

Less sugar please

Excessive sugar consumption results in unnecessary calorie intake.

By Dr TEE E SIONG

SUGAR is one of the more controversial ingredients in food, and it has stimulated considerable debate amongst health professionals, industry, consumers, and even politicians and policy makers.

One extreme view is that sugar is “pure, white and deadly”, and is the cause of health problems such as obesity, heart disease, diabetes and dental caries. Others feel that such views are not warranted as they are not supported by scientific evidence.

The general consensus is that although sugar should not be blamed for the various chronic diseases, excessive sugar intake should be avoided.

In this article, I will highlight the 10th key message of the Malaysian Dietary Guidelines (MDG) 2010, which recommends the reduction of foods and beverages high in sugar.

Understanding sugars

Simple carbohydrates or simple sugars are known as monosaccharides, or single sugar units. Common examples include glucose, fructose

and galactose. When two sugar units are combined together, they are known as disaccharides. Examples include sucrose (found in sugar cane), lactose (found in milk) and maltose (found in malt) and could include a combination of different monosaccharides.

Polysaccharides are molecules with many sugar units joined together, and a common example is starch.

The term sugar is commonly used to refer to sucrose. It is a carbohydrate that is present naturally in fruits and vegetables. The most common source of sugar is extracted from sugar beets and sugar cane, both of which contain high amounts of sugar. This is the refined sugar that consumers and households are familiar with.

In some instances, partly refined products such as corn syrup, molasses, caramel, brown sugar, honey, *gula Melaka* and *gula kabung* may also be regarded as added sugars.

Added sugar also refers to sucrose or other refined sugars in soft drinks and incorporated into foods, fruit drinks and other beverages.

The term sugars are conventionally used to describe mixtures of monosaccharides and disaccharides such as sucrose, glucose and fructose. These can be found naturally in foods or can be added to foods during processing.

Sources of energy

The sugar that we consume is almost 100% pure sucrose. It is a carbohydrate, as explained earlier. Hence, like other carbohydrates, it can be metabolised or “burned” in the body to provide energy.

Sucrose, being a disaccharide, will be broken up into its component monosaccharides, namely glucose and fructose. Both these simple sugars can be metabolised or “burned” in the body to produce energy.

Besides providing energy, sucrose does not contain any other nutrients, such as protein, vitamins or minerals. Hence sucrose is sometimes known as “empty calories”.

Starch is a complex carbohydrate present in our staple food, rice, as well as several other grains such as wheat. Tubers such as sweet potatoes are also rich in this complex



Be aware of 'hidden' sugars in foods that could substantially increase your intake of sugar.

carbohydrate. Starch is made up of many glucose units joined together (hence called polysaccharide). Enzymes present in our body will break down the starch, to eventually produce glucose, which is metabolised to produce energy.

Starch occurs in staple foods together with other nutrients, eg protein, dietary fibre, vitamins and minerals. Whole grain cereals are preferred, eg brown rice is preferred over white or polished rice as the former contains more of these nutrients. It is therefore obvious that these foods are the preferred source of energy, rather than sucrose or sugars as the latter only provides energy.

Indeed, cereals and tubers and their products are placed at the base of the food pyramid and are recommended to be the main source of daily energy needs.

It can also be concluded from this discussion that if we have sufficient carbohydrates in our diet, the body does not specifically need sugar as such because we can obtain the glucose from starch and other carbohydrates.

Scientific basis for recommendations

The focus of scientific evidence on sugar guidelines in relation to health revolves around three main health issues. Sugar is an essential component in the development of dental caries. There is evidence linking the risk of dental caries and dietary intake of sugars in the presence of fermentable sugar and specific bacteria. It is, however, also important to note that it is not just the intake of sugar but also poor oral hygiene that leads to dental caries.

Sugar is associated with obesity. Overweight and obesity is caused by excessive calories

taken in by a person, compared with the amount he uses up for activities, over a period of time. The extra calories that are not used up is converted to fat and stored, and over time, the person becomes overweight, and obese.

A person who takes in excessive amounts of sugar will be adding extra calories to his daily intake. This can contribute to extra body weight. Thus, while sugar may not be said to cause obesity, it does contribute to the condition. Sugar can also contribute towards obesity by accentuating appetite, leading to overconsumption.

Sugar consumption is also associated with diabetes. However, there is also inconclusive evidence to say that sugar consumption per se causes diabetes.

Reducing sugar intake

Many of our desserts and snacks contain sugar as a main ingredient. We consume carbonated drinks and love cordials and syrups. Cookies and biscuits with sweet fillings are favourites of many children. Many cuisines also use sugar in food preparation.

Recognising the undesirable effects of excessive intake of sugar, the Malaysian Dietary Guidelines has a specific chapter to encourage the public to reduce consumption.

Focusing on reducing the addition of sugar to coffee and tea alone is not sufficient. I have seen people saying that they want to cut down sugar intake and took black coffee or tea instead. However, at the same time, they are having a huge slice of cake laden with sugar! This shows the lack of awareness of the sugar in various foodstuffs.

It is therefore important to



It is very important not to introduce sweet foods to children from a young age.

understand the amount of sugar contained in various foods and drinks. A can of carbonated drink can contain up to three to six teaspoons of sugar. Favourite beverages like *teh tarik*, cordials and *sirap manis* often contain too much sugar and sweetened condensed milk (which is very high in sugar).

Local desserts also contain significant amounts of sugar. Several Malay and Nyonya *kuih*, Chinese *tong sui* (sweet drinks/soups) and Indian sweets contain a high amount of sugar. A piece of *kuih koci*, *kuih keria* or *bingka ubi kayu* can contain up to two to four teaspoons of sugar.

Many processed foods also contain significant amounts of sugar. It is important to identify the amount of sugar in these foods as well.

Knowing sugar in processed foods

Consumers can check the amount of sugars in ready-to-drink beverages, for example in a pack or can of soft drink, by looking at the nutrition information panel (NIP). It is compulsory by law to include the amount of sugars in a serving of the drink in the NIP. It could contain up to 30 gram or six teaspoons of sugar per can of 325ml, which is equivalent to 120

kcal. One would need to walk 40 minutes to burn off this amount of calories. It is important to note though that the requirement is to label the amount of "sugars" in the drink. This refers to all monosaccharide and disaccharides in the drink, not just the amount of sucrose.

Consumers should make it a habit to look for the amount of sugar in the NIP and look for "low" sugar or sugar "free" versions. Such claims are permitted by law and there are specific levels to be met before such claims can be made.

It is not compulsory in the current food regulations to declare the amount of sugars in other processed foods. Hence you will not be able to find sugar content in the NIP of biscuits, cookies, buns. The consumer can, however, look for the ingredient listing on the food label, and see if sugar is used as an ingredient.

It is important to note that the word sugar may not be used in the product, but rather other equivalent ingredients with a similar caloric value. These include sucrose, fructose, sucrose, maltose, dextrose, corn syrup, high-fructose corn syrup, honey and maple syrup.

Also note the position of the



The most common source of sugar is extracted from sugar beets and sugar cane, both of which contain high amounts of sugar. This is the refined sugar that consumers and households are familiar with.

sugar or its equivalent on the label. If it is listed at the beginning of the list, sugar is one of the main ingredients in the product.

Some packages of beverages bear a claim: "no added sugar". Consumers should take note that it does not mean that products with such claims do not contain any sugars. You should still read the NIP on such packages and determine how much sugar that it naturally contains.

In addition, you should also note the ingredient list and look out for the addition of other types of sugars to the food, eg glucose, honey, molasses, corn syrup, etc. Take note also of other ingredients that contain sugar, eg jam, jellies, fruit juice, dried fruit paste or fruit pieces. All these ingredients will eventually contribute sugars to the food and provide energy.

Help kids reduce sugar intake

The preference for sweet foods and drinks is formed from habit, a long time habit of being used to such tastes. It is therefore extremely important not to introduce sweet foods to children from a young age. Even for children below one year, train the child to accept plain water, low-sugar beverages, or meals without added sugar. As the child grows older, he will automatically reject sweet foods.

Parents play a major role in helping children reduce sugar intake. In the first place, parents should be a role model by reducing sugar-rich foods and beverages. Children will watch what parents are eating.

Find opportunities to talk to children about healthy eating, about sugar, fat, and other aspects of nutrition. Prepare breakfast for children, talk to them about purchasing foods in canteens, about healthier versions of snacks.

Banning children or controlling children from taking sugary foods and drinks totally is not the way. Instead, allow them to take these sparingly.

For older children, engage them in food purchases, food preparations, and find opportunities to show them the NIPs. Talk to them about food choices.

Let the MDG 2010 guide you and your family members to adopt healthy eating habits and an active lifestyle. The complete MDG is obtainable from the Ministry of Health website: www.moh.gov.my/v/diet. The Nutrition Society of Malaysia has also made available leaflets of these MDG suitable for the public (www.nutriweb.org.my).

■ *Dr Tee E Siong pens his thoughts as a nutritionist with over 30 years of experience in the research and public health arena. For more information, email starhealth@thestar.com.my.*

MDG 2010 has provided two key recommendations for this message. Within each of the following key recommendations, the MDG has provided several tips on how to achieve these recommendations.

1. Eat foods low in sugar

- Choose or prepare *kuih* and cakes with less sugar.
- Replace sweet desserts such as *kuih* and cakes with healthier options such as fruits.
- Consume foods containing sugar less frequently.

d. Avoid consuming sugary foods in between meals and close to bedtime.

e. Check food labels for sugar content, focusing on the position of sugar on the ingredient list. If sugar

is listed at the beginning of the list, it indicates that sugar constitutes one of the main components of the ingredients.

2. Drink beverages low in sugar

a. Choose plain water rather than

carbonated and non-carbonated sugary drinks (such as soft drinks, syrup and cordial).

b. Limit intake of table sugar or sweetened condensed milk or sweetened condensed filled milk to

one teaspoon per cup of drink.

c. When ordering drinks, ask for less sugar or less sweetened condensed milk or sweetened condensed filled milk.

d. Check nutrition information panel on labels of beverages for sugar content.

e. Reduce the consumption of beverages containing sugar such as carbonated drinks, cordial, *cendol* and *air batu campur* (ABC).

f. Avoid consuming sugary drinks in between meals and close to bedtime.

MDG Key Message 10: Consume foods and beverages low in sugar