Review of: "Regular Consumption of Lacto-fermented Vegetables has Greater Effects on the Gut Metabolome Compared with the Microbiome"

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Potential competing interests: No potential competing interests to declare.

This is an interesting study on observing possible benefits of lacto-fermented vegetables (LFV), through compared fecal microbial diversity, composition, and faecal metabolome between healthy 23 consumers and 24 non- consumers of LFV. The main result is that the LFV consumers displayed significant difference on faecal metabolome, showing higher abundance of butyrate, acetate, and valerate and significantly greater metabolome diversity.

I agree the one of the reviews' comments, because the sample size is limited, this work can be considered a preliminary study on the beneficial effects of LFV consumption.

In addition, should the volunteers be evaluated before the experiment to determine the changes of intestinal bacteria before and after the experiment?After all, the study of the long-term effects of LFV consumption is as meaningful as the study of the effects of LFV consumption that lasted two weeks.

Relevant studies in this paper stated that there was no significant difference in diet between LFV consumers and non-LFV consumers, but the authors also mentioned the existence of differences. For example, LFV consumers often consume fermented vegetables and plant foods more; non-LFV consumers most frequently consume milk and whisky; non- LFV consumers show more dairy intake; LFV consumers show more total protein, seafood and plant protein intake). Do differences in the composition of foods other than fermented vegetables also have a greater impact?