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[Intervention Review]

Patient education in the management of coronary heart disease

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ABSTRACT

Background

Cardiac rehabilitation (CR) is a complex multifaceted intervention consisting of three core modalities: education, exercise training and psychological support. Whilst exercise and psychological interventions for patients with coronary heart disease (CHD) have been the subject of Cochrane systematic reviews, the specific impact of the educational component of CR has not previously been investigated.

Objectives

1. Assess effects of patient education on mortality, morbidity, health-related quality of life (HRQoL) and healthcare costs in patients with CHD.
2. Explore study level predictors of the effects of patient education (e.g. individual versus group intervention, timing with respect to index cardiac event).

Search methods

The following databases were searched: *The Cochrane Library*, (CENTRAL, CDSR, DARE, HTA, NHSEED), MEDLINE (OVID), EMBASE (OVID), PsycINFO (EBSCOhost) and CINAHL (EBSCOhost). Previous systematic reviews and reference lists of included studies were also searched. No language restrictions were applied.

Selection criteria

1. Randomised controlled trials (RCTs) where the primary interventional intent was education.
2. Studies with a minimum of six-months follow-up and published in 1990 or later.
3. Adults with diagnosis of CHD.

Data collection and analysis

Two review authors selected studies and extracted data. Attempts were made to contact all study authors to obtain relevant information not available in the published manuscript. For dichotomous variables, risk ratios and 95% confidence intervals (CI) were derived for each outcome. For continuous variables, mean differences and 95% CI were calculated for each outcome.

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Main results

Thirteen RCTs involving 68,556 subjects with CHD and follow-up from six to 60 months were found. Overall, methodological quality of included studies was moderate to good. Educational 'dose' ranged from a total of two clinic visits to a four-week residential stay with 11 months of follow-up sessions. Control groups typically received usual medical care. There was no strong evidence of an effect of education on all-cause mortality (Relative Risk (RR): 0.79, 95% CI 0.55 to 1.13), cardiac morbidity (subsequent myocardial infarction RR: 0.63, 95% CI 0.26 to 1.48, revascularisation RR: 0.58, 95% CI 0.19 to 1.71) or hospitalisation (RR: 0.83, 95% CI:0.65 to 1.07). Whilst some HRQoL domain scores were higher with education, there was no consistent evidence of superiority across all domains. Different currencies and years studies were performed making direct comparison of healthcare costs challenging, although there is evidence to suggest education may be cost-saving by reducing subsequent healthcare utilisation.

This review had insufficient power to exclude clinically important effects of education on mortality and morbidity of patients with CHD.

Authors' conclusions

We did not find strong evidence that education reduced all cause mortality, cardiac morbidity, revascularisation or hospitalisation compared to control. There was some evidence to suggest that education may improve HRQoL and reduce overall healthcare costs. Whilst our findings are generally supportive of current guidelines that CR should include not only exercise and psychological interventions, further research into education is needed.

PLAIN LANGUAGE SUMMARY

Patient education for coronary heart disease

Coronary heart disease (CHD) includes chest pain, heart attacks, and the need for heart surgery and is a major cause of premature death and disability. Education is a common element of care for people with CHD aiming to decrease mortality and morbidity as well as improving quality of life. This review shows that there is not enough information available to fully understand the impact of educational interventions on mortality, morbidity and health-related quality of life of patients with CHD. Nevertheless, our findings broadly support current guidelines that people with CHD should receive comprehensive rehabilitation that includes education. Further research is needed to evaluate the most clinically and cost-effective ways of providing patient education on CHD.