

Salt assault

08-Jul-2010 (Thu) Mind Your Body, The Straits Times

By Geraldine Ling

Of all smells, bread; of all tastes, salt, the 17th century English poet George Herbert once wrote.

His appreciation of the seasoning is probably one shared by many.

After all, salt adds an unrivalled flavour to food. Bland soups or plain french fries magically come to life with a dash of salt.

It works too as a food preservative as it inhibits bacterial growth.

Most importantly, salt is also vital for life.

It is made up of sodium, chloride and minerals which the body needs to function properly.

The Mayo Clinic in the United States said sodium helps to regulate the body's fluid balance. It is also important for proper muscle and nerve functions.

Chloride is needed for the body's digestive juices and to maintain fluid balance.

The type of dietary salt that most people are familiar with is probably table salt, which is also often used for cooking. However, other types of salt exist too, like sea salt and rock salt.

The main culprit in health problems is the sodium in salt, said Dr V.P. Nair, a consultant cardiologist at Mount Elizabeth Medical Centre.

Too much sodium in the diet increases the risk of high blood pressure, which leads to other problems like heart attack, stroke or kidney damage, he said.

The Health Promotion Board recommends that Singaporeans consume less than 2,000mg of sodium a day. This is equivalent to one teaspoon of salt.

However, the actual amount of salt consumed should be less than 1/4 teaspoon, said Madam Koay Saw Lan, the head of dietetics & nutrition services at the Singapore General Hospital.

This is because sodium is naturally found in other foods like meat and milk. For example, a cup of milk has 120mg of sodium.

These foods can contribute up to 1,000mg of sodium in one's diet. Adding 2,000mg from a teaspoon of salt would cause one's daily sodium intake to climb to 3,000mg or more, said Madam Koay.

The average Singaporean eats about 3,525mg of sodium a day, she said. This is almost twice the recommended amount.

1: Heart problems

Sodium acts like a sponge that retains water in the body. The more salt or sodium there is in the body, the higher the total body water content. This increase in body water content may lead to a higher blood volume, as water contributes to the latter, said Dr Ruth Kam, a consultant cardiologist and cardiac electrophysiologist at Mount Elizabeth Medical Centre.

A higher blood volume increases the pressure within blood vessels. "They are like pipes with too much water in them," said Dr Kam.

Dr Jimmy Teo, a consultant at the division of nephrology at the National University Hospital (NUH), said consuming over 6g of table salt daily (slightly over one teaspoon) over long periods causes an increase in blood volume.

In the long run, this increase in blood pressure can cause damage to the lining of the blood vessels, leading to heart attacks and stroke.

Injured blood vessels unleash a cascade of reactions, including the secretion of hormones and other molecules that promote inflammation.

This disrupts the structure of the inner lining of the blood vessels, making it easier for circulating cholesterol in the blood to penetrate the vessel wall, forming plaque, or fatty deposits, said Dr Kam.

An accumulation of plaque can obstruct blood flow, leading to possible heart attacks or stroke, she said.

2: Kidney problems

The kidneys are vital for removing waste and regulating salt and water in the body. However, high blood pressure can damage the kidney blood vessels over time, rendering the organ less effective. Kidney failure may result, said Dr Tan Seng Hoe, a senior nephrologist at Gleneagles Medical Centre.

A high sodium intake also increases the risk of kidney stone formation. Excess sodium causes more calcium to be excreted in the urine, said Dr Tan.

This excess calcium can then bind to other substances to form kidney stones.

However, do not be alarmed if you have consumed plenty of salty food the day before and are generally healthy.

Healthy kidneys are usually able to excrete the excess sodium and restore normal sodium levels in the body if there is a one-off intake of excessive sodium, said Ms Cassandra Lim, a dietitian at NUH.

High blood pressure can be improved through changes in the diet.

The most effective diet to prevent or treat high blood pressure is an eating plan recommended by the United States government called Dash (Dietary Approaches to Stop Hypertension), said Dr Nair.

It is high in fruit, vegetables and whole grains, but low in saturated fat and sodium.

3: Salt sensitivity

Having a low sodium diet is very important to people who are salt sensitive.

Salt-sensitive people are those who experience an exaggerated increase in blood pressure when they are given a salt load, said Dr Kam.

For these people, the risk of dying from heart problems is increased with a high intake of dietary salt, whether or not they have high blood pressure, she said.

High dietary sodium is thought to speed up the activity of platelets - cell fragments that help the blood to clot - in salt-sensitive people, increasing the risk of heart injuries, explained a 2001 study published in the Hypertension Journal.

Salty alternatives

Low sodium salt substitutes are generally safe if one's kidneys are functioning normally, said Dr Jimmy Teo, a consultant at the division of nephrology at the National University Hospital.

Salt substitutes typically have a low sodium content and contain mostly potassium chloride to replace sodium chloride.

The downside is that they can be 10 times more expensive than table salt. They should also be used sparingly because they do not help to readjust one's taste buds as one may still be used to a high level of saltiness.

People with chronic kidney disease should avoid salt substitutes. Damaged kidneys may not be able to remove excess potassium. A potassium build-up may also cause abnormal heart rhythms, said Dr Teo.

Sea salt and kosher salt are sometimes touted as healthier alternatives to regular table salt because they are said to be lower in sodium.

Table salt is made up of 40 per cent sodium. According to the Mayo Clinic in the United States, table salt is mined from underground salt deposits and is heavily processed to eliminate trace minerals.

Some suggest that sea salt has added minerals which makes it healthier. Is this claim true?

Sea salt is made by evaporating ocean or sea water. It has traces of minerals like magnesium and calcium, but the amounts are too minute to have any benefit, said Ms Jaclyn Reutens, a dietitian at Aptima Nutrition & Sports Consultants.

Kosher salt is chunkier and coarser than table salt. It is made from brine - a solution of salt and liquid - that is continuously raked during the evaporation process. It can also be made by compressing table salt crystals to produce coarser grains, according to the North American-based Salt Institute.

Teaspoon for teaspoon, kosher and sea salt have less sodium than table salt,

Ms Reutens said. This is because the coarser grains mean they are less densely packed when compared to a similar spoonful of fine table salt and hence contain less sodium.

Still, do not be too liberal while using these salts to avoid consuming too much sodium, she added.

In general, the Food Standards Agency (FSA) in Britain explained that the price and the type of salt - grains, crystals or flakes - do not make a difference when it comes to maintaining one's health.

All salt contains sodium which can raise one's blood pressure if consumed in excess, said the FSA.