

Too Salty for Health

Key Messages

- ※ Consuming too much salt (sodium) is detrimental to health. Overconsumption of salt not only raises blood pressure, but also can cause harm to the heart, brain and kidneys and gradually contribute to chronic disease development over time.
- ※ For healthy adults, the World Health Organization (WHO) recommends consumption of less than 5 grams of salt (the equivalent of less than 2 grams of sodium) per day.
- ※ Local people consume too much salt. The Population Health Survey 2020–22 revealed that the mean daily salt intake in persons aged 15–84 was estimated at 8.4 grams. Overall, 83.9% of persons aged 15–84 had daily salt intake above the WHO recommended limit of less than 5 grams per day.
- ※ For the choice of dietary salt, the Working Group on Prevention of Iodine Deficiency Disorders recommends members of the public to use iodised salt instead of ordinary table salt for maintaining adequate iodine nutrition, while keeping total salt intake below 5 grams per day to lower the risk of raised blood pressure.
- ※ The Department of Health will continue to promote healthy eating, appealing members of the public to eat less salt.

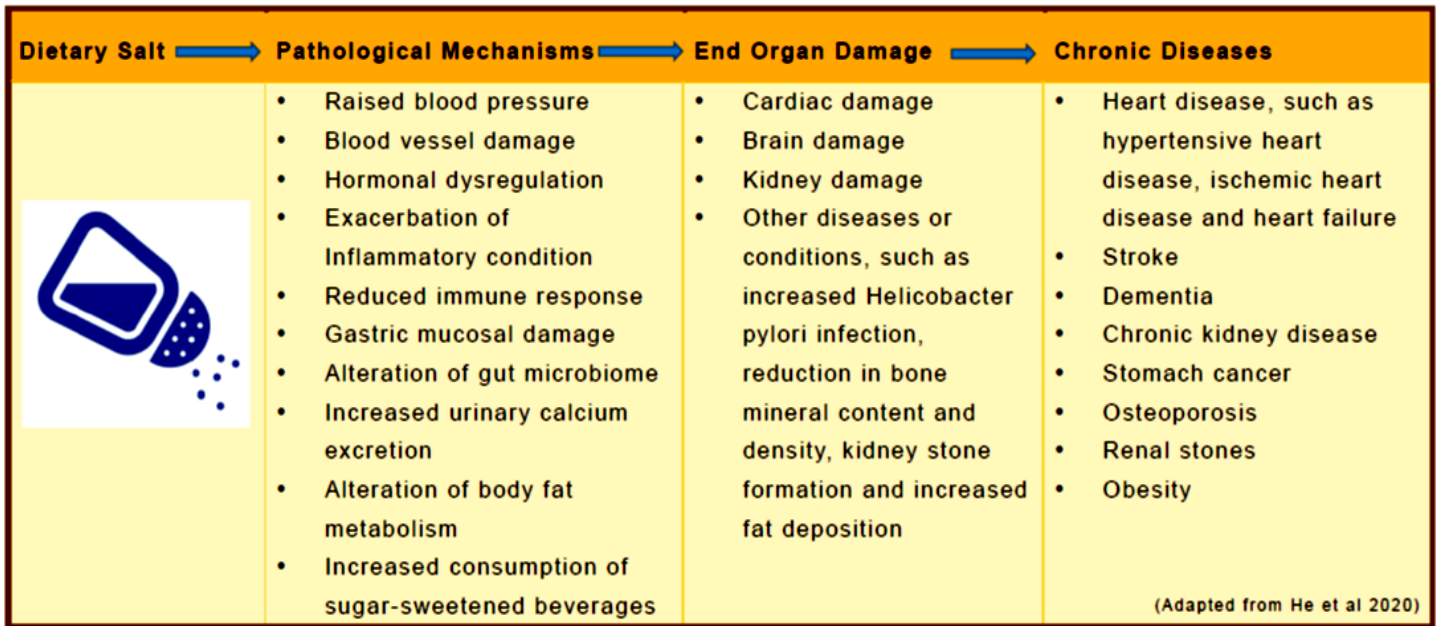
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Unhealthy diets are a leading cause of death and diseases globally, and excessive salt/sodium intake is one of the main culprits. Salt is composed of approximately 40% sodium and 60% chloride by weight. While sodium is found naturally in foods, very often it is added in foods as salt during manufacturing or cooking for food preservation and enhancing flavour. Maintaining a normal level of sodium in blood is essential for regulation of body fluids and acid-base balance, transmission of nerve impulses (such as signaling muscle to contract) and normal cell functions^{1, 2}. How much sodium individuals need per day differ according to their age, sex, life-stage or health status^{2, 3}. For healthy adults, the World Health Organization (WHO) recommends salt consumption of less than 5 grams of salt (the equivalent of less than 2 grams of sodium) per day. This amount is approximately slightly less than 1 level teaspoon of salt. Children should consume less salt per day than adults; the younger the children, the smaller amount of salt they should consume³. However, salt overconsumption is common among populations and comes with various health problems. This article addresses the major health risks associated with excessive salt consumption, describes salt consumption patterns across populations and provides suggestions for keeping salt consumption in check.

Major Health Risks Associated With Excessive Salt Consumption

Detrimental effects of high salt consumption on blood pressure are well recognised. The higher the salt intake, the higher the risk of hypertension⁴. Beyond blood pressure, over-consumption of salt can also cause harm to the heart, brain, kidneys etc. and gradually contribute to chronic disease development over time (Figure 1)^{5, 6}. Meta-analyses of epidemiological studies reported that higher versus lower salt consumption was associated with 23% increased risk of stroke⁷, 14% increased risk of cardiovascular disease⁷, and 21% increased risk of chronic kidney disease⁸. In addition, excessive consumption of salt or foods preserved by salting would increase the risk of stomach cancer⁹. Compared with low salt consumption, high salt consumption could increase the stomach cancer risk by 55%¹⁰.

Figure 1: Biological pathways whereby excess dietary salt consumption leads to organ damage and development of chronic diseases



Consumption Patterns of Salt Across the Globe

People across the globe in general consume too much salt, with a mean of about 10.8 grams per day or more than twice the WHO recommended maximum level of salt intake for adults¹¹. Studies also reveal that many people are unaware of the WHO recommended maximum daily intake of salt, primary food sources of dietary salt, or health implications associated with salt overconsumption^{12, 13}.

Largely determined by cultural preferences, the sources of dietary sodium consumption vary among different countries and regions. In many high-income countries, most of the sodium consumed (70–80%) comes from added salt during food manufacturing and food preparation in fast-food and sit-down restaurants. In many middle- and low-income countries, excessive sodium intake results from ‘discretionary’ addition of salt, high-salt sauces and condiments during home cooking and use of saltshakers at the table. However, globalisation of food industry is increasing the exposure of populations in middle-and low-income countries to sodium in processed foods¹⁴.

Patterns of Salt Consumption among Local Population

Likewise, local people consume too much salt. The Population Health Survey (PHS) 2020–22 of the Department of Health (DH) estimated daily salt intake of more than 1 900 non-institutionalised persons aged 15–84 by objectively measuring sodium excretion from 24-hour urine collection. Results showed that the mean daily salt intake in persons aged 15–84 was estimated at 8.4 grams (9.5 grams for males; 7.4 grams for females). Persons aged 25–44 had the highest mean daily salt intake of 9.0 grams per day (Table 1). Overall, 83.9% (91.5% for males; 77.1% for females) of persons aged 15–84 had daily salt intake above the WHO recommended limit of less than 5 grams per day. The proportion of persons who had daily salt intake at 5 grams or more was the highest at 89.7% for the 35–44 age group (Table 2)¹⁵.

Of note, the corresponding mean daily intake of salt and the proportion of persons having salt intake above the WHO recommended daily limit among persons aged 15–84 were lower than 8.8 grams and 86.3% found in the PHS 2014/15¹⁶. However, there is room for improvement and members of the public should reduce their salt intake.

Table 1: Mean daily salt intake (gram) among persons aged 15–84 by age group and gender

Age group	Male	Female	Overall
15 – 24	9.4	7.3	8.4
25 – 34	9.9	8.1	9.0
35 – 44	10.2	8.0	9.0
45 – 54	9.7	8.0	8.7
55 – 64	9.8	6.9	8.3
65 – 84	8.3	6.4	7.4
Overall	9.5	7.4	8.4

Source: Population Health Survey 2020-22.

Table 2: Proportion of persons aged 15–84 who had daily salt intake at 5 grams or more by age group and gender

Age group	Male	Female	Overall
15 – 24	88.5%	80.1%	84.4%
25 – 34	91.0%	81.6%	86.2%
35 – 44	95.0%	85.2%	89.7%
45 – 54	93.4%	79.6%	85.7%
55 – 64	89.9%	71.4%	80.1%
65 – 84	90.5%	68.3%	79.1%
Overall	91.5%	77.1%	83.9%

Source: Population Health Survey 2020-22.

Cutting Back on Salt

Reducing population intake of salt has been identified a priority public health action by the WHO¹. As estimated, up to 2.5 million deaths due to heart attacks and stroke worldwide could be prevented each year if global salt consumption were reduced to less than 5 grams per day¹⁷. In addition to processed food consumption, adding salt to foods (such as during cooking or at the table) is also a common eating behaviour directly related to an individuals' long-term preference to salty taste foods and can contribute considerably to total sodium consumption¹⁸. Among Chinese adults in China, salt added by individuals when cooking or preparing a meal was the leading source of sodium, accounting for 69.2% of total sodium consumption¹⁹.

In fact, there are ways to substitute salt without sacrificing flavour. Below are some suggestions for keeping salt consumption in check:

- ◆ Use fresh food where possible when making home-made meals;
- ◆ Limit consumption of high-salt foods and salt-preserved foods, such as processed meat, salted egg, pickled vegetables, canned food or the seasoning of instant noodles;
- ◆ Use herbs and spices instead of salt to add flavor to dishes, such as garlic, pepper, lemon juice or vinegar;
- ◆ Cut down the amount of salt and sauces used in cooking and avoid adding them at the table;
- ◆ Replace ready-to-use sauces with sauces made with fresh ingredients, such as lemon, tomato, pepper, pumpkin and spinach;
- ◆ Choose foods prepared with more natural seasonings, and less sauce when eating out, and ask to have the sauce served separately;
- ◆ Read nutrition labels to check the amount of sodium contained in the prepackaged foods and choose less salty options.

For the choice of dietary salt, the Working Group on Prevention of Iodine Deficiency Disorders set up by the DH and the Centre for Food Safety with representatives from Hospital Authority and relevant medical colleges recommends members of the public to use iodised salt instead of ordinary table salt, while keeping total salt intake below 5 grams per day to lower the risk of raised blood pressure²⁰. Iodine is an essential micronutrient required for the production of thyroid hormones to support growth and development. Persistent low iodine intake will lead to significant health consequences across the age spectrum, such as goiter (enlarged thyroid). However, the PHS 2020-22 found that the iodine intake was “insufficient” with “mild iodine deficiency status” for persons aged 35 or above¹⁵. To prevent and control non-communicable diseases associated with excess salt consumption, the DH will continue to promote healthy eating, appealing members of the public to eat less salt.

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May Measurement Month & World Hypertension Day

May Measurement Month (MMM) incorporating World Hypertension Day on 17 May aims to promote public awareness of hypertension and the need to check and control their blood pressure. For 2024, the theme for World Hypertension Day is **Measure Your Blood Pressure Accurately, Control it, Live Longer**. For more information about the campaign, please visit the thematic website at whleague.org/about-us/world-hypertension-day.

Having regular blood pressure checks allow early detection of hyper-tension. The Hong Kong Reference Framework for Hypertension Care for Adults in Primary Care Settings (which is accessible at www.healthbureau.gov.hk) recommends adults aged 18 or above to have regular blood pressure checked at least every two years. More frequent intervals may be required according to the blood pressure level, individuals' age, overall cardiovascular risk profile, and doctor advice.

Other than having regular blood pressure checks, members of the public are encouraged to lead a healthy lifestyle for the prevention and control of hypertension. Key actions include cutting back on salt and eating a balanced diet; being physically active; maintaining an optimal body weight and waist circumference; avoiding smoke; and refraining from alcohol drinking. For more information about healthy living, please visit the Change for Health website of DH: www.change4health.gov.hk.

Non-Communicable Diseases (NCD) WATCH is dedicated to promote public's awareness of and disseminate health information about non-communicable diseases and related issues, and the importance of their prevention and control. It is also an indication of our commitments in responsive risk communication and to address the growing non-communicable disease threats to the health of our community. The Editorial Board welcomes your views and comments. Please send all comments and/or questions to so_dp3@dh.gov.hk.

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