



Letter to the Editor

Invited letter to editor in response to: highlights about the association of health and skipping breakfast in adolescents and adults

We thank Zanella⁽¹⁾ for the extreme interest and thorough reading of our article entitled 'Skipping breakfast is associated with the presence of cardiometabolic risk factors in adolescents: Study of Cardiovascular Risks in Adolescents – ERICA'⁽²⁾ and for the valuable comments and contributions.

We agree with Zanella⁽¹⁾ about the discussion around intermittent fasting, and we recognise that there really are results in the literature that favour the use of this practice, predominantly in the adult population⁽³⁾. However, it is important to consider the profile of such studies, which mostly involved small groups of people evaluated during a short period of time. Thus, it is not yet possible to identify further effects of this practice on health.

In addition, studies comparing intermittent fasting with continuous energy restriction found no significantly different effects on weight loss⁽⁴⁾ or on reducing the risk of CVD⁽⁵⁾. Therefore, before recommending intermittent fasting for the prevention and treatment of metabolic diseases, large-scale, long-term randomised controlled trials are demanded.

Zanella⁽¹⁾ cites a meta-analysis of randomised clinical trials⁽⁶⁾ that found an association between breakfast consumption with higher caloric intake ($P^2 = 80\%$) and weight gain ($P^2 = 43\%$) in adults. However, there seems to be no consensus in the literature on this subject as another meta-analysis examining seven randomised clinical trials carried out with adults, a mean follow-up of 8.6 weeks ($P^2 = 21.4\%$) found discreet weight loss associated with breakfast skipping; however, no significant changes were observed in body composition, and there was a significant increase in LDL-cholesterol among individuals who have skipped breakfast compared with those having breakfast on a daily basis⁽⁷⁾. On the other hand, Wicherski *et al.*⁽⁸⁾ in a meta-analysis of observational longitudinal studies found a risk ratio for overweight/obesity equal to 1.11 (95% CI 1.04, 1.19) among those skipping breakfast ≥ 3 d/week compared with those skipping breakfast ≤ 2 d/week ($P^2 = 24.9\%$).

Another relevant point related to breakfast is the important contribution of this meal to diet quality. We recognise that in our study⁽²⁾ we did not assess the nutritional composition of breakfast. Several studies have already evaluated the association between breakfast consumption with diet quality and found a positive association, that is, breakfast consumption is associated with better quality diet and greater intake of micronutrients such as Fe, Ca, Mg and vitamins B and C⁽⁸⁾.

Nevertheless, there is no consensus in the literature on the definition of the dietary quality of breakfast concerning to

its composition on foods and nutrients. The lack of consistent definition of breakfast dietary quality makes it difficult to compare research results as well as the design of public policies aimed at promoting healthy breakfast^(9,10).

The limitation of the cross-sectional study design, highlighted by Zanella⁽¹⁾, is pointed out the article discussion section⁽²⁾. However, our results are comparable to longitudinal studies which also found significant association between skipping breakfast and weight gain in adolescents⁽¹¹⁾ and adults⁽⁸⁾.

We highlight that having breakfast regularly has positive effect on the health of adolescents. In addition, this meal should represent an important source of essential nutrients and be composed predominantly by fresh and minimally processed foods. On the other hand, rigorous longitudinal studies on the effect of breakfast skipping on different health outcomes must be carried out to achieve scientific consensus on this topic.

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doi:10.1017/S0007114521003895



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