Online Supplementary File 1

Cardiac rehabilitation delivery model for low-resource settings

Authors: Grace SL, Turk-Adawi KI, Contractor A, Atrey A, Campbell N, Derman W, Ghisi

GLM, Oldridge N, Sarkar BK, Yeo TJ, Lopez-Jimenez F, Mendis S, Oh P, Hu D &

Sarrafzadegan N.

Statement Development

Two ICCPR members were selected by the Executive to co-chair the primary writing panel for the consensus statement.

The co-chairs developed an outline and the process, and consulted with the ICCPR, WHO and the World Heart Federation to:

- review the statement development process
- request suggestions for the composition of the primary and advisory writing panels (box 6) to ensure representation from major regions of the world and content expertise,
- solicit input on the statement outline, and
- consider knowledge translation.

The writing panels were populated, with each author on the primary writing panel assigned a core component of CR. As per the ICCPR Charter,(1) these components include health behavior and education interventions of physical activity and exercise, nutrition, psychological health, and smoking cessation. Secondary prevention including blood pressure and cholesterol management and the prescription of cardio-protective medication also forms an integral part of CR. Finally, attention to cost, affordability and return-to-work are of particular importance to CR in MICs and hence section authors were also assigned in these domains.

Each author completed a declaration regarding any conflicts of interest. The co-chairs reviewed the declarations, and determined there were no relevant conflicts.

MIC Literature Review

The development of the consensus statement began with a review of the literature, with an eye to identifying low-cost approaches to delivering the core components of CR in MICs. With regard to patient population, the statement pertains to adults with CHD or heart failure.

A comprehensive search was conducted starting on March 1st, 2014. Medline and Excerpta Medica Database (EMBASE) were searched using a main strategy for CR in MICs and 9 sub-search strategies including CR models and core CR components (e.g., physical activity/exercise, psychological therapy, nutrition, blood pressure). Additionally, Google Scholar, WHO publications, and the authors' personal collections of journal articles and references from key articles were used. Studies and conference abstracts published in the English language were searched. No year of publication restriction was imposed. The main terms that were searched included CR, heart diseases, cardiac procedures, CR components and associated terms, with low-income countries and middle-income countries as a term as well as each individual country. Overall, 1417 citations were identified, and 25 were ultimately included.

Recommendation Development

Each section author developed recommendations related to their core component. Corresponding citations from LMICs were provided to support the recommendations where available, based on the results of a literature review. For recommendations where there was no LMIC evidence available, evidence from HICs was considered. Using a modified GRADE approach,(2) the level of evidence for each of the recommendations was ascertained. If no evidence existed, a consensus process was undertaken.

First the drafted recommendations were circulated to all primary writing panel members, who were asked to rate each recommendation on a 7-point Likert scale in terms of scientific acceptability, feasibility and importance, as well as overall. There was also a request for comments. The ratings and comments were collated, and each section author was invited to revise their recommendations accordingly.

Next, the revised recommendations were discussed via two webconferences by all primary writing panel members until consensus was reached. There was also a discussion of whether there were any recommendations that should be added.

Finally, the consensus statement was independently reviewed by the advisory panel. Comments were considered by the primary writing panel and revisions made accordingly.

References

1. Grace SL, Warburton DR, Stone JA, et al. International Charter on cardiovascular prevention and rehabilitation: a call for action. *J Cardiopulm Rehabil Prev* 2013;33:128-31 doi:10.1097/HCR.0b013e318284ec82.

2. Jaeschke, R, Guyatt GH, Dellinger P, *et al*. Use of GRADE grid to reach decisions on clinical practice guidelines when consensus is elusive. *BMJ* 2008;337:a744 doi: 10.1136/bmj.a744.