Results and cost of meeting the National Service Framework for Coronary Heart Disease requirement for 12 month follow-up after acute coronary events

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Abstract

Background The National Service Framework (NSF) for Coronary Heart Disease (CHD) set standards, targets and milestones. In the case of acute myocardial infarction (AMI) or coronary revascularization, Milestone 3 of Standard 12 requires a 12 month audit of exercise and smoking habit and of body mass index (BMI) for patients who have attended cardiac rehabilitation (CR). The targets are that 50 per cent of patients should be exercising regularly, not smoking and have a BMI of <30 kg/m². The purpose of this study was to find out whether the targets are realistic and to measure the cost of retrieving the data.

Methods A postal questionnaire was used to follow up all the patients who attended our CR programme over a 12 month period. The project was costed.

Results Four hundred and three CHD patients who had attended the programme between April 2001 and March 2002 were sent questionnaires 12 months after their index event. Their diagnoses were AMI in 147 (36.5 per cent), coronary artery surgery in 157 (39 per cent) and angioplasty in 99 (24.5 per cent). Completed questionnaires were received from 358 (89 per cent). Of the responders, 69 per cent were exercising regularly, 91.6 per cent were not smoking (73 per cent had been non-smokers before their index cardiac event) and 79 per cent had a BMI of <30 kg/m² (the figure at the start of rehabilitation had been 79 per cent). The cost of performing the audit was £1204.

Conclusion This audit is inexpensive. The targets for smoking and BMI set by the NSF were achieved by a very large margin before either the index cardiac event or starting CR.

Keywords: cardiac rehabilitation, secondary prevention, smoking, exercise

Introduction

The National Service Framework (NSF) for Coronary Heart Disease (CHD) set certain standards and targets. Little has been written about how well these are being met. In the case of treatment of patients recovering from acute myocardial infarction (AMI) or coronary revascularization, ‘Milestone 3’ of Standard 12 requires that ‘By April 2002, every hospital should have clinical audit data no more than 12 months old that describe all the items listed in bold in paragraph 60’. These items include: ‘total number and % of those recruited to cardiac rehabilitation (CR) who, at one year after discharge, report: regular physical activity of at least 30 mins duration on average 5 times a week, not smoking and a body mass index (BMI) of <30 kg/m².’

The target for each item is 50 per cent.

The British Association for Cardiac Rehabilitation/British Heart Foundation annual survey of CR programmes indicates than only a minority of programmes can produce figures for patients at the end of their CR. A survey performed in 2001 by the then North West Regional Office indicated that only three out of 32 CR services had developed systems to collect the data required by the NSF and this shortfall is likely to be true of other areas. The purpose of this study was to perform the audit, to find out whether the targets are realistic and to measure the cost of retrieving the data.

Methods We used a postal questionnaire, enclosing a stamped addressed envelope, to follow up all the coronary patients who attended our CR programme over a 1 year period, from 1 April 2001 to 31 March 2002. The questionnaire was sent 12 months after the patient joined the CR programme:

1. What is your weight today?
2. Do you smoke cigarettes?
3. A brief physical activity questionnaire.

Non-responders were telephoned on a maximum of two occasions to elicit a reply.
We priced the project by adding the number of hours spent at clerical rate of pay and the cost of stationery and postage.

**Results**

Four hundred and eighty-seven patients were admitted to the Phase III CR programme during the period of study. Of these, 431 joined as a result of recent AMI or coronary revascularization. Fourteen patients died during the following year and 14 patients entered the programme twice, mostly after coronary artery bypass grafting (CABG), having originally enrolled after AMI.

The primary diagnosis of the remaining 403 patients was AMI in 147 (36.5 per cent), CABG in 157 (39 per cent) and coronary angioplasty in 99 (24.5 per cent). Completed questionnaires were received from 358 (89 per cent) of the 403 survivors. The Table shows the percentages of those who were taking regular exercise, were non-smokers and had a BMI <30 kg/m² at the start and end of CR and at 1 year after the index event.

The cost of performing the audit, including postage and telephone follow-up for non-responders, was £1204.

**Comment**

This audit is cheap to perform and should be within the ability of any Primary Care Trust (PCT) to fund. The targets for smoking and BMI set by the NSF were achieved by a very large margin before the index cardiac event or the start of CR. These targets therefore have been set much too low and should be reconsidered. Since behaviour patterns vary by geographical region, it might be appropriate for individual PCTs to set their own targets depending upon the prevalence of smoking and obesity in their areas.

Changes in lifestyle following a CR programme tend not to be followed in the longer term. It is therefore appropriate to seek data about healthy behaviour at 1 year (and maybe longer) after the event. What information is sought, however, depends upon the purpose of gathering the data. If it is to monitor the effectiveness of the programme, smoking habit and BMI may not be the best measures. Most CR and secondary prevention programmes report little change in these measures in treated patients. Exercise habit, however, is appropriate and measures of quality of life could be included.

Other measures should also include secondary prevention medication. The current Milestone 3 does not require face-to-face consultation, but if it did, blood pressure and blood lipids should also be measured.

It is logical that the CR programme collects the data by routine monthly mailing of questionnaires to patients, 1 year after their index event. The modest funding needed could be added to their annual budget. Sadly, most CR programmes have no allocated funding, an omission which will need correcting first.

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**References**


**Table** Response from 358 patients giving percentages exercising regularly, not smoking and having a BMI <30 kg/m² at different stages before and after their cardiac event

<table>
<thead>
<tr>
<th>Number taking exercise five times/week (%)</th>
<th>Before index event</th>
<th>At start of CR</th>
<th>At end of CR</th>
<th>At 1 year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number not smoking (%)</td>
<td>73</td>
<td>92.3</td>
<td>94.9</td>
<td>91.6</td>
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<tr>
<td>Number with BMI &lt;30 kg/m² (%)</td>
<td>79</td>
<td>80</td>
<td>79</td>
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