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KNOW YOUR FOOD



Food for the body and the mind

Food is good! Knowing what it does for the body and the mind is key to making the right choices and enjoying the best of it.

**“To eat is a necessity;
to eat intelligently
is an art”**

*François de La Rochefoucauld,
Philosopher.*

Eating is necessary to provide energy for the body’s functions, and nutrients to repair and build tissue, prevent sickness and help the body heal from illness. Knowledge of what food does for the body and mind empowers you to choose the right type, quality and quantity of food – that’s the art.

Foods, nutrients and their functions



- **Carbohydrates** are the primary source of energy for the body. We get them from roots, tubers, grains, sugar, fruits, legumes, dairy products and vegetables.



- **Fats and oils** are concentrated forms of energy, but they also help the absorption of vitamins, support cell membrane health and maintain the immune system.



- **Protein** foods perform the main body-building and repair functions as well as being sources of energy in the absence of carbohydrates. The best protein sources are animal foods – meat, poultry, fish, eggs, insects and dairy products. We also get protein from such plant sources as beans, peas, nuts, cereals and derived products.



- **Vitamins and minerals** collectively are called micronutrients because the body needs them in small quantities. But they are crucial for regulating tissue growth and vital body functions, including the preservation of cell integrity.



- **And then there is WATER.** Water is life. It makes up 60% of our bodies and is the medium for all vital body functions. It helps to keep the balance between the acidic and alkaline substances that would otherwise destroy cells. Humans cannot survive more than a few days without water.



**World Health
Organization**

REGIONAL OFFICE FOR **Africa**

What is a healthy diet?

A healthy diet is one that provides the body with essential nutrition; that is, adequate energy, nutrients and fluids to maintain and regulate body functions, support growth, repair tissue and prevent disease. In other words, it prevents nutritional deficiencies as well as the excesses that lead to weight gain and obesity, high blood pressure, high blood sugar, high cholesterol, gout and other diet-related health problems.

A healthy diet typically consists of natural, fresh, minimally processed foods, as opposed to (highly) processed foods that are low in fibre and contain large amounts of salt, fats, free sugars and other components that have harmful health effects.

A healthy diet is also a safe diet. This means food free of biological and chemical contaminants. It is important to remember that ingredients added to food during processing – salt, sugar, fat, preservatives – if excessive, also pose health risks.

Our food preferences

Food preferences have a small element of genetic predisposition. The rest is learned and acquired right from the womb. As the foetus swallows amniotic fluid, it becomes accustomed to the tastes of the food that the mother eats. Right from birth, infants show aversion to bitter and acid tastes and preference for sweet tastes. It is believed that Mother Nature thus equips her children with an affinity to what is nourishing (sugary foods) and an aversion to what may be poisonous (bitter foods).

Early child feeding and the circumstances of exposure to various tastes train each of us to like or dislike certain tastes. It is probable that the habit of giving young children candies when they cry establishes a sub-conscious association of sweet things with love and comfort. By the same token, force-feeding less desirable-tasting foods leaves a lifelong aversion to those tastes. Therefore, preference for a healthy diet should be established from early in life by providing a variety of nutritious foods to infants and young children and feeding them responsively and lovingly.

General tips for a healthy diet

Make half your plate fruits and vegetables: The more colourful you make your plate, the more likely you are to get the vitamins, minerals, and fibre your body needs to be healthy. When cooking vegetables, preserve micronutrients by using just enough water and avoid overcooking.

Opt for whole or minimally processed grains: whole wheat, brown rice, bulgur, oatmeal, quinoa, millet, sorghum, maize, tef (fonio), etc.

Choose a variety of protein foods: fish, seafood, poultry, meat (limit red and avoid processed meats), insects, pulses, legumes, eggs, milk, dairy products, nuts, etc.

Drink plenty of water and avoid sugary drinks.

Accustom young children to healthy snacks: Offer finger fruits and vegetables in preference to cookies or other sweets.

Limit consumption of fried foods, especially those cooked in solid fat or in re-used oil.

Pay attention to quantity: Use small plates to control serving size; eat slowly and savour the taste of your food; to avoid overconsumption or waste, serve small portions and take a second helping only if needed; listen to your satiety cues.

Observe food safety: Clean your hands and utensils properly; choose thoroughly cooked foods; keep food at safe temperatures and reheat leftovers to piping hot (not just warm); wash fruits and vegetables with clean water (boiled or purified if necessary).

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SUGARS AND OTHER SWEET THINGS



What are sugars

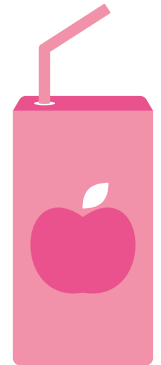
Sugars are simple forms of carbohydrate, the primary supplier of the energy that fuels the body's vital functions: breathing, blood circulation, the building and repair of tissue, the ability to move and even to think. The simplest forms of sugar contain one or two building units (molecules) and are called monosaccharides and disaccharides. Monosaccharides include glucose, fructose and galactose, while the most common disaccharides are sucrose (table sugar) and lactose.



Complex carbohydrate forms, such as polysaccharides, are broken down into simple sugars for absorption by the body. Thus, for example, starch (the most common digestible polysaccharide) in cassava, potatoes, vegetables and cereals is transformed into single glucose molecules for absorption.

Free sugars in the diet

Free sugars (as opposed to bound or intrinsic sugars) are the monosaccharides and disaccharides that occur naturally in syrups, honey and fruit juices or in processed forms that can be added to foods by the manufacturer, cook or consumer.



Intrinsic sugars are present in whole fruits (fresh, dried, canned or stewed), in vegetables and in milk and dairy products. These sugars are embedded in the cells of food and tend to be digested more slowly, thus taking longer than free sugars to enter the blood stream. But when fruit is turned into juice, the fibre is crushed and sugars are released from its cells, becoming free sugars. In a healthy diet, the consumption of free sugars is kept to a minimum.

Free sugars

- Table sugar
- Honey
- Malt extract, syrups and nectars
- Coconut sugar
- All sugars in fruit and vegetable juices, concentrates, smoothies, purées, pastes, powders; crushed fruit and vegetable products
- Sugars produced by fermentation in alcoholic drinks
- Sugars in dairy-alternative drinks such as soya, rice, oat and nut-based drinks

Non-free (intrinsic) sugars

- All the sugars naturally present in fruits and vegetables (dried, stewed, canned and frozen)
- Lactose and galactose naturally present in milk and dairy products, including milk powder
- Sugars naturally present in puréed and powdered potatoes and other starchy staples
- Sugar naturally present in grains and cereals
- All sugars naturally present in nuts and seeds regardless of processing (other than nut-based drinks)

Sugars and health

There is scientific evidence linking various noncommunicable diseases with excessive consumption of sugars. Examples include increased risk of tooth decay, high blood pressure, unhealthy weight gain, increased risk of heart disease, diabetes, certain cancers, depression, kidney disease and gout. Even though the science is not conclusive regarding some of these risks, it is important that, as informed consumers, we keep asking pertinent questions.



Where does the “sweet tooth” come from?

The sweet-taste preference (sweet tooth) seems to be inborn, as illustrated in experiments of newborns’ reactions to sugar solution versus quinine. The consumption of sweet foods in early life reinforces this predisposition. The sweet foods may be fed as part of an ordinary weaning diet or as tidbits offered to console and calm a crying baby (biscuits, lollipops, etc.). As a result, the brain is trained to associate sweet things with love, comfort and happiness. This theory points to the importance of cultivating a taste for healthy foods from early childhood.

In addition to early life programming, the food environment in later life can reinforce or modify the sweet-taste preference. Research suggests that sugar is addictive, and the more we consume it, the more we crave it. Popular experience shows that the palate can be trained to enjoy less and less sweetness in our food and drink.

What’s the matter with non-sugar sweeteners?

Non-sugar sweeteners come in forms of plant extracts and chemically synthesized alternatives to sugar. They impart a sweet taste to food but have lower (or no) calorie content, compared with sugar. In fact, their original use was to help reduce calorie intake and control weight gain.

The brain does not distinguish sweetness from sugar versus non-sugar sweeteners. Thus, the use of artificial sweeteners may be especially problematic in children because being exposed to very sweet tastes (artificial or natural) at a young age accustoms the palate to ultra-sweet flavours. This risks decreasing the enjoyment of wholesome natural foods, such as fruits and vegetables, which are less sweet or slightly bitter.

Do artificial sweeteners have health benefits? Are they safe?

Studies of health benefits have focused on artificial sweeteners (those used in diet drinks) rather than the plant extracts. Artificial sweeteners are hundreds to thousands of times sweeter than sugar. Evidence for their health benefits or risks is conflicting. Therefore, as informed consumers, we must keep asking questions about their safety.

Research also shows that artificial sweeteners change the mix of bacteria in the gut and interfere with the release of insulin (the hormone responsible for regulating blood glucose). By this means, they increase the risk of glucose intolerance, which raises blood glucose and could lead to type 2 diabetes.

Available studies on the use of artificial sweeteners and the risk of tooth decay and cancer have not been of long enough duration to provide conclusive results.

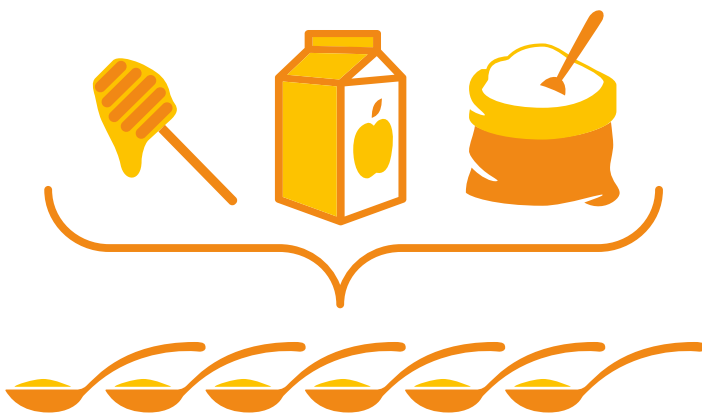
Surprisingly, studies of people trying to lose weight have found that the use of artificial sweeteners could lead to increased body weight! There is an interesting hypothesis of how this could happen. The sweet taste on the tongue sends a signal to the brain to prepare for the “reward” of caloric energy. But because the energy is not delivered, the post-ingestion appetite control mechanisms are changed in ways that could lead to increased appetite, food craving and, eventually, greater energy intake – complex and good food for thought!

3 SPOT THE SUGAR!



Before you pass the sugar, please...

Free sugars, which include the sugar added to food during processing, while cooking and at the table and the sugars occurring naturally in honey, fruit juices and concentrates, should contribute less than 10% of our daily energy intake. This is equivalent to 50 grams (about 12 teaspoons) for a person of healthy body weight. However, there are additional health benefits (such as reducing the incidence of tooth decay) if the total daily intake of free sugars is kept to six teaspoons or fewer.



6 tsp or fewer per day

Can you spot the sugar?

It is easy to know and to control how much sugar is added to your food during home cooking and at the table, but how about the sugar in processed foods? Do you know the secret ingredient that makes ketchup so popular with children? Sugar! And there is sugar in the most unlikely foods. Therefore, make a habit of looking at the label (if it is legible!) on the foods you put into your shopping basket.

Below are some examples of labels you may find on food packaging.

ANALYSE MOYENNE التحليل المتوسط AVERAGE ANALYSIS	Pour 100 g ل 100 ج Per 100 g
VALEUR ÉNERGÉTIQUE الطاقة (الكيلوجول) / ENERGY	1 664 Kj 392 Kcal
PROTÉINES (بروتينات) / PROTEINS	7.5 g
GLUCIDES (كربوهيدرات) / CARBOHYDRATES dont sucres (منها سكر) / of which sugars	85.8 g 30.2 g
LIPIDES (دهون) / FAT dont acides gras saturés (منها أحماض دهنية مشبعة) / of which saturated	2.1 g 0.9 g
FIBRES (ألياف) / FIBRE	2.3 g
VITAMINES (فيتامينات) / VITAMINS	2 mg

Baby food
(30.2% sugar)

GUARANTEED QUALITY (Typical Values per 100g)	
Energy	103.7 kJ/kcal
Fat	<0.3g
Protein	1.35g
Fibre	5.2g
Carbohydrates	89.5g
of which Sugars	27.7g
Sodium	0.1g
Vitamin E	0.0025mg

Ketchup
(22.7% sugar)

Déclaration nutritionnelle	Pour 100 g	Pour 25 g
Energie	1770 kJ (418 kcal)	442 kJ (104 kcal)
Matières grasses dont acides gras saturés	5.2 g 0.68 g	1.3 g 0.17 g
Glucides dont sucres	88.6 g 65.7 g	22.2 g 16.4 g
Fibres alimentaires	2.4 g	0.6 g
Protéines	3.1 g	0.78 g
Sel	< 0.1 g	< 0.025 g

Sweet-flavoured popcorn
(65.7% sugar)

NUTRITIONAL INFORMATION FOR 100ML OF DRINK	
Energy/Nutrients	Amount
Energy	244KJ; 57.0Kcal
Proteins	<1g
Carbohydrates	14.2g
Fat	<1g

Fruit drink from concentrate
(14.2% sugar)

Declaration of the ingredients in processed foods (or better still, the content of energy and key nutrients per 100 grams or 100 millilitres) should be a minimum labelling requirement so that consumers can tell how much sugar is contained in the food they purchase. But not all countries in the African region have or enforce the necessary regulations in line with this requirement. And even where nutrients are declared, consumer education may be needed to inculcate the effective use of the available labelling information.

Managing a sweet tooth

Taste is acquired, so it is possible to drastically reduce sugar consumption by training the palate... gently. It is best to reduce the sugar added in cooking and at the table gradually. As the palate adapts to less and less sugar and you pay more attention to the sugar content of processed foods, a habit of choosing low-sugar products is likely to be established in a sustainable way – for you and your family.

Practical tips

Water is the best thirst quencher – did you know that sugary drinks actually increase your thirst?

Reduce and even eliminate the sugar added to your regular beverages, such as coffee or tea.

Use alternative means to flavour drinks, including adding lemon or lime juice, aromatic herbs, and flavouring extracts, like almond, vanilla or orange.

Enhance foods with spices instead of sugar. Try ginger, lemon, cinnamon or nutmeg.

Choose fresh fruit and vegetables for snacks instead of juice, sweet foods and confectionery (cookies and cakes).

Eat fresh, frozen or dried fruits. If you use canned fruits, avoid those preserved in syrup.

Instead of adding sugar to breakfast cereals, try sweetening with fresh fruit (like bananas) or dried fruit (like raisins and mangoes).

Compare food labels and choose products with low amounts of free sugars.

When baking cookies, brownies or cakes, reduce the sugar in the recipe by one-third to one-half. Often, you likely won't notice the difference!

Brush your teeth after meals.

Of honey, sugar and the glycaemic index

People with impaired blood sugar regulation usually use honey to replace sugar. This is because blood glucose levels increase more rapidly from the consumption of sugar compared with honey. In other words, sugar has a higher glycaemic index than honey.



It is important to remember, however, that honey has a higher energy density than sugar: one tablespoon of white granulated sugar contains 48 calories, compared with 68 calories in a tablespoon of honey.

4

JUST A PINCH OF SALT



Role of sodium in the body and dietary sources



Sodium works in conjunction with other electrolytes (mineral elements) to regulate muscle contraction and relaxation and to control blood pressure. The electrolytes regulate the flow of fluids across cell membranes to achieve the fluid balance that is necessary for the survival and proper functioning of cells and organs.

Sodium is involved with potassium in “operating” a pump-like system that facilitates the movement of impulses through the nerves. Thus, recommendations on sodium intake refer to balancing it with potassium intake. Sodium occurs naturally in foods (milk, meat, shellfish, root vegetables, bell peppers, tomatoes, broccoli, cabbage, cucumber). Fresh fruits and vegetables are rich in potassium and are thus a “balanced” source of sodium. Iodized salt serves as a vehicle to provide iodine, which is essential for healthy brain development in a foetus and young children and for optimal mental function at all ages.

The primary source of sodium in the diet is salt (sodium chloride). In some diets, more than three-quarters of salt comes from processed foods (bacon, ham, sausage, cheese, salty snacks, bread, olives, etc.), and the rest is added during cooking (salt, bouillon cubes, soy sauce, etc.) or at the table (salt, sauces and condiments).



World Health Organization recommendations on salt consumption

WHO recommends a total daily intake of less than 5 grams of salt (2 grams sodium) for adults; that is less than 1 teaspoon of salt (adjusted downwards for children based on their energy needs). Consuming higher levels of sodium (with low levels of potassium) contributes to high blood pressure and increases the risk of heart disease and stroke.

A few individuals have health conditions or may be on drug therapies that lead to lowered sodium levels or acute build-up of body water (such as patients with heart failure or type I diabetes). These persons may have increased sodium needs, which should be managed in consultation with a physician or dietician. For the general population, the estimated need for sodium is 2 grams or less per day.

Tips for reducing salt in individual diets

Tips for reducing salt intake focus on the salt that is added to food during commercial processing, cooking and at the point of consumption. The good news is that the palate can be trained to truly enjoy low-salt or salt-free foods!

In practical terms:

Avoid adding salt to food at the table – some people add salt to their food before ever tasting it!

Cook with less salt (including reduced salty sauces, bouillon cubes and condiments containing monosodium glutamate).

Limit the consumption of salty snacks.

Substitute herbs for salt in recipes.

Choose unsalted or low-salt processed products.

5

TRANS WHAT?



What is trans fat?

The simplest description of trans fat, or trans fatty acid, is “solidified oil”. The liquid oil solidifies because of changes in the way fatty acids are held together. The solidification occurs through natural bacterial action in the stomach of ruminant animals – sheep, cows, goats and camels – or by partial hydrogenation of vegetable oils during food manufacturing.

Naturally occurring trans fats are found in the meat, milk and dairy products of ruminants. Industrially produced trans fats result from the partial hydrogenation of unsaturated fatty acids (vegetable oils) to create semi-solid, easy-to-spread fats, such as margarine and other fats used in food manufacturing, baking and frying. Heating oils at very high temperatures also causes partial hydrogenation, so fried foods are potentially important sources of trans fat in the diet.

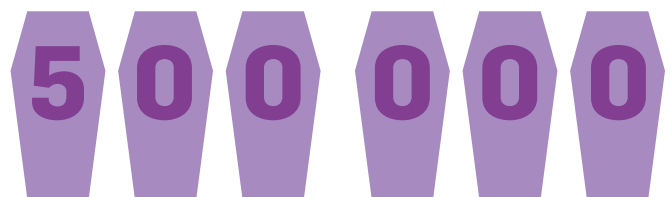
Industrial hydrogenation of vegetable oils increases their stability and solidity, thus increasing the shelf life of the final product while decreasing the need for its refrigeration. Hydrogenated oils became popular also because they give a desirable texture and taste to food.

Harmful effects of trans fats

Not all that glitters is gold... Eating trans fat increases the risk of developing heart disease and stroke. Globally, trans fats are estimated to contribute to more than 500 000 deaths from cardiovascular disease every year.

The mechanism by which they increase cardiovascular disease risk is not clear, but one hypothesis is that they interfere with the metabolism of essential fatty acids, causing increased levels of the so-called “bad” cholesterol and reduced levels of the “good” cholesterol. The bad cholesterol is what clogs up the arteries and leads to cardiovascular disease. Trans fats are also associated with a higher risk of developing type 2 diabetes, but the mechanism remains unclear, and results from studies are conflicting.

More than



deaths every year

Sources and how to limit the intake of trans fat

The contribution of naturally occurring trans fats to total consumption is minimal. Industrially produced trans fats are the main source of dietary consumption in margarine, deep-fried foods, fast foods and cakes, pastries and chocolates. Tips to limit trans fat intake include:



Avoid foods that contain industrial trans fats – cakes, cookies and desserts (often made with margarine or shortening); pizza; processed and fatty meats (sausages, hot dogs, bacon, ribs); and ice cream.



Read food labels and avoiding foods that contain trans fat or partially hydrogenated oil.



Use monounsaturated fat (such as olive oil) and polyunsaturated fat (soybean, corn and sunflower oil) in recipes that call for fat.



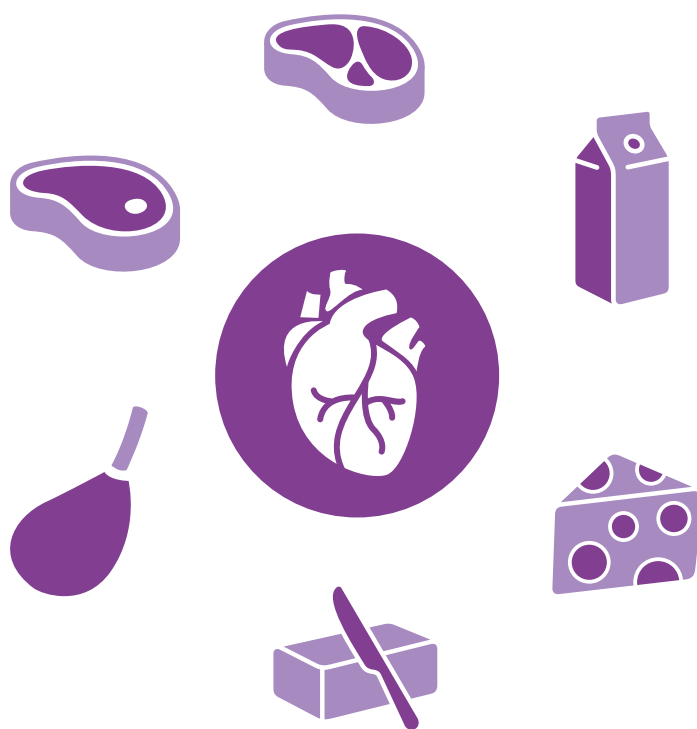
Eat a balanced diet rich in fruits, vegetables, whole grains, lean sources of protein and dairy products.



Avoid the use of reheated oil when cooking and frying foods.

About saturated fats

Saturated fats come mainly from meat and dairy products – fatty beef, pork, lamb, lard, butter, ghee, cream and cheese. Plant sources of saturated fat are palm and coconut oils.



Saturated fats, like trans fats, increase levels of the bad cholesterol in the blood and therefore increase the risk of cardiovascular disease.