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Studies of chronic disease in Seventh-day Adventists

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We were pleased recently to read the paper titled “Vegetarian diet, Seventh-day Adventists and risk of cardiovascular mortality: A systematic review and meta-analysis” by Kwok and colleagues [1]. The analysis is interesting and many good points were made.

A key finding is that there is substantial heterogeneity among studies, with more evidence for beneficial associations of vegetarian diets in studies of (mainly U.S.) Adventists than in other studies (in British and German populations). These differences have been previously noted and discussed [2,3]. Such heterogeneity is important and should prompt further study to identify potential causes of differing results.

A fact that we believe deserves much more emphasis is that vegetarian diets in different parts of the world may differ greatly [2,3], yet a meta-analysis assumes that the exposure is the same construct across different studies. Nutritionists and nutritional epidemiologists have long understood that the effects of diets that omit certain foods are as much characterized by the foods that are substituted as by the foods omitted. These substitutions may vary in important ways among different vegetarian diets. That is not a separate question but a subcategory of the same enquiry about the effects of different diets. Initial examination reveals likely important differences in the types of vegetarian diets consumed by US Adventist vegetarians and vegetarians in the British cohorts [2,3]. It is also possible that different motivations could lead to different levels of adherence and also durations of the vegetarian diets. Such differences could lead directly to the observed heterogeneity of results.

Much is made of the possibility that Adventists cannot represent others effectively, and that maybe differences apart from their diets are affecting cardiovascular mortality. We disagree with both of these notions, or at least give them only small importance. Regarding generalizability, there is no evidence that Adventists are physiologically or biochemically

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Conflict of interest

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different from others. In the US, there are sizeable portions of the population who do not smoke, get regular exercise, drink little alcohol, and are religious. So, Adventists can readily represent large segments of the U.S. population (and likely many Europeans with similar habits). Regarding confounding, in the recent U.S. studies of Adventists, vegetarian Adventists were being compared to non-vegetarian Adventists, so non-dietary aspects of the Adventist lifestyle were similar between the groups being compared. Any differences in these factors (including smoking, alcohol, physical activity, and many others) were substantially adjusted for in the analyses. These issues of generalizability and potential confounding are not unique to the studies among Adventists and there is little reason to suspect that such problems are of greater magnitude in these studies.

In summary, we suggest that it is important to consider differences in the food content of vegetarian diets beyond the absence of meat, and the possible role of such differences in causing heterogeneous health outcomes. We also suggest that there is little basis for assuming reduced generalizability of findings that come from studies of Adventists, and point out that analyses of the more recent, large U.S. Adventist cohorts were designed in an attempt to study dietary effects in isolation.

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