Proceedings of the Nutrition Society

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58th Annual Conference (2024) of the Nutrition Society of New Zealand, 28–29 November 2024

The Effect of the Provision of Foods High in Healthy Fats or Dietary Fibre on Sodium and Potassium Intakes in a Post-Coronary Event Population

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Abstract

In the New Zealand diet, most sodium intake originates from salt added during food processing by manufacturers and in restaurant preparations[1,2]. Dietary intervention may be an effective approach to reducing individuals' sodium intake. This study investigated whether the provision of foods high in fibre or healthy fats, inadvertently effect sodium and potassium intakes. A total of 297 individuals (mean age 64 ± 10 years, n=96 females) who had a coronary event in the previous six months participated in this study. Participants were randomly allocated into one of three groups for 12 weeks: weekly delivery of foods high in healthy fats, weekly delivery of foods high in dietary fibre; and a control group that didn't receive any groceries. All participants received basic healthy eating advice. Sodium and potassium intakes were assessed at baseline, the end of the 12-week intervention, and after a further 12 week follow up using four-day food records. Participants chose to complete these records either on paper or using the Research Food Diary application on their phone (Xyris Software Ltd., Brisbane, Australia). Food records were analysed using FoodWorks dietary analysis software (Version 10, Xyris Software Ltd., Brisbane, Australia). The mean sodium and potassium intakes recorded over the four days were used to represent participants' intakes at each time point. Compared to the control group, sodium intake at the end of the 12-week intervention were modestly lower in both food-delivery intervention groups (-109 mg (95% CI: - 344, 125) in the healthy fats group and -175 mg (95% CI: -412, 63) in the high fibre group. Potassium intakes at 12 weeks were 284 mg higher in the high fibre group (95% CI: 4, 564), while the difference was more modest in the healthy fats group (72 mg (95% CI: -207, 350)). At the end of the 12 week follow- up, the mean sodium intake in the high fibre group was 254 mg (95% CI: -514, 7) lower than the control, whereas there was only a very small difference in the healthy fats group at -37 mg (95% CI: -300, 266). Differences in potassium intake at 24 weeks were modest for both groups (66 mg; 95% CI: -241, 374) in the healthy fats group and -53 mg (95% CI: -356, 251) in the high fibre group). The provision of healthy foods, particularly foods high in fibre, may be an effective strategy to reduce sodium and increase potassium intakes in high-risk populations.

Keywords: sodium, potassium, dietary assessment, grocery delivery

Cite this article: Hao Z, Peddie M, and Reynolds AN (2025). The Effect of the Provision of Foods High in Healthy Fats or Dietary Fibre on Sodium and Potassium Intakes in a Post-Coronary Event Population. *Proceedings of the Nutrition Society* **84**(OCE2): E199. doi: 10.1017/S0029665125100554

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