Evidence-based practice

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INTRODUCTION

The current expectation of the maternity services, along with all other health and social care, is the provision of high-quality, clinically effective and client-centred care (Department of Health 1993, 1997, 1998, 2004a, NHS Executive 2000). Evidence-based practice (EBP) is fundamental to this, being embedded within clinical governance (NHS Executive 1999). It is therefore not surprising that all midwives are required to base their practice on the best available evidence (Nursing and Midwifery Council 2004). This means that all midwives must understand what EBP is and is not, and how it informs the practice of midwifery. This chapter will explore the development and nature of EBP and consider each of the key elements of the EBP process in some detail. The strengths and weaknesses of EBP will be explored, highlighting some of the issues surrounding EBP and its widespread implementation.

ORIGINS

‘Evidence-based medicine’ (EBM) was coined and defined by Sackett et al in 1996 as:

The conscientious, explicit and judicious use of the current best evidence in making decisions about the care of individual patients. (Sackett et al 1996, p. 169)

This became evidence-based practice, as the principles and process were adopted by many disciplines in health and social care. This suggests EBP is a modern concept, but this could be disputed, as although the phrase is only a decade old, EBP evolved over many years. As research, methods of data collection including audit and communication technologies increased, the volume of information available on some topics made it difficult for practitioners to access and assimilate. One management strategy to deal with this was to bring the information together by topic and make it readily available. In the early 1970s, Archie Cochrane recognized the need to collate research data from randomized controlled trials (RCTs), critique it and conclude what was effective care, so that limited resources could be used wisely (Cochrane 1972 cited in Reynolds 2000). This led to the systematic review. The work of Iain Chalmers and like-minded colleagues led the way in healthcare, providing professionals within the maternity services with a register of RCTs and a database of what care options were effective, not effective, or of unknown value based on systematic reviews of RCTs on each topic (Chalmers et al 1989). The publication of these two volumes provided an accessible and essential reference text. Technological advances in worldwide communication, the internet, meant this was soon followed by quarterly updated, online resources known as the Cochrane Library, now covering most aspects of healthcare (www.thecochranelibrary.com).
Around the same time the educational approach, ‘problem-based learning’ – also called enquiry-based learning – was introduced into the curriculum of health professionals. First described by McMaster University in Canada (Evidence Based Medicine Working Group 1992), although Sackett et al (2000) suggest earlier examples, it enables students to be active and lifelong learners. Through facilitation students identify for themselves what they need to know in order to provide high-quality care, and develop the skills to access knowledge, appraise it, and make decisions based on the conclusions drawn, ultimately developing the competencies to practise (Cleverley 2003, Price 2003).

Trinder (2000) suggests that the development of EBP is more complex, being interwoven with the complex social fabric of the era in which it was born. At a time when most people in the developed world can expect a long and high-quality life, it could seem surprising that health is such a concern to individuals, governments and society in general. The greater knowledge base of the populace, their health and wealth, has contributed to a consumer-based society, where the expectation is of choice and control, where risk is quantified and controlled, and health professionals are questioned and challenged to justify every action in terms of its basis in science, effectiveness and efficiency (Trinder 2000). Thus the philosophy of EBP meets a deep need in professionals and society, alike. This may be the reason why EBP has been so widely and swiftly adopted in all spheres of healthcare, and many other domains, such as education, management and social work (Trinder 2000).

THE PURPOSE

The aim of EBP is to do the right thing, at the right time, for the right person, in other words ensure quality care for the individual client. This is achieved by evaluating ideas, practices and previous events and applying the learning achieved to future practice. An illustration of this is the confidential enquiry into maternal deaths in the UK (Confidential Enquiry into Maternal and Child Health 2004). This report highlighted how maternal mortality has decreased over the past 50 years, and suggested that some of this improvement could be attributed to changes in practice as a result of previous reports. This illustrates the key principle of EBP: the evaluation of what is known and done, and using that to decide what should influence what is done next.

Gabby and le May (2004) explored how professionals used formal evidence sources such as research, and describe a pyramid with four levels of EBP. The foundation layer is described as a social movement, but could be considered as representing the underpinning philosophy on which everything is based. The second layer refers to national and local EBP policies and/or guidelines. This is the EBP process, the practical interpretation of the concepts. The third layer represents the practitioners who utilize the concepts and processes. The clients receiving care based on the current best evidence, which is related to their individual circumstances,
complete the layers. These four layers, however, do not consider how the philosophy is converted into policies, or how practitioners adopt the policies and make EBP information and care available to clients. Neither are the levels interdependent. Professionals may use policies/guidelines without subscribing to, or understanding the EBP philosophy, while clients may receive the best care, without anyone having considered EBP. The pyramid could also be turned upside down as it could be argued that it is consumers that are contributing to the upsurge of EBP. Clients increasingly demand high-quality care, with expectations increasing each year (Department of Health 2004b). There is increased emphasis on partnership, working with clients in the provision of a service that is responsive to their needs (Department of Health 2003). Therefore a circular relationship between clients, practitioners and evidence may be a useful representation of the interaction of each within an overall philosophy of EBP (Fig. 2.1). This is congruent with the principles of effective and high-quality care, in which midwives, and all practitioners, strive to provide the very best care to each individual. As Sackett et al (2000) emphasize, EBP is more than just the best evidence, it is the integration of best evidence with high-quality clinical skills, such as communication and assessment, as well as the application of evidence to the particular belief systems, values and context of the client’s life.

Evidence is forever changing in the light of new research, new technology, new ideas, as well as old ideas and options put together in new ways. This is challenging as it means best practice cannot conclusively and finally be established. The onus is

![Figure 2.1 Philosophy of evidence-based practice.](image-url)
on each practitioner to establish the evidence for each case. An important feature of EBP is the way it is dynamic and open to reviewing, its purpose to be a way of constantly updating practice. Therefore all midwives need to develop the skills required for EBP practice. These skills are the same skills that midwives need for midwifery care, some of which are listed in Box 2.1 and were identified in the Introduction to this book. There is a widely accepted EBP process. The process must be transparent and open to the scrutiny of other professionals and the public. The next sections explore the process, or practical application, of EBP.

THE PROCESS OF EVIDENCE-BASED PRACTICE

The EBP process can be considered as a series of steps:

◆ ask practice-focused questions, and frame the questions to find an answer
◆ search, identify and access the potential evidence
◆ evaluate the quality of evidence and decide what is best evidence
◆ apply best evidence to the specific case
◆ evaluate the EBP care provided, and the processes by which care decisions were reached.

The following sections will explore what is involved in each of these five steps.

The EBP question

Questions are most likely to come directly from clients, or arise as practitioners provide care. This may be individual women, or groups. Students, practitioners or

Box 2.1 Characteristics needed for EBP

◆ Clinical competence, knowledge and skills
◆ Observant and sensitive and thus able to identify the needs of individual women
◆ Empathic to the needs women may not be able to articulate
◆ Effective communication, to enable women to be equal partners in their care
◆ Reflective practitioner, and therefore able to develop clinical expertise based on personal practice and experience
◆ Questioning and open to questions in all aspects of practice
◆ Lifelong learner – knowledge is never stationary and the midwife must continuously and conscientiously keep her/himself updated
◆ Research aware
service managers evaluating care in terms of the options, appropriateness, effectiveness or efficiency for current or new care may also identify questions. Questions may come from reviewing traditional practice or new ideas, or from reading the literature. This is the same as for beginning any research activity (see Ch. 1).

Sackett et al (2000) suggest that there are a variety of questions. Those related to physiology, pathophysiology, epidemiology and disease/condition progression are ‘background’ questions, and are associated within underpinning knowledge. For example, what are the changes to the cardiovascular system during pregnancy? Care questions constitute the majority of EBP questions and are ‘foreground questions’ (Sackett et al 2000). These include issues such as screening, diagnosis, prognosis, management options and possible outcomes. At this stage of the process asking the right question is vital. Clients’ values may differ from those of practitioners, and the values of a service manager may differ again. All are valid perspectives and should be considered. Thus it is likely that there are several interrelated questions to answer. There is a tendency for EBP questions to be of a quantitative nature. However, it should be remembered that midwifery should be holistic, considering all aspects of the woman and her family, and therefore is likely to require a diverse range of evidence sources and types.

It is advisable to identify the most important/urgent question and deal with that first, although experienced practitioners familiar with the EBP process are likely to deal with multiple perspectives simultaneously. If you are working within a team, different group members can address different perspectives. It is also important to frame the question so it answerable. This is most easily achieved if the question is objective and clearly stated. Including the following four components helps achieve this:

◆ a clearly identified client/group or condition
◆ an intervention or issue (diagnostic test, care option)
◆ a baseline or comparison point
◆ an outcome or result.

To help recall these four features the mnemonic PICO may help:

\[
\begin{align*}
\text{P} &= \text{person (originally patient) or target population} \\
\text{I} &= \text{issue/intervention} \\
\text{C} &= \text{comparison} \\
\text{O} &= \text{outcome}.
\end{align*}
\]

Box 2.2 provides examples and suggestions of topics that could be converted into several EBP questions.

The importance of asking the right question is highlighted by Bastin (2004). Evidence on the administration of bromocriptine to suppress lactation suggested effectiveness, but later it was discovered that it increased mortality and morbidity. Perhaps the EBP process to establish the quality of all the evidence was flawed but much more likely the wrong question was asked, or there was an absence of evidence.
Searching and accessing the evidence

Having defined the question, the next step is to locate all the evidence that may be pertinent. This can be very time-consuming, and can require lateral thinking, imagination, ingenuity and perseverance, but with practice it does get easier. Librarians, researchers, educationalists and practitioners who have themselves undertaken EBP searches are good resources for help and advice. This activity is an important part of any research process, and is also crucial when developing clinical guidelines. Finding the evidence is so fundamental to all aspects of knowledge acquisition and interpretation that it is now a key component of all education programmes, both pre-registration and post-qualification, regardless of the academic level of the course.

Box 2.2  Examples of EBP questions for a topic

**Example one:** **Topic is water immersion in labour**

*Question 1:* Does immersion in water during the first stage of labour reduce the use of pharmacological analgesia?

- **P** = women in labour
- **I** = immersion in water
- **C** = not in water
- **O** = analgesia used

*Question 2:* Is birth in water safe for the fetus/neonate?

- **P** = neonates born of women who birthed in water
- **I** = immersion in water
- **C** = not in water
- **O** = wellbeing – e.g. APGAR score, or cord gases

**Example two:** **Topic is nuchal fold screening**

*Question 1:* Do women understand what nuchal fold screening can tell them?

- **P** = women undergoing nuchal fold screening
- **I** = nuchal fold screening
- **C** = there is no comparison in this case
- **O** = knowledge base

*Question 2:* Is the process of nuchal fold screen safe for the fetus/neonate

- **P** = fetuses
- **I** = nuchal fold screening
- **C** = fetuses who were not screened
- **O** = short- and long-term outcomes of wellbeing and neurological integrity

**Exercise for you to try**

Try converting these topics into EBP questions using PICO to identify the question components:

1. Continuous subcutaneous sutures
2. Antenatal clinic attendance

Possible answers can be found at the end of the chapter.
There are two sources of evidence, people and literature, although they are often interrelated, as no practice occurs in a vacuum. Accessing people means participating in professional and interprofessional conversations, talking to women and consumer groups, attending conferences and engaging with researchers, educationalists, managers and those who shape policy at all levels. Online networks, covering midwifery research, normal birth and more general email communication networks, make this possible on a national and global scale previously unheard of. Accessing such networks is usually a relatively simple matter of registering and then getting online to the network of your choice, having heard of/being given the contact point of such a network through colleagues.

The literature search can start in your local health services library or online. Before you embark on a search it is useful to understand the main types of literature and their relationship to one another.

**Types of literature**

Literature is classified as primary or secondary. Primary literature refers to original sources of information. Secondary literature includes systematic reviews, reviews, guidelines/policies, editorials, opinions, critiques, and any information that is a reconsideration of primary data. Some types of literature can be either primary or secondary. Published letters, for example, may be commenting on a previously published study, or provide original data from another unit supporting or refuting a study, or even highlighting a completely new point. There is also ‘grey’ literature, information that may be in the public domain but has not yet been published, and includes data/evidence held within theses, institutional reports and research data held by individual researchers. Accessing grey literature is important, as there is a publication bias. This is because the results of investigations that are particularly noteworthy, fashionable, controversial, have renowned authorship, or are in some other way unique, are published, whereas repeat studies, studies with no definitive conclusions, or less successfully articulated data are not published. Such data is likely to be missed in many search strategies, giving the potential for an incomplete evidence review and hence less powerful or even erroneous conclusions. Thus although most of this section deals with acquiring evidence from literature sources, it is also important to remember that people are a vital resource. Speaking to experts on a topic, networking within the area of interest may provide contacts and links to invaluable sources of evidence. This additional time investment is warranted in terms of the quality of the finished evidence-based review.

**Hierarchy of evidence**

Primary sources of evidence are considered superior to other forms of evidence and the most important primary source is research findings. However, not all research is
valued to the same degree. This led to the development of a hierarchy of evidence, with an expectation that practitioners will base their practice on the best evidence as described by a hierarchy of evidence. One of the most cited hierarchies is that by Guyatt et al (1995, p. 1802):

1. systematic reviews and meta-analyses
2. randomized controlled trials with definitive results
3. randomized controlled trials with non-definitive results
4. cohort studies
5. case control studies
6. cross-sectional studies
7. case reports.

However, Evans (2003) cites examples from 1979 onwards. Most hierarchies rank types of research findings according to which approach is most likely to provide valid information on the effectiveness of a treatment/care option. Like Guyatt et al (1995), such hierarchies usually have systematic review with meta-analysis at the top, followed closely by RCTs. There are several other hierarchies of evidence for assessing studies that provide evidence on diagnosis, prevention and economic evaluations (Evans 2003). Their focus remains quantitative. This does have disadvantages as some health topics, even if they are about treatment/management effectiveness, may not be best addressed within RCTs. For example, Kotaska (2004) suggests that vaginal breech birth is too complex and multifaceted to be appropriately considered within trials alone. Rietberg et al (2005) report how one RCT on breech birth has changed practice. It is likely that the reasons for this are complicated and involved underlying professional beliefs as well as the evidence. However, the emphasis on trials as the pinnacle of the hierarchy of evidence could be seen to be encouraging an acceptance of this as the ‘gold standard’ in all circumstances, rather than reflecting on whether a particular topic would be best considered from a different perspective, using different research approaches.

It is acknowledged that quantitative studies cannot adequately explore the complexities of the more social aspects of human life (Robson 2002). In midwifery this would include areas such as the experience of birth, parenthood, or topics like social support, transition to parenthood, uptake of antenatal screening, education, views on lifestyle such as smoking and so on. These are more appropriately explored though qualitative research approaches that seek to explore and understand the dynamics of human nature, what makes them believe, think and act as they do. Qualitative evidence is not within the hierarchy, a fact acknowledged by Sackett et al (2000), who indicates that expertise in these forms of evidence is developing within nursing and midwifery. It is possible that researchers within the qualitative domain need to engage in a dialogue with both clinicians and proponents of EBP and debate the relationship between EBP and qualitative research. Aslam (2000) provides a broader hierarchy, including personal experience, clinical tradition and anecdote at the lowest end of the scale. This would
seem to provide scope for the inclusion of reflexive activity (learning through reflection ‘in’ and ‘on’ practice (Schön 1987)), and analysis of tradition, experience and anecdotes would appear to be within the spectrum of qualitative research, although this is not explicitly stated. The alternative, a parallel qualitative hierarchy, seems problematic as each approach offers a particular perspective with no one approach being better than another.

**Search processes, gateways and databases**

A search strategy is devised from a well-framed EBP question. This type of search can be considered reactive as it aims to answer the question(s). There are also proactive searches, which are ongoing to keep up to date in a topic area/field. These are important as new research can highlight the need to change practice and update guidelines. This is possible through the many professional journals that provide alert services, so you can be alerted to the publication of any new papers related to your selected topics. This ongoing updating strategy is to be highly recommended as part of routine professional practice, but does not replace the need for detailed searching to answer specific EBP questions.

The search for evidence on your topic could start locally. Try to locate a guideline with a reference list, or a local expert. A personal or unit textbook may cover the topic. Textbooks often provide useful information for background evidence, physiology for example. However, books can take several years to reach publication, and can be out of date when published. They aim for a wide readership covering a broad evidence base, and if single authored may be limited in scope. Journals are another important source of evidence, as many practitioners subscribe to at least one journal pertinent to their practice. However, the purpose of journals varies, with some aiming to provide current news and others more original data. There are also journals that aim to provide synthesized evidence in the form of systematic reviews; here someone has done the EBP process for you. This is wonderful if they cover exactly the right question, but is more likely to be appropriate for population type questions rather than for individual clients. The quality of journals also varies (see Ch. 11 on critical appraisal for more on this); even selecting only the highest-quality and most appropriate journals, the number of publications available would make it impossible to read them all.

Many practice areas and individuals have access to the internet and this can provide an entry point to evidence. The internet is now widely recognized as a search resource for journals, electronic publications and original data (Glassman 2004, Schollmeesters 2004). However, remember to access the catalogues and resource lists in your local health and/or university library, as not everything is internet listed at present, particularly older evidence or that from developing countries. There are two types of internet gateway/portal/tool, the first being general search engines such as Google, AltaVista, Yahoo, Ask Jeeves as so on. Remember these will identify both lay
and professional resources, the quality of which is sometimes difficult to determine, but it is often worth a look. The second option is a professional gateway, providing access to evaluated web resources/pages, such as the:

- National electronic Library for Health (NeLH)
- Online Medical Network Information (OMNI)
- Nursing Midwifery and Allied Health Professions (NMAP)
- Social Sciences Information Gateway (SOSIG).

There are online tutorials for most of these gateways.

The National electronic Library for Health (NeLH) is a particularly useful resource. It was established in 1998 to provide health professionals with easy access to evidence, and has developed into a key resource accessed about 200,000 times per month (Ebenezer 2004a). There is a midwifery portal, and links to MIDIRS, Cochrane and many other health and social care sites. It is now recognized that the availability/dissemination of health information/evidence would be further enhanced by better integration of traditional NHS library resources (Ebenezer 2004a). It is planned that modern technology will be used to increase access/links, via NeLH, with the resources of university and other academic institutions, government papers, national documents, and health-related texts in any NHS library. If the pilot work is extended, eventually it may be possible to have resources sent to you either as electronic print-outs or hard copies, and even to access expert support in answering clinical questions (Ebenezer 2004a).

Ingenta is a bibliographic service that provides online access to many publications from multiple publishers (www.ingenta.com). This now includes the *RCM Midwives Journal* although not until about 6 months after publication (Ebenezer 2004b). Professional online links may provide a similar entry gate, for example Midwifery Information and Resource Service (MIDIRS) or the Royal College of Midwives (RCM) or any other professional College/group. These types of resources will provide web resources on your topic, which may include specific research evidence/articles as well as more general information.

If you are targeting published literature it is usual to access one or more databases. These are collections of referenced papers/materials/evidence entered onto the database in a consistent way, so that they can be retrieved via several routes, such as by author, journal, title, and most importantly key words. Some well-known databases that should be accessed as part of a search on any maternity-care-related topic are detailed on Box 2.3. Accessing a topic in any of the main health databases should give the same list of references/evidence, but in practice each database is likely to provide different resources, although some will appear in them all. Therefore it is beneficial to use several databases in any search strategy.

Having spent time considering the most appropriate gateway and databases for your topic, the next part of your search is to break down your EBP question into key words and enter them into the databases.
Key words, combinations and criteria

Key words should encompass the main facets of your question, and are likely to reflect the four elements of the question described above using the mnemonic PICO. Remember to think laterally for words/phrases that mean the same thing, for alternative spellings (American, use of ‘s’ or ‘z’, and so on), and professional as well as lay terms. Use a thesaurus and get other people’s ideas. Box 2.4 identifies the key words that might be identified from the water immersion example. An initial search may provide too few or too many references. You cannot read all the titles and abstracts of hundreds or thousands of references (also called ‘hits’). So the appropriate use of word combinations or limiters is vital to maximize full identification of papers on the topic while excluding those that are unrelated.
George Boole, an English mathematician, is credited with the concept of utilizing logical patterns of searching, from which the use of Boolean operators developed. The words ‘AND’ and ‘OR’ are inserted between your key words; ‘AND’ reduces the number of hits. For example, using ‘water birth’ would access every reference with the word water in the title and/or abstract, AND every reference mentioning birth, which provides a vast number of hits. While ‘water AND birth’ should only give hits in which both words were cited. However, using ‘labour OR birth’ would increase the number of hits, identifying every article with labour or birth.

In many databases the use of truncation can be helpful. This is when an asterisk is placed at the end of a word to facilitate a search for plurals, and similar ending variations, for example labour* would cover labours, labouring. Wildcard symbols can sometimes overcome the problem of multiple spellings. A symbol, often ‘?’, is placed where the spelling variation may occur, such as, f?tal to cover fetal and foetal, but this could also be interpreted as fatal, which was not required. It can be worth trying truncation or wildcards, particularly if your search is not accessing as many resources as you anticipated. This suggests searching is a trial-and-error process, and in some ways it is, but it is also systematic and detailed. You should consider searching as iterative: seek, filter, refine/develop/modify, repeat, thereby getting the most information from the process. You can now see that a literature search is a time-consuming activity. Sanders and Del Mar (2005) emphasize the importance of comprehensive search activities, provide some tips on effective searching and suggest researchers who have undertaken good searches, which might act as exemplars. However, the focus is on searching for quantitative evidence, trials in particular.

The more focused your question the fewer hits you are likely to achieve, while a very broad topic is likely to overwhelm you with references. Search criteria limiters to reduce your number of hits include human-related studies, written in English, between specified dates, or even specific types of literature such as a review, or randomized
controlled trials. Whatever criteria you use, it is important to keep a record of them so that you have a complete search history. This ensures the search strategy is transparent to all and provides others with the opportunity of reviewing your work as an audit process and validating it, so that they can replicate the search at a later date. In addition, you must recognize the limitation of any limiting criteria you use. Moher et al (2003) suggest that conducting a systematic review using trials published in English only has the potential to give biased conclusions as key research on some topics has only been published in other languages.

At the end of your search you should have a manageable list of references. How many references make a manageable list depends on the time frame for your project; is it for a particular client, a clinical guideline needed now, or an academic assignment due for submission in 3 or 6 months? Whether or not it is funded and the number of people involved are also key factors. All these factors can affect the reliability of the outcome.

**Critical appraisal of the evidence**

The next stage is to read the identified papers. It is always worth checking the references in these sources as they should confirm that you have found all the related evidence, or may highlight other resources that you have not come across. This might suggest your search was not wide enough. Make sure you understand all the concepts and underpinning research and topic theory, then make notes or highlight key points. This entails reading each paper several times. Creating cross-tabulated tables of authors against themes or research methods/tool/outcomes may help and can be done on large sheets of paper, or in word processing packages. This activity has the dual benefit of making sure you are familiar with the papers, enables you to easily check your understanding, compare papers, and helps when several individuals are working together. This is a preliminary activity to critical appraisal of the literature, which is the process by which the quality of the evidence selected is assessed in a way that is transparent and open to review by others. This is the third step in the EBP process and is detailed in Chapter 11. The conclusion of the appraisal is a judgement about what is the best evidence available, and based on the best evidence what should be applied to practice.

**Application of the best evidence to practice**

When you have decided what is the best evidence, review it remembering Sackett et al’s (1996) definition of EBP (see ‘Origins’ section). This means ensuring that the evidence is applicable to the practice context. One way to do this is to reassess your conclusions in relation to:

- The woman (fetus/neonate/family):
  - Is it an option appropriate for her/them?
  - Is it an option she can select as acceptable, practical, ethical, cultural?
Are there choices and is she in a position to understand them and make them?

The midwife (other health professionals):
- Is it within her sphere of practice?
- Has she the education, skills, confidence resources to offer/facilitate this care?
- Is it professionally and personally acceptable to provide such care or refer to someone who can?

Finally you need to act and provide care based on the best evidence and the individual circumstances of your client. The circle is then completed and restarted, as you should review that practice, its appropriateness and outcomes, its effectiveness and efficiency, from the perspective of the woman, midwife and service. From this will come new ideas, and questions, the best evidence for which should be established, and so the EBP process continues. This reflects a continuous quality improvement cycle, and is consistent with a maternity service that aims for excellence, providing progressively higher-quality, woman-centred care, and with a profession that espouses lifelong learning.

Application to practice may also raise management and service provision issues, including:
- resources: staff, equipment, environment, time, funding
- health and safety implications
- guidelines developed/needed
- compatibility/consistency with the wider service philosophy/provision demands
- whether or not this form of care has implications for other provision, and needs to be reviewed in light of the EBP processes.

There is not scope here to discuss these fully, but they are associated with clinical governance, change management, professional and interprofessional working, to name but a few issues. There may be barriers to implementation of the best evidence. EBP is mostly likely to be successfully implemented in the context of a learning organization, and achieving this is also about NHS health and social care management, and how the government and the wider society envisage the service.

The EBP process does not always provide the ‘right’ answer. For some situations there is no ‘right’ answer but two or more possibilities from which practitioners and clients together must select the path most likely to be suitable. Sometimes there is no evidence, or what is available is of limited use due to its age, the client groups used, the practices of the location, or the uniqueness of the situation for which you are seeking the evidence. This may always be the reality for the most complex and individual cases. It is vital to remember that the absence of evidence is not evidence of no benefit. No evidence implies we do not know what is best or worse. In this scenario it is reasonable to provide your professional opinion, possibly based on experience, which in itself is an important form of evidence. You will then need to emphasize that it is only an opinion, and encourage the client to choose what she feels is best for herself and her family.
The sections above have detailed the full EBP process, and this is summarized in Figure 2.2 by following the light arrows through the chart. The most time-consuming component of the process is accessing and appraising the potentially copious and varied forms of evidence from multiple locations, both published and unpublished. In everyday practice there is unlikely to be the amount of time available to do this for every question. Therefore many practitioners rely on a shortened process most of the time (the dark arrows in Fig. 2.2). Many of the key steps remain: evaluating care, identifying and framing questions. Then instead of accessing and critically appraising all the primary sources of evidence, you seek out pre-appraised literature. The main sources of this are:

- local guidelines
- national guidelines, e.g. NSF and NICE guidelines, (www.doh.gov.uk)
- professional college guidelines, e.g. RCM position statements, RCOG green top clinical guidelines (www.rcm.org.uk, www.rcog.org.uk)
- systematic reviews published in:
  - professional journals
  - evidence-based practice journals

![Figure 2.2](image-url)  
**Figure 2.2** A summary of the evidence-based practice process.
the Cochrane Library (www.thecochranelibrary.com)
- the Centre for Reviews and Dissemination, established in 1994 under the auspices of University of York (via www.york.ac.uk).

Most of these should be available locally, either as hard copies, or ideally through computer terminals within the clinical setting and/or educational establishments, which link to the intranet and internet. Some possible sites are given above, although there are also links to these types of resources through websites providing information for both the public and professionals (see ‘Search processes, gateways and databases’ section).

Pre-appraised evidence should be evaluated, looking particularly at who undertook the search and appraisal processes, when, and the breadth and depth of the activity. An example of such a framework is that produced by the Public Health Resource Unit’s Critical Appraisal Skills Programme (CASP), available at www.phru.mhs.uk/~casp. This helps you evaluate many types of literature including reviews. After accessing and evaluating the pre-appraised evidence, you must ensure that the evidence is appropriate to the topic and your client and only then use that as the basis of information sharing and informed decision-making.

Having extensively explored the process of evidence-based practice, it is equally important to consider both the advantages and disadvantages of EBP.

THE EVIDENCE FOR EBP

EBP is a consensus philosophy generated by a few, and now espoused nationally and internationally by renowned proponents, but not yet universally accepted. An ethnographic study by Gabby and le May (2004) suggested that in two primary care units, EBP guidelines were rarely accessed, and then only for new or unusual situations. While this cannot be generalized due to the nature of the study, there is resonance from this study to other clinical settings. It may be that EBP has not disseminated everywhere, but it is more likely that the adoption or not of EBP reflects whether local practitioners perceive the advantages or disadvantages.

Advantages

The widespread promotion and adoption of EBP is due to its perceived advantages, in particular the goal of facilitating care based on the best evidence and available to everyone, rather than being locality specific due to knowledge, expertise or funding. The advantages of EBP include:

- better informed practitioners
- EBP guidelines, enabling consistency of care across professional boundaries
- client-focused care pathways
- structured processes for dissemination of the best evidence
explicit and transparent ways of working with less scope for misinterpretation
information available to the public so that they can be genuinely involved in the
decision-making processes about their care
clarification of what is known and what is not known to target further research.

All of which should lead to higher-quality and more effective care and a reduction
in the theory–practice gap.

The evidence to support these advantages is variable. It could be argued that evidence
for EBP is not needed, as it is ‘obvious’ that best practice is best, and always has been.
In this case what EBP provides is a set of skills and a way of working to access
what is the best evidence (Hunink 2004). There is some evidence that practitioners
who received education on EBP and its processes are more skilled in undertaking
EBP-related activity (Fritsche et al 2002).

Disadvantages
Straus and McAlister (2000) provide a commentary on the advantages and disadvan-
tages of EBP. The arguments highlighted by them remain the key concerns and include:

- takes time and resources to develop the skills to undertake EBP
- not enough evidence about EBP
- reduced client choice
- does not cater for unique clients with complex and multifaceted needs
- reduced professional judgement/autonomy
- suppression of creativity
- undermining perceived value of forms of evidence not at top of hierarchy of
evidence
- influences legal proceedings.

Some disadvantages of EBP are more statements of ongoing problems that are
common to all aspects of healthcare, such as lack of evidence, or poor evidence, or
lack of resources to provide the identified care. Although it could be argued that the
process of EBP makes it more likely that quality evidence will be identified to support
the obtaining of required resources.

The definition of EBM stresses the importance of ‘the patient values’ (Sackett et al
2000, p. 1). However, it could be argued that EBP is about generalizability. The best
evidence, hopefully the result of the EBP process, will tell practitioners what the likely
overall outcomes will be if 100 or 1000 individuals with a condition are cared for in
a particular way. The individual client is lost within the numbers; for example, you may
know that from 100 women using a birthing ball 70 will have a normal birth, but it
will not tell you if the woman in front of you will or not. This lack of individuality
has contributed to a widespread concern that EBP restricts choice (DaCruz 2002).
Lockwood (2004) explores individuality within the concept of EBM, considering
how, for many individuals it is the specific accounts and personal stories that help them make decisions about their own lives, not just the evidence. Although Lockwood’s study is based on data from women with breast cancer, many midwives are familiar with women who make birth-related choices based on their beliefs, those of their family and friends with no, or only secondary consideration of the evidence provided by professionals. This suggests that while it is important to make the evidence of recommended management/care explicit and readily available, not all women will choose that option. There tends to be an assumption that if all the evidence is made available, women will make the ‘right choice’ and that that choice will be consistent with professional advice. This is clearly not always the case, and where client choices diverge from professional advice there can be a tendency to be paternalistic, assuming it is a lack of understanding or lack of information. Here the role of the midwife as the woman’s advocate is vital, to ensure the client does have the information and is then supported in her choice.

For women with complex pregnancies there is not enough specific evidence to provide individualized risk assessment (Hawthorne and Blott 2004) and care is usually based on traditional/documentary evidence. The available evidence has to be integrated with expert clinical experience from an interprofessional team, in the light of the individual situation, needs, wishes and preferences. It may be that over-reliance on EBP information will reduce professionals’ ability to practise creatively and meet highly complex needs.

There is some concern that EBP guidelines will undermine practitioners’ autonomy and lead to practitioners who are reluctant to provide care that does not conform to guidelines. Hurwitz (2004) discusses the legal concept of negligence. He concludes that while EBP guidelines could be used to indicate a standard of care and practitioners’ care could be evaluated against it, it is recognized that not all guidelines are perfect. Therefore there are occasions when excellent care does not follow the guidelines and equally there are occasions when high quality guidelines have been followed and care has still been substandard. Professional judgement is always required.

Some believe EBP, or how it is currently understood and practised, devalues the importance of practitioner experience and tacit knowledge (Goding and Edwards 2002). This can be extended to include forms of evidence lower, or absent, from the hierarchy of evidence. It is argued that evidence from RCTs is so controlled that the participants and clinical environment bear little resemblance to the average healthcare setting and recipient (Schattner and Fletcher 2003). Therefore such evidence should be skillfully evaluated alongside all other forms of evidence. It is vital to remember that cohort studies identify patterns of health and areas of concern, prognosis and progression of conditions; case studies inform new management options or rare scenarios; qualitative studies provide evidence on clients’ experience and care acceptability. Experience and tacit knowledge can identify health needs and facilitate healthcare provision. Each of these forms of evidence is vital and the emphasis on EBP and clinical trials is not intended to be to the detriment of other evidence.
EVIDENCE-BASED PRACTICE AND POLICY

Practice is a very broad concept, which tends to be thought of as day-to-day contact between clients and their carers, midwives and other health professionals. In reality, practice incorporates government policies, translated and interpreted into local policies; national guidelines, again adopted or interpreted in local contexts; and people’s values concerning health and health provision. The relationship between government policy and society can be considered as cyclical as often it is society’s pressure that contributes to policies, as much as policy influencing society. So it is important to consider if and how evidence-based data impact on health policy. Muir Gray (2004) suggests that evidence-based policies define the arena in which EBP can occur. Yet policy is not just based on the evidence. It is a combination of the evidence, interpreted in the light of the needs of the whole population, other pressures, the economics, the perceived benefits, and public and expert opinion. At some point a value judgement has to be made and hence public health policy is created.

CONCLUSION

Evidence-based practice is a philosophy and a process. It is logical, sensible and scientific; there are frameworks and processes that meet a need for ‘certainty’ and ‘structure’ in many professionals and consumers alike. Healthcare, like life, is often uncertain, and decision-making can be problematic. EBP is a way of helping with everyday and tricky decisions that can be quantified and justified. Skilfully used, EBP can enhance practice. So every midwife and health practitioner should:

◆ develop the skills associated with EBP
◆ be able to undertake both the full and the short process
◆ adopt a personal EBP philosophy
◆ encourage an EBP philosophy within their practice setting
◆ encourage client participation in local practice development
◆ remember EBP is a tool for high quality practice, it is not an end in itself.

EBP highlights that we do not know everything and practitioners need to be honest and open, indicating where there is a dearth of information, or the evidence is incomplete, inconclusive, weak, open to interpretation or in some way limited. This means acknowledging, more than some professionals are used to, that we really practise in many shades of grey and very rarely in black and white. It must also be acknowledged that EBP has limitations as well as benefits. As yet, qualitative evidence is not incorporated within EBP. EBP is a tool, achieving the skills of which provides many benefits to practitioners, related to identifying, accessing, and evaluating evidence. However, it must be done using a discerning, reflective and critical judgement, and applied to clinical practice so that it is not an academic activity but a real practice development strategy.
**CHAPTER SUMMARY**

This chapter has defined evidence-based practice and explored its relation to research. The process of EBP has been identified, and details provided on how to successfully undertake the various stages of both the full and short EBP process. There is a guide to developing clinically focused questions that can be answered through the EBP process. Search strategies have been explained, highlighting the different types of evidence, particularly within the literature, including suggestions on how to effectively identify the evidence needed to answer specific questions. The advantages and disadvantages of EBP have been discussed. Midwives strive for high quality, holistic care for women and EBP can help to achieve this. It is not intended as a process to restrict practice but rather to facilitate it. Midwives need to use and contribute to the development of the EBP processes to enhance them further.

**Possible answers for suggested exercises in Box 2.2**

*Topic 1. Continuous subcutaneous sutures*

Possible questions:

- Are perineal repairs less painful if continuous subcutaneous sutures are used?
- Does healing progress at the same rate if continuous subcutaneous sutures are used?
- Is it easier for practitioners to perform the repair if continuous subcutaneous sutures are used?

*Topic 2. Antenatal clinic attendance*

Possible questions:

- Is attendance influenced by the distance women live from the antenatal clinic?
- Does the provision of child play areas affect attendance at clinic?
- Why do women not attend antenatal clinics?
- There are many other possibilities, all of which could then be fitted into the PICO format.

**Possible answers for suggested exercises in Box 2.4**

The question: Is the process of nuchal fold screening safe for the fetus/neonate?

Key words: nuchal fold (NB can be a phrase or single word), fetus or neonate, safety
cont'd

Alternative words: wellbeing, APGARs, cord gases (i.e. data which implies safety)
Combination: nuchal fold AND fetus AND safety (will only identify articles with all the terms included)
Safety OR wellbeing OR APGARs OR cord gases (will identify all articles with one or more of these terms included)
Gas* – will identify gas, gases, gaseous, gashouse (some of which are useful, some not)
F?tus will access fetus, foetus, fatal

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Evidence Based Medicine Working Group 1992 Evidence based medicine, a new approach to teaching the practice of medicine. JAMA 268:2420–2425
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Hunink M G M 2004 Does evidence based medicine do more harm than good? British Medical Journal 329(7473):1051
Moher D, Plam B, Lawson ML et al 2003 The inclusion of reports of randomised controlled trials published in languages other than English. Health Technology Assessment 7(41):1–90

FURTHER READING


USEFUL WEBSITES

Centre for Evidence Based Medicine in Canada. Website supporting the Sackett et al (2000) evidence based medicine textbook:
www.cebm.utoronto.ca/teach/materials
www.cebm.utoronto.ca/cbm
Department of Health:
  www.doh.gov.uk
  www.doh.gov.uk/deliveringthebest/index
MIDIRS. Public and professionals’ access to maternity-related information:
  www.infochoice.org
National electronic Library for Health:
  www.nelh.gov.uk
Public Health Resource Unit for Critical Appraisal Skills programme:
  www.phru.mhs.uk/~casp
Royal College of Midwives:
  www.rcm.org.uk
Royal College of Obstetrics and Gynaecology:
  www.rcog.org.uk
University of York for access to Centre for Reviews and Dissemination:
  www.york.ac.uk