1 Evidence based practice

The unknown is unacceptable; evidence is a human safety net
(Smith et al. 2004)

Introduction

This chapter will explore the meaning of evidence based practice and help to clarify its place in the modern healthcare system. The chapter will explore:

- the rationale for evidence based practice;
- definitions of evidence based practice;
- the nature of knowledge and the relevance of different types of knowledge upon decision making;
- the barriers to research utilization.

Learning outcomes

At the end of this chapter you will be able to:

- critically discuss the rationale for evidence based practice;
- define evidence based practice;
- identify different types of knowledge and reflect upon their relevance;
- effectively define research terms that relate to evidence based practice;
- discuss the barriers to evidence based practice.
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Why use evidence based practice?

There are many compelling reasons for adopting an evidence based approach to health care; we will explore some of them in this chapter.

To provide effective care

As a student and healthcare professional the term evidence based practice will probably be very common to you. You do not all need to be researchers and that is not the objective of this book but you need to use research in order to inform practice, ensure safety and monitor effectiveness. You are told constantly to question and justify the actions of yourself and those of others in order to offer patients choices and to provide the most effective care possible. You are expected to give a clear rationale for the healthcare choices that you make and demonstrate an understanding of the evidence for your decisions.

You have a professional responsibility to practice evidence based care in order to empower your individual profession through the use of knowledge but there also exists a moral necessity as healthcare practitioners are accountable to society for the care that they deliver. Sick people are vulnerable and trust those with expert knowledge to advocate on their behalf through the delivery of the best care possible; you can only deliver the best if you know what the best is. In order to determine the best you have to investigate. Healthcare providers have a duty to safeguard all patients from harm and minimize risk. Practising health care in the absence of up to date knowledge is risky and a threat to patient safety. It could be argued that thoughtless care is a form of unintentional abuse as the patient’s vulnerability is increased. While the majority of healthcare providers acknowledge the potential effects of physical and emotional harm by careless acts or omissions, many do not adequately consider the harm caused through lack of applied evidence.

To fulfil your role and meet your job criteria

Evidence based practice is now included in job descriptions and gateways to advancement such as The Knowledge and Skills Framework (Department of Health 2004) which identifies the key knowledge and skills required for posts and guides individual development. Professional rationales are also dictated through policy and organizational infrastructures. The Designed For Life document (Welsh Assembly Government 2005) emphasizes that quality assured treatment and care must be evidence based while the Modernising Nursing Careers document (Department of Health 2006) stresses that healthcare
professionals have a professional and moral responsibility to keep up to date with the developments within their professional practice.

**Exercise 1.1**

Obtain a copy of a policy document that relates to your area of professional practice. Does the document discuss evidence based practice? Does it identify evidence based practice as important to your work?

List the advantages of using evidence based practice for:

- patients
- professionals
- organizations

Your list could include some of those given in Table 1.1 but you should be able to expand this list to include your personal thoughts and experiences:

**Table 1.1 Advantages of evidence based practice**

<table>
<thead>
<tr>
<th>Patients</th>
<th>Practitioners</th>
<th>Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduces the amount of time wasted on inappropriate care options</td>
<td>Professional empowerment through enhanced knowledge</td>
<td>Enhance quality of service delivery as practitioners can draw upon a variety of options</td>
</tr>
<tr>
<td>Increased consistency as all patients receive the same level of care</td>
<td>Increased personal and professional confidence in problem solving as practitioners adopt a critical approach</td>
<td>Enhanced confidence in the workforce as decision making is reflected in enhanced care outcomes</td>
</tr>
<tr>
<td>Increased confidence in practitioners as their knowledge of options is transparent</td>
<td>Increased quality of care through patient satisfaction and positive healthcare outcomes</td>
<td>Reduction in complaints and litigation</td>
</tr>
<tr>
<td>Increased value for money</td>
<td>Protection against litigation through rationales for action</td>
<td>Observable commitment to clinical governance</td>
</tr>
<tr>
<td>Reduced variation of services</td>
<td>Ability to scientifically support actions</td>
<td>Increased cost effectiveness and value for money</td>
</tr>
<tr>
<td>Evidence can be used to support the need for additional resources</td>
<td>Appraise options and interventions</td>
<td>Evidence for the allocation of resources</td>
</tr>
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Up-to-date evidence

Many professional and government documents dictate that care must be up
to date and based upon the best available evidence but what does up to date
really mean and how do you know what the best evidence is? Many definitions
of evidence based practice refer to the term ‘up to date’ but few authors clarify
this term for students. Some academics accept work that is written within
ten years while others argue that even work written within five years can be
out of date. The term ‘up-to-date evidence’ indicates that the most recent
evidence is the best but this should not necessarily be accepted as no study
is perfect. Every piece of evidence should be evaluated for its strengths and
weaknesses.

Example

Imagine that you have two research papers. Paper 1 was published in 2009,
and states that children run faster following the ingestion of chocolate. To
test this statement 10 children from a school in London were given a bar of
chocolate prior to running in a 100 metre race. The results showed that 7/10
children who were given chocolate performed faster than the children who
did not receive chocolate prior to their races.

Paper 2 was published in 2002 and also stated that chocolate aids running.
In this study chocolate was administered to 2,234 children from 10 counties
within the United Kingdom. However, only 29 of the children given chocolate
won their races.

Consider which of these two papers you would rather believe and why.

Despite the fact that paper 1 is more current, it is less credible due to
the very small group of 10 children compared to a group of 2,234 children
in paper 2. Paper 1 only focused on a small number of children in one city,
whereas paper 2 used more children from many areas and is more likely to
reflect the reality of children the UK and may be considered more believable.
This is not a comprehensive example of how to appraise evidence as this
is covered in detail in Chapter 10 but it demonstrates that ‘current’ is not
necessarily ‘best’ evidence. This example highlights that all studies, regardless
of their currency, should be competently appraised in order to have value.
However, this still fails to adequately define good evidence.

Defining best evidence

One of the earliest and most commonly used definitions of evidence based
practice is provided by Sackett et al. (1996: 71): evidence based practice is
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Figure 1.1 Evidence based practice.

‘the conscientious, explicit and judicious use of current best evidence in making decisions’. Although this was originally a medical definition, it has relevance to other professions as put simply, Sackett is saying that good decision making is about using evidence carefully (with deep thought and critique), sensibly (it should be necessary) and clearly (it should be easy to understand).

Neale (2009: 8) adds that evidence based practice ‘is underpinned by the belief that practitioners should make rational decisions on the basis of structured critical appraisals of empirical evidence relating to what works in their field’. What do these definitions mean to you, are they easy definitions to understand? Is anything missing?

One of the simplest definitions of evidence based practice is provided by Pape (2003: 155): evidence based practice is the ‘combination of the best research evidence, clinical experience and clients desires’. Pape’s definition can be summarized as in Figure 1.1. The simplicity of Pape’s definition is admirable as it considers clinical expertise and patient preference. However, this relies upon the healthcare professional knowing the patient and understanding their cultural patterns. This involves spending time and developing deep dialogue with the patient. Morse (1994) refers to this process as using your knowledge as a human in order to read the patient. While this is a preferred mode of practice, it may be criticized as idealistic as, although you are expected to use empathy in practice, the extent to which
you can ever really understand another person’s reality is highly questionable. Although this definition acknowledges the perspectives of three major stakeholders, it is unclear which type of evidence prevails in the event of conflict. Furthermore, the definition fails to consider organizational and financial constraints such as the distribution of resources and power structures that impinge upon personal choice. There may be current, valid and reliable evidence available that is agreeable to the patient and practitioner but if the resources are not available to purchase the care, it will not be an outcome. Hence, this definition still fails to adequately define what best evidence is.

Example
A common example of conflicting perspectives could be where a patient requests antibiotic therapy but evidence shows that antibiotics increase resistance and have little benefit for patients. Health professionals may believe in the evidence against prescribing antibiotics but the patient may not and may rely upon their personal or experiential knowledge. If a good evidence based decision considers all of the stakeholders, what happens to that decision in the event of conflict?

Sackett tried to clarify some of the terms used to define evidence in a later definition:

Evidence based care is the integration of clinical expertise, patient values, and the best evidence into the decision making process for patient care. Clinical expertise refers to the clinician’s cumulated experience, education and clinical skills. The patient brings to the encounter his or her own personal and unique concerns, expectations, and values. The best evidence is usually found in clinically relevant research that has been conducted using sound methodology. (Sackett 2002: 1)

Here Sackett acknowledges and values the different types of knowledge held by the clinician, for example, knowledge acquired through cultural and personal experiences, logical and critical knowledge gained through curriculum and the extra insight that can only be acquired through cumulative clinical expertise. He values the patient as an empowered decision maker and highlights that not all research is transferable into practice due to flaws in either design or reason.
Exercise 1.2

Based on the discussion so far, can you identify the main components of evidence based decision making? Some suggestions are made in the Appendix.

This section has attempted to define some of the characteristics of evidence based practice but has not clarified the nature of evidence itself. In order to enhance understanding it is sometimes easier to illustrate what something is not rather than to try and describe what it may be, therefore we will explore types of knowledge and evaluate their relevance to decision making.

Types of knowledge

The term ‘evidence based’ implies some scientific contribution and rationality, however Aveyard and Sharp (2009) advocate that different types of decision making need different types of evidence. Some types of evidence are sufficient to guide us through everyday life but fail to offer the desired level of clinical direction needed for professional practice. Hence health professionals tend to adopt an eclectic approach to decision making, drawing on knowledge from several areas. This section will discuss five sources of knowledge that may be used to guide decision making (see Figure 1.2). Each of these will be critically related to evidence based decision making in this chapter.

Traditional knowledge

Traditional or indigenous knowledge refers to the longstanding, passed down wisdom that occurs between communities. It could be described as knowledge
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Gained by living next to nature that distinguishes one community from another. It may be termed socially constructed knowledge as it is deeply embedded in cultural life patterns and inextricably bound in rituals and religious practices. Much of the knowledge is gained through revelation, for example in stories, songs or pictures. Although some critics refer to indigenous knowledge as unscientific and tacit, it has an inherent rationality and it has its uses in terms of practical commonsense survival within a particular culture. For example, understanding the rituals, beliefs and religions of local people allows predictions to be made about needs within local areas and may be crucial to social workers, health visitors or police. Some examples of these follow:

- If a particular local area has a high percentage of devoted Muslims who need to pray at particular times, knowledge of these times would be useful to health visitors so that visits could be planned in order to preserve respect.
- If a particular local area has a high population of practising Catholic people, this could have an impact upon the type of sexual health education that is offered. For example rather than focusing on issuing contraception, the healthcare professional may focus upon safe sexual practices.
- If a particular group have strong beliefs about the preservation of animals, healthcare services may focus upon how to obtain a healthy state through optimizing minerals and vegetables.

The extent to which this form of evidence may be termed reliable is questionable as it is difficult to generalize knowledge between cultures, however its strength lies in its validity. As much of the knowledge is sacred it is accepted as truth for the people concerned. Understanding tradition and culture is crucial to understanding the organization that you work in as many work patterns are rooted in rituals, for example: meal times, patient handovers, the organization of shift patterns. Most importantly traditional knowledge is fundamental to promoting caring, dignity and respect. Understanding a patient’s cultural norms has the potential to reduce anxiety, aid holistic assessment and considerately plan culturally relevant interventions.

Authority knowledge

Authority or autocratic knowledge is carried down from experts to novices and is evident in every society; examples include: parent–child, teacher–student, employer–employee relationships. This form of evidence is also socially constructed and plays a role in maintaining social order. However, it is the most short-lasting form of evidence as it relies upon the reputation and expertise of
the knowledge giver. As the knowledge receiver gains more knowledge or the social situation changes, the knowledge giver becomes less credible. Authority knowledge is dependent upon the group members believing and respecting both the knowledge giver and the knowledge itself. Group members are less likely to comply with the outcomes of this knowledge as they lack ownership. Authority knowledge is used to inform decision making in health care through the prescribing of medication or referral to additional services such as physiotherapy.

Personal knowledge

Personal or experiential knowledge is knowledge that is gained through experience throughout life, for example, experiencing a fall or an accident. Due to its subjectivity anecdotal or personal evidence is considered less reliable and robust than any other form of evidence. While tradition and authority evidence have some internal logic and have some level of transferability, personal evidence is considered too person centred to generalize to another human being. It is deemed impossible to audit the trail of knowledge as one cannot enter the brain of another human being. In many published hierarchies of evidence such as University of York NHS Centre for Reviews and Dissemination, personal knowledge is not even acknowledged. However, much of the health professional’s work involves empathy and understanding the humanity of others. This cannot be achieved without some level of introspection and self-awareness, therefore the experiences that a person is exposed to will impact the way in which they perceive events and react to them. For example, Benner and Wrubel (1989) claims that caring has to be experienced in order to be recognized as caring and without this experience a person cannot know how to model caring acts.

If the subject of ethics is used as an example of personal knowledge, in order to recognize the human rights of others, one has to identify with self in order to recognize and categorize a right. However, for the individual making the clinical decision this is the most powerful and most trustworthy source of evidence as it has been personally validated. Carper (1978) acknowledges that personal knowledge is crucial to clinical expertise and includes it in her ‘Four fundamental patterns of knowing’. An example where personal knowledge is used to inform decision making could include female healthcare professionals who have experienced childbirth being able to predict when a new mother may need analgesia or being able to offer useful tips about breastfeeding. However, it must be noted that personal experience lacks the reliability of research based evidence and should not be used alone to guide healthcare practices. Personal knowledge can be an aid to caring through the sharing of experiences and promotion of empathy but can lead to biased professional judgements.
Trial and error knowledge

The trial and error approach involves the successive use of alternatives until some level of success is achieved and is often used in the absence of more concrete knowledge. It involves systematically trying new strategies, rejecting those that are flawed and accepting those that work. It may be termed solution orientated and problem specific as it is very focused in its approach to discovery. Hence, one could argue that there are some scientific principles involved and it could be likened to the formulation and testing of strategies in experiments and randomized control trials (Parahoo 2006). This approach is used in the selection of wound care dressings or drug therapies. As patients are individuals, different therapies will work for different people; sometimes healthcare professionals have to try a variety of approaches from the resources that are available until one is successful. This type of evidence has the potential to produce innovation but is high risk and clinicians often fail to analyse the reasons for failure or scrutinize the reason for success.

Research based knowledge

Research based evidence is evidence produced from scientific studies. Research is highly regarded by healthcare professionals as it uses systematic methods to solve complex social problems by drawing on statistics. However, research based evidence also draws upon the many other forms of knowledge, for example, successful interviewing requires some understanding of traditional behaviour while randomized control trials involve an element of trial and error. For example, a randomized control trial involves researchers testing one or more interventions on groups of people without any concrete knowledge of the outcomes. Research has its value in establishing cause and effect, providing evidence for measuring the effectiveness of interventions and understanding the nature of experiences and therefore deserves its place in any discussion of evidence based practice. Research informs decision making by evaluating which interventions work better than others so that patients receive the most effective care strategy. Hamer and Collinson (2005) argue that research based evidence can enhance clinical judgement through the critical application of reliable and valid data but cannot and should not replace it.

Parahoo (2006) describes research as a systematic way of knowing that lays bare its methods for all to see. This implies that research is honest and transparent and therefore should be reliable and trustworthy. However, Parahoo goes on to argue that research is dependent upon the quality of the research design itself. Smith et al. (2004) add that additional functions include securing professional status, protection from litigation and to evaluate the use of resources. They go on to argue that not all health work is amenable to scientific investigation; for example, Watson (2004) argues that the concept
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of caring cannot be measured as it cannot be adequately defined. An example of research based knowledge would be Livesley’s (2005) study into how children’s nurses interpret work with unaccompanied hospitalized children in Manchester. Livesley used tape-recorded interviews with four children’s nurses in order to explore the strategies that nurses use to meet the needs of children who are unaccompanied by their parents while in hospital. The study found that nurses used distancing to create professional boundaries and as a way of distinguishing between the parent and nurse roles.

Exercise 1.3

Consider the five types of knowledge that have been discussed. Which do you perceive as the most relevant to your profession? Think of incidents from your practice where you have used each type of knowledge and reflect upon the outcome of your decision making.

- traditional knowledge
- authority knowledge
- personal knowledge
- trial and error knowledge
- research based knowledge

Barriers to using evidence based practice

While many authors support the use of evidence based practice, less attention has been paid to developing comfort with the term and understanding the nature of evidence and what it means for you on a day-to-day basis. Much of the literature that discusses evidence based practice is woolly and jargon laden. Meanings are often inferred rather than made clear. Glaziou and Haynes (2005) suggest that this results in underuse and misuse of evidence. They claim that research that should change practice is underused due to lack of: understanding, time, power to introduce change and skills in critical appraisal.

Example

Imagine that you are preparing to write an essay for your research course. While collecting material for your essay, you come across several pieces of research that could be used to inform practice. The articles suggest new ways to perform an activity within your working area. You take these to your
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manager/mentor who states that he/she is too busy to make changes at the moment; furthermore, the rest of the staff state that they like things the way they are. Although the research may be ‘out there’ you may not be able to implement it.

Research is over used when handed down anecdotally by experts or specialist healthcare professionals. It is often quicker to ask a considered expert than to personally explore the literature. This results in staff knowing the right thing to do but not knowing why it is the right thing.

Example
How many times do you hear staff use the term ‘research states that we should do this’ but when you ask ‘which research?’ the answer is not forthcoming?

Research is misused due to the abundance of studies with competing claims and advice. Glaziou and Haynes (2005) point out that Medline alone indexes more than 560,000 new articles per year and there is often little effort to set the results systematically in the context of similar studies. This limits the usefulness of research at the bedside as staff members lose trust in the findings and evidence is not transformed into action. To commit to evidence based practice clinicians need effective strategies for extracting relevant information from the many publications currently available. Materials need to be current, accessible and user friendly. To ease the burden of information overload and make the system more user friendly, several services exist to help practitioners tap into just those articles relevant to their specific area of practice. Examples include: Evidence-Based Nursing (Journal), The Cochrane Library and bmjupdates. Each of these offer valid and reliable overviews of studies that can save students valuable time and expense.

The challenge of implementing change can itself be a disincentive to applying research into practice as changing behaviour is complex and clinicians will often revert back to usual practices unless they genuinely believe in the evidence for change. The abundance of conflicting research based evidence impacts people’s confidence in the findings and deters them from implementing new strategies as the strategies are perceived as too high risk.

Exercise 1.4

Identify the factors that would/could deter you from implementing evidence in your area of practice. (Examples are provided in the Appendix.) Can you think of any strategies to reduce the barriers that you have identified?
Summary

This chapter has explored the place of evidence based practice in the modern healthcare system. The rationality for using different types of evidence has been critically discussed and the value of eclectic decision making has been established if we want to create wise clinicians. Effective decision making could be defined as the synthesis of science and sensibility through the use of research, tradition, experiences, experimentation and direction from authority. Different events call for different types of knowledge. This chapter has highlighted the strengths and weaknesses of five types of knowledge as they relate to health care. Begley (2009) points out that wisdom is the appropriate use of knowledge and goes on to stress that the practitioner who lacks the wisdom to use knowledge well will practise poorly. Evidence based practice is a craft and like most crafts, it needs engagement, nurture and refinement.

Reflective activity

Consider the following opposing statements about evidence based practice. Which one do you believe and why?

1. Evidence based practice is the mindless application of population studies in order to predict treatment for the individual. It takes the results of studies of large groups of people and tries to apply them to individuals who may have unique circumstances or characteristics, not found in the study groups. Therefore, research is not necessarily useful.

2. ‘Evidence based practice converts the abstract exercise of reading and appraising the literature into the useful process of using the literature to benefit individual patients while simultaneously expanding the clinician’s knowledge base’ Bordley (1997: 427).

Reflecting upon these statements may encourage you to consider your viewpoint and commitment to evidence based practice. To what extent do you practise evidence based practice? Are there any barriers to implementing evidence that you can now address?

Jargon busting

Make a list of any words in this chapter that you do not understand. Look up their meaning and think about how the words relate to research and health care. You may like to consider some of these:

Appraise: To critically evaluate the worth of something. Often used to compare and contrast different pieces of research or individual research papers.
Conscientious: Very carefully, with thought and deliberation. This is often used to imply that evidence should be thoroughly thought through before being acted upon.

Empowerment: Enabling people to feel that they have the power and freedom to make decisions. This can be used when considering ethical issues in research.

Evidence: Gathering information in order to make a decision or form some understanding about something. Can be used to guide healthcare activities, change patterns of thinking or justify behaviours.

Experiential knowledge: Knowledge that has been gained from living out particular situations. It can be used to describe experiences in some types of research.

Explicit: Open and unambiguous. This is used to imply that research should be clear and not have any misleading information.

Infrastructures: The component parts that make up organizations such as healthcare institutions. It can refer to rules, laws, power structures, facilities or equipment.

Judicious: Sensible and wise. This is used to imply that research should be used cautiously to do good and not just because it exists.

Randomized control trial: A form of experiment where two groups are used to test a theory. One group is a control group (who would not be given a drug for example) and one group are an experimental group (for example, this group would receive a given drug). Every person in the study group has an equal chance of selection into one of the two groups.

Robust: Strong. Used to evaluate how good a piece of research is. The term implies that the research has been carried out with minimal flaws or mistakes.

Stakeholder: This refers to all of the people involved in a given situation who may hold a viewpoint. This can be used when considering ethical issues in research.

References


