

Eating Spicy Reduces Mortality Risk

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A large compilation of work (meta-analysis) reports that regular consumption of chili peppers is associated with a reduced risk of premature mortality, particularly from cardiovascular disease.

Chili peppers (*Capsicum spp.*) originated from South America, where they were already cultivated for culinary purposes more than 6,000 years ago (1). The use of these hot peppers spread across the globe after the discovery of America by Europeans in the 15th century, particularly in India and Asia where they quickly became essential ingredients in the culinary traditions of those countries.

The particularity of chili peppers is obviously their spicy taste that adds a very interesting dimension to cooked dishes. This property is caused by the presence of capsaicin, an alkaloid that interacts specifically with certain receptors (TRPV1) responsible for the pain signal activated by temperatures above 43°C.

By binding to the TRPV1 receptor present in the mouth, capsaicin therefore mimics a feeling of heat or burning, which makes the brain believe that the mouth is literally “on fire”. The appeal of such pain-causing substances remains mysterious, but it is thought to involve the pleasure molecules (endorphins and endocannabinoids) that are released to lessen the effects of the “burn” sensed by the brain.

POSITIVE HEALTH EFFECTS

The many studies that have looked at the biochemical and physiological effects of capsaicin suggest that this molecule has several positive effects on health.

First, from a physiological point of view, it has been observed that the strong sensory stimulation associated with chili peppers is quickly relayed to the brain and activates the center of satiety. As a result, people who eat savory foods are generally full more quickly and therefore ingest fewer calories. This anorectic effect is supported by studies showing that regular consumption of hot peppers is associated with a reduced risk of obesity (2).

Capsaicin also has a positive impact on certain biochemical processes involved in the development of chronic diseases, for example by improving the response to insulin (an important risk factor for diabetes) and by decreasing the oxidation of low density lipoproteins (LDL) (a risk factor for cardiovascular disease).

Eating spicy therefore seems to have favored the proper functioning of the metabolism and could represent a simple (and tasty!) way to improve health.

MORTALITY REDUCTION

The benefits associated with the regular consumption of chili peppers are suggested by population studies carried out in different places around the world.



For example, an Italian study of approximately 20,000 people recently reported that the risk of dying prematurely was reduced by 23% for regular consumers of hot peppers (four consumptions per week) compared to those who never eat them, or very rarely (3). This decline is particularly pronounced for mortality related to coronary heart disease (44%) and cerebrovascular disease (61%).

A recent meta-analysis of all the studies that have looked at this question comes to similar conclusions (4). After compiling the results of population studies carried out on a total of 570,762 participants from Iran, China, the United States and Italy, the researchers observed a significant reduction in the risk of premature mortality in regular consumers of chilies compared to those who never or very rarely consume them:

- 17% reduction in all-cause mortality;
- 17% reduction in cardiovascular mortality;
- 22% reduction in cerebrovascular mortality;
- 8% reduction in cancer-related mortality.

These observations therefore raise the interesting possibility that the regular inclusion of chili peppers in dietary habits could have positive impacts on health, particularly at the cardiovascular level.

Obviously, the key to preventing these diseases remains to adopt a diet rich in plants and low in ultra-processed industrial foods, for example the Mediterranean diet (as in the Italian study mentioned earlier).

The results obtained so far, however, suggest that the regular addition of chili peppers could enhance the benefits associated with this type of diet and thus put “a little spice” in the prevention of chronic diseases.

- (1) Perry L et al. Starch fossils and the domestication and dispersal of chili peppers (*Capsicum spp. L.*) in the Americas. *Science* 2007 ; 315 : 986-988.
- (2) Shi Z et al. Chilli consumption and the incidence of overweight and obesity in a Chinese adult population. *Int. J. Obes.* 2017 ; 41 : 1074-1079.
- (3) Bonaccio M et al. Chili pepper consumption and mortality in Italian adults. *J. Am. Coll. Cardiol.* 2019 ; 74 : 3139-3149.
- (4) Kaur M et al. Association of pepper intake with all-cause and specific cause mortality - A systematic review and meta-analysis. *Am. J. Prev. Cardiol.* 2021 ; 9: 100301.