

Growing Healthy Hearts: A Digital Gardening Intervention to Improve Diet and Physical Activity in Adults With Risk Factors for Cardiovascular Disease

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Objectives: Teaching gardening is a promising public health approach for the prevention of cardiovascular disease (CVD) risk given its potential to improve diet and physical activity (PA). Previous gardening interventions for adults have relied on in-person models which limit scalability and the potential for broad dissemination. The purpose of this proof-of-concept study was to assess acceptability and exploratory behavioral outcomes of a digital (eHealth) gardening intervention for adults with risk factors for CVD.

Methods: This was a single arm, quasi-experimental study over 20 weeks (April 2021-Sept. 2021). Participants (aged 20+) were new to gardening with at least one risk factor for CVD. The intervention included 10 Zoom sessions covering gardening, nutrition, and cooking skills. Acceptability criteria included overall session attendance, frequency of gardening activities (watering, weeding, harvesting, and eating garden produce, reported weekly), and program rating (assessed

at follow up). Behavioral outcomes were reported at baseline and follow up including F&V intake (NHANES dietary screener), minutes of PA (in metabolic activity task [MET] minutes, International PA Questionnaire), and cooking agency (Cooking and Food Provisioning Action Scale [CAFPAS]).

Results: Participants (n = 30) had a mean age of 49.9 years, and were majority white (83.3%) with a college degree (70%). Session attendance was 81%. Overall, 68% of participants reported engaging in at least 1 gardening activity weekly and 93% reported eating garden produce. At follow up, 93% of participants rated the intervention as good or excellent. Compared to baseline, at follow up, there was 16.4% increase in F&V intake (2.4 v 2.8 cup equivalents, p = 0.01) and a significant increase in cooking agency (13.4 v. 15.9, P < 0.001). Participants logged an average of 57 minutes of gardening activity/week however, there was no change in MET minutes of PA (1184 v. 2963, p = 0.30).

Conclusions: A gardening intervention delivered in an eHealth format was acceptable to adults with risk factors for CVD. Participants were willing to attend sessions and engage in gardening activities. Exploratory outcomes demonstrate the potential for positive diet and cooking behavior changes.

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