

their “preferences” while experiencing severe stress and pain, and (especially in developing countries) the social gap between patient and provider curbs their decision making power. The article by Béhague and colleagues adds another interesting element to the discussion on choice: in their study, patients preferred caesarean section not because of the advantages of such a delivery method but as an attempt to avoid the perceived poorer quality labour care, usually the norm at public hospitals with inadequate staff and budgets. In other words, the rationale for “choosing” a caesarean section was not derived from a positive attitude based on accurate information about the risks and benefits of the procedure, but to avoid negative “side effects.”

The almost universal use of episiotomy worldwide provides a good example of the difficulties involved in changing practices entrenched in routine care, even when the procedure produces no immediate benefit and there is no pressure from users or the healthcare system towards its use. Also in this issue Althabe et al confirm that episiotomy is routinely performed at hospitals across Latin America (p 945)³; The median rate is 92.3%. High rates prevail despite conclusive evidence about the short term benefits of a restrictive episiotomy policy and its reduced costs^{9 10} and can be attributed only to providers’ lack of updated medical evidence and to barriers to changing practices.

To achieve the goal of providing women and families with the opportunity to become active players in their own health care, changes will have to occur. Firstly, technical quality and interaction between patients and professionals will have to improve; this includes explicitly offering women the chance to make informed health related decisions using effective instruments which in itself is a challenge.¹¹ To that end, women need to be empowered as both patients and citizens. Secondly, health systems need modifying, especially the availability of resources in public institutions. Thirdly, health providers need to identify ways to make updated evidence available to practitioners in a user friendly format such as the World Health Organi-

zation’s reproductive health library.¹² Finally, evaluating programmes to introduce positive change rigorously, and encouraging the publication of research findings from developing countries, even when the proposed strategies are disappointing, should be essential components of a research agenda aimed at improving women’s condition and health.

Making substantial progress towards improving the quality of maternal health care is urgent: while we continue to discuss unnecessary surgical interventions, millions of women that require these procedures do not have access to them and risk their own and their children’s lives.

Ana Langer *regional director*

Population Council, Latin America and Caribbean Office, Escondida 110, Mexico City 04000, Mexico
(alanger@popcouncil.org.mx)

Jos Villar *coordinator, maternal health research*

Department of Reproductive Health and Research, World Health Organization, 1211 Geneva 27, Switzerland

- 1 Villar J, Carroli G, Gulmezoglu M. The gap between evidence and practice in maternal healthcare. *Int J Obstet Gynecol* 2001;75:S47-54.
- 2 Béhague DP, Victora CG, Barros FC. Consumer demand for caesarean sections in Brazil: population based cohort study linking ethnographic and epidemiological methods. *BMJ* 2002;324:942-5.
- 3 Althabe F, Belizán J, Bergel E. Episiotomy rates in primiparous women in Latin America: hospital based descriptive study. *BMJ* 2002;324:945-6.
- 4 Al-Mufti R, McCarthy A, Fisk N. Obstetricians personal choice and mode of delivery. *Lancet* 1996;347:544.
- 5 Castro A. 1999. *Cesarean sections in Mexico: a qualitative study with women and health care professionals*. Mexico City, Population Council, 1999.
- 6 Murray SF, Pradenas FS. Health sector reform and rise of caesarean birth in Chile. *Lancet* 1997;349:64.
- 7 Hopkins K. Are Brazilian women really choosing to deliver by cesarean? *Soc Sci Med* 2000;51:725-40.
- 8 Potter J, Berquó E, Perpétuo IHO, Leal OF, Hopkins K, Souza MR, et al. Unwanted caesarean sections among public and private patients in Brazil: prospective study. *BMJ* 2001;323:1155-8.
- 9 Carroli G, Belizán J. Episiotomy for vaginal birth. *Cochrane Database Syst Rev*. 2000;(2):CD000081.
- 10 Borghi J, Fox-Rushby J, Bergel E, Abalos E, Hutton G, Carroli G. The cost-effectiveness of routine versus restrictive episiotomy in Argentina. *Am J Obstet Gynecol* 2002;186:221-8.
- 11 O’Cathain A, Walters SJ, Nicholl JP, Thomas KJ, Kirkham M. Use of evidence based leaflets to promote informed choice in maternity care: randomised controlled trial in everyday practice. *BMJ* 2002 324:643.
- 12 *The WHO reproductive health library 2002*. Geneva: WHO, 2002.

Doctors’ knowledge about evidence based medicine terminology

General practitioners may not know the jargon, but could use the knowledge

Primary care p 950

In a report published in this issue (p 950) Australian general practitioners rated themselves and were then tested on their evidence based medicine skills.¹ The results are not encouraging. Fifty general practitioners in Australia rated their understanding of seven common terms from evidence based medicine from “It would not be helpful for me to understand this term” to “I understand this and could explain it to others.” On average, only 22% said they understood each term and could explain it to others. Worse still, in the subsequent structured interview only one general practitioner could provide a fully satisfactory explanation of any of the terms, and many of the explanations revealed considerable misunderstanding. The authors of the study argue that general practitioners need to understand these

terms to practise evidence based medicine and that there is little good research on how this can be done. For those working in evidence based medicine these results make depressing reading.

There are some problems interpreting this study. The authors attempt to validate self rating of evidence based medicine skills, but what they actually test is knowledge. The authors recognise that people who cannot demonstrate knowledge in a potentially intimidating academic environment may be more successful at using knowledge in real life. The ability to explain a term may not be the kind of knowledge required of general practitioners. The criteria for fully understanding each term were also quite challenging. It is possible to explain a term without providing all the stated crite-

BMJ 2002;324:929-30

ria (for example the criteria for number needed to treat includes mentioning that it is the reciprocal of the absolute risk reduction). Unfortunately, even if the results from those general practitioners whose answers were partially correct are combined with the fully correct answers, we are still left with poor results. Only four of 74 claims of understanding were confirmed or partially confirmed in the subsequent interview. Many, whilst claiming understanding, refused to explain the terms, which may or may not indicate ignorance. We do not know how the sample was selected or how many general practitioners had had formal training in critical appraisal. Can we apply the results from this group of Australian general practitioners to clinicians around the world? Australia is seen as a centre for evidence based medicine and one would not expect much better results elsewhere.²

The results cast doubt on the use of self assessed knowledge as a proxy for actual skills. This supports earlier research in the United Kingdom that examined knowledge of six evidence based concepts, two of which were used in the Australian study (relative risk and absolute risk).³ Khan et al studied 55 healthcare professionals including some hospital doctors. They found poor correlation between participants' self evaluated knowledge and multiple choice test scores.

These studies support the view that evidence based medicine skills are not well developed in general practitioners around the world. They do not tell us about general practitioners' demand for evidence and certainly do not undermine the case for providing it. In a survey of English general practitioners most felt that their role is in the application of evidence based conclusions.⁴ Only a small minority felt that their time was best used learning the skills of evidence based medicine. A recent trend has been to distinguish users of evidence from searchers and appraisers of evidence.⁵ The assumptions are that the skills required of users of evidence are primarily those of relating the evidence to particular patients and qualitative explanation of the risks and benefits of treatment options, rather than mastery of clinical epidemiology. However,

even users of evidence may need to communicate with patients who have done their own search, and who need to weigh conflicting evidence. Although there is disagreement on the best method of teaching critical appraisal, there is evidence that a variety of methods can improve knowledge.^{6,7} What we do not know is which skills of users of evidence are necessary to improve consultations or patient outcomes.

The challenge for those working in evidence based medicine is to provide summaries of the evidence in a variety of formats that reflect the range of skills of users of evidence, using innovative methods of presentation. These should be arranged hierarchically so that those with interest and skills can drill down to find detail. This transparency is the best safeguard to ensure against bias in pre-appraised summaries. More and better training may not be amiss either.

James D Woodcock *quality assurance editor*
 Sarah Greenley *information specialist*
 Stuart Barton *editor*

Clinical Evidence, BMJ Publishing Group, London WC1H 9JR

JDW, SG, and SB work on *Clinical Evidence*, a compendium of evidence that includes results presented using many of the terms studied by Young et al.

- 1 Young JM, Glasziou P, Ward JE. General practitioners' self ratings of skills in evidence based medicine: validation study. *BMJ* 2002;324:950-1.
- 2 Wooldrige M. Australia first in world to adopt evidence based medicine. www.health.gov.au/archive/mediare1/1998/MN7798.htm (accessed 6 Nov 01).
- 3 Khan KS, Awonuga AO, Dwarakanath LS, Taylor R. Assessment in evidence-based medicine workshops: loose connection between perception of knowledge and its objective assessment. *Medical Teacher* 2001;23:92-4.
- 4 McColl A, Smith H, White P, Field J. General practitioners' perceptions of the route to evidence based medicine: a questionnaire survey. *BMJ* 1998;316:361-5.
- 5 Guyatt GH, Meade MO, Jaeschke RZ, Cook DJ, Haynes RB. Practitioners of evidence based care. *BMJ* 2000;320:954-5.
- 6 Hyde C, Parkes J, Deeks J, Milne R. Systematic review of effectiveness of teaching critical appraisal. ICRF/NHS Centre for Statistics in Medicine, 2000 (UK National R&D Programme Project reference 12-8). www.bham.ac.uk/arif/sysrevs/teachcritapp.pdf (accessed 6 Nov 01).
- 7 Smith CA, Ganschow PS, Reilly BM, Evans AT, McNutt RA, Osei A, et al. Teaching residents evidence-based medicine skills: a controlled trial of effectiveness and assessment of durability. *J Gen Intern Med* 2000;15:710-5.

Using drugs safely

Undergraduates must be proficient in basic prescribing

The recent Audit Commission report *A Spoonful of Sugar* was grim reading.¹ The report suggested that nearly 1100 people died last year in England and Wales as a result of medication errors or adverse reactions to medicines and that the number had increased fivefold in just 10 years. This alarming increase may be an overestimate inflated by changes in defining and reporting causes of death and cannot all be attributed to a true deterioration in prescribing. However, studies elsewhere also hint at high rates,^{2,3} although the definitions and data have been questioned.³ The Audit Commission failed to distinguish clearly between medication errors, inevitable adverse reactions, and potentially preventable adverse reactions. Since strategies for minimising each are different, we need data that tell us where problems lie.

There are several reasons why drug errors might have risen (see box). In addition, human error is most likely when inexperienced and overworked staff, in a stressful environment, struggle with unfamiliar problems, competing tasks, and incompatible goals—which precisely characterises junior doctors in hospitals.⁴ Senior doctors in primary and secondary care are not excluded from such problems either.

Whatever their cause and precise frequency, medication errors in primary and secondary care lead to great personal misery and injury, diminish public confidence, and are expensive and wasteful for the National Health Service.⁵ The Audit Commission, in part reflecting the bias of its advisory panel, sees the solution in clinical pharmacy and new information systems. The report gives no information on how effective such solu-

BMJ 2002;324:930-1