Development of the BACR/BHF minimum dataset for cardiac rehabilitation

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Abstract

This article describes the process used to arrive at the set of assessment measures and minimum dataset for cardiac rehabilitation (CR) that has been endorsed by the British Association for Cardiac Rehabilitation (BACR) and the British Heart Foundation (BHF) for the national audit of CR.

Key words: cardiac rehabilitation, assessment measures, audit, minimum dataset.

Introduction

The National Service Framework for Coronary Heart Disease[1] and national clinical guidelines for cardiac rehabilitation (CR)[2] both state that:

● CR should be based on a patient's individual needs and be 'menu driven'
● CR programmes should audit their outcomes.

This requires a set of valid and reliable measures that reflects the multi-component nature of CR. These should be brief, simple to score, clinically useful and seen as relevant by patients and staff. We received funding from the Northern and Yorkshire Public Health Observatory to develop an assessment pack and minimum dataset for CR.

Methods and results

In choosing the elements of CR to measure, we followed the American Association of Cardiovascular and Pulmonary Rehabilitation's 'domains' of rehabilitation: clinical (e.g. heart rate, lipids); behavioural (e.g. smoking, activity levels) and health (e.g. mortality, health-related quality of life).[3]

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A four-stage process was used:

● Identifying potential measures was carried out for each domain through searches of electronic databases, clinical guidelines, enquiries to national and international experts. This yielded 201 potential publications.
● Screening the results for relevance reduced the total to 172 articles. Screening these for evidence of validity and reliability and previous use in UK cardiac patients left 12 quality of life, six psychological, four activity/functional and nine dietary measures.
● Assessing acceptability and relevance to staff and patients. A multidisciplinary clinical panel discussed each measure. Most were regarded as too long or complex for clinical or audit use. The remaining five measures were given to 10 patients in 10 CR programmes and rated by them for 'ease of use' and 'relevance to patients' concerns'.
● Compiling the minimum dataset (MDS). This involved searching for other MDSs, a focus group discussion with the clinical panel and written suggestions and comments from international experts.

The assessment measures finally chosen were: the Hospital Anxiety and Depression Scale,[4] the Dartmouth COOP charts[5] and the Short Measure of Physical Activity.[6] No suitable dietary measure could be found. The exercise measure used was a compromise as it had not been validated in a cardiac population in the UK. To compare outcomes across programmes that may have had a differing case mix, a record of co-morbidity was included. Other measures of quality were added, such as the number of patients unable to take part, or the number who 'dropped out'. Process variables to record the parts of the programme received by the patient were also added.

The MDS agreed by the clinical panel was reviewed by experts and representatives of the British Heart Foundation, the British Cardiac Society, the British Association for Cardiac Rehabilitation, and the Royal College of Physicians. Only one issue aroused any substantial debate – the choice of health-related quality of life measure. A number of people championed the SF-36. The SF-36 and Dartmouth COOP charts were both equally valued by patients. There was empirical evidence that both were equally sensitive to change in cardiac patients.[5] The Dartmouth charts, however, were designed to facilitate discussion between a clinician and a patient, an important aspect of 'menu' driven rehabilitation. They also had the advantage for staff of being shorter, much easier to score and less expensive, and were therefore retained. Drug and medical data were harmonised with the MINAP dataset to allow for combining with

the datasets collected by the Central Cardiac Audit Dataset project. Employment status and ethnic origin were added, using the same format as the national census.

Discussion

No manageable set of data could fully capture an activity as multi-facted as cardiac rehabilitation. Clinicians can and will continue to use additional measures. This new MDS, however, has achieved much consensus and aroused considerable interest. A simple Lotus database has been written for collecting the data. This, a full description of the current dataset and a questionnaires pack are available to download from the following website

www.cardiacrehabilitation.org.uk or by post from the corresponding author. Early feedback from programmes using this dataset is that it is simple, quick to collect and enter. We hope that it will be adopted by all CR programmes and eventually by the Department of Health. We believe that it is only through audit and process benchmarking that we will be able to develop better quality services.

Conflict of interest

This study was funded by the Northern and Yorkshire Public Health Observatory.

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