

REHABILITATION

Smartphone-based cardiac rehabilitation—a first RCT

The uptake of cardiac rehabilitation (CR) has many barriers, including the time taken to complete a programme and patient reluctance to be involved in group programmes. However, can the growing use of smartphones enable new home-based methods of CR delivery? In the first known randomized, controlled trial of smartphone-delivered CR, investigators report that patient uptake, adherence, and completion of the programme was significantly better using this new technology than with a traditional programme.



“We wanted to investigate whether innovative home-based CR delivery using smartphone and the internet, called the Care Assessment Platform (CAP), could improve the use of CR services and equally provide similar benefits as those of traditional CR programmes,” says Dr Mohanraj Karunanithi from the Australian e-Health Research Centre.

The team randomly assigned 120 patients with a previous myocardial infarction to receive either traditional CR (TCR; $n = 60$), which included supervised group exercise and educational sessions, or cardiac rehabilitation via a smartphone using the CAP ($n = 60$). Each participant using the CAP received a smartphone with preinstalled software to record a health diary, activity levels, and blood pressure, and receive motivational text, audio, and video messages.

Patient uptake of CAP was 80% ($n = 48$) compared with 62% ($n = 37$; $P < 0.05$) for those undertaking TCR. Adherence and overall completion with the CAP were also significantly

higher than with TCR (94% vs 68%, and 80% vs 47%, respectively; $P < 0.05$ for each comparison). Patients receiving TCR were more likely to leave the study owing to competing life demands (work and stress) or logistical reasons (time constraints, transport, or the location of CR appointments) than those using the CAP. Only three patients using the CAP left the study owing to difficulty in using the technology.

Importantly, “CAP-CR was as effective as traditional CR programmes in improving physical activity, diet intake, and lowering depression,” explains Karunanithi. “The outcomes of this study are already being taken up by Queensland Health, Australia by the implementation of CAP as a validated option within their CR services.”

Tim Geach

Original article Varnfield, M. *et al* Smartphone-based home care model improved use of cardiac rehabilitation in postmyocardial infarction patients: results from a randomised controlled trial. *Heart* doi:10.1136/heartjnl-2014-305783