Quality improvement

Case method learning for general practitioners reduces cholesterol concentrations in coronary artery disease

Kiessling A, Henriksson P. Efficacy of case method learning in general practice for secondary prevention in patients with coronary artery disease: randomised controlled study. *BMJ* 2002;325:877–80.

QUESTION: In patients with coronary artery disease, is case method learning (CML) for general practitioners (GPs) based on clinical practice guidelines (CPGs) more effective at reducing cholesterol concentrations than conventional introduction of CPGs for secondary prevention of coronary artery disease?

Design

Cluster randomised (allocation concealed*), blinded (GPs, patients, data collectors, and data analysts/statisticians),* controlled trial with 2 years of follow up.

Setting

Södertälje, Stockholm County, Sweden.

Patients

88 patients ≤ 70 years of age (mean age 62 y, 85% men) with an objective diagnosis of coronary artery disease. Exclusion criteria included other life threatening diseases and moving out of the catchment area. Follow up was 89%.

Intervention

The 14 primary healthcare centres in Södertälje were divided into 2 matched and balanced groups ("clusters") taking into account geographic location, physician numbers, physician relationships, patient volume, and the socioeconomic status of the patient populations. Subsequently, 1 group ("cluster") each was allocated to CML for GPs (26 GPs, n=43) or CPGs only (28 GPs, n=45). Guidelines on secondary prevention of coronary artery disease were presented and distributed at a local lecture to all GPs. GPs allocated to CML attended 3–4 CML seminars at their primary healthcare centres during a 2 year period.

Main outcome measures

Change from baseline in cholesterol concentrations at 2 years.

Main results

Analysis was by intention to treat. At 2 years, reduction in low density lipoprotein cholesterol and total cholesterol concentrations was greater in the CML for GPs group than in the CPG group (table).

Conclusion

In patients with coronary artery disease, case method learning for general practitioners reduced cholesterol concentrations more than conventional introduction of practice guidelines for secondary prevention of coronary artery disease did.

*See glossary.

Case method learning for general practitioners (CML) v conventional introduction of clinical practice guidelines (CPG) for secondary prevention of coronary artery disease at 2 years†

Outcomes	Mean concentration at 2 yrs (baseline)		Mean difference in change from baseline (95% CI)
	CML	CPG	
LDL cholesterol (mmol/l)	3.7 (4.2)	4.1 (4.1)	–0.5 (–0.1 to –0.9)‡
Total cholesterol (mmol/l)	5.8 (6.3)	6.3 (6.2)	–0.5 (–0.1 to –0.9)‡§

†LDL = low density lipoprotein. CI defined in glossary.

‡Significant differences favour CML.

§Round off errors result in a difference of –0.6 mmol/l.

COMMENTARY

CPGs have the potential to improve patient care. Implementation, however, is a major challenge. The CML described in this study by Kiessling and Henriksson showed not only improved knowledge of the guideline among physicians, but a measurable improvement in a patient oriented outcome. Case based learning has been shown to be a superior learning modality in other settings as well.¹ Which particular aspects of the CML were responsible for the improvement in knowledge and outcomes is uncertain. For example, it is possible that the effectiveness of the CML could be explained simply by having a locally well known clinical champion who could give credibility to the guidelines such that practitioners were more likely to trust the content. CML may also take the CPGs a step further in modelling the application of the content in more real life circumstances. A caveat in interpreting this study, however, is the possibility that the method of cluster randomisation was insufficient to eliminate confounding, because there were only 2 clusters.

Many different ways of implementing guidelines have been shown to be effective.² Didactic lectures and mailed unsolicited materials were weak interventions. Moderately effective methods were audit/feedback directed at particular providers and administered by peers or opinion leaders (profiling). The strongest interventions were reminders, academic detailing, and multimodality interventions. Whether coupling the case method to any of these other methods, as part of a multimodality intervention, provides added value remains to be determined, but this method certainly has face validity as an effective method that could be applied in any setting, for any CPG, and for any type of medical provider.

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- 1 Ury WA, Rahn M, Tolentino V, et al. Can a pain management and palliative care curriculum improve the opioid prescribing practices of medical residents? *J Gen Intern Med* 2002;17:625–31.
- 2 Davis DA, Taylor-Vaisey A. Translating guidelines into practice. A systematic review of theoretic concepts, practical experience and research evidence in the adoption of clinical practice guidelines. *CMAJ* 1997;157:408–16.