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Generating personalised feedback for a more sustainable diet

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Current guidelines for healthy and environmentally sustainable diets lack detail to support the diverse requirements⁽¹⁾. Research has shown that we need to consider personal phenotypes, habitual diets and lifestyle choices when making recommendations to change diet. Integrating such factors in dietary advice leads to greater and more sustained change⁽²⁾. The effectiveness of this method has been previously documented but has yet to be used to deliver advice for more sustainable diets. The aim of this research is to create personalised nutrition recommendations for more environmentally sustainable diets. Existing “sustainable” reference diets that provide specific intake recommendations were analysed then adapted to create a more sustainable healthy diet for Irish adults. The more sustainable healthy diet was used to design decision trees which are used to standardise personalised nutrition feedback. Proposed feedback was tested and analysed for macronutrient distribution and micronutrient adequacy. Feedback was refined to create a range of balanced diets depending on nutrient and energy requirements. Six food groups were targeted for decision trees, including meat, plant protein, fish, dairy, fruit and vegetables and starches. Each decision tree is tailored to meet energy and nutrient requirements of an individual. The output from decision trees are unique feedback messages that target specific eating behaviours of an individual. Over 400 personalised feedback messages have been created, with each individual receiving up to six messages tailored to them. These messages, along with an individual’s nutrient analysis, is provided in a personalised feedback report to support dietary change. Personalised feedback was developed to advise on a more sustainable diet. Feedback is tailored to an individual based on nutritional needs and diet preferences. The decision trees and feedback messages will be used as part of a multi-centre parallel single-blinded randomised controlled trial in the UK and Ireland. The personalised feedback process can help to bridge the gap between current diets and more sustainable diets.

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References

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