Age and Ageing Advance Access published May 10, 2004
Age and Ageing
DOI: 10.1093/ageing/afh098

A randomised controlled trial of senior Lay Health Mentoring in older people with ischaemic heart disease: The Braveheart Project

ANDREW J. COULL[1], VALERIE H. TAYLOR[2], ROB ELTON[3], PETER S. MURDOCH[4], ALLISTER D. HARGREAVES[4]

[1]Stroke Prevention Research Unit, Department of Clinical Neurology, Radcliffe Infirmary, Oxford, UK
[2]Dalkeith Medical Practice, Dalkeith, Midlothian, UK
[3]Department of Public Health Sciences, University of Edinburgh, Edinburgh, UK
[4]Falkirk and District Royal Infirmary, Majors Loan, Falkirk FK1 5QE, UK

Address correspondence to: P. Murdoch, Department of Geriatric Medicine, Falkirk Royal Infirmary, Majors Loan, Falkirk FK1 5QE, UK. Fax: (+44) 1324 616149. Email: peter.murdoch@fvah.scot.nhs.uk

Abstract

Objective: to examine the effects and feasibility of educating and empowering older people with ischaemic heart disease using trained senior lay health mentors.
Design: randomised controlled trial with blinded evaluation.
Setting: Falkirk and District Royal Infirmary.
Participants: inpatients and outpatients aged 60 or over attending secondary care with a diagnosis of angina or acute myocardial infarction. Three-hundred and nineteen entered and 289 completed exit assessments. The intervention group took part in mentoring groups for 1 year, meeting monthly for 2 hours, each led by two trained lay health mentors in addition to standard care.
Main outcome measures: primary outcome measures were changes in coronary risk factors, medication usage and actual use of secondary care health services. Secondary outcomes were total and cardiovascular events; changes in medication compliance, non-medical support requirement, health status and psychological functioning, and social inclusion.
Results: there were significant improvements in a reported current exercise score (mean +0.33, +0.02 to +0.52), in the average time spent walking per week by 72 minutes (+1 to +137 minutes), and in the SF36 Physical Functioning Score (+6.1, +2.4 to +9.5). There was a 1.0% reduction in total fat (95% CI −3.0% to −0.6%) and a 0.6% reduction in saturated fat (95% CI −1.5% to −0.03%). The intervention group showed reduced outpatient attendance for coronary heart disease (−0.25 appointments, −0.61 to −0.08). Attendance rates were high. Socio-economic grouping did not affect participation.
Conclusions: Lay Health Mentoring is feasible, practical and inclusive, positively influencing diet, physical activity, and health resource utilisation in older subjects with ischaemic heart disease without causing harm.

Keywords: *mentoring, volunteer, ischaemic heart disease, risk factors, social inclusion, elderly*

Introduction

The empowerment of patients and effective partnership between patients, health providers and volunteer groups have been recognised as crucial to health promotion [1, 2].

Few studies have examined the effects and feasibility of volunteer mentors engaging with their peers to discuss cardiovascular risk factors. Mentoring represents a trusting and supportive relationship in which empathic discussion and reflection can encourage personal development. Mentors can provide advice and information in a variety of settings on an individual basis or as part of self-help groups. Studies suggest variable success in cardiac disease [3] and chronic arthritis patients [4].

Scotland has a disproportionately high incidence and prevalence of coronary heart disease [5]. Cardiac rehabilitation programmes have demonstrated reduction in mortality in post-myocardial infarction patients [6]. However older people, women and lower social classes tend to have reduced access and high drop-out rates [6–9]. The optimum delivery strategy for secondary prevention remains unclear, although a recent guideline has emphasised an individualised approach and patient empowerment [6].

The Braveheart Project represented an 'Ageing Well' initiative in an area of high underlying cardiovascular disease in central Scotland. 'Ageing Well' has been a National Health Promotion programme since 1994 aiming to improve and maintain the health of older people, by encouraging the use

of senior health mentors to advise and support their peers. This trial aimed to study the effects and feasibility of using senior volunteer lay health mentors to educate and empower older people with ischaemic heart disease (IHD).

Methods

Braveheart was a randomised controlled trial on elderly patients attending Falkirk and District General Hospital in Central Scotland with IHD. Ethical approval was granted by Forth Valley Health Board Ethics of Research Committee.

Study population

Between May 1997 and April 1999, we recruited patients aged 60 or over that had been either admitted to hospital, or had attended the outpatient department, with a clinical diagnosis of IHD. Exclusion criteria were terminal illness, an abbreviated mental health test score <8, inability to complete 3 minutes of Bruce Protocol exercise tolerance testing, awaiting angioplasty or coronary artery bypass grafting, participation in another clinical study involving coronary risk factor modification or at the request of their consultant or general practitioner.

Intervention

Intervention consisted of participation in a mentor-led group, through attending monthly 2 hour long meetings in community facilities over a 1-year period. There was an average of 10 patients per group, each led by two mentors. Travel expenses were offered for attendance. Both intervention and control groups continued to receive standard care. Entry into the study did not occur until after completion of any extended cardiac rehabilitation programme.

A wide range of issues relating to cardiovascular disease, its management and self-help regarding general well being were discussed. The core activities covered in the programme were lifestyle risk factors of smoking, diet and exercise; blood pressure and cholesterol; understanding of and ability to cope with IHD; and drug concordance. Each mentored group was also encouraged to develop its own agenda. Input was provided from a pharmacist, cardiac rehabilitation specialist nurse, dietician, welfare benefits advisor and Recreation Services.

Volunteer lay health mentors, aged 54–74 recruited from the local community led the groups. Thirty hours initial training was provided by the cardiac rehabilitation specialist nurse, dietician, hospital physician and project co-ordinator. The focus and main emphasis of the training was based on a person-centred approach of psychologist, Carl Rogers [10] that reinforced self-help principles and enabled group facilitation. The co-ordinator provided in-service training and ongoing support for mentors.

Baseline and outcome measures

Data were collected before intervention and at 1 year. Exit evaluation was blinded. Clinical data was obtained from the patient's medical records. Cholesterol levels were taken as part of the assessments. Blood pressure was recorded prior to exercise tolerance testing. Data about current medication, smoking status, exercise activity, non-medical support, understanding and knowledge of IHD, health status and mental state were collected by face-to-face interviews.

Diet was assessed by a questionnaire, completed at personal interview, and by a 3-day food diary. The information from the latter was analysed using the computer package Diet 5 for Windows.

Exercise activity was assessed by questions about the previous week's physical activity. These included a question that ranked the amount of exercise activity during the previous week and the time spent on actual activities in the previous week.

Perceived change in taking of medication was measured using a five point Likert scale in the exit questionnaire.

Health status was measured using the SF36 health survey questionnaire [11]. Mental state was measured using the Hospital Anxiety and Depression (HAD) Scale [12]. Deprivation scores were calculated for each subject based on census characteristics (car ownership, social class, overcrowding and unemployment) of the post code sector in which they lived [13].

Primary outcome measures were changes in lifestyle risk factors (smoking, diet and exercise) blood pressure, cholesterol and medication, and use of secondary care health services. Secondary outcomes were total and cardiovascular events; changes in medication compliance, non-medical support requirement, health status and psychological functioning, and social inclusion.

Prospective sample size calculation

In an unclustered design, the sample size of 300 patients would give high power to detect as significant mean intervention effects of 0.35 standard deviation. Little information was available prior to the study about the likely effect of the actual design structure, but it was recognised that this would diminish the power somewhat if the efficacy of mentoring varied from group to group.

Statistical analysis

Analysis was on an intention to treat basis. A paired cluster design was used to achieve natural groupings of patients according to their geographical location with a size twice that required for mentoring groups. Members of these groups were randomised to mentoring or control groups. Differences between the randomised groups in outcomes were examined by multilevel models using MLwiN software. To allow for possible variation between mentoring groups in the efficacy of the intervention, the model included a random effect for mentoring group as well as a fixed effect for intervention *versus* control, and for each outcome the corresponding measurement at baseline was also included as a covariate. Confidence limits for the mean intervention effect were calculated from the estimate and standard error of the effect size using a normal approximation.

Assignment

Patients were randomised by the researchers after giving informed consent. Eligible patients were stratified by sex,

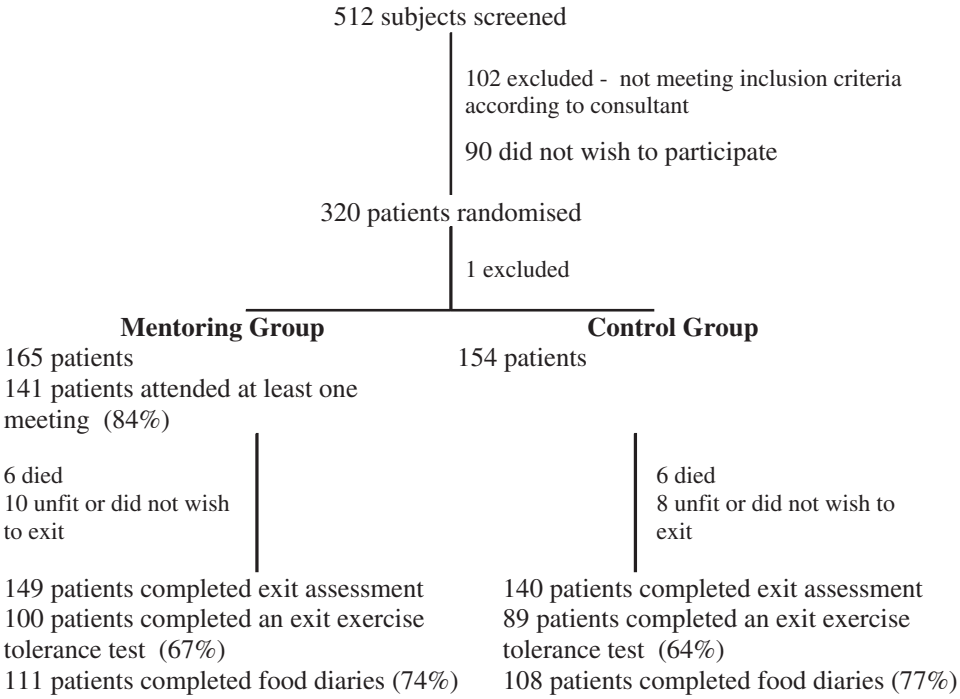

Figure 1. Trial profile.

disease modality (myocardial infarction or angina) and location (five areas identified). They were allocated using computer-generated sealed envelopes supplied by the University of Edinburgh Medical Statistics Unit.

Results

The trial profile is shown in Figure 1. Of intervention group patients, 84% attended at least one meeting. Of the 319 subjects entering the study, 91% completed exit assessments. The baseline characteristics of both groups are shown in Table 1.

Smoking rates were low in both groups at baseline and exit. Mentored patients had better exercise levels after 1 year, spending on average an hour more per week walking ($P<0.05$) than the control group. There was no change in exercise tolerance on formal testing between the two groups. Mentored patients showed significant beneficial changes to their dietary intake with less total fat ($P<0.01$), less saturated fat ($P<0.05$) and more carbohydrate ($P<0.05$) being taken in as percentage of energy. Patients in the intervention group were much less likely to use a normal polyunsaturated fat spread ($P<0.001$), and more likely to use a monounsaturated reduced fat spread ($P<0.05$) or a polyunsaturated low fat spread (Table 2).

Improvements in blood pressure control and cholesterol lowering occurred in both groups with no significant differences. The mentored group reported significantly more concordance with medication ($P<0.01$) than the control group. The uptake of secondary prevention therapy was relatively high in both groups with no significant differences between the intervention and control groups. For example the use of aspirin in the mentored and controlled groups was 85% and 88% and beta-blockers were used in 54% and 59% respectively at the end of the study period. Mentored patients had significantly reduced cardiovascular outpatient attendance ($P<0.01$) (Table 3). Self assessed physical functioning on SF-36 improved in the mentored group and declined in the control group ($P<0.05$) (Table 4). There were no significant changes in HAD scores or other components of the SF36 between the groups suggesting that the intervention was not harmful.

Table 1. Baseline comparison between control and mentored groups

	Mentored $n=165$	Control $n=154$
Age (mean in yrs)	67.7	67.4
Sex (M/F)	61%/39%	60%/40%
Source (in/outpatient)	50%/50%	51%/49%
CHD episode prior to entry (MI/angina)	30%/70%	32%/68%
CHD history (mean years since diagnosed)	5.05	4.45
Extended cardiac rehabilitation input	26%	29%
Current smokers	19%	15%
Blood pressure (mean mmHg)	146/83	142/79
Blood pressure (<140/85)	29%	40%
Total cholesterol (mean mmol/l)	5.45	5.38
Total cholesterol (<5.0 mmol/l)	33%	38%
Weight (mean in kg)	76.1	77.1
Aspirin usage	79%	88%
Lipid lowering agent usage	45%	57%
Beta-blocker usage	54%	61%
ACE inhibitor usage	20%	19%
Duration ETT (mean in secs)	371	341
Deprivation category score (mean)	3.86	3.79

Table 2. Lifestyle risk factors

	Mentored		Control		
	Before	After	Before	After	Difference (95% CI)
Smoking management	(*n* = 149)		(*n* = 140)		
Current smokers	19%	15%	15%	14%	−3.0% (−7.0 to +5.0%)
Physical exercise	(*n* = 149)		(*n* = 140)		
Statement of Current Exercise Activity (mean score, max = 5)	4.68	4.55	4.77	4.31	+0.33 (+0.02 to +0.52) *P* < 0.05
Time spent on exercise in previous seven days (mean in minutes)	679	843	750	767	+147 (−8 to +266)
Walking	298	388	303	320	+73 (+1 to +137) *P* < 0.05
Manual work / DIY	56	141	112	151	+46 (−75 to +101)
Gardening	118	140	156	145	+33 (−28 to +74)
Golf / bowls	96	63	60	47	+20 (−30 to +26)
Aerobics / exercise classes	10	36	19	23	+22 (+3 to +31) *P* < 0.05
Swimming	7	13	12	16	+2 (−8 to +10)
Exercise tolerance tests	(*n* = 100)		(*n* = 89)		
Duration of test (mean in seconds)	395	347	371	344	−21 (−48 to +22)
Dietary management					
Spreading fat used	*n* = 149		*n* = 140		
Not using PUFA spreads	62%	84%	60%	68%	+14% (+7% to +25%) *P* < 0.001
Mainly using PUFA LF	25%	36%	28%	32%	+7% (−5% to +15%)
Mainly using MONO RF	11%	21%	7%	10%	+7% (+1% to +13%) *P* < 0.05
Food diary information	(*n* = 111)		(*n* = 108)		
Energy (mean in kcals)	1686	1644	1698	1649	+7 (−76 to +83)
Protein (as % energy)	18.5%	18.2%	18.0%	18.0%	−0.3% (−0.8 to +0.8%)
Carbohydrate (as % energy)	50.4%	51.7%	49.3%	49.4%	+1.2% (+0.3 to +3.0%) *P* < 0.05
Fat (as % energy)	29.0%	27.9%	30.6%	30.5%	−1.0% (−3.0 to −0.6%) *P* < 0.01
Saturated fat (as % energy)	10.9%	10.5%	11.2%	11.4%	−0.6% (−1.5 to −0.03%) *P* < 0.05

Table 3. Resource usage

	Mentored —After (*n* = 149)	Control —After (*n* = 140)	Difference (95% CI)
Total episodes (mean)	0.38	0.39	−0.01 (−0.30 to +0.12)
CHD episodes (mean)	0.17	0.24	−0.07 (−0.29 to +0.04)
Total days (mean)	1.81	2.46	−0.65 (−2.65 to +0.38)
CHD days (mean)	0.99	1.25	−0.26 (−1.52 to +0.45)
Day cases			
Total day cases (mean)	0.28	0.32	−0.04 (−0.24 to +0.14)
CHD day case (mean)	0.09	0.15	−0.06 (−0.14 to +0.06)
Out patient			
Total appointments (mean)	2.20	2.27	−0.07 (−0.68 to +0.26)
CHD appointments (mean)	0.96	1.21	−0.25 (−0.61 to −0.08) *P* < 0.01
	Mentored After (*n* = 149)	Control After (*n* = 140)	Difference (95% CI)
Angiography	9%	19%	−10% (−2% to −18%) *P* < 0.05
Angioplasty / stent	1%	1%	0% (−4% to +3%)
CABG	1%	5%	−4% (−8% to 0%)
Unstable angina episode	7%	1%	+6% (+1% to +10%) *P* < 0.05

The mentored group required significantly less domestic help from their family (13% less: 95% CI 3–23; *P* < 0.01). Analysis of the deprivation scores showed the participants to be well matched with controls and representative of the local population. There were no differences in deprivation scores between those attending more or less than two meetings.

Table 4. Scoring systems used

	Mentored		Control		
	Before ($n = 149$)	After	Before ($n = 140$)	After	Difference (95% CI)
Hospital anxiety depression scale					
Anxiety (Definite cases – score ≥11)	11%	6%	8%	6%	−3% (−7% to +4%)
Anxiety (mean score)	5.4	4.7	5.2	4.7	−0.2 (−0.9 to +0.3)
Depression (definite cases – score ≥11)	1%	0%	4%	4%	−1% (−6% to +0%) $P < 0.05$
Depression (mean score)	3.4	3.1	3.5	3.4	−0.2 (−0.7 to +0.2)
Health status scores: SF36					
Reported health transition (mean score out of five, higher mean = feeling better)	3.2	2.6	3.2	2.8	−0.2 (−0.6 to +0.1)
(Best possible score = 100, higher mean = feeling better)					
Physical functioning	64.5	68.7	65.8	63.9	+6.1 (+2.4 to +9.5) $P < 0.01$
Role functioning – physical	51.5	61.4	51.6	61.1	+0.4 (−7.7 to +8.5)
Bodily pain	66.3	68.6	63.2	68.3	−2.8 (−6.8 to +3.9)
General health	64.3	65.7	63.5	62.2	+2.7 (−1.1 to +7.0)
Vitality	61.1	64.7	60.1	62.9	+0.8 (−2.8 to +5.0)
Social functioning	83.4	84.6	83.9	83.1	+2.0 (−3.4 to +6.7)
Role functioning – emotional	73.8	79.0	72.6	74.8	+3.0 (−4.2 to +11.6)
Mental health	77.3	80.9	75.4	80.2	−1.2 (−3.5 to +2.6)

Discussion

This randomised controlled trial is among the first showing beneficial lifestyle modifications and changes in behaviour using a mentoring strategy. Use of volunteer lay health mentors provides an exciting and novel model to complement cardiac rehabilitation services to an older population.

Peer based interventions to influence health-related lifestyle have shown a small effect [14]. Nurse-led clinics based in primary care have been shown to be effective in delivering lifestyle and medical secondary prevention messages [15]. Evidence for effectiveness of cardiac self-help groups is mixed [6]. The most important features in the success of our mentoring model were the selection of well-motivated local lay volunteers; the initial structured training from healthcare professionals, a co-ordinator with a community educational background and the building of healthy alliances with statutory and voluntary groups in the community. The intervention provided by the mentors was relevant and individualised to participants. There was opportunity for feedback and thus reinforcement in the group situation.

Lifestyle changes are considered to be beneficial in older people with IHD but are difficult to achieve and maintain as in all age groups. Systematic reviews have shown that older patients benefit at least as much as younger patients from exercise based cardiac rehabilitation [6]. An exercise programme in post MI older patients focusing on regular everyday activities was beneficial [16]. Our participants were advised to increase the amount and the time spent on activity, especially walking. Our mentoring strategy resulted in significant increases in physical activity consistent with cardiac rehabilitation programmes in younger populations.

Dietary changes have been shown to reduce all cause mortality in patients with IHD despite no significant changes in cholesterol levels [17]. Dieticians provided mentors with information on different fat types and desirable intake that was cascaded to group attendees resulting in a significant change.

The relatively high baseline levels of secondary prevention may partially explain the non-significant differences in classical risk factors. The proportion of smokers and the average total cholesterol in our study population were lower, and prescription levels of aspirin and statins higher than that described in a group of post infarction patients elsewhere in Scotland at the time [18]. Lack of prescriptive targets for blood pressure and cholesterol reduction may also have accounted for lack of significant change.

Anxiety and depression post myocardial infarction is common and psychosocial interventions may significantly reduce morbidity and mortality in those with coronary heart disease [19]. The effects of health education and stress management on patients with IHD suggest impressive reductions in cardiac mortality and recurrent events with significant effects on important risk factors [20].

A review of secondary prevention clinics has suggested reduced hospital admissions in those attending despite including heterogeneous studies [21]. A non-randomised controlled trial comparing counselling and exercise-based rehabilitation in primary care with usual care has shown fewer hospital admissions and emergency department visits [22].

We recognise limitations of our study due to potential referral bias introduced by focussing on fitter individuals who could complete exercise testing. The inclusion of food and physical activity diaries was open to recall bias but changes were biologically consistent in a beneficial direction. The widespread community interest in this study and subsequent increased awareness of risk factors for coronary heart disease may have diluted the effect of mentoring. Our

study was not sufficiently powered to elicit differences in clinical events and mortality. We also recognise that a small number of our significant results may be explained by multiple testing.

Eighty-seven percent of subjects completed the study demonstrating the acceptability of the model. Deprivation scores in both groups were well matched with the local population (Personal communication, G. Foster), with no significant differences between the attendees and non-attendees of the mentoring arm. Our study was clearly socially inclusive. Mentoring was equally acceptable to men and women. The mentoring intervention was refreshingly pragmatic with each group encouraged to develop their own agenda.

The Braveheart study offers a novel and refreshing approach to the delivery of secondary prevention to older people with IHD. Mentoring is complementary to cardiac rehabilitation provision and might represent a community based follow on from a hospital-based rehabilitation.

Conclusions

Lay Health Mentoring has shown to promote healthy changes in lifestyle in an older population with IHD. It has formed alliances between older people, their community and health professionals. It is practical, feasible, inclusive and safe appearing to provide additional benefit to conventional rehabilitation and secondary prevention. Mentoring has been associated with lifestyle changes in diet and exercise and a demonstrable reduction in hospital resource utilisation. The model may provide a useful means to achieve measurable health gains in other areas of service delivery in an older population.

Key points

- Senior lay health mentoring for older people with ischaemic heart disease is feasible, safe and inclusive.
- Mentoring appeared to positively influence lifestyle particularly diet and exercise activity.
- Mentoring is complementary to cardiac rehabilitation provision.
- Lay health mentoring may provide a useful model to achieve measurable health gain.

Sources of research funding

Scottish Office/Scottish Executive *via* Age Concern Scotland and Health Education Board for Scotland (HEBS), Merck Sharpe & Dohme, Falkirk Council, Forth Valley Acute Hospital Trust and private donors. Training support from Forth Valley Health Board Health Promotion. None of the above had a role in the design, execution, analysis and interpretation of data, or writing of the study.

Potential conflict of interest

Merck Sharp and Dohme provided unconditional funding for the project launch and to two of the authors towards expenses of attending scientific meetings to present poster and oral discussion of findings.

References

1. Scottish Executive Health Department. Our National Health: Delivering Change. Edinburgh: Scottish Executive, 2001.
2. Baker M. Patient care (empowerment): the view from a national society. Br Med J 2000; 320: 1660–2.
3. Rose MA. Evaluation of a peer-education program on heart disease prevention with older adults. Public Health Nurs 1992; 9: 242–7.
4. Lorig K, Mazonson P, Holman HR. Evidence suggesting that health education for self management in patients with chronic arthritis has sustained health benefits while reducing health care costs. Arthritis Rheum 1993; 36: 439–46.
5. Tunstall-Pedoe H, Kuulasmaa K, Mahonen M, Tolonen H, Ruokokoski E, Amouyel P. Contribution of trends in survival and coronary event rates to changes in coronary heart disease mortality: ten year results from 37 WHO MONICA Project populations. Monitoring trends and determinants in cardiovascular disease. Lancet 1999; 353: 1547–57.
6. Scottish Intercollegiate Guidelines Network (SIGN). Cardiac Rehabilitation. Edinburgh: SIGN; 2002 (SIGN publication no. 57).
7. Ades PA, Waldman ML, McCann WJ, Weaver SO. Predictors of cardiac rehabilitation participation in older coronary patients. Arch Intern Med 1996; 152: 1033–5.
8. Ades PA, Waldman ML, Polk DM, Coflesky JT. Referral patterns and exercise response in the rehabilitation of female coronary patients aged greater than or equal to 62 years. Am J Cardiol 1992; 69: 1422–5.
9. Pell J, Pell A, Morrison C, Blatchford O, Dargie H. Retrospective study of influence of deprivation on uptake of cardiac rehabilitation. Br Med J 1996; 313: 267–8.
10. Rogers C. Client-centred therapy – its current practice, implications and theory. London: Constable, 1970.
11. Medical Outcomes Trust. SF-36 Health Survey – scoring manual for English language. Boston: Medical Outcomes Trust, 1994.
12. Zigmond AS, Snaith RP. The hospital anxiety and depression scale. Acta Psychiatry Scand 1983; 67: 361–70.
13. McLoone P. Carstairs Scores for Scottish Postcode Sectors from the 1991 Census. Glasgow: Public Health Research Unit, University of Glasgow, 1994.
14. Posavac EJ, Kattapong KR, Dew DE Jr. Peer based interventions to influence health related behaviours and attitudes: a meta-analysis. Psychol Rep 1999; 85 (3 Pt 2): 1179–94.
15. Campbell N, Thain J, Deans HG, Ritchie LD, Rawles J, Squair J. Secondary prevention clinics for coronary heart disease: a randomised trial of effect on health. Br Med J 1998; 316: 1434–7.
16. Stahle A, Mattsson E, Ryden L *et al.* Improved physical fitness and quality of life following training of elderly patients after acute coronary events. A 1 year follow-up randomised controlled study. Eur Heart J 1999; 20: 1475–84.
17. Burr ML, Fehily AM, Gilbert JF *et al.* Effects of changes in fat, fish and fibre intakes on death and myocardial reinfarction: diet and reinfarction trial (DART). Lancet 1989; ii: 757–60.
18. Shepherd J, Cobbe SM, Ford I *et al.* for the West of Scotland Coronary Prevention Study Group. Prevention of coronary heart disease with pravastatin in men with hypercholesterolemia. N Engl J Med 1995; 333: 1301–8.

19. Linden W, Stossel C, Maurice J. Psychosocial interventions for patients with coronary heart disease: a meta-analysis. Arch Intern Med 1996; 156: 45–52.
20. Dusseldorp E, van Elderen T, Maes S, Meulman J, Kraaij V. A meta-analysis of psychoeducational programmes for coronary heart disease patients. Health Psychol 1999; 18: 506–19.
21. McAlister FA, Lawson FME, Koon TK, Armstrong PW. Randomised trials of secondary prevention programmes in coronary heart disease: systematic review. Br Med J 2001; 323: 957–62.
22. Bondestam E, Breikiss A, Hartford M. Effects of early rehabilitation on consumption of medical care during the first year after acute myocardial infarction or coronary artery bypass grafting. Am J Cardiol 1995; 75: 767–71.

Received 30 July 2003; accepted in revised form 30 December 2003