Nurse led secondary prevention clinics improved health and decreased hospital admissions in patients with coronary heart disease

Campbell NC, Thain J, Deans HG, et al. *Secondary prevention clinics for coronary heart disease: randomised trial of effect on health.* BMJ 1998 May 9;316:1434-7.

Question

Can nurse led secondary prevention clinics improve health and decrease symptoms for patients with coronary heart disease (CHD)?

Design

Randomised controlled trial with 12 months follow up.

Setting

19 general practice clinics in north east Scotland.

Patients

1343 patients with CHD from randomly selected general practice clinics. At baseline, 47% had chest pain in the previous week. Patients were excluded if they had a terminal illness or dementia, or were housebound. Follow up was 87% (mean age 66 y, 58% men).

Intervention

Patients in the intervention group (n=673) were invited to attend nurse led secondary prevention clinics during the first 3 months for assessment of their symptoms, treatment, blood pressure, lipid management, and lifestyle factors; promotion of aspirin use; behavioural counselling; and regular follow up visits for 1 year. Patients in the control group (n=670) received routine care.

Main outcome measures

Functional status, wellbeing, and general health perception (SF-36 Health Survey Questionnaire); presence, frequency, and course of chest pain; anxiety and depression (Hospital Anxiety and Depression Scale); and hospital admissions and general practitioners visits.

Main results

Analysis was by intention to treat. Patients in the intervention group had improved functional status and general health perceptions ($p < 0.05$, adjusted for age and baseline performance). After adjustment for age, sex, general practice, and baseline performance, fewer patients in the intervention group had worsening of chest pain ($p = 0.025$) and required hospital admission ($p = 0.003$) (table). No differences existed for presence or frequency of chest pain, change in anxiety and depression between baseline and 1 year, length of hospital stay, and number of general practitioner visits.

Conclusions

In patients with coronary heart disease, nurse led secondary prevention clinics that offered regular follow up visits improved functioning and health perceptions and reduced hospital admissions but did not affect anxiety, depression, length of hospital stay, or number of general practitioner visits.

*Clinic v usual care for secondary prevention in patients with coronary heart disease**

Outcomes at 12 months	Clinic care	Usual Care	Adjusted odds ratio (95% CI)	NNT (CI)
Worsening of chest pain	7%	11%	0.59 (0.37 to 0.94)	24 (16 to 170)
Hospital admissions	20%	28%	0.64 (0.48 to 0.86)	13 (9 to 35)

*Abbreviations defined in glossary; NNT and CI calculated from data in article.

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Commentary

Research shows that patients with CHD who have had a myocardial infarction or coronary artery bypass grafting and participate in rehabilitation programmes have shorter hospital stays, reduced recurrent disease, and decreased cardiovascular mortality.¹ Despite this, only a small proportion of people with CHD are in rehabilitation.² In this study, 71% of eligible patients with CHD agreed to participate, and 82% of the intervention group attended at least 1 nurse run clinic. Although the intervention in this study was less intensive than standard rehabilitation programmes, this approach had an impact on health and hospital admission rates. Well validated self report measures were used. An analysis of outcomes by

intensity of intervention would be instructive, however.

Nurse run programmes are effective and may be a cost effective approach to secondary prevention. Nurse specialists can facilitate many areas in the implementation of optimal care. For dyslipidaemia, strong evidence supports aggressive cholesterol management for the reduction of cardiac events in patients with CHD,³ yet most patients are not being treated according to national guidelines.³ Nurse specialist anticoagulant services are as effective in maintaining therapeutic control as consultant services, and better at documenting relevant details and improving patient knowledge.⁴ Nurse managed clinics for outpatients with heart

failure decrease lengths of hospital stay and the number of readmissions.⁵ This collective evidence should encourage others to take a step further and evaluate the cost effectiveness of nurse run secondary prevention.

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