

Chili pepper; beneficial for cardiovascular health

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Madam, chili has always been an essential component of diet in the Pakistani population. In fact, the consumption of chili pepper, also known as the *Capsicum Annum*, has been the most sustainable approach in alleviating micronutrient deficiencies in developing countries. The fruits of the pepper are rich sources of capsaicinoids, carotenoids (with some of them having pro-vitamin A activity), tocopherols (vitamin E), and ascorbic acid (vitamin C).¹

However, very recently the striking findings of a pooled longitudinal analysis by Marialaura Bonaccio et al, illustrated cardiovascular benefits of *Capsicum Annum*. This study was conducted on an Italian Cohort comprising of over 22,000 men and women originally enrolled in the Moli-sani study cohort. The results demonstrated the use of chili pepper to be associated with a lower risk of all-cause mortality and cardiovascular mortality.²

In accordance with the results of this study, approximately one-fourth of the participants consumed chili >4 times/week while one-third never or seldom consumed them. Multivariable risk estimates contrasting these two groups provided a hazard ratio (HR) of 0.77 (95% confidence interval [CI]: 0.66 to 0.90) for all-cause mortality and a HR of 0.66 (95% CI: 0.50 to 0.86) for cardiovascular disease mortality. Regular intake was also inversely associated with death from ischaemic heart disease (IHD), and cerebrovascular death. One of the most interesting finding was that the beneficial effect of chili peppers was independent of the type of diet participants followed. Additionally, chili pepper was observed to have similar effect in people eating the healthy Mediterranean diet or the less healthy diet.²

Moreover, the magnitude of the risk reduction (RR) observed in this recent study was much larger than those observed in previous analyses conducted in China and the United States of American (USA). A study conducted on a Chinese population in 2015 illustrated that spicy food consumption is

related with a 14% reduction in total mortality and 22% reduction in IHD.³ Another study conducted in USA as a part of National Health and Nutrition Examination Survey, reported a 13% RR associated with hot chili peppers.⁴ The findings of this analysis hence further bolster the protective action of peppers on cardiovascular health.

These cardiovascular benefits can be attributed to capsaicinoids, a key component of chili peppers. It has been observed to reduce diet induced obesity and Insulin resistance previously in the literature. In addition, it also appears to carry an anti-coagulant and anti-platelet activity as well as protects the endothelial function. Moreover, some of the vitamin B complexes including Vitamin B12 in chili peppers can reduce the risk of Stroke.^{2,5}

The important findings of this study cannot be ignored keeping in mind the cardiovascular benefits of the biochemical components of chili pepper as reported in previous literature. Keeping in mind the vast use of chili peppers in the Pakistani diet, it is essential that cardiologists and health physicians inform the cardiac patients, and general public frequenting their clinics, frequenting their clinics, to include a balanced amount of chili peppers in their diet considering its cardiovascular benefits.

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