

Coaching by non-drug prescribing health professionals reduced total cholesterol concentrations in coronary heart disease

Vale MJ, Jelinek MV, Best JD, *et al.* Coaching patients On Achieving Cardiovascular Health (COACH): a multicenter randomized trial in patients with coronary heart disease. *Arch Intern Med* 2003;**163**:2775–83.

Q In patients with coronary heart disease (CHD), does a 6 month programme of coaching by non-drug prescribing nurses and dietitians reduce total cholesterol (TC) concentrations?

METHODS

Design: randomised controlled trial (Coaching patients On Achieving Cardiovascular Health [COACH]).

Allocation: concealed.

Blinding: blinded (outcome assessors).

Follow up period: 6 months.

Setting: cardiology departments of 6 university teaching hospitals in Melbourne, Australia.

Patients: 792 patients (mean age 59 y, 77% men) who were admitted to hospital for coronary artery bypass graft surgery; percutaneous coronary intervention; acute myocardial infarction or unstable angina and discharged on medical therapy; or coronary angiography with planned elective revascularisation. Exclusion criteria: inaccessibility by telephone, inability to speak or read English or travel to hospital for follow up visits, no fasting blood sample taken within 24 hours of admission, participation in another lipid study, or too ill to be interviewed in hospital.

Intervention: COACH programme (n = 398) or usual care (n = 394). Coaches were 2 dietitians and 4 nurses who telephoned patients within 2 weeks of randomisation and another 4 times during follow up. Coaches encouraged patients to visit their family physicians to obtain measurements of their risk factors and negotiated a plan of action to achieve target lipid concentrations (TC <4.0 mmol/l) and reduce other coronary risk factors. Written reports of each coaching session were sent to patients after each call.

Outcomes: 6 month change in fasting serum TC concentrations from baseline. Secondary outcomes included high and low density lipoprotein cholesterol concentrations, blood pressure, body weight and body mass index (BMI), and dietary fat intake.

Patient follow up: 86% (intention to treat analysis).

MAIN RESULTS

Patients in the COACH group had greater decreases in TC concentrations than patients in the usual care group (table). The COACH programme also reduced low density lipoprotein cholesterol concentrations, weight, BMI, dietary fat intake, and anxiety more than usual care. Blood pressure increased in both groups but to a lesser extent in the COACH group (table).

CONCLUSION

In patients with coronary heart disease, telephone coaching by non-drug prescribing nurses and dietitians reduced total cholesterol concentrations and other coronary risk factors.

A modified version of this abstract appears in Evidence-Based Medicine.

Commentary

Research on the effectiveness of multicomponent disease management programmes for improving coronary risk profiles is slowly emerging.^{1,2} However, evidence regarding the effectiveness of individual components of these programmes, specifically non-prescribing nurse led interventions, is limited and conflicting.³ The trial by Vale *et al* rigorously examined the effectiveness of nurse or dietitian coaching on achieving cardiac risk factor targets, particularly serum TC concentrations.

Patients from 6 Australian teaching hospitals were contacted by health workers who had received training on the COACH programme. The programme assists patients to aggressively pursue improvements in cardiac risk factors. It reflects common principles of self care: processes are initiated by the individual or in collaboration with a healthcare professional, and involve active client participation in health related decisions and actions.⁴ The programme focuses on the development of self management skills beyond mere understanding of treatment targets to include proactive communication with physicians and development of action plans.

Nurses with or without prescribing authority could incorporate coaching strategies into their care and follow up patients with modifiable risks. Nurses have an important role in supporting and encouraging patients' self management of chronic illness, and the nature of nursing is well suited to coaching, a function that may enhance the effectiveness of more passive educational strategies.

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1 McAlister FA, Lawson FM, Teo KK, *et al.* *BMJ* 2001;**323**:957–62.

2 Rich MW. *J Card Fail* 1999;**5**:64–75.

3 Naylor MD, Broton D, Campbell R, *et al.* *JAMA* 1999;**281**:613–20.

4 Sidani S. *Can J Nurs Leadersh* 2003;**16**:63–5.

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Coaching in cardiovascular health v usual care for coronary heart disease*

Outcomes at 6 months	COACH	Usual care	Difference in mean change (95% CI)
Total cholesterol (mmol/l)	-0.54	-0.18	0.36 (0.20 to 0.52)
BMI (kg/m ²)	-0.5	-0.1	0.4 (0.1 to 0.5)
Total fat (g)	-15.3	-10.5	4.8 (0.3 to 9.3)
Systolic BP (mm Hg)	+0.1	+4.5	4.4 (1.8 to 7.0)
Diastolic BP (mm Hg)	+0.4	+2.8	2.4 (0.7 to 4.0)

*BMI = body mass index; BP = blood pressure. Values are mean change from baseline. CIs provided by author.