumed that for low-income individuals money is the biggest predictor of behaviour (Blecher, 2015; Lal et al., 2017). However, the research found no significant difference between income groups (Briggs et al., 2013).

The most significant research into the relationship between sugar tax and the mitigation of socio-economic disparities in obesity in Australia is perhaps that conducted by Lal et al. (2017). These researchers used modelling techniques to estimate the health benefits of a 20 per cent sugar tax in Australia with particular focus on different SES groups (Lal et al., 2017). They used data from a number of Australia databases to determine baseline obesity rates and SSB consumption from different SES groups, and, using models created, determined the amount of half-adjusted life years (HALYs) gained. HALYs increase as BMI decreases, thus rendering it a measure of obesity prevalence (Lal et al., 2017). Results indicated a total gain of 175,300 HALYs, equating to 111,700 years of life saved (Lal et al., 2017). This was predicted to be most significant in individuals from low SES groups, and in both men and women (Lal et al., 2017). While research on the sugar tax has demonstrated it produces a decrease in the prevalence of obesity, for the tax to be considered viable, its economic impact must also be considered.

Impact on economy

The economic impact of a sugar tax is also significant: this includes the impact of tax on the consumer level, the effect on the health care system and the revenue produced. A major criticism of food taxes such as the sugar tax is that taxing a product does not actually result in changes to that product price (Sarlio-Lähteenkorva & Winkler, 2015). In relation to the sugar tax, it is often absorbed by SSB

companies and not seen in retail prices, or offset by increasing price of drinks which use sugar-free sweeteners (Sarlio-Lähteenkorva & Winkler, 2015). However, research by Alvarado et al. (2017) analysed price changes of SSBs and non-SSBs before and after a sugar tax of 10 per cent was implemented in Barbados. Using data of beverage prices from a major supermarket chain from 2014 to 2016, results showed that, before-tax, the SSBs and non-SSBs had similar prices; after the tax was implemented, there was initially a price increase of 3 per cent to SSBs and slight decrease to the price of non-SSBs (Alvarado et al., 2017). This trend continued for SSBs, reaching 5.9 per cent by the end of the study. while non-SSB prices remained stable after their initial drop (Alvarado et al., 2017). This demonstrates that sugar tax can successfully change retail prices (Alvarado et al., 2017). Another consumer consideration relating to the sugar tax is what customers purchase instead of SSBs (Singhal & Joshi, 2017). Research by Singhal & Joshi (2017) determined that while purchases of SSBs decreased, purchases of non-SSBs increased by 4 per cent in Mexico after a sugar tax was implemented: the majority of non-SSBs purchased was water (Singhal & Joshi, 2017).

The effect sugar tax would have on healthcare costs also deserves consideration. The previously reviewed Lal et al. (2017) study also modelled the effect of sugar tax on healthcare costs in Australia. In 2015, AUD 5.3 billion was spent on treating diseases caused by obesity in Australia (Lal et al., 2017). This price will only increase as the prevalence of obesity increases (Lal et al., 2017). The researchers developed a statistical modelling method called the CRE-Obesity model, which allowed them to predict an AUD 1.733 billion decrease in healthcare cost over the lifetime of the current population (Lal et al., 2017). While this is only a predicted outcome of healthcare costs, even if over-optimistic the results suggest a significant impact on the healthcare system. Since sugar taxation is recent in countries that have implemented it, there has been limited research effectively evaluating its impact on healthcare costs.

Another economic consideration is the national financial gain from the sugar tax, which could be used to create further programs aiming to reduce obesity. Within Australia, the revenue was estimated by Lal et al. (2017) to be AUD 642.9 million. This was estimated by taking into consideration administrative costs and changes in healthcare costs (Lal et al., 2017). Within Australia, the revenue from a sugar tax could be used to implement other programs to address obesity (Backholer, Blake & Vandevijvere, 2017). Backholer et al. (2017) reviewed revenue obtained from a number of countries and where that revenue was used. In the US states of Colorado and Washington, the revenue was used to fund programs involved in the prevention of obesity, targeting those most at risk and in programs educating children about healthy diets (Backholer et al., 2017). Andreyeva et al. (2011) determined possible uses for revenue such as using it to offset the price of more expensive, healthier foods, making them more affordable than cheap, unhealthy foods (Andreyeva et al., 2011).

Recommendations

The specific recommendations of this literature review are to implement a 20 per cent sugar tax to combat obesity, with revenue from this tax being used to address obesity. In 2013, in a report into obesity presented to the House of Representatives, one of the 20 recommendations to the government was a tax incentive program (Australian Government, 2013). The response from the (then) government was as follows:

While obesity does involve significant health and productivity costs, the relationship between these costs and the consumption of particular products is complex. The risk of obesity is affected by lifestyle, such as diet and physical activity, as well as inherited and social influences. This makes it very difficult to estimate spillover costs, if any, of identifiable foods or food types. (Australian Government, 2013, p. 13)

Given the evidence outlined in this review, there is now sufficient evidence to indicate the contrary; that, while there are other risk factors involved in the cause of obesity, a tax on sugar will successfully reduce obesity prevalence in Australia (Cabrera Escobar et al., 2013). Along with this, a sugar tax will create significant revenue and reduce healthcare costs giving the government more money to implement other programs to address the other risk factors of obesity (Lal et al., 2017).

All research reviewed points to SSBs increasing obesity and that taxing such products will reduce obesity rates. There is, however disagreement regarding whether the sugar tax alone can tackle obesity (Briggs et al., 2013). There are currently a limited number of longitudinal studies, due to sugar taxes being a recent strategy, while statistical models used only predicted outcomes. Inaction on the issue of obesity in Australia is not an option, as obesity rates and related chronic diseases will continue to rise without government intervention. The sugar tax is an inexpensive, simple method which has been proven to effect prevalence of obesity and create significant revenue (AIHW, 2014; Andreyeva et al., 2011). A 20 per cent sugar tax should be enacted in Australia as soon as possible to reduce obesity rates, mostly significantly in low SES groups. Moreover, the tax will create revenue for further public health efforts to combat obesity.

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