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Before claiming that spicy foods reduce cardiovascular risk, further consideration should be given to classic and non-classic risk factors

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Letter to the Editor

We were interested to read the article by You et al. about a study on the association between spicy food consumption and the incidence of vascular disease using a questionnaire [1]. Primary outcomes were vascular disease, ischemic heart disease, major coronary events, cerebrovascular disease, stroke, and non-stroke cerebrovascular disease [1]. It was found that subjects who consumed spicy food on 1-2 days/week, 3-5 days/week or 6-7 days/week had a significantly lower risk of vascular disease than those who consumed spicy food less than once a week [1]. It was concluded that spicy food consumption reduces the risk of vascular disease in the Chinese population [1]. There are few points that could be discussed.

The first point is that the risk of vascular disease does not depend on a single influencing factor, such as spicy food, but on a host of other risk factors [2]. These include smoking, arterial hypertension, diabetes, hyperlipidemia, obesity, coagulation disorders and a trial fibrillation. It is also important to consider the genetic causes of cardiovascular

disease. A study on the influence of spicy foods on cardiovascular risk should not be conducted without taking into account all these additional classical and non-classical risk factors.

The second point is that cardiovascular risk can depend greatly on the type of spices consumed [3]. Not only chili, but also pepper, paprika, curry, ginger, harissa, horseradish, mustard seeds and garlic flakes can influence cardiovascular risk [3], and all of these spice types and its mixtures can have different levels of cardiovascular risk.

The third point is that not only the spice itself, but also declared and undeclared ingredients in spice products can pose a cardiovascular risk. In particular, herbicides, pesticides, sprays and fertilizers should be considered a real risk [4]. As cultivation methods may vary in different regions, it is important to know how contaminated the spice products were in the individual regions included.

The fourth point is that there is a lot of overlap between the outcome parameters [1]. Since the diagnosis of "vascular disease" includes all other outcomes, we should know how the other outcome cohorts were distinguished from the "vascular disease" cohort and whether some subjects were included in not just one but several of the outcome groups. How did the authors differentiate between cerebrovascular disease and stroke? The endpoint "cerebrovascular disease" includes stroke and non-stroke cerebrovascular disease.

The fifth point is that the conclusions concern the whole population, but only a small part of the population was analyzed. Therefore, the conclusion should be reduced to the cohort studied.

The sixth point is that additional comorbidities and concomitant medications were not included in the assessment of cardiovascular risk. Since comorbidities and medications can increase cardiovascular risk [5], it would have been essential to include the current medication of all participants in the analysis.

In summary, this interesting study has limitations that put the results and their interpretation into perspective. Addressing these limitations could strengthen the conclusions and corroborate the study's message. Before claiming that spices reduce the risk of cardiovascular disease, all additional risk factors should be excluded. Rather than a true risk factor, it is more likely that the consumption of spicy foods reflects a lifestyle, which per se could be associated with a cardiovascular risk in one direction or another.

Declarations

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