

Cardiovascular Disease Risk Factors

Hypertension and salt intake survey results (2019)

Cardiovascular disease (CVD) is the leading cause of death globally and in China. One of the major risk factors for cardiovascular disease—high blood pressure, or hypertension—is responsible for more than 10 million deaths each year globally, and over 2.5 million deaths in 2017 in China.¹ In China, 23% of adults have hypertension. Among those with hypertension, only 15% have it under control.² High salt intake is a major cause of hypertension, especially in China, where average salt intake is 10.5 grams per day, more than twice the daily amount the World Health Organization (WHO) recommends (5 grams per day).³ In 2017, over 1.6

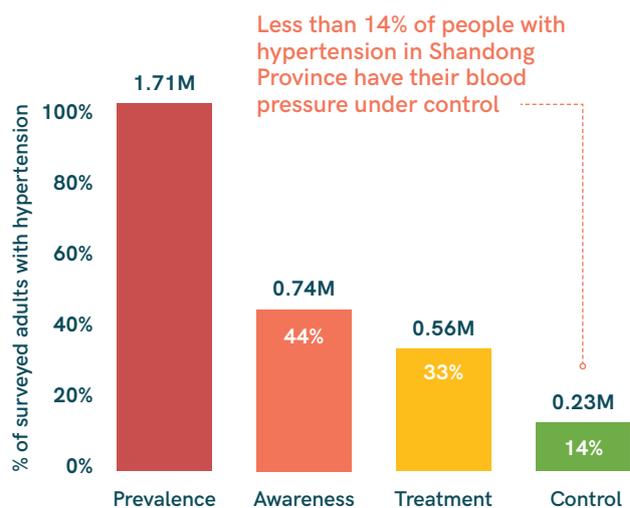
million people in China died from CVDs because of excessive salt intake.

In 2019, the Shandong Center for Disease Control and Prevention (CDC) conducted a baseline survey on blood pressure and salt intake in 10 counties in Shandong Province, with funding from Resolve to Save Lives, an initiative of Vital Strategies, and technical support from the WHO and the U.S. Centers for Disease Control and Prevention (CDC).

The survey results highlight important gaps in the diagnosis and treatment of hypertension, as well as opportunities to support behaviors that may lead to reduced salt intake.

Hypertension

In the 10 surveyed counties, 26% of adults (1.71 million people) aged 18 - 69 years had hypertension. Prevalence was higher in men than in women (30% v. 22%). Average systolic blood pressure (SBP) was 125.6 mmHg and average diastolic blood pressure (DBP) was 76.3 mmHg. The survey identified a gap in diagnosis and treatment. Less than half of people with hypertension were diagnosed. While the majority of people diagnosed were receiving treatment, very few had their blood pressure under control.



1. Zhou, M., Wang, H., Zeng, X., Yin, P., Zhu, J., Chen, W., Liu, J., et al. (2019). Mortality, morbidity, and risk factors in China and its provinces, 1990-2017: a systematic analysis for the Global Burden of Disease Study 2017. *The Lancet*, 394(10204), 1145-1158.

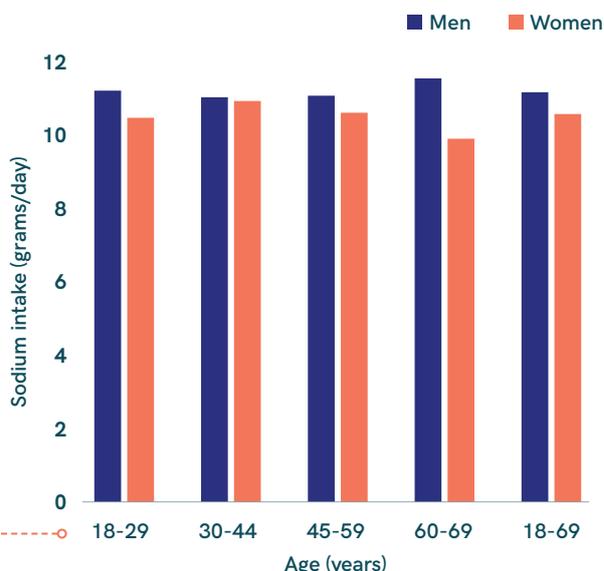
2. Wang, Z., Chen, Z., Zhang, L., Wang, X., Hao, G., Zhang, Z., Wang, J., et al. (2018). Status of hypertension in China: results from the China hypertension survey, 2012-2015. *Circulation*, 137(22), 2344-2356.

3. National Health Commission of the People's Republic of China. (2016). Report on Chinese Residents' Chronic Diseases and Nutrition 2015. Beijing: People's Medical Publishing House.

Salt intake

In surveyed counties, the average salt intake of residents aged 18-69 is 10.6 g/day (measured using 24-hour urine sodium excretion: sodium excretion 180.6 mmol/24 hour). This is similar to the 10.2 g/day found in the 2016 final evaluation for a five year province-wide salt reduction intervention, the Shandong-Ministry of Health Action on Salt and Hypertension (SMASH) program.⁴

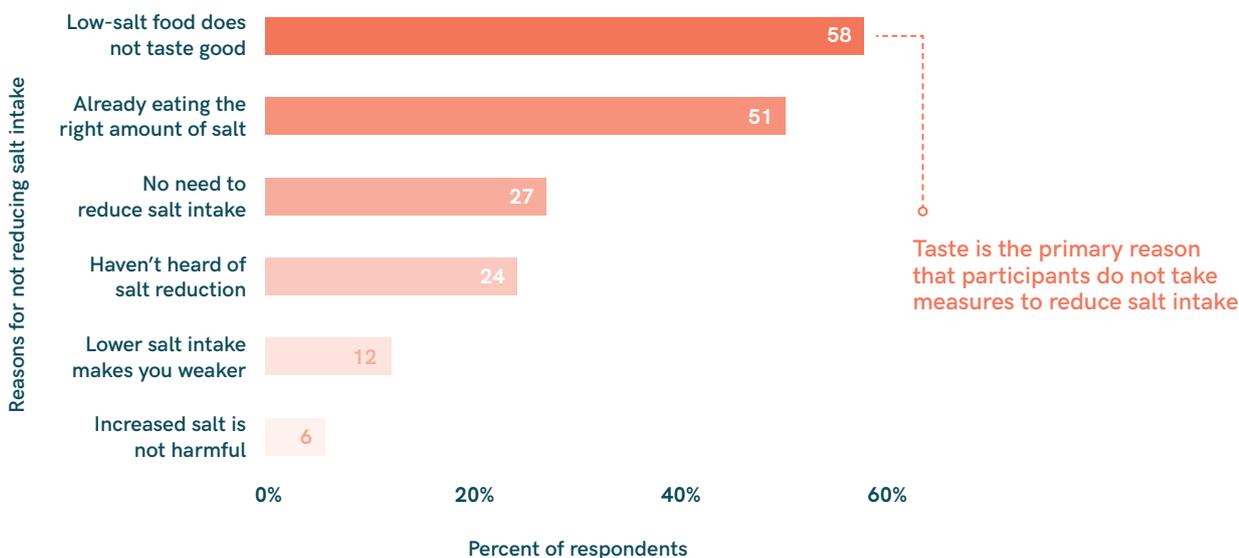
Salt intake is greater in men than women but does not vary consistently by age



Salt intake-related knowledge, attitude and practice

Most participants were aware of some negative health impacts of salt, with 83% saying that “salty condiments were bad for health” and 66% that “lowering salt intake could lead to lower blood pressure”. Knowledge was generally higher in women than in men. However, participants were less likely to have information related to reducing salt intake — only 31% were aware of the daily limit recommended by the Chinese government (6 grams per day, since reduced to 5 grams in line with WHO recommendations) and only 44% had heard of low sodium salt.

65% of participants believed that reducing salt in their diet was very important (73% women v. 58% of men) and 61% believed that the salt levels in foods sold should be reduced. Overall 60% reported taking some action to reduce salt, but specific actions were less common: only 18% paid attention to the sodium/salt content when purchasing processed food, 24% have used low sodium salt and 29% used a salt spoon to help individuals measure and restrict salt while cooking. Primary reasons that participants did not reduce salt intake are shown in the figure below.



4. Xu, A., Ma, J., Guo, X., Wang, L., Wu, J., Zhang, J., Zhang, X., et al. (2020). Association of a Province-Wide Intervention With Salt Intake and Hypertension in Shandong Province, China, 2011-2016. JAMA Internal Medicine, 180(6), 877-886.