

SCIENTIFIC LETTER

Cardiac rehabilitation in the UK: uptake among under-represented groups

K Rees, J Victory, A D Beswick, S C Turner, I Griebisch, F C Taylor, R S Taylor, R R West, M Burke, J Brown, S Ebrahim

Heart 2005;91:375–376. doi: 10.1136/hrt.2003.032946

The National Service Framework for coronary heart disease (CHD) states that cardiac rehabilitation should be provided for all patients who may benefit, and that priority should be given in the first instance to those who have survived a myocardial infarction (MI) or undergone revascularisation.¹ This was recently endorsed by the fifth report on the provision of services for patients with heart disease.² Previous surveys of provision of cardiac rehabilitation in the UK have shown that patients attending such programmes tend to be male, middle aged, and diagnosed with uncomplicated MI.³ Little is known of the current UK provision of cardiac rehabilitation or adherence to such programmes in those from traditionally under-represented groups. Under-represented groups include elderly people, women, people from ethnic minorities, and those with angina or heart failure, some of whom may benefit more than the patients using these services. This study aims to describe current UK provision and to determine whether and how cardiac rehabilitation is promoted in under-represented groups.

METHODS

The British Association for Cardiac Rehabilitation (BACR) has conducted several surveys of cardiac rehabilitation services in the UK.^{4–5} Respondents from the survey in 2001 (data from 1 January to 31 December 2000) were sent an additional short questionnaire to determine the numbers of patients from under-represented groups (elderly people, women, people from black and Asian groups, and people with heart failure or angina) referred, joining, and completing cardiac rehabilitation programmes during the same time period. We also sought to determine how many services actively promoted uptake and adherence to programmes in these under-represented groups, and any details of interventions used to achieve this. Themes arising from these free text responses were categorised into generic or specific interventions for each under-represented group by one of the authors who has extensive experience of cardiac rehabilitation service provision. Data for the respondents of the additional short survey were entered into an Access database and transferred to Stata (version 7) for data cleaning and analysis. Results are presented as proportions, medians, and interquartile range (IQR).

RESULTS

Of the 284 cardiac rehabilitation services identified in the year 2000, 242 (85%) responded to the BACR questionnaire and 191 (79%) of these responded to the additional short questionnaire following telephone prompting.

Individual programmes across the UK varied widely in the number of patients recruited. Services had difficulty in answering questions about referral, joining, and completion of outpatient cardiac rehabilitation by under-represented groups. Reported reasons for this included lack of automated

systems to extract these data, lack of audit facilities, or currently being in the process of installing systems to collect audit data to satisfy the requirements of the National Service Framework.¹ Given the poor response rates, these data should be interpreted with some caution. Patients referred for cardiac rehabilitation following revascularisation showed similar attendance to MI patients. The numbers of patients with heart failure or angina or from black and Asian groups were so small that the proportions of those referred, attended, and completed cardiac rehabilitation could not be estimated reliably.

Overall, approximately two thirds of referred patients joined, and approximately half of those referred, completed a cardiac rehabilitation programme (table 1). Attendance was lower for patients aged over 65 years and for women compared to rates overall. This pattern was similar for programme completion. However, after joining, the rate of completion was remarkably constant in all groups at 71–76%, with the exception of revascularisation patients, 90% of who completed a programme.

Sixty six per cent of services (126/191) stated that they promoted attendance to cardiac rehabilitation in at least one of the under-represented groups; of these, 46% stated that they promoted attendance in women, 48% in the elderly, 55% in revascularisation patients, 34% in ethnic minority groups, and 17% and 18% in patients with heart failure and angina, respectively. Of the 126 services that stated they promoted attendance in under-represented groups, 97 provided details of the interventions they used to achieve this. A variety of interventions were reported, both generic and specific for under-represented groups. Generic means of promoting adherence that would benefit most patient groups included follow up telephone calls, free transport, home visits, and personalised invitations. Of those interventions that were specific to under-represented groups, individualised classes, buddy systems, and the attendance of a relative or spouse were among those most commonly stated. Direct referrals from surgery and specialist clinics were also used as methods to promote uptake and adherence.

DISCUSSION

This survey finds that relative to male patients, women tended to be less often referred and were less likely to join a cardiac rehabilitation programme, and that adherence was lower in older people compared with rates overall. Data on ethnic minorities and those with diagnoses of angina and heart failure were too sparse to evaluate formally. However, the low numbers reported indicate that these groups are currently unlikely to be referred to or join programmes. Routine electronic audit data are likely to provide a more comprehensive picture in the future.

Abbreviations: BACR, British Association for Cardiac Rehabilitation; CHD, coronary heart disease; MI, myocardial infarction

Table 1 Referral, uptake and completion rates for UK cardiac rehabilitation programmes in the year 2000

	Median	IQR	Range	*Number of programmes	% of referrals
<i>All patients</i>					
Referred	271	164–424	2–1564	156	
Joined	172	101–254	2–1066	153	63
Completed	130	75–186	3–450	133	48
<i>MI patients</i>					
Referred	160	78–286	0–881	97	
Joined	91	49–149	0–446	88	57
Completed	66	31–103	0–425	69	41
<i>Revascularisation patients</i>					
Referred	86	47–142	0–563	91	
Joined	50	22–99	0–407	83	58
Completed	45	13–82	0–367	65	52
<i>Male patients</i>					
Referred	213	111–334	2–1066	83	
Joined	118	66–185	2–747	84	55
Completed	84	43–154	2–329	65	39
<i>Female patients</i>					
Referred	85	36–130	1–498	83	
Joined	36	17–60	1–319	84	42
Completed	27	12–45	0–140	65	32
<i>Patients over 65 years old</i>					
Referred	142	61–228	0–887	66	
Joined	72	37–152	0–596	71	51
Completed	54	30–110	4–212	51	38
<i>Black/Asian patients</i>					
Referred	5	1–19	0–196	59	
Joined	2	0–7	0–127	63	
Completed					
<i>Heart failure patients</i>					
Referred	0	0–2	0–28	61	
Joined	0	0–1	0–12	59	
Completed	0	0–1	0–9	46	
<i>Angina patients</i>					
Referred	6	0–27	0–200	71	
Joined	1	0–8	0–134	70	
Completed	0	0–5	0–73	51	

*Data were not provided for all questions by all services so the numbers of respondents to each question are provided of a possible maximum of 191.
IQR, interquartile range.

A range of interventions to improve uptake and adherence in under-represented groups were reported by services suggesting high levels of awareness of the general problem. Formal evaluation of the effects on uptake and adherence of more complex or costly interventions would be beneficial, but low cost good practice interventions such as follow up telephone calls should be implemented and disseminated widely.

Greater uptake of cardiac rehabilitation would also contribute to reducing the population burden of deaths from CHD.⁶

ACKNOWLEDGEMENTS

This work was supported by NHS HTA Project No. 99/21/02; the views and opinions expressed do not necessarily reflect those of the NHS executive. We thank the rehabilitation staff who supplied information on their cardiac rehabilitation programmes and JA Evans and HJN Bethell for their support of this project.

Authors' affiliations

K Rees, A D Beswick, M Burke, S Ebrahim, Department of Social Medicine, University of Bristol, Bristol, UK
J Victory, United Bristol Healthcare NHS Trust, Bristol, UK
S C Turner, Basingstoke and Alton Cardiac Rehabilitation Centre, Basingstoke, UK

I Griebisch, J Brown, MRC Health Services Research Collaboration, Department of Social Medicine, University of Bristol
F C Taylor, Bristol Heart Institute, University of Bristol
R S Taylor, Department of Public Health and Epidemiology, University of Birmingham, Birmingham, UK
R R West, Wales Heart Research Institute, University of Wales College of Medicine, Cardiff, UK

Correspondence to: Professor Shah Ebrahim, Department of Social Medicine, University of Bristol, Bristol BS8 2PR, UK; shah.ebrahim@bristol.ac.uk

Accepted 22 April 2004

REFERENCES

- 1 **Department of Health**. *National service framework for coronary heart disease*. London: Department of Health, 2000.
- 2 **Hall R, More R, Camm J, et al**. Fifth report on the provision of services for patients with heart disease. *Heart* 2002;**88**(suppl III):iii1–56.
- 3 **Thompson DR, Bowman GS, Kitson AL, et al**. Cardiac rehabilitation services in England and Wales: a national survey. *Int J Cardiol* 1997;**59**:299–304.
- 4 **Bethell HJN, Turner SC, Evans JA, et al**. Cardiac rehabilitation in the United Kingdom – how complete is the provision? *J Cardiopulm Rehabil* 2001;**21**:111–5.
- 5 **Evans JA, Turner SC, Bethell HJN**. Cardiac rehabilitation: are the NSF milestones achievable. *Heart* 2002;**87**(suppl II):ii41.
- 6 **Unal B, Critchley JA, Capewell S**. Explaining the decline in coronary heart disease mortality in England and Wales between 1981 and 2000. *Circulation* 2004;**109**:1101–7.