

Personalized Nutrition Advice Reduces Intake of Discretionary Foods and Beverages: Findings From the Food4Me Randomized Controlled Trial

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Objectives: This study aimed to examine changes in intake of discretionary foods and beverages following a personalized

nutrition intervention using two national classifications for discretionary foods.

Methods: Participants were recruited into a 6-month RCT across seven European countries (Food4Me) and were randomized to receive generalized dietary advice (Control) or one of three levels of personalized nutrition advice (based on dietary, phenotypic and genotypic information). Dietary intake from a FFQ was used to determine change between baseline and month 6 in (i) % energy, % contribution to total fat, SFA, total sugars and salt and (ii) contribution (%) made by sweets and snacks to intake of total fat, SFA, sugars and salt from discretionary foods and beverages, defined by Food Standards Scotland (FSS) and the Australian Dietary Guidelines (ADG).

Results: A total of 1270 adults (40.9 (SD 13.0) years; 57% female) completed the intervention. At month 6, percentage sugars from FSS discretionary items was lower in personalized nutrition vs control (19.0 ± 0.37 vs 21.1 ± 0.65 ; $P = 0.005$). Percentage energy (31.2 ± 0.59 vs 32.7 ± 0.59 ; $P = 0.031$), % total fat (31.5 ± 0.37 vs 33.3 ± 0.65 ; $P = 0.021$), SFA (36.0 ± 0.43 vs 37.8 ± 0.75 ; $P = 0.034$) and sugars (31.7 ± 0.44 vs 34.7 ± 0.78 ; $P < 0.001$) from ADG discretionary items were lower in personalized nutrition vs control. The % contribution of sugars from sweets and snacks was lower in personalized nutrition vs control (19.1 ± 0.36 vs 21.5 ± 0.63 ; $P < 0.001$). At 3 months, effects were consistent for ADG discretionary items, while there was no significant differences in personalized nutrition vs control for FSS discretionary items.

Conclusions: Compared with generalized dietary advice, personalized nutrition advice achieved greater reductions in intake of discretionary foods and beverages when the classification included all foods high in fat, added sugars and salt. Future personalized nutrition strategies may be used to target intake of discretionary foods and beverages.

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