Dear Editor,

We would like to thank Rouhani et al. for their interest in our research. They have claimed that several points may have affected the validity of the study findings (1). First, steamed Japanese rice is mostly well-milled rice, and most but not all of the fiber content of whole grains is wasted by the milling process. The fiber content of 100 g of Japanese steamed rice is estimated to be 0.3–0.8 g according to the 2006 National Nutrition Survey (2). The fiber intake from rice was estimated to be 14% of the total dietary fiber intake in our study population. This fraction of dietary fiber (cereal fiber) was inversely associated with cardiovascular disease mortality in our study population (3). The consumption of large amounts of rice results in a high intake of dietary fiber, even if the fiber content is reduced by the milling process. The Japanese way of cooking rice is to steam with water only, while other Western and developed populations usually fry rice with butter or oil before boiling it with soup. The added fat also might affect cardiovascular risk factors and disease risk. As we mentioned in the discussion, not only the high fiber, vitamin B-6, magnesium, zinc, and copper, but also low fat and salt of steamed rice may have protective roles in cardiovascular health.

Rouhani et al. also claimed that the use of a 40-item FFQ would not result in a comprehensive assessment of diet in our population. They cited another Japanese study, i.e., the Japan Public Health Prospective Study (JPHC) that used a 147-item FFQ (4). However, the correlation coefficients for rice intake between the FFQs and dietary records in both studies were more or less the same; 0.63 in our study, and 0.67 for men and 0.55 for women in the JPHC study. In neither study were the correlation coefficients adjusted for total energy intake. Also, the mean rice intakes for men in the lowest and highest rice intake categories in our study were 280 g and 710 g, respectively, and those for men in the JPHC study were 210 g and 700 g, respectively. Moreover, results from the cohorts are not contradictory. We found an inverse association between rice intake and cardiovascular disease mortality in Japanese men in whom rice intake was not associated with risk of diabetes in the JPHC study. In Japanese women, in whom rice intake was associated positively with risk of diabetes in the JPHC study, we reported a non-significant (P = 0.66) positive association with cardiovascular disease mortality. Moreover, in the conclusion of the JPHC study about rice and type 2 diabetes, the authors wrote: “The rice-centered Japanese diet is characterized by low fat intakes and has major advantages over a Western-style diet in terms of contributing to cardiovascular health; however, the same may not be true for the prevention of type 2 diabetes”.

The last claim was that the inverse association between rice intake and cardiovascular disease mortality might be explained by over-adjustment for BMI and circulating lipid profiles. It is noteworthy that rice intake was not associated with the BMI in our cohort. The inverse association between rice intake and total cardiovascular disease mortality in men was significant in both the age-adjusted model (without adjustment for any other covariates), and the fully adjusted model. Moreover, the multivariable-adjusted HR (95% CI) in the highest versus the lowest rice intake quintiles without entering BMI or lipid profile variables into the model were 0.68 (0.48–0.96; P-trend = 0.01) for CHD, 0.66 (0.44–0.99; P-trend = 0.02) for heart failure and 0.82 (0.70–0.95; P-trend = 0.003) for total cardiovascular disease mortality, which were similar to the results of the fully adjusted model.

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Literature Cited

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