

Presentation format

Preferred Presentation format*

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Important please note: platform and poster presentations are considered by the congress programme committee (CPC) to be of equal standing and judged by the same criteria. Whilst presenters may indicate their preferred format of presentation, platform, printed or ePoster, the CPC will assign abstracts to sessions. There are many more requests for platform presentations than can be accommodated in the programme, and where abstracts requesting a platform presentation have passed the review process and there isn't room for them, presenters will be offered the option of a printed or ePoster presentation, where there is more space and plenty of opportunity to interact with delegates. The decision of what format to assign to any abstract rests with the congress programme committee.

Printed poster presentation

ePoster presentation

Platform presentation

Printed or ePoster presentation* If your abstract is accepted, and there isn't room to include it in the programme as a platform presentation, would you prefer a printed or ePoster presentation?

Printed poster presentation

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Topics

Primary topic* The topic(s) selected will be used to inform the review, selection and programming processes. Please choose the topic(s) which best describe the subject of your abstract that will attract the right audience to interact with you

Cardiorespiratory

2nd Topic Select a topic for your abstract

Community based rehabilitation

3rd Topic Select a topic for your abstract

Innovative technology: information management, big data and artificial intelligence

Title* Please insert your abstract title

Effect of a mobile-technology driven cardiac rehabilitation on adherence and clinical outcomes in post-myocardial infarction patients following percutaneous coronary intervention.

Words: 20, max. 20

Abstract text

Background* Please insert the background

Despite the multifaceted benefits of cardiac rehabilitation (CR), uptake and adherence are often low. Various barriers have been cited for poor uptake and adherence, which often focus on the inflexible timings of CR classes. Technology has the potential to overcome these barriers, yet there is limited research on the delivery of CR through this approach.

Purpose*Please insert the purpose

The purpose of the study was to investigate adherence and clinical outcomes of CR, when delivered via a novel Heart-Track (HT) mobile application, as compared to traditional CR for patients after a myocardial infarction following a percutaneous coronary intervention.

Methods*

A retrospective secondary analysis of data was performed to evaluate adherence for the intervention (HT-group) and usual care (CR-group) groups by evaluating the number of sessions completed and adherence rate. Clinical outcomes including the 6-minute walk test (6MWT), Self-Efficacy of Exercise Scale (SEE) and MacNew Quality of Life After Myocardial Infarction Questionnaire (MacNew) were evaluated pre-and post-intervention and change between groups. Adherence rate was also compared with the change in all outcomes between groups.

Results

Data were analysed for 34 participants (16 in the HT-group), 30 of whom were men. There was no significant difference in adherence in terms of the number of sessions completed and adherence rate between the HT-group and CR-groups (both $p=0.90$). However, there were markedly more sessions completed by the HT-group compared to the CR-group by the end of Week 8 (75.0% versus 55.6%). Furthermore, the adherence rate was high for both groups and above 100% for 69% and 61% of participants in the HT-group and CR-group respectively. Adherence was not related to any of the participant characteristics measured (age, gender and ethnicity). In terms of participant outcomes, there was a significant improvement in 6MWT distance following intervention for the HT-group ($p=0.02$) but not for the CR-group ($p=0.26$). There was no clinically important change in SEE and MacNew questionnaire for patients in either group. No significant relationship was established for change in outcomes.

Conclusion(s)

This study shows a high adherence can be achieved using the HT mobile application and that this appears to increase over the course of the programme. It also has resulted in statistically significant improvements in the HT-group for 6MWT distance, which were not reflected in the traditional CR programme. There were no clinically important changes to quality of life in either the group. Further investigation is needed to explore its efficacy, particularly amongst women for whom CR adherence may be a challenge, and the impact of HT on mortality.

Implications*Please insert the implication

This is a first study conducted in Singapore evaluating adherence and the impact on clinical outcomes following the use of the novel HT mobile application. Findings suggest that HT appears to be a viable alternative to CR, and may be more favourable for some patients. Considering HT as a model of CR programme delivery may help to provide a new dawn to overcome the age-old barriers posed to uptake and adherence of traditional CR programmes, thus positively impacting on the physical fitness and well-being of patients post-PCI.

500 words

Keywords

Keyword 1*

Cardiac rehabilitation

Keyword 2

Mobile technology

Keyword 3

Myocardial infarction

Funding acknowledgements

Funding acknowledgements*Please insert funding acknowledgement

Ethics approval

Did this work require ethics approval?*

Yes

Please name the institution and ethics committee that advised you that ethics approval was not required

Institution*

National Healthcare Group

Ethics committee*

Please state the reasons why ethics approval was not required and upload any supporting evidence.*(max. 500 words)

Ethics was not needed as informed consent was granted by the participants in the primary study for future use of data.