

MedFit: The development of a mobile-application to enhance participant self-management of their cardiovascular disease

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Introduction:

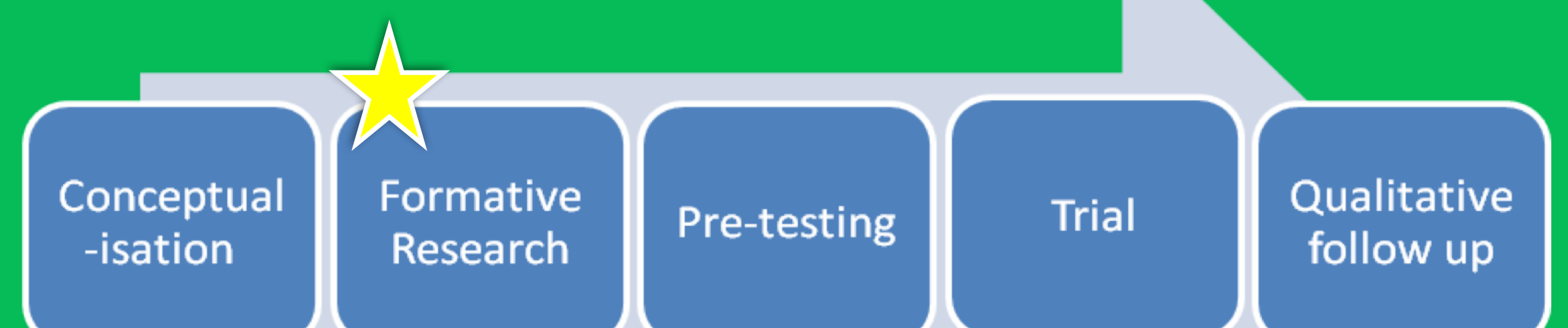
Cardiovascular disease (CVD) is the leading cause of premature death and disability in Europe [1]. Cardiac Rehabilitation (CR) can reduce the impact of CVD by lowering mortality and morbidity rates and promoting healthy active lifestyles. Yet adherence within CR is low. Research suggests that mHealth interventions are useful in supporting the self-management of chronic disease. The purpose of this research is to report on the development of an mHealth intervention, as part of the formative research process.

Method:

For the intervention development the Medical Research Council's (MRC) [2] formative process consisting of 4 stages was used; i) development, ii) feasibility/piloting, iii) evaluation and iv) implementation to develop a theoretically informed Android App called MedFit to enhance CVD self-management. Its aim will be to enhance disease self-management and quality of life in people living with CVD. It will be offered to patients who have completed a hospital-based CR programme, with the aim of extending and augmenting their care. Like CR it will use exercise as its main modality, and provide advice on other health behaviours.



Medical Research Council Development and Evaluation Framework



Results:

A systematic review of the use of behaviour change techniques (BCTs) in physical activity eHealth interventions for CVD patients has been conducted. Seven electronic databases yielded 987 articles, 97 of which met the inclusion criteria for full text review. A multidisciplinary team comprised of exercise scientists, health behaviour change and technology specialists are using this information to develop the intervention technology prototype, termed MedFit. In the next stage of the development process, the feasibility and acceptability of the prototype application will be tested in focus groups and subsequently in feasibility and pilot trials prior to the full scale trial. The focus group content will be developed and informed using a model of technology acceptance. This stage of user validation through the focus groups is a crucial part of the user-led formative research and design process, with the purpose being to gain feedback on the first prototype of the mobile app. From here the feedback from the focus groups will be delivered to the technical team so that the necessary changes can be implemented within the MedFit app. The app will then be ready for a small feasibility trial with phase IV cardiac rehabilitation participants.

Conclusion:

Preliminary findings and systematic review protocol will be reported as per the PRISMA guidelines, ultimately aiding the development of the MedFit app. In the next stage a feasibility trial will be carried out to assess the intervention components and to assess acceptability, likely rates of recruitment, retention of participants and to calculate appropriate sample sizes for the subsequent pilot and full scale trial.

References:

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2. Craig, P., Dieppe, P., Macintyre, S., Michie, S., Nazareth, I., & Petticrew, M. (2008). Developing and evaluating complex interventions: the new Medical Research Council guidance. *BMJ: British Medical Journal*, 337, a1655.