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Quality improvement

The benefits of nurse led secondary prevention clinics continued after 4 years

Murchie P, Campbell NC, Ritchie LD, et al. *Secondary prevention clinics for coronary heart disease: four year follow up of a randomised controlled trial in primary care. BMJ 2003;326:84-7.*

QUESTION: In patients with pre-existing coronary artery disease (CAD), do the benefits of nurse led secondary prevention clinics continue after 4 years?

Design

Randomised [allocation concealed*]†, unblinded,* controlled trial with mean 4.7 years of follow up.

Setting

19 randomly selected general practices in Scotland, UK.

Patients

1343 patients (mean age 66 y, 58% men) with CAD. Exclusion criteria were terminal illness, dementia, or inability to leave home. 82% of patients were followed up.

Intervention

673 patients were allocated to receive invitations to attend secondary prevention clinics at their general practice where nurses reviewed symptoms and treatments, promoted aspirin use, reviewed blood pressure and lipid management, assessed lifestyle factors, and negotiated any necessary behavioural changes. 670 patients were allocated to usual care. The intervention ended after 1 year, individual results were sent to the general practices, and patients in both groups were allowed to attend secondary prevention clinics if their general practitioners continued to offer them.

Main outcome measures

Use of secondary prevention, total mortality, and coronary event rates (coronary death or non-fatal myocardial infarction).

Main results

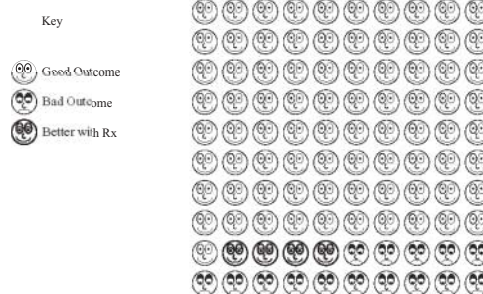
Analysis was by intention to treat. Patients in the intervention group maintained the same level of secondary prevention use (except for exercise) at 4 years. Increased use in the control group resulted in no differences between groups. Results were adjusted for age, general practice, and baseline secondary prevention; the reduced total mortality (relative risk reduction [RRR] 25%, 95% CI 2 to 42) (figure) and coronary event rates (RRR 24%, CI 0 to 42) seen in the intervention group during the first year were sustained.

Conclusion

Nurse led secondary prevention clinics maintained secondary prevention use after 4 years and the decreased mortality and coronary events seen in the first year remained at 4 years.

*See glossary.

†Campbell NC, Thain J, Deans HG, et al. *BMJ 1998; 316:1434-7.*



Nurse led secondary prevention clinics v usual care for people with pre-existing coronary artery disease: Mortality.

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COMMENTARY

The study by Murchie *et al* found lower death rates after 4 years in patients randomised to structured care delivered by nurses. Although the control group was receiving much the same treatment as the intervention group by the end of the study, the results after 1 year showed that the 2 groups differed in treatments received. Thus a causal pathway for a reduction in mortality is plausible. The finding of improved outcome has face validity.

A previous systematic review of trials of disease management pathways for CAD found that they improved the processes of care but failed to detect an effect on morbidity and mortality.¹ This finding was not surprising because most of the included studies were of short duration and small sample size. Efficacy studies showing reductions in mortality from drug interventions require much larger sample sizes. Even when the implementation studies were combined in a meta-analysis, the power was insufficient to show an effect on outcome. It is reassuring that with longer follow up the study by Murchie *et al* shows the expected reduction in mortality. As the authors point out, the study still had limited power. This probably accounts for the finding that the confidence intervals for a reduction in coronary events were wide and included 1.

What are the practical implications of these findings? They provide evidence for a common sense concept. When effective interventions exist, they should be offered to patients. To achieve this, organised delivery of care is better than disorganised care. Are nurse led clinics the way to go? The care pathway in this study included identification of eligible patients, systems for following them up, patient education and lifestyle advice, and protocol driven medical management. None of these is specific to nurse led clinics. However, a previous trial showed that clinics were more efficient in delivering a similar package than audit/feedback or recall to primary care doctors in delivering care to patients with heart disease.² In the context of British primary care, nurse led clinics are now the reference standard. The model appears to be generalisable to many other healthcare settings, particularly those where multidisciplinary teams deliver care. The onus is on practices or healthcare systems choosing other methods of delivering care to patients with cardiac disease to prove that they can do it as well.

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- 1 McAlister FA, Lawson FM, Teo KK, et al. Randomised trials of secondary prevention programmes in coronary heart disease: systematic review. *BMJ 2001;323:957-62.*
- 2 Moher M, Yudkin P, Wright L, et al. Cluster randomised controlled trial to compare three methods of promoting secondary prevention of coronary heart disease in primary care. *BMJ 2001;322:1338-42.*

Main results

Nurse led secondary prevention clinics v control in coronary artery disease‡

Outcomes at mean 4.7 years	Nurse led clinics	Control	Adjusted RRR (95% CI)§	NNT (CI)
Total mortality	15%	19%	25% (2 to 42)	22 (13 to 265)
Cardiovascular events	14%	18%	24% (0 to 42)	Borderline significance

†Abbreviations defined in glossary; RRR, NNT, and CI calculated from data in article.

§Adjusted for age, general practice, sex, and baseline secondary prevention.

|| Coronary death or non-fatal myocardial infarction.