

Sugar-Sweetened Beverages Position Statement

Nelson Marlborough Health (NMH) (Nelson Marlborough District Health Board):

- Recognises that regular consumption of sugar-sweetened beveragesⁱ (SSBs) is a leading risk factor for obesity and tooth decay and is associated with a number of other non-communicable diseases especially type 2 diabetes, cardiovascular disease and several cancers.
- Acknowledges that the non-communicable diseases identified above are important public health issues with significant personal, social and economic costs.
- Supports the World Health Organisation recommendation that, ideally, preschool and primary school aged children should consume no more than about 3-5 teaspoons of free sugarsⁱⁱ per day and adults should consume no more than about six teaspoons of free sugars per day.
- Endorses plain water as the first choice of drink for children and adultsⁱⁱⁱ as recommended by the Ministry of Health and Health Promotion Agency.
- Is committed to promoting health messages to highlight the health impacts of SSB consumption.
- Is committed to working with local government, other organisations and the community to:
 - restrict the sale and provision of SSBs in health facilities, schools, workplaces, sports and community events, recreational facilities and other public places;
 - raise awareness about the high sugar content of SSBs; and
 - implement initiatives to support healthy drink choices.
- Advocates for the following evidence-based interventions to reduce the health impacts of SSBs on New Zealanders by reducing their availability and affordability, increasing the acceptability of SSB alternatives, and raising awareness about the high sugar content and acidic nature of SSBs and their associated health impacts:
 - nutrition labelling, information and guidelines;
 - implementation of school based education programmes and social marketing campaigns that support healthy drink choices and discourage unhealthy choices;
 - mandatory standards for food and drinks available in schools and preschools;
 - mandatory standards for food and drinks available in hospitals, government agencies and other public sector settings;
 - restrictions on marketing unhealthy foods and drinks to children;
 - restrictions on in-store product placement of SSBs; and
 - introduction of a 20% excise tax on SSBs with generated revenue used for purposes of reducing tooth decay, obesity and associated health problems (e.g. a comprehensive nutrition and physical activity public education programme).

Artificially sweetened beverages and fruit juices

Artificially sweetened beverages ((ASBs) or 'diet drinks') and fruit juices are not considered to be healthy drink choices because:

- ASBs and fruit juices displace healthier beverage options and also create a 'habit' of drinking sweet drinks¹
- fruit juices contain sugars that are naturally found in fresh fruits, but become very concentrated when made into juice¹ – even though fruit juice contains a number of valuable nutrients, it has as much sugar and calories as SSBs²
- the acidic nature of ASBs and fruit juices can cause tooth erosion^{iv}, and additionally for fruit juices, the high sugar content can cause tooth decay.³

At the time of developing this position statement other potential long-term health impacts of consuming ASBs and fruit juices remain uncertain.

There are mixed findings surrounding the association between ASBs and fruit juice and the incidence of obesity. Reviews^{4,5} of previous research on ASBs found that some studies show regular consumption of ASBs reduces the intake of calories and promotes weight loss or maintenance, while other studies show no effect, and some studies even show weight gain. Similarly, a review⁶ of previous studies on fruit juice found that some studies link the regular consumption of fruit juice with overweight and obesity, but other research shows fruit juice does not influence weight.

A recent study⁷ of SSBs, ASBs and fruit juice and the incidence of type 2 diabetes found that for ASBs, there is a weaker risk for developing type 2 diabetes comparative to SSBs and it is possible that the increased risk may be explained by other factors. Fruit juice was shown to have a minimal increased risk but a number of problems with these design of the studies reviewed were found.⁷ Aside from these findings, the study concluded that both ASBs and fruit juice were unlikely to be healthy alternatives to SSBs for the prevention of type 2 diabetes.⁷

NMDHB will keep a watching brief on and respond to any emerging evidence. Much of the evidence to date is from observational studies whereas randomized controlled trials are required to demonstrate whether a true cause-effect relationship exists.

ⁱ Sugar-sweetened beverages are any beverage that contains added caloric sweetener usually sugar. The main categories of SSBs include soft drinks, sachet mixes, fruit drinks, cordials, flavoured milks, cold teas/coffees and energy/sports drinks

ⁱⁱ Free sugars refers to all added sugars (added to foods by the manufacturer, cook or consumer) plus the sugars that are naturally present in honey, syrups, fruit juices and fruit juice concentrates. It does not include sugar naturally present in milk or whole fruit and vegetables

ⁱⁱⁱ Plain milk is also a good drink because it contains protein and many vitamins and minerals (low or reduced fat milk is recommended for adults and children over 2 years of age)

^{iv} Erosion occurs when enamel is dissolved from tooth surfaces. Teeth may appear shorter and have visibly worn surfaces.

BACKGROUND

Why the focus on SSBs?

SSBs are one of the main sources of sugar in the diets of New Zealand adults and children.^{8,9} SSBs are nutrient poor, energy dense and displace healthier beverage options.^{3,10} Regular consumption of SSBs is a leading risk factor for obesity and tooth decay and is associated with a number of other non-communicable diseases especially type 2 diabetes, cardiovascular disease and several cancers.^{3,6,11,12,13}

These diseases are a considerable cause of health inequalities and result in significant, and in many cases preventable, costs to New Zealand people, families, communities and the public health system.¹⁴

SUMMARY OF EVIDENCE

SSBs and sugar consumption

The average New Zealand adult consumes 27 teaspoons of total sugarsⁱ per day.⁸ The World Health Organisation recommends that, ideally, preschool and primary school aged children should consume no more than about 3-5 teaspoons (12-20 grams) of free sugars per day and adults should consume no more than about six teaspoons (24 grams) of free sugars per day.¹⁵ A typical can of soft drink (330ml) contains around 9 teaspoons of sugar and most 750ml sports drinks contain 15 teaspoons of sugar.

SSBs are one of the largest contributors of added sugar to the diets of New Zealand children and adults, accounting for over a quarter of the total sugar intake of children and almost one-fifth of the total sugar intake of adults.^{8,9} Figures from a 2002 study showed nearly a third of New Zealand children consumed four or more SSBs per week, with a higher consumption rate for boys, and Pacific and Maori children.¹⁶

Obesity

Recent reviews of scientific literature confirm the link between the consumption of free sugars, particularly in the form of SSBs, and weight gain in both adults and children.^{17,18}

It is considered that the high added sugar content, high palatability and low satiety of SSBs promote excess energy intake.⁶ In particular, due to a low satiety, people do not get a feeling of fullness experienced by solid food and do not compensate for the extra calories provided by SSBs through eating less.¹⁹

One study showed that compared to non-SSB consumers, children who consume one can of SSB per day have a 3.3kg higher mean weight, and those who consume two cans have a 5.3kg higher mean weight.²⁰ Children who are overweight or obese are more likely to be overweight or obese in adulthood.²¹

ⁱ Total sugars refers to the natural sugars found in whole fruit and vegetables and milk as well as free sugars (free sugars include all added sugars (added to foods by the manufacturer, cook or consumer) plus the sugars that are naturally present in honey, syrups, fruit juices and fruit juice concentrates)

New Zealand ranks third out of around 30 OECD countries for both adult obesity (behind the USA and Mexico) and childhood obesity.²² Nearly a third of New Zealand adults and one in nine children aged 2-14 years are obese.²³ A disproportionate number of Pacific and Maori are obese, and a higher prevalence of obesity is observed in groups experiencing socioeconomic deprivation.²³

Obesity is a significant cause of preventable costs to the public health care system and society.²⁴ Research undertaken in 2006 estimated that obesity cost New Zealand \$847 million annually in health care costs and lost productivity.²⁵

Type 2 diabetes, cardiovascular disease and cancer

Overweight and obesity are major risk factors for a number of important diseases including type 2 diabetes, cardiovascular disease and ten types of cancer including bowel, gallbladder, kidney, liver, oesophagus, ovary, pancreas, prostate, post-menopausal breast and womb (endometrial).^{13,26}

While it is recognised that SSBs contribute to the obesity epidemic, it is found that SSBs may also increase the risk of type 2 diabetes⁷, cardiovascular disease and pancreatic cancer independent of obesity due to their high dietary glycemic load (GL)ⁱⁱ.^{6,11,12} A direct relationship between a high dietary GL and prostate cancer risk has also been found.²⁷

Regular consumption of SSBs – an average of 1 to 2 cans or glasses a day – has been linked to a 26% increased risk of developing type 2 diabetes compared to people who rarely consume sugary drinks.²⁸ Another study following 40,000 men found that those who regularly consume SSBs have a 20% higher risk of having a heart attack than men who rarely consume such drinks.²⁹ A similar association between regular SSB consumption and a higher risk of coronary heart disease has also been found in women.³⁰

Cardiovascular disease is the leading cause of death in New Zealand accounting for 30% of deaths each year, many of which are premature and preventable.³¹ Diabetes is New Zealand's largest and fastest growing health issue. Type 2 diabetes cost the public health system \$600 million in 2008 and is projected to reach \$1,770 million in 2021/22.³²

Tooth decay

A diet high in sugar is a principal cause of tooth decay.³ SSBs, particularly soft drinks, have been identified as a major source of sugar and significantly increase the chance that a child or adult will develop tooth decay.³³ As well as high added sugar content, the acidic nature of SSBs may also cause tooth erosion.³⁴

Tooth decay is the single most common chronic and largely preventable disease in New Zealand.³⁵ Dental care is one of the most common reasons for children's admission to hospital and for young children dental disease is a leading cause of potentially avoidable hospitalisations.³⁶

ⁱⁱ The glycemic load (GL) of food and drinks is a number that estimates how much a person's blood glucose level will be raised after consuming it

Around 29,000 New Zealand children aged 1-14 years had one or more teeth extracted due to decay, abscess, infection or gum disease during 2013-2014. Over a quarter of a million adults had one or more teeth removed over the same period.²³

During 2014, the overall rate of tooth decay amongst Nelson-Marlborough five year old children attending oral health services was 39%, with a higher rate for Maori children (54%) compared with non-Maori children (36%).³⁷

EVIDENCE-BASED STRATEGIES TO REDUCE IMPACT

Information and education

Nutrition labelling, information and guidelines

Evidence indicates that products with front-of-pack symbols have encouraged food manufacturers to reformulate their products with less salt, fat, calories and sugar.³⁸

An American study found that while any caloric information about SSBs reduces purchases amongst adolescents, easily understandable caloric information – for example in the form of a physical activity equivalent (i.e. minutes of running to burn off a bottle of soda) – has the most effect on reducing purchases.³⁹

The Commission on Ending Childhood Obesity, established by the World Health Organisation's Director General, recently made a comprehensive set of recommendations to address childhood obesity.⁴⁰ The recommendations include implementing interpretive front-of-pack labelling supported by public education programmes on nutrition literacy for both adults and children.⁴⁰ Also related, is a recommendation to disseminate nutrition information and guidelines for adults and children in ways that are understandable and accessible to all population groups.⁴⁰ This includes incorporating health and nutrition literacy into the school curriculum.⁴⁰

Education programmes/social marketing campaigns

School based education programmes and social marketing campaigns – for example promoting the intake of water, highlighting the amount of sugar in SSBs and the health impacts of regular SSB consumption – are shown to be effective in reducing the intake of SSBs by children and adults.^{38,41, 42} The effectiveness of school based education programmes could be improved by changes to the school environment (e.g. the provision of water fountains or water bottles).⁴¹

While education programmes can be effective at reducing SSB intake at an individual level, evidence suggests that for widespread and long term behaviour-change, particularly in adults, nutrition education and other behaviour-change interventions need to be complemented by regulatory actions, such as limiting the availability of SSBs in public places or the imposition of taxes.⁴³

Policy and regulation

Mandatory standards for schools and preschools

Children's food choices and dietary behaviours are strongly influenced by the school environment.⁴⁴ In New Zealand around a third of a child's daily energy intake is consumed while at school.⁴⁵ Nearly half of 12-18 year olds get their lunch from the school tuck shop and 16% of children commonly consume a SSB at lunch time.⁴⁶

School tuck shop use has been shown to be associated with poor dietary patterns (increased intakes of foods high in sugar and/or fat) and higher BMI.⁴⁶

Mandatory nutrition standards in Queensland state schools have effectively reduced the availability of unhealthy foods within schools, especially SSBs and confectionary – 97% of tuck shop administrators reported all unhealthy foods had been removed, 91% reported an increased availability of 'healthy' foods and 56% reported increased or unchanged tuck shop profits.³⁸

Recent recommendations by the Commission on Ending Childhood Obesity include requiring settings such as schools and child-care facilities to create healthy food environments, including by not providing or selling unhealthy foods and drinks.⁴⁰

Mandatory standards for hospitals, government agencies and other public sector settings

The public sector – including hospitals and other health care settings, central and local government, government agencies and prisons – has significant purchasing power and ability to influence and improve the diets of those that use services.⁴⁷ This includes the people that are visiting, working or living within public sector facilities.⁴⁷ Evidence suggests that the purchase, provision and sale of healthier foods in the public sector helps reduce sugar intake.⁴⁷

In England, it is mandatory for central government departments to purchase and provide foods and drinks, including SSBs, in line with government standards.⁴⁷

In New Zealand, the Ministry of Health together with District Health Boards banned the sale of SSBs from all hospitals and district health board (DHB) premises as a part of food and drink standards for DHB settings.⁴⁸

At a local government level, Nelson City Council has introduced a policy whereby SSBs will not be made available to staff and visitors within its facilities.⁴⁹ Similarly, Marlborough District Council (MDC) has adopted a policy which prevents SSBs being made available at its workplaces, functions or events where MDC is the main funder.⁵⁰

Restrictions on marketing to children

Food and beverage marketing is considered a significant contributor to childhood obesity. Food preferences are established during childhood and therefore have both an immediate and long term impact on health outcomes.⁵¹ Children are viewed as a future as well as current market, and are more likely to accept marketing messages as truthful as opposed to adults.⁵¹

Among children increased TV viewing has been shown to be associated with an increased consumption of the calorie-dense low-nutrient foods, including SSBs, frequently advertised.⁵²

The restriction of TV food advertising to children is thought to be one of the most cost-effective population-based interventions available to governments in reducing the consumption of high-sugar foods and drinks.⁵³

Although TV remains a dominant marketing technique for influencing food and beverage preferences, other types of marketing – including online marketing, social media, advergames, sponsorship of children's sports and community events, use of

characters and spokespeople – can all influence preference for high sugar product selection or consumption in children.⁴⁷

Recent recommendations made by the Commission on Ending Childhood Obesity include reducing the exposure of children and adolescents to, and the power of, the marketing of unhealthy foods, including SSBs.⁴⁰

Restrictions on in-store product placement

Where a particular item is placed within a supermarket significantly affects its sales.⁵⁴ Items at end-of-aisle displays and which are visible from three directions sell between 2-5 times more than items located elsewhere.⁵⁵ Doubling the number of facings of a particular branded product has shown to increase its likelihood of selection by 67%.⁵⁵ Impulse-buy items situated at the checkout counter, such as SSBs and candy, account for 46% of all supermarket sales of these products.⁵⁵

Product placement or aisle management strategies geared towards healthier food and beverage items can change consumer behaviour. A recent study found increased sales of healthier food and beverage items when those items were placed in more prominent locations such as eye level or end-of-aisle displays.⁵⁶

SSB tax

Taxes affect consumer prices and can be used to make unhealthy beverage options more expensive relative to healthy beverage options, thereby incentivising healthier consumptive behaviour.⁵⁷ The Commission on Ending Childhood Obesity recommends the taxation of SSBs for this reason noting that low-income consumers and their children in particular would be encouraged to make healthier choices whilst providing an indirect educational signal to the whole population.⁴⁰

A tax on SSBs was introduced in Mexico in January 2014 increasing their price by around 10%.⁵⁸ Evaluation of the tax on purchases found that by December 2014, purchases of taxed drinks had declined by 12% overall with a higher reduction (17%) amongst households of lower socioeconomic status.⁵⁸

In New Zealand, recent research estimates that a 20% tax on fizzy (carbonated) drinks would prevent or postpone 67 deaths from cardiovascular disease, diabetes and diet-related cancers in New Zealand each year.⁵⁹ A tax would also reduce the prevalence of non-communicable diseases, such as obesity, diabetes⁵⁹ and tooth decay.³

Furthermore, a 20% tax on sugar-sweetened fizzy drinks could generate about \$30 million revenue per year (factoring in reductions in consumption due to tax).⁵⁹ If other non-carbonated drinks high in sugar were included, such as sports drinks and cordials, then the revenue generated would increase.⁵⁹ Revenue from such a tax could be used to support health promotion programmes to improve population health.⁵

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