



## Adherence and eating experiences differ between participants following a flexitarian or vegetarian diet in a 10-week randomised dietary intervention trial

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Flexitarian, vegetarian and vegan diets are increasingly popular, particularly amongst young adults. This is the first randomised dietary intervention to investigate the health, wellbeing, and behavioural implications of consuming a basal vegetarian diet that additionally includes low-to-moderate amounts of red meat compared to one containing plant-based meat alternatives (PBMA) in young adults (NCT04869163)<sup>(1)</sup>. The objective for the current analysis is to measure adherence to the intervention, nutrition behaviours, and participants' experience with their allocated dietary group. Eighty healthy young adults participated in this 10-week dietary intervention as household pairs. Household pairs were randomised to receive approximately three serves of beef and lamb meat (average of 390 g total cooked weight per person per week, flexitarian group) or PBMA (350–400 g, vegetarian group) on top of a basal vegetarian diet. Participants were supported to adopt healthy eating behaviours, and this intervention was developed and implemented using a behaviour change framework<sup>(2)</sup>. Diet adherence (eating allocated meat or PBMA, abstaining from animal-based foods not provided by researchers) was monitored daily, with total scores calculated at the end of the 10-week intervention period. Eating experiences were measured by the Positive Eating Scale and a purpose-designed exit survey, and a food frequency questionnaire measured dietary intake. Analyses used mixed effects modelling taking household clustering into account. The average total adherence score was 91.5 (SD = 9.0) out of a possible 100, with participants in the flexitarian group scoring higher (96.1, SD = 4.6, compared to 86.7, SD = 10.0;  $p < 0.001$ ). Those receiving meat were generally more satisfied with this allocation compared to those receiving the PBMA, even though a leading motivation for participants joining the study was an opportunity to try plant-based eating (35% expressed that that interest). Participants in both intervention groups had increased vegetable intake ( $p < 0.001$ ), and reported more positive eating experiences ( $p = 0.020$ ) and satisfaction with eating ( $p = 0.021$ ) at the end of the 10-week intervention relative to baseline values. Behavioural methods to encourage engagement with the trial were successful, as participants demonstrated excellent adherence to the intervention. The flexitarian and vegetarian diets elicited different responses in adherence and eating experience. This holds relevance for the inclusion of red meat and PBMA in healthy, sustainable dietary patterns beyond this study alone.

**Keywords:** adherence; eating behaviours; flexitarian; vegetarian

### Ethics Declaration

Yes

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### References

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2. Worthington A, Gillies N, Roy R *et al.* (2023) *J Nutr Educ Behav* **55**, 38–47.