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.

Clinical impact ratings GP/FP/Primary care ★★★★★☆ IM/Ambulatory care ★★★★★☆ Cardiology ★★★★★☆

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, Victoria, 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: no telephone access, inability to speak or read English or travel to hospital for follow up visits, no fasting blood sample taken ≤24 hours of hospital admission, participation in another lipid study, or illness too severe to be interviewed in hospital.

Intervention: COACH programme (n=398) or usual care (n=394). Coaches were 2 dietitians and 4 nurses who contacted patients by telephone within 2 weeks of randomisation and a further 4 times during follow up. Coaches encouraged patients to visit their family physicians to obtain measurements of their risk factors, negotiate 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 phone call.

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

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

*See glossary.

MAIN RESULTS

Patients in the COACH group had greater decreases in TC than usual care group patients (table). The COACH programme also reduced LDL 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).

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CONCLUSION

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

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

Coaching in cardiovascular health v usual care for coronary heart disease at 6 months*

Outcomes	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.

Commentary

The study by Vale *et al* presents an interesting approach to patient lifestyle change for improved cardiovascular health in patients with recent coronary events. In day to day clinical practice, the physician is often tasked with promoting improved health related habits in patients with CHD, but only at the end of busy encounters that include appropriate history and examination, treatment planning, and refilling prescriptions. Now, since the REVERSAL Trial,¹ we are often attempting to decrease LDL cholesterol concentrations to the 60 mg/dl (1.55 mmol/l) range, usually by using higher doses of statins.

The time spent by most physicians on lifestyle counselling is limited. By taking these issues outside of the medical visit in this study, the authors were able to tailor an individual programme and spend more time with patients on these important issues. The goals were realistic and the results impressive. As important as the lower LDL concentrations were the improvements in the secondary endpoints of exercise, BMI, fat intake, and perceived quality of life. Realistically, the COACH programme empowered patients to ask their physicians for appropriate medications, hence patient compliance increased, as did the use of statins, particularly atorvastatin, in study participants.

The COACH approach is a useful addition to traditional cardiac rehabilitation programmes and should be of particular interest to the payer community. Although not shown in this study, the improved clinical and behavioural outcomes should translate into reduced coronary events, hospital admissions, and cost of care.

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1 Nissen SE, Tuzcu EM, Schoenhagen P, *et al.* Effect of intensive compared with moderate lipid-lowering therapy on progression of coronary atherosclerosis: a randomized controlled trial. *JAMA* 2004;291:1071–80.