

## Editorial

# How valuable is cardiac rehabilitation and who should get it?

Modern cardiac rehabilitation is a multidisciplinary activity requiring a range of health skills to bring together medical treatment, education, counselling, exercise training, risk factor modification, and secondary prevention, to limit the harmful physical and psychological effects of heart disease, reduce the risk of death or recurrence of the cardiac event, and enhance the psychosocial and vocational state of patients.<sup>1</sup> It has developed from older and more one dimensional concepts of exercise based rehabilitation, which had evolved in response to treatment regimens involving prolonged bed rest. The value of multidisciplinary rehabilitation rests on two questions: first, is the whole more than the sum of its parts, and second, is the environment of a cardiac rehabilitation programme a good way of ensuring patients receive and adhere to evidence based treatments? The first question can only be answered indirectly in that no trials of adequate size have randomised patients to single versus multidisciplinary intervention. Indeed, as will be argued below, it may not be realistic to do so. In general, intervention studies have shown better outcomes in terms of exercise tolerance, symptoms, plasma lipid levels, psychosocial wellbeing, smoking, and stress reduction.<sup>2–3</sup> The interaction between interventions may be physiological, as in the finding that diet and exercise interact to lower cholesterol,<sup>4</sup> or psychological in that enhanced feelings of wellbeing encourage adherence to other treatments.

Evaluation of psychosocial intervention in isolation is particularly difficult. A meta-analysis of psychosocial intervention in patients with coronary artery disease<sup>5</sup> suggests benefits in terms of blood pressure lowering, improvements in lipids and stress levels, and in cardiac morbidity and mortality; this interpretation has however been debated.<sup>6</sup> A recent British multicentre trial of psychological intervention in patients with myocardial infarction showed no objective evidence for improvement in anxiety, depression, morbidity or mortality, although patients and spouses rated the intervention as helpful.<sup>7</sup> However, the negative finding might be explained by the provision of a uniform treatment for a heterogeneous range of complaints, and the use of a stress reduction model for dealing with health related anxieties. What the study demonstrates is that standard interventions are unhelpful.<sup>8</sup>

Some of the methodological problems in trials of rehabilitation have recently been reviewed.<sup>9</sup> In contrast to the “ideal” placebo controlled evaluation of a single drug or procedure in a homogeneous study group, we are dealing with the effects of multiple interventions on several outcomes in, by definition, a heterogeneous population. It is important that research on robust and valid ways of evaluating both the totality and components of rehabilitation should continue.

National guidelines aim for cardiac rehabilitation to be comprehensive, provide early help for everyone likely to benefit, based on individual assessment of need, and followed by a later menu of options.<sup>10</sup> It should be accompanied by audit and individual monitoring of patient progress.<sup>11</sup>

The case for a cardiac rehabilitation service as a vehicle for secondary prevention is a strong one. Poor control of hyperlipidaemia or hypertension, and inadequate use of

postinfarction  $\beta$  blockers or angiotensin converting enzyme inhibitors have been documented in several audits. Important factors in this lack of provision include division of responsibility and lack of communication.

Ideally, the cardiac rehabilitation process should start at, or even before, the time of hospital admission, continue throughout hospital stay, and hand over seamlessly to rehabilitation in the community. Brief interventions delivered by nurses during and shortly after hospital admission,<sup>12</sup> and a behaviourally based self help heart manual<sup>13</sup> have been shown to be effective in reducing early distress and to have longer term benefits. Integrating the prescription, explanation, and monitoring of medication into the rehabilitation process improves adherence and may enhance evidence based care. Psychological and social problems are often overlooked, and standard screening questionnaires may be helpful. Where this indicates a potential problem, patients should have access to appropriate expertise and follow up assessment.

A flexible approach to the later stages of rehabilitation is essential, with the outcomes—particularly in respect of physical activity, smoking cessation, and dietary modification—being more important than rigid adherence to set procedures. Some patients find the camaraderie of an exercise class exhilarating, others, for religious or simply personal reasons, find it repugnant. Strategies of dietary modification have to take into account age, ethnic group, and domestic circumstances.

### Who should get cardiac rehabilitation?

The reality is that comprehensive cardiac rehabilitation programmes are available only to a minority of patients who are likely to benefit, and most centres tend to restrict access to young, male, white patients who have suffered a (usually first, uncomplicated) myocardial infarction.<sup>14–15</sup> Indeed, most cardiac rehabilitation research has been conducted in these patients. Little is known about the needs and experiences of women, elderly people, and people from ethnic minority groups, who are rarely offered rehabilitation or frequently fail to take up services. In addition, very little evidence is available with which to evaluate the effects of cardiac rehabilitation for patients with heart failure or angina or those who have undergone heart transplantation.<sup>2–3</sup> A separate issue is the extent to which cardiac rehabilitation should be integrated with other forms of rehabilitation,<sup>16</sup> especially in an age group where comorbidity is the norm. A modular approach facilitates this type of integration.

### The way ahead

It is fair to say there is no bad rehabilitation, only bad rehabilitation programmes. The situation will be helped by a wider understanding of what rehabilitation is about, and by nationally agreed guidelines. The new (UK) National Service Framework for coronary heart disease, developed to improve the quality and consistency of services in terms of prevention and treatment, should be helpful in implementing change. Individual assessment, careful formulation of treatment, effective delivery, and systematic evaluation are the keys to improving cardiac rehabilitation.

This article is dedicated to the memory of my co-author, David de Bono, a true friend and colleague, who will be greatly missed.

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