



Title **The Birmingham Rehabilitation Uptake Maximization Study (BRUM). Home-Based Compared With Hospital-Based Cardiac Rehabilitation in a Multi-Ethnic Population: Cost Effectiveness and Patient Adherence**

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Aim

To evaluate the relative effectiveness and cost effectiveness of a home-based program of cardiac rehabilitation (using the Heart Manual) with center-based (predominantly hospital) programs in patients who had suffered myocardial infarction (MI) or undergone percutaneous coronary artery angioplasty (PTCA) or coronary artery bypass graft (CABG) within the previous 12 weeks; and to explore the reasons for nonadherence to cardiac rehabilitation programs.

Conclusions and results

We evaluated: 1) differences at 6 months, 1 year, and 2 years following center- and home-based cardiac rehabilitation in: objective cardiac risk factors, patient reported uptake and adherence, and whether these differed between patient groups (the elderly, women, and ethnic minority groups); 2) the relative costs of hospital- and home-based cardiac rehabilitation from the NHS and patients' perspectives; 3) qualitative insights into the reasons for nonparticipation in cardiac rehabilitation programs; 4) differences in cardiac clinical events (MI/death from cardiac cause) at 2 years following hospital- and home-based cardiac rehabilitation.

At all three follow-up points no clinically or statistically significant differences appeared in any of the primary outcome measures between the home-based and center-based groups, or in secondary outcomes. Significant improvements in total cholesterol, smoking prevalence, HADS anxiety score, self-reported physical activity, and diet were observed in the home and center-based arms between baseline and 6-month follow-up. From 6 to 24 months follow-up there were no significant changes for most outcomes. Five or more contacts with a cardiac rehabilitation nurse were received by 96% of participants in the home-based arm, while only 56% of participants in the center-based arm attended this many rehabilitation classes ($P < 0.001$).

Recommendations

For low/moderate risk patients (post-MI/PTCA/CABG) a home-based cardiac rehabilitation program produces similar outcomes when compared to center-based programs. With the level of home visiting in this trial, the home program was more costly to the health service, but this difference disappeared when including travel costs borne by patients attending center-based programs. As patients cited a range of individualistic reasons for non-adherence to cardiac rehabilitation, a range of options to fit individual needs might improve adherence and maximize participation.

Methods

See Executive Summary link at www.hta.ac.uk/project/I210.asp.

Further research/reviews required

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