

Phones and Fitbits combine for cardiac rehab

An app-based exercise program designed to improve health for older people in cardiac rehabilitation is moving closer to market following initial trials.

The system was created by University of Canberra physiotherapist Associate Professor Nicole Freene in collaboration with Netherlands health technology design firm Onmi B.V.

Called ToDo-CR (To Do, Cardiac Rehabilitation), the study centres on behaviour change messaging and an app named Vire, made by Onmi and currently at testing stage. The app is designed to help people manage chronic conditions by prompting exercise and behavioural changes.

In 2018, a grant from the Global Connections Fund (GCF) enabled a feasibility study of the program – which combines the app, the messaging, and a wearable fitness tracker – using adults at risk of a repeat heart attack.

Some 20 participants were recruited for the four-month trial. The data gathered allowed Dr Freene and her colleagues at Onmi to refine the system.

“The results led to improvements in the app, the behaviour change program and the guided support necessary for participants,” she explained.

Vire was adjusted to make it more user-friendly for an older cohort, including the addition of individual support mechanisms. The messaging phase of the ToDo-CR list action plan was extended from six weeks to six months.

“We found that for patients in cardiac rehab, six weeks of prompting was not enough to bring about sustained behaviour change,” said Dr Freene.

The results led to a 2019 grant from the Medical Research Future Fund to continue developing the program and trial it with a larger group of patients.

Enrolment began in January 2020, although it has since been put on hold because of the COVID-19 pandemic. It will restart, seeking 144 participants, when circumstances permit.

“If successful, the app will help improve health outcomes for Australians with heart disease,” said Dr Freene.

“It may also be useful in the management of other chronic diseases, such as diabetes and cancer.”



Dr Nicole Freene

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Smartphone, fitbits and to-do lists might help people at risk of heart attack, a collaboration between @UniCanberra's @NicoleFreene and the Netherlands' @Onmi_design.

Research is underway, thanks to IndustryGovAu Global Connections Fund @healthgovau @ATSE_au @ausgov

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The project ToDo-CR: a behavioural smartphone app to reduce the risk of repeat heart attacks is a 2018 recipient of a Global Connections Bridging Grant, part of the Global Innovation Strategy in the National Innovation and Science Agenda. This program is administered by the Australian Academy of Technology and Engineering with the support of its expert Academy Fellows network.



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