

Diet quality in patients eligible for cardiac rehabilitation: the effects of a novel smartphone app ‘MyHeartMate’

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Poor diet quality is associated with negative long-term health outcomes and represents a modifiable risk factor for secondary prevention of cardiovascular disease (CVD).^(1,2) The MyHeartMate study⁽³⁾ evaluated the utility of a novel gamified smartphone app for improving cardiovascular risk factors in patients eligible for cardiac rehabilitation at four hospitals (three public and one private) in Sydney, NSW. Participants were randomised to receive usual care, or usual care plus the smartphone app, MyHeartMate. Data were collected at baseline and 6 months. The app utilises game principles to encourage user engagement, such as leaderboards and quizzes; participants earn ‘coins’ for engaging with different features of the app, including reporting having undertaken real-world behaviours such as engaging in dietary practices that aim to reduce risk factors for CVD. Diet quality (a secondary outcome) was evaluated using a self-report questionnaire that assessed six dietary behaviours: fruit intake and vegetable intake (serves/day), fish intake (grams/week), a checklist of salt-reduction behaviours, the oil/fat primarily used in home cooking, and number of meals eaten out per week. A diet quality score of 0 to 2 was awarded based on how well each behaviour met the dietary guidelines: for example, vegetable intake of 5+ serves/day was awarded a score of 2; 2 to < 5 serves/day was scored as 1; and fewer than 2 serves/day was scored as 0. Possible total diet quality score ranged from zero to 12. 394 participants were recruited; 82.5% men, mean \pm SD age: 61.2 ± 11.5 years, body mass index: 28.4 ± 5.4 kg/m². Dietary information was available for $n = 262$ at baseline, and $n = 256$ at 6 months. Overall diet quality score at baseline was 7.07 ± 1.75 ; by 6 months diet quality had improved to 7.60 ± 2.08 ($p < 0.001$). There were no significant differences in dietary factors between the MyHeartMate and control groups at baseline or 6 months ($p > 0.05$ for all comparisons). Overall, only 15 participants (5.7%) met the vegetable intake goal of 5+ serves/day at baseline; 20 participants (7.8%) achieved this by 6 months; average vegetable intake increased non-significantly: 2.18 ± 1.54 to 2.42 ± 1.63 serves/day by 6 months ($p = 0.056$). Fruit, fish, and meals eaten out had small non-significant increases in the number of participants meeting the goal criterion by 6 months; the number of people undertaking at least four different salt-reduction behaviours almost doubled ($p < 0.001$). While small-to-modest improvements were seen over 6 months, diet quality does not appear to have been substantially influenced by the use of a gamified smartphone app designed to elicit behaviour change for secondary prevention of CVD. Further work is warranted to achieve meaningful change in diet quality among patients with CVD.

References

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