PARTICIPATORY LEARNING: A SWEDISH PERSPECTIVE

Anna Kiessling

113

Heart 2004;90:113–116

During recent years, numerous recommendations and practice guidelines on the subject of secondary prevention of coronary heart disease have been produced throughout Europe. Congresses, educational meetings, and lectures have been held with the purpose of facilitating the implementation of evidence based clinical practice. Furthermore, printed educational materials including reviews and clinical guidelines have been provided to all physicians concerned. Despite all this effort, the gap is still wide between what is achieved in clinical practice, and what could be achieved according to scientific evidence based goals for secondary prevention in patients with coronary heart disease.¹ The reason for this is probably that there are several barriers and complexities between the guidelines and a behavioural change in real clinical practice.^{2–3}

The means of changing this lies in the choice of educational method, rather than producing more scientific evidence. A recent comment from a European perspective on guidelines and global risk states that “The real task facing cardiovascular medicine is implementation of these recommendations into clinical practice”.⁴

Thus, the question is: How to perform this? Which physicians are the key target population? Cardiologists, internists, generalists and, or general practitioners? Perhaps the patients? Which implementation methods should be used? Are these methods evidence based? How should the results be evaluated?

PARTICIPATION BY CASE METHOD LEARNING

A recent Swedish study using the case method learning technique—that is, a participatory learning method—holds promise and shows significant results in secondary prevention of patients with coronary heart disease, even at the patient level in primary care.⁵

The reason why we focused on education for general practitioners, and not for specialists, is that the main cohort of patients with stable coronary heart disease, at least in Sweden, is taken care of by generalists. However, coronary heart disease patients represent only a minority of the patients treated at those generalist practices, as opposed to being a majority at a specialist clinic. Generalists are therefore faced with the difficult task of ensuring that they are updated on scientific evidence related to all the different diseases of their patients.^{6–7} Furthermore, the psychology of a decision has been shown to be influenced by its framing.⁸ Clinical decision making is not an entirely logical and deductive process; experience, context, and familiarity with the subject and/or the patient are other important components.⁹ The framing of the decision in a well structured clinical trial differs a lot from the unstructured framing of the decisions in clinical practice.¹⁰ Especially in primary care decisions can have complex medical and psychosocial dimensions. Thus, the design of an educational method must be chosen with awareness of the multiple complexities in the daily work of a general practitioner. The method has to provide skills in a broad perspective. This includes training the skills regarding the recognition of a patient's problem, the formulation of a structured question, the capability to search and critically scrutinise relevant patient oriented evidence, and to integrate this evidence into the frame of the particular decision.¹¹ The key to successful implementation of new evidence, especially in primary care, would therefore be to use an educational method focusing on how and when to use which evidence in the local context of the physicians, and to facilitate the process of local consensus building.^{3–6}

In the Swedish study we selected an educational method including participation, interaction, recurrence, and a locally well known facilitator. The design of this participatory learning method was based on the case method learning technique.^{12–13} This method, using participatory learning in recurrent seminars, was then compared to the traditional way to implement practice guidelines on secondary prevention in coronary heart disease. The seminars begin with the presentation of a case. A case is a description of a defined critical situation requiring a clinical decision from a defined general practitioner. It could be an authentic patient case, or a defined critical situation,

Correspondence to:
Anna Kiessling, MD, Centre
for Clinical Education, House
40, Floor 6, Karolinska
Institute, Danderyd University
Hospital, SE-182 88
Stockholm, Sweden;
angust@ki.se

which addresses aspects of secondary prevention in daily clinical practice. A locally well known cardiologist together with 4–7 general practitioners participated at each seminar. The interactive dialogue starts with the evidence, followed by a discussion on the context—for example, working conditions, family situation, life style, economical constraints, and social and cultural settings of both the patient and the physician. However, the most important components of the decision process are believed to be of an abstract nature and include values, attitudes, beliefs, emotions, motivation, knowledge, ethical aspects, and communicative capability of both the patient and the physician. Important components affecting the decision, and the final treatment result, are also the physician's sense of professional coherence, and the patient's sense of coherence as a patient.¹⁴ Subsequently, urgency and timing—that is, when—and practical aspects—that is, how—are discussed and analysed. The discussion will end in a decision. Figure 1 shows the schematic cause–effect diagram from the Swedish study illustrating the concrete and abstract parts of the clinical decision process.⁵

Educational intervention studies with patient related end points are scarce.¹⁵ The reasons for this fact are manifold, spanning from potential problems with confounding factors to the lack of reliable objective outcome measures. Evaluations of educational methods may show an increase in intermediate end points, such as perceived learning and positive reactions. In our study the effect of the educational methods was also evaluated at the patient level. The patients treated by general practitioners participating in the case method learning sessions were found to have significantly reduced lipid levels, as compared to the patients treated by general practitioners in the control group. This participatory learning method was also effective as assessed by time spent at the seminars. At each primary health care centre a one hour seminar was held three to four times during a two year period.

TOWARDS EVIDENCE BASED CONTINUOUS MEDICAL EDUCATION METHODS IN CARDIOVASCULAR PATIENT CARE

The main aim of continuous medical education is to improve professional practice.

Coronary heart disease is a major cause of morbidity and mortality. The impact on the health care system is thus significant. During the last decade, starting with the results from the 4S-study,¹⁶ firm scientific evidence concerning the efficacy of lipid lowering in patients with coronary heart disease has repeatedly been presented.

Evidence based medicine in daily clinical practice: key problems

What?

- ▶ Which is the appropriate evidence in this situation?
- ▶ Which evidence is patient oriented evidence that matters?

How?

- ▶ How to improve professionals' decision analysis, synthesis, communication, process logistics, timing, and prioritising in daily clinical practice?
- ▶ How to integrate those skills with skills to continuously manage to identify new patient oriented scientific evidence that matters?

The discrepancy between the amount of time and money spent on clinical pharmacological trials in selected groups of patients, and the resources that are spent on collaborative population based cohort trials (interventions including both clinical treatment and process), is wide. The same applies to the numerous educational meetings, congresses, and plethora of written journals and textbooks presented to physicians,¹⁷ as compared to research evaluating effective methods to train professionals in assessing the clinical usefulness of this information in daily clinical decision making.

A recent Cochrane Collaboration evaluation states: "Didactic sessions alone are unlikely to change professional practice. On the contrary interactive workshops are at least in some cases shown to alter practice."¹⁸ Important ingredients in the most effective educational methods are shown to be participation, interaction, recurrence, and facilitators, rather than lecturers.^{18–21} In spite of this, the most common continuing medical education activities aiming to improve professional practice in cardiovascular disease are still lectures, meetings, and printed educational materials. One reason for the lack of impact on clinical practice of attending lectures and reading printed materials is the absence of active participation and interaction.

A recent paper concerning the need for change in undergraduate medical training states: "The focus of health care has shifted from episodic care of individuals in hospitals to promotion of health in the community, and from paternalism and anecdotal care to negotiated management based on evidence of effectiveness and safety."²² This paradigm shift should of course have implications also for the delivery of continuous medical education methods.

Figure 1 Cause–effect diagram illustrating the clinical decision making process integrating scientific evidence (what) with the concrete and abstract components of clinical practice.

Figure 2 Knowledge building and behavioural change by participation in research, organisational development processes, and interactive education.

To approach the goal of continuous medical education—improvement in health care delivery—the use of effective evidence based educational methods are necessary. Educational methods have to evolve from didactic lectures to active educational methods that have been shown to have the potential for changing professional practice, such as participatory learning by the use of a case method learning technique, for example.

To promote cardiovascular health in the community, it would probably be wise for the European and national societies to focus on all of the following areas of continuous learning, and also to evaluate the results continuously.

Self directed learning

An effective continual professional development of physicians necessarily includes a self directed curriculum, with learning, reflection, and change of behaviour. Physicians today, at least in Sweden, are often short of time for both self directed learning and reflection.

Participatory learning

Continuous professional development also includes learning from others. The word participation stands for “the action or state of taking part with others in an activity”.²³ The fundamental basis of all participatory learning methods is that “learners” are active participants instead of passive listeners or readers. There are different means of participation in order to improve professional practice. A schematic illustration of participatory learning is presented in fig 2.

- ▶ **Participation in research:** Participation in collaborative population based cohort trials, incorporating the context of clinical practice—for example, the GISSI-trials.²⁴
- ▶ **Participation in organisational development:** To take part in work with national quality assurance registers or reviews—for example, the Register of Information and Knowledge about Swedish Heart Intensive care Admissions (RIKS-HIA). This register gives opportunities for the participants to learn from the feedback of results regarding their own actual clinical practice in the context of national results. Information from this register has also stimulated several cohort studies on actual clinical practice in Sweden.²⁵
- ▶ **Participation in interactive education:** To take part together with others in recurrent participatory seminars, workshops or other continual medical education activities. Two

Participatory learning: key points

- ▶ Passive listening during didactic sessions is unlikely to change behaviour. By contrast, active participation during interactive sessions seems to influence subsequent practice
- ▶ Participatory learning methods, with focus on the complex clinical decision process, are well suited to integrate the knowledge of relevant scientific evidence, *what*, with the appropriate *how* and *when* in the local context
- ▶ Knowledge building and behavioural change can take place by participation in collaborative research, organisational development processes, and interactive education activities

115

well established examples are training in cardiac pulmonary resuscitation (CPR) and advanced cardiac life support (ACLS). Methods focusing on how to merge the scientific evidence into the context and content of the daily clinical decision process of the participants can also be performed, as exemplified by using the case method learning technique.⁵ These intellectual dialogues give an opportunity to reflect on clinical performance together with other professionals who have different perspectives and experiences. The tutor acts as an opinion leader and facilitator and not as a lecturer.

CONCLUSIONS

The art of medicine requires multidimensional capabilities including knowledge, skills, ethics, communication, curiosity, and empathy. New scientific evidence and guidelines should be mandatory prerequisites, but they lack sufficient power to alter professional practice. Complementary evidence based educational/implementation techniques are needed. To make use of differences between people, and frictions between old and new knowledge, as well as to include the local context, are all powerful aids aiming at changing of clinical practice. Furthermore, the demand on the clinical guidelines to be evidence based should surely be extended to the methods of implementation and continuous medical education. Participatory learning methods—including intellectual interaction between professionals—aiming at integration of scientific evidence, within the context and content of the concrete clinical decision process frame, would in my opinion be an effective part of future continuous medical education.

In addition, it increases the joy of learning!

REFERENCES

- 1 **EUROASPIRE I and II Group.** Clinical reality of coronary prevention guidelines: a comparison of EUROASPIRE I and II in nine countries. EUROASPIRE I and II Group. European Action on Secondary Prevention by Intervention to Reduce Events. *Lancet* 2001;**357**:995–1001.
- 2 **Cabana MD, Rand CS, Powe NR, et al.** Why don't physicians follow clinical practice guidelines? A framework for improvement. *JAMA* 1999;**282**:1458–65.
- 3 **Fuat A, Hungin AP, Murphy JJ.** Barriers to accurate diagnosis and effective management of heart failure in primary care: qualitative study. *BMJ* 2003;**326**:196.
- ▶ **A qualitative study which identifies barriers to be overcome between primary and secondary care, in order to shape the practice and decision making processes in primary care.**
- 4 **Wood D.** Guidelines and global risk: a European perspective. *Eur Heart J* 2002;**4**(suppl F):F12–18.
- 5 **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.
- ▶ **Significant effects at patient level are shown in this educational randomised controlled trial. The pedagogical method includes participation, interaction, recurrence, and a locally well known facilitator.**

- 6 Fairhurst K, Huby G. From trial data to practical knowledge: qualitative study of how general practitioners have accessed and used evidence about statin drugs in their management of hypercholesterolaemia. *BMJ* 1998;**317**:1130-4.
- 7 Kaufman DR, Kushniruk AW, Yale JF, *et al*. Conceptual knowledge and decision strategies in relation to hypercholesterolemia and coronary heart disease. *Int J Med Inf* 1999;**55**:159-77.
- 8 Tversky A, Kahneman D. The framing of decisions and the psychology of choice. *Science* 1981;**211**:453-8.
- ▶ A landmark presentation of the great impact of the framing of a decision both for the evaluation of compound outcomes and for the psychology of choice.
- 9 Hunter K. "Don't think zebras": uncertainty, interpretation, and the place of paradox in clinical education. *Theor Med* 1996;**17**:225-41.
- 10 Dowie J. The research-practice gap and the role of decision analysis in closing it. *Health Care Anal* 1996;**4**:5-18.
- ▶ The author states that the mismatch between judgement and decision processes of practitioners and researchers are one important reason for the research-practice gap.
- 11 Evidence-Based Medicine Working Group. Evidence-based medicine. A new approach to teaching the practice of medicine. *JAMA* 1992;**268**:2420-5.
- 12 Leenders MR, Mauffette-Leenders LA, Erskine JA. *Writing cases*, 4th ed. London, Ontario: Research and Publications Division School of Business Administration University of Western Ontario, 2001.
- 13 Mauffette-Leenders LA, Erskine JA, Leenders MR, Richard Ivey School of Business. *Learning with cases*. London, Ontario: Richard Ivey School of Business, University of Western Ontario, 1997.
- ▶ A comprehensive and practical book, which describes the case method learning technique.
- 14 Antonovsky A. *Health, stress, and coping*. San Francisco: Jossey-Bass, 1979.
- 15 Hutchinson L. Evaluating and researching the effectiveness of educational interventions. *BMJ* 1999;**318**:1267-9.
- ▶ An excellent review regarding evaluation of educational research. The article describes the complexity of the design and evaluation subject, and the need for evidence base and meaningful outcome measures.
- 16 Scandinavian Simvastatin Survival Study Investigators. Randomised trial of cholesterol lowering in 4444 patients with coronary heart disease: the Scandinavian simvastatin survival study (4S). *Lancet* 1994;**344**:1383-9.
- 17 Slawson DC, Shaughnessy AF, Bennett JH. Becoming a medical information master: feeling good about not knowing everything. *J Fam Pract* 1994;**38**:505-13.
- 18 O'Brien T, Freemantle N, Oxman AD, *et al*. Continuing education meetings and workshops: effects on professional practice and health care outcomes. *Cochrane Database Systematic Revue* 2001;**(2)**:CD003030.
- ▶ An excellent overview of the evidence base for different continuous medical education methods.
- 19 Davis D, O'Brien MA, Freemantle N, *et al*. Impact of formal continuing medical education: do conferences, workshops, rounds, and other traditional continuing education activities change physician behavior or health care outcomes? *JAMA* 1999;**282**:867-74.
- 20 Bero LA, Grilli R, Grimshaw JM, *et al*. Closing the gap between research and practice: an overview of systematic reviews of interventions to promote the implementation of research findings. The Cochrane Effective Practice and Organization of Care Review Group. *BMJ* 1998;**317**:465-8.
- 21 Lomas J, Enkin M, Anderson GM, *et al*. Opinion leaders vs audit and feedback to implement practice guidelines. Delivery after previous cesarean section. *JAMA* 1991;**265**:2202-7.
- 22 Jones R, Higgs R, de Angelis C, *et al*. Changing face of medical curricula. *Lancet* 2001;**357**:699-703.
- 23 Gove PB, Merriam-Webster Inc. *Webster's third new international dictionary of the English language, unabridged: a Merriam Webster*. Springfield, Massachusetts: Merriam-Webster, 1986.
- 24 GISSI-2 Investigators. GISSI-2: a factorial randomised trial of alteplase versus streptokinase and heparin versus no heparin among 12,490 patients with acute myocardial infarction. Gruppo Italiano per lo studio della sopravvivenza nell'infarto miocardico. *Lancet* 1990;**336**:65-71.
- 25 Stenestrand U, Wallentin L. Early revascularisation and 1-year survival in 14-day survivors of acute myocardial infarction: a prospective cohort study. *Lancet* 2002;**359**:1805-11.