



## Sea salt is as bad for blood pressure as table salt, contrary to social media posts

By Anna Hollingsworth, AFP Fact Check - 18<sup>th</sup> December 2023

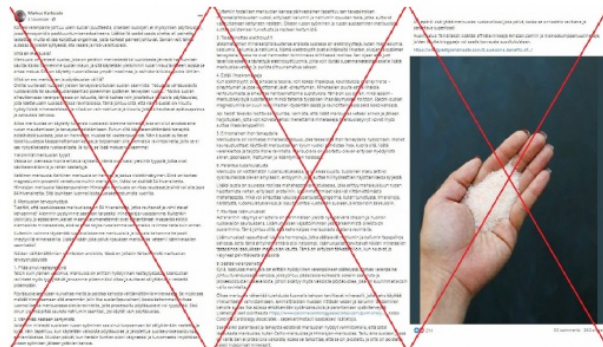
**Sodium is a major cause of high blood pressure, and most Europeans get too much of it in their diets. Yet a widely shared text on social media makes the claim that sea salt, contrary to table salt, is beneficial for human health and contributes to healthy blood pressure levels thanks to the minerals it contains. Experts on the matter told AFP that there is virtually no nutritional difference between table and sea salt: they both contain similar amounts of sodium, and the mineral quantities in sea salt are too small to make a contribution to one's health.**

"Although there is truth to the high blood pressure caused by salt, this only applies to refined white table salt which you often see in the salt containers in restaurants. This is because these salts have been stripped of their useful minerals and they contain only sodium and chloride which cause imbalance and illnesses in the body," claims a Finnish [Facebook post](#), published at the start of November 2023 and shared over 300 times since then. It goes on to say that sea salts "help to balance the body and offer essential nutrients to it which it doesn't get from the modern diet."

The post then lists a number of claims about the alleged health benefits of sea salt, encouraging readers to include sea salt into their diets every day, calling it a "very nutritious and healing superfood".

It comes with a link to a [post](#) by a US blogger, originally published in 2017, with the same text in English.

Experts on nutrition and heart disease told AFP that sea salt and table salt are nutritionally essentially the same, and that consuming excess amounts of either type will lead to high blood pressure.



### No significant nutritional difference between sea salt and table salt

While sea salt and table salt come from different sources and are processed differently, they are nutritionally essentially the same given their sodium content, experts told AFP.

AFP spoke to [Laura Bosman](#), a nutrition expert with an MSc in nutrition and health working as a content creator at the [European Food Information Council \(EUFIC\)](#). EUFIC is an EU-funded non-profit organisation that works to make food and health related science more accessible to the public. She explained an email to AFP on December 5, 2023 that table salt is mined from underground salt deposits, after which it is processed to remove impurities, and additives may be added to prevent clumping. The Facebook post mentions that table salt has "ferrocyanide" as an anti-caking agent. The Finnish Food Authority [lists](#) potassium ferrocyanide, or E536, as an anti-caking agent for table salt and salt products, subject to an acceptable daily intake limit.

"Table salt is mostly pure sodium chloride after processing, sometimes with added iodine to address iodine deficiency," Bosman said.

Sea salt, on the other hand, is derived from the evaporation of seawater. As for the post's claim that sea salt contains different minerals, Bosman said it is true that it contains "tiny amounts of minerals like magnesium, potassium, and calcium", she said,

emphasising that sea salt is predominantly sodium just like table salt, "which, in excess, increases our risk of having high blood pressure".

While estimates of the exact amounts of sodium chloride in different types of salt vary slightly depending on the source, it is the major component of them. [Tuija Pusa](#), an authorised nutritionist and lifestyle change and nutrition expert at the [Finnish Heart Association](#) said in an email to AFP on November 27, 2023 that 96% of [sea salt](#) and 99.8% of [table salt](#) is sodium chloride, citing data on Fineli, the national food composition database maintained by the Finnish Institute for Health and Welfare. [Francesco P Cappuccio](#), professor of cardiovascular medicine and epidemiology at the University of Warwick, referred to similar figures in a 2016 report by Switzerland's Federal Food Safety and Veterinary Office.

## Sodium or Salt?

2.5 g of salt (NaCl) =  
1.0 g of sodium (Na)



All types of salt contain >97% sodium chloride<sup>1</sup>.



<sup>1</sup>Federal Food Safety and Veterinary Office, Switzerland (2016)



The post claims that pink Himalayan salt has 84 different types of minerals and Celtic sea salt 34 varieties and that these "nourish and strengthen our bodies" because monoculture and unsuitable farming practices have led to food containing fewer minerals.

As reported in [this National Geographic article \(archived version\)](#), for example, the quantity of nutrients in many crops has been declining over the past 70 years because of modern agricultural processes, which may have consequences for human health. However, the amounts of minerals in sea salt are too small to contribute to our daily dietary reference intakes, Bosman said. "We would have to eat multiple tablespoons of it to get our daily dose of minerals", she added. For example, one teaspoon of sea salt -- corresponding to 5 g, the maximum recommended amount of salt per day -- only provides 0.08% of the dietary reference value for potassium, 0.27% for calcium, 0.62% for magnesium, and 1.36% for iron. "In other words, reliance on salt as a significant source of minerals is not an efficient or sustainable dietary strategy", she said, adding that while there are many minerals in nature, humans need only 14 of them to survive.

Cappuccio agreed. "The mineral content of sea salt is negligible and it has no nutritional value", he said.

An [article \(archived version\)](#) on salt myths by the Finnish Heart Association notes that although unpurified sea salt and rose salt can seem like a less processed and more natural option than table salt, their sodium contents are almost the same and they are "equally harmful". Cappuccio confirmed this in another email on December 14. "Buying these expensive salts is a waste of money and encourages people to eat sodium chloride in the belief that they are doing something healthy when they are not (even if they are aware that they should not eat too much salt). It is pure deception!"

### Our bodies need sodium but not too much

As explained on EUFIC's [webpage on salt \(archived version\)](#), both sodium and chloride are essential for many body functions. They help regulate blood pressure, control fluid balance, maintain the right conditions for muscle and nerve function and allow for the absorption and transport of nutrients across cell membranes, and chloride also contributes to the production of stomach acid, linked to digesting food.

The exact minimum daily requirement for salt is unknown, the website explains, but it is out at 1.25 – 2.5 g, corresponding to 0.5 – 1 g sodium, a day. "As salt is found in a large variety of foods the risk of deficiency is low", it notes.

The article on salt myths by the Finnish Heart Association explains that many foods contain sodium naturally which is enough to meet the daily requirement and that added salt is therefore not needed.

Rather, most Europeans consume too much salt, [on average 8-12 g a day](#), and excess salt intake is linked to high blood pressure.

Contrary to what the post claims, sodium has the same effect on blood pressure irrespective of whether it comes in sea salt or table salt.

"It is the excessive sodium intake that has been linked to an increase risk of developing high blood pressure", Bosman said.

"The body does not distinguish between the sodium in sea salt versus table salt -- all sources of dietary sodium increase this risk."

She explained that when people consume excess salt, the kidneys cannot regulate the sodium and water levels in the blood effectively, and the sodium levels increase. As a result, the body starts to hold onto more water and increases both the fluid surrounding the cells and the volume of blood in the bloodstream. "The increased blood volume increases the pressure on our blood vessels and our heart needs to work harder to move blood around the body. Over time, this extra strain can lead to stiffening of blood vessels. In turn, stiff blood vessels increase the risk of high blood pressure, heart disease & stroke", she said.

Instead of this mechanism, the post claims that high blood pressure is the result of inflammation in the body, which it says is caused by a high intake of sugar and processed foods including table salt. It claims that the minerals in sea salt reduce the inflammation.

Cappuccio said this was not the case. "High blood pressure is not caused by inflammation – it causes inflammation of the arteries due to increased shear stress and damage of the inner layer (endothelium) of the vessels." [Shear stress](#) is the force that the blood flow exerts on the vessel wall.

Bosman added that while some studies have suggested that inflammatory markers may play a role in the development of high blood pressure, the exact nature of this relationship and the mechanisms involved are "still areas of ongoing research".

Cappuccio explained that sugar is not a recognised cause of high blood pressure, but it contributes to the development of obesity and diabetes, which, in turn, activate mechanisms that raise blood pressure.

"There is no evidence to suggest that the consumption of sea salt reduces inflammation", he added.

Rather, reducing the intake of sodium -- whether from sea salt or table salt -- is a key mechanism in fighting high blood pressure.

Bosman said that most European countries eat about two teaspoons, or 8–12 g, of salt per day, while the recommended maximum salt consumption is below one teaspoon, or less than 5 g a day. "Reducing salt intake is one of the most cost-effective measures that countries can take to improve population health outcomes. Approximately 2.5 million deaths could be prevented each year if salt consumption was reduced to <5 g of salt", she said.

As [reported in 2019](#), figures from the Finnish Institute of Health and Welfare (THL) showed that almost all Finnish men and 96% of women consume too much salt. The article cites THL as listing meat and grain products such as bread as the main sources, followed by dairy, cheese and vegetable and potato dishes. Many fish dishes also contain high levels of salt, the article states.

"No salt product is a nutritious and healing superfood," Pusa said of the post's claims encouraging to add sea salt to their daily diet. "Sea salt is as harmful as table salt when it comes cardiovascular health. The majority of Finns get too much salt."



#### **Salt doesn't cause dehydration**

In addition to high blood pressure, the post also lists several other misleading and false claims about the health effects of sea salt.

One of the claims is that sea salt keeps you hydrated, contrary to table salt which is claimed to cause dehydration and get rid of necessary minerals. Sea salt is also claimed to decrease water retention unlike table salt, as "especially the potassium and sodium" "help release fluids".

"Dehydration occurs when your body loses more fluids than you take in", Bosman explained. As noted above, sodium helps regulate the balance of fluids in the body and is essential for hydration. However, it does not cause dehydration. "When we eat too much sodium, this leads our body to hold onto more water to compensate for the extra sodium you ate. As a result, you might start feeling thirsty or have a dry mouth and urinate more frequently", she said. "While excessive sodium intake can contribute to fluid retention and lead to symptoms that may mimic dehydration, the cause of dehydration is an insufficient fluid intake or excessive fluid loss, not sodium itself. To correct or prevent dehydration, all that is needed is to take more water."

The water retention effect holds for sodium in general, Cappuccio said "This is caused by any sodium salt."

Bosman added: "While high potassium intake may help balance sodium levels and help reduce blood pressure, the amounts found in sea salt are not likely to have a pronounced impact."

As for the loss of minerals, it is true that diets high in sodium impair the calcium balance in the body as the calcium stores in the bones are used to help remove the extra sodium through urine, Bosman said. Sodium also interacts with chloride and potassium in helping to regulate the volume of water in the body and to support the normal function of muscle and nerve cells, she added. "However, sodium doesn't cause a loss of these necessary minerals. In fact, having the right balance of these three minerals in our diets -- particularly by making sure we eat enough potassium and keep our salt intake within the recommended values -- is key to a healthy blood pressure and lowering our disease risk."

#### **Muscle cramps could be result of several causes**

Another claim is that the minerals in sea salt contribute to the body's electrolyte balance and that by doing so it can prevent muscle cramps.

Bosman said it is true that minerals such as sodium and potassium, found in sea salt, are electrolytes that help regulate the fluid balance in and around cells, including muscle cells. While consuming any type of salt -- that is, not sea salt specifically -- can help replace lost sodium, electrolyte imbalance is just one cause of muscle cramps so salt won't prevent them in all cases, she said. "If your muscle cramps are related to dehydration or electrolyte imbalance, drinking enough water and/or consuming a balanced diet that includes an adequate amount of sodium and potassium from various sources, including sea salt or table salt, can be beneficial". She added that it is always advisable to consult with a healthcare professional to determine the cause of the cramps.

The Finnish Heart Association [article on salt myths](#) addresses the idea that sucking on a salt crystal reduces muscle cramps for example during sport performances. "In reality the cramps are more likely caused by hot conditions, muscle fatigue and dehydration or other medication, not the lack of sodium", it points out. Cappuccio noted that the normal requirement for the body to function correctly is approximately 0.1 g of sodium a day -- equivalent to 0.25g of salt. "This is the diet of our ancestors and of contemporary tribal populations living in parts of the Amazon jungle without access to salt", he said, adding that the mineral content of sea salt is negligible, meaning that the claim that its minerals contribute to mineral balance "is factually untrue".

#### **All foods can stimulate salivation**

The post also claims that sea salt improves digestion because the salty taste activates amylase, an enzyme in the mouth that helps break down carbohydrates in the saliva, and because it plays a role in producing stomach acid.

"There is no evidence that sea salt improves digestion", Cappuccio said.

Bosman explained that amylase is released in the mouth during the chewing process, triggered by the mechanical action of chewing and the taste of food. "So, while it's true that the taste of salt can stimulate salivation, this is true for any food", she said.

As noted above, chloride -- also included in table salt -- contributes to the production of stomach acid.



#### **Healthy individuals shouldn't add salt out of concern for their adrenal glands**

Another claim concerns the adrenal glands. The post says that sea salt nourishes them as they require a "balance of sodium and potassium from high-quality sea salt" in order to balance the minerals in the body.

However, healthy individuals shouldn't be adding sea salt to their diet for this purpose.

"While it's true that the adrenal glands play a role in sodium and potassium balance, there is no need for healthy individuals to specifically add sea salt to their diet for the purpose of supporting adrenal function", Bosman said. "A varied and balanced diet usually provides an adequate amount of sodium and other essential minerals."

She added that there are certain medical conditions, such as Addison's disease, where the adrenal glands do not produce enough hormones, where a higher sodium diet might be recommended for some individuals. "However, these recommendations are typically made under the guidance of healthcare professionals and are tailored to the specific needs of individuals with these conditions", she said.

#### **Sea salt water may help with skin conditions**

Finally, the post claims that sea salt is great for skin health thanks to its mineral content: many beauty products contain it as it cleanses the skin, and it has been shown to be particularly useful in "treating" acne, psoriasis, rashes and ageing.

As explained in [this 2022 article](#) in Medical News Today, deep sea water may help with certain skin conditions, such as eczema, as well as allergic reactions, and bathing in thermal mineral waters may benefit people with psoriasis, even its mechanisms are not known. Salt scrubs can also be used to exfoliate the skin, the article says, but they may not be suitable for all skin types or sensitive skin areas such as the face.