What is the evidence on evidence-based nursing? An epistemological concern

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Introduction

The questions of where, how and why evidence-based nursing has emerged and what it is, has practical significance for three reasons. The first is that beliefs about the concept determine action. The second is that misunderstanding can bring about a loss of confidence in those who are expected to develop practice. The third is that conceptual compartmentalization...
in science often leads to a dissociation with the previous work in the field. These things are considered of scientific relevance to the development of high quality nursing service. The impetus for this paper was the idea that the concept of evidence-based nursing represents something of a paradox. The paradox is that there seems to be very little evidence to support the notion that the term is a solid enough construct for scientific or practical purposes. In fact the concept itself holds within it the seeds of its own destruction. In the same way that a person speaking about elocution or lecturing about good teaching can betray the very principles they are extolling by their behaviour, current advocates of evidence-based practice (EBP) seem to betray the whole rationale for EBP by having no scientific construct to support its emergence. Others have commented on similar scenarios in health care. ‘The emphasis on enlarging the EBM ‘textbook’ also runs the risk of re-creating the intense enthusiasm followed by the sad disenchantment that occurred about 25 years ago when the ‘Problem Oriented Medical Record’ was introduced (Feinstein & Horowitz 1997). The same could be said of previous vogues the ‘Nursing Process’, ‘Primary Nursing’ and in more recent times the ‘the Reflective Practitioner’. This is a paradox that has resounding implications for evidence-based nursing not just because it limits its utility, but because there may be inherent ontological issues which preserve a certain superficiality in the process of promoting better nursing practice. It is proposed here that the epistemological status of evidence-based nursing should be considered further in order to refine a model which has some utility in improving nursing practice.

An epistemological perspective

‘Epistemology, or the theory of knowledge, is concerned with how we know what we know, what justifies us in believing what we do, and what standards of evidence we should use in seeking truths about the world and human experience’ (Audi 1998, p. 1).

The current persuasive power of EBP appears to be based on a belief that it is a viable construct. Belief has been described as a ‘dispositional mental property in that it tends to be accepting’ (Audi 1998, p. 276). Audi argues that thinking as an occurrent mental property aims to change that which is known. A basic tenet of this paper is that there is more belief associated with the concept of EBP than actual thought based on scientific evidence. In what ways can the belief in EBP be said to be a justified? According to one philosophical view the epistemic status or justification for believing in a concept such as EBP is a function of three different things (Chisholm 1989):

- The object of a belief may be self-presenting. In such a case, the belief may be called a basic apprehension.
- Some beliefs have a kind of prima facie probability. If I accept a proposition and if the proposition is not disconfirmed by my total evidence, then it is that proposition which is possible to me.
- A belief may derive its epistemic status from the way in which it logically concurs with the other things one believes.

It is considered that EBP, as a concept, is not a self-evident construct, so (a) is not the case. The proposition that EBP is a viable concept is generally accepted on face value, and (b) seems to be the common basis of belief in the concept. What is of considerable concern here is how does EBP logically concur with other beliefs or knowledge that we have. This analysis therefore will be guided by the following questions. How has the concept of evidence based nursing come into being? What justifies its existence? What evidence exists to support the fact that it is a construct that concurs with other knowledge that we have?

Symbolic interactionism

In this paper the theory of symbolic interactionism will be adopted as a justification for analysing the utility of the phenomenon of ‘evidence-based nursing’ from an epistemological point of view. There are many facets of the theory of symbolic interactionism and they are more fully described elsewhere (Benzies & Allen 2001) For the purposes of this paper symbolic interactionism (SI) has a certain utility in analysing concepts and evaluating their status as constructs.

The reason for this arises mainly from the two component words ‘symbol’ and ‘action’. In this perspective human behaviour is governed by internal processes that give meaning to the environment (Haralambos & Holborn 2000). The most crucial element for this epistemological analysis is the process of symbolism determined by George Herbert Mead (1863–1931) and succinctly described by Haralambos and Holborn (2000) in the following way:

‘Human beings interact in terms of symbols, the most important of which are contained in language. A symbol does not simply stand for an object or event: it defines them in a particular way and indicates a response to them. Thus the symbol “chair” not only represents a class of objects and defines them as similar, it also indicates a line of action, that is the action of sitting. Symbols impose particular meanings on objects and events and in doing so largely exclude other possible meanings.’ (Haralambos & Holborn 2000, p. 1056)

This construction of symbolism applies to tangible as well as our less tangible concepts such as love, human rights and
indeed evidence-based nursing. Three points can be made about Mead's concept of 'symbol'. The first is that words (language) are transformations of personal concepts. These concepts have particular action orientations for each individual. The degree of consensus about the critical attributes of these constructs and the associated action amongst individuals may be great or small amongst any given population. It is this last point that is at issue in the current debate on the epistemological status of evidence-based nursing. Lewis Carroll seems to exemplify this concern when relating one fictional conversation in ‘Through the looking glass’:

“When I use a word’, Humpty Dumpty said in rather a scornful tone, ‘it means just what I choose it to mean – neither more nor less.’ ‘The question is’, said Alice, ‘whether you can make words mean so many different things.’ ‘The question is’, said Humpty Dumpty, ‘which is to be master – that’s all.’ (Carroll 1872, p. 54)

**Concept or construct in evidence-based symbolism?**

It has been argued that the process of science involves the transformation of theory into propositions and then to fact (Seaman 1987). This represents a transformation of concepts into constructs. As used here the term concept is taken to mean that there is loose consensus in the way that a symbol is defined or clarified in every day usage. In contrast a construct reflects the specific, potentially observable confirmed characteristics of a concept (Bockopp & Hastings-Tolsma 1995). Usually a construct in scientific terms is built up on the basis of the degree to which one or more parameters of the construct can be demonstrated as constant. Essentially there needs to be evidence to support the permanent existence of a parameter as a distinguishing characteristic. Indeed research is largely about confirming the differentiating characteristics of objects or phenomena. Thus a construct exists so that common meaning is maximized and this is achieved by its validation by the existing evidence. So what evidence exists about the clearly differentiating characteristics of evidence-based symbolism. It is possible to begin by examining the origins of evidence-based symbolism.

**‘Evidence-based’ symbolism**

The beginning of ‘evidence-based’ symbolism seems to be most commonly attributed to the physician and epidemiologist Archie Cochrane who called for the preparation, maintenance and dissemination of systematic reviews in all fields of health care (Cochrane 1979). The actual symbolism that was coined was ‘evidence-based medicine’ (Sackett *et al.* 1997). After the emergence of evidence-based medicine various authors have preferred to use terms such as EBP or evidence-based health care (Gray 1997). Nursing by association has become involved in this evidence-based medicine movement and the term evidence-based nursing has been coined (Cullum *et al.* 1997, Pearson *et al.* 1997, Smith 1997). In the case of evidence-based nursing it could be said that many of the aspects of the concept are linked to the idea of research-based practice and its relationship with EBP is of relevance. In the United Kingdom (UK) an upsurge of interest in nursing research can be traced back to the recommendations of the Briggs Report (Briggs 1972). This report recommended that British nursing must be a research-based profession. There has been an almost logarithmic increase in the number of nursing research papers published since 1970 (Table 1). This as been accompanied by a relatively constant stream of papers lamenting the lack of uptake of research findings in nursing practice (for example Hunt 1981, Walsh & Ford 1989, MacGuire 1990, Luker 1992, Rolfe 1998).

A MEDLINE search conducted on 12 July 2001 utilized a number of key words associated with ‘evidence-based’ and ‘research’ symbolism during a time period from 1960 to the present. The results show that the keywords ‘evidence-based medicine’ revealed 5612 papers, EBP 432 papers, evidence-based nursing 47 papers, evidence-based health care 60 papers, and evidence-based decision making 43. Almost all of these papers have been published since 1995 and the earliest use of the symbol ‘evidence-based’ is 1992 (Table 2). These data indicate some variation in evidence-based symbolism the centre being the most prolific concept of evidence-based medicine. The data on Table 2 also demonstrates an increase in papers adopting ‘evidence-based’ symbolism along with a commensurate decrease in the use of the term ‘research’ in the nursing context.

If this publication record is anything to go by there has indeed been an increased adoption of ‘evidence-based’ symbolism. The previous rhetoric of research-based nursing

### Table 1 Mean publications per year using keywords in MEDLINE from 1960

<table>
<thead>
<tr>
<th>Time period (10 years)</th>
<th>Keywords: mean number of publications per year</th>
</tr>
</thead>
<tbody>
<tr>
<td>1989–1998</td>
<td>553.5</td>
</tr>
<tr>
<td>1979–1988</td>
<td>100.5</td>
</tr>
<tr>
<td>1969–1978</td>
<td>32.5</td>
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<tr>
<td>1960–1968</td>
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(9 years only)

seems to be increasingly replaced by evidence-based nursing (or EBP). This may suggest that the symbols are sometimes used euphemistically and that the meaning for many nurses may be the same. What then is the evidence for an action orientated distinction? Have we merely produced a system of human concepts that have meaning to individuals, with little consensus in the health professional population and do we have a scientifically separable new construct that will guide professional action?

The meanings attached to evidence-based symbolism

In order to begin to evaluate evidence-based symbolism as a unified concept it seems sensible to observe the semantic aspects of the language used by major proponents of the phenomenon at the superficial level making inferences about the deeper meaning. It has been suggested that ‘evidence-based’ symbolism in the health care domain demonstrate quite a number of inconsistencies (Stetler et al. 1998). A selective review of definitions of EBP will now be presented in chronological order for the reader to reflect upon before inferences are drawn.

- ‘Evidence-based medicine is the process of systematically finding, appraising and using contemporaneous research findings as the basis for clinical decisions (Rosenberg & Donald 1995, p. 1122).
- ‘A shift in the culture of health care provision away from basing decisions on opinion, past practice and precedent toward making more use of science, research and evidence to guide clinical decision making (Appleby et al. 1995, p. 3)
- ‘the conscientious, explicit and judicious use of current best evidence about the care of individual patients. The practice of evidence-based medicine means integrating individual clinical expertise with the best available external clinical evidence from systematic research’ (Sackett et al. 1996, p. 71)
- ‘Practitioners need to make better use of nursing research to establish a more EBP. Evidence-based practice enables nursing to provide and justify high-quality, cost-effective care’ (Simpson 1996, p. 22)
- ‘Providing care to clients for which there is evidence of clinical effectiveness is the cornerstone of EBP. Evidence may come from research, audit, feedback from clients and expertise’. (RCN 1996)
- ‘Making decisions about groups of patients and/or populations and basing such decisions on a careful appraisal of the best evidence available’ (Gray 1997, p. xi)
- ‘Evidence-based nursing is one approach that may enable future health care providers to manage the explosion of new literature and technology and ultimately may improve patient outcomes’ (Kessenich et al. 1997, p. 25)
- ‘Evidence-based practice is a method of problem solving which involves identifying the clinical problem, searching the literature, evaluating the research evidence and deciding on the intervention. (White 1997, p. 175)
- ‘Evidence-based health care involves using a combination of clinical expertise and the best available research evidence, together with patient preferences, to inform decision-making’ (Flemming & Cullum 1997, p. 28)
- ‘This emphasis on EBP implies that relevant research has been or is being done (otherwise there would be no findings

Table 2 The number of publications using ‘evidence-based’ and ‘research’ symbolism in the MEDLINE database

<table>
<thead>
<tr>
<th>Year</th>
<th>Nursing research</th>
<th>Research nursing</th>
<th>Research-based nursing</th>
<th>Evidence-based nursing</th>
<th>Evidence-based practice</th>
<th>Research-based practice</th>
<th>Evidence-based medicine</th>
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<tr>
<td>1960-curr.*</td>
<td>8063</td>
<td>671</td>
<td>26</td>
<td>47</td>
<td>432</td>
<td>112</td>
<td>5612</td>
</tr>
<tr>
<td>2000</td>
<td>302</td>
<td>11</td>
<td>1</td>
<td>8</td>
<td>110</td>
<td>8</td>
<td>1642</td>
</tr>
<tr>
<td>1999</td>
<td>353</td>
<td>22</td>
<td>0</td>
<td>13</td>
<td>104</td>
<td>11</td>
<td>1464</td>
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<tr>
<td>1998</td>
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<td>64</td>
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<td>374</td>
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<td>214</td>
</tr>
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<td>6</td>
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<td>69</td>
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<td>0</td>
<td>6</td>
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*Search conducted 12/07/01.
to utilize), that the findings from such research are available and accessible, that there are mechanisms for putting such findings into practice and last but not least that research findings are put into practice’ (Hunt 1997, p. 14)

• ‘With the emphasis now being placed on scientifically validated or EBP, it has become more imperative that clinical guidelines be based in credible information in our text books and research literature.’ (Gunn 1998, p. 178)

• ‘Evidence-based medicine calls for the integration of our clinical expertise with the best available external evidence and patients’ values by translating our need for information into an answerable question and then tracking down the best information with which to answer that question.’ (Sackett & Straus 1998, p. 1336)

• ‘The systematic interconnecting of scientifically generated evidence with the tacit knowledge of the expert practitioner to achieve a change in a particular practice for the benefit of a well defined client/patient group’ (French 1999, p. 74)

• The thrust of evidence-based medicine is around identifying more clearly those health care interventions that can be shown to be effective on scientific grounds (Elkan et al. 2000, p. 1316).

In the earliest definitions it is common to see some essential elements; ‘best evidence’ ‘individual patients’ ‘individual clinical expertise’ and ‘external clinical evidence’ as ‘primary’ or ‘systematic research’. These inconsistencies, however, are further exacerbated by two separate issues. They can be represented by the questions; what is the meaning of the word ‘evidence’ and what is the process of EBP? These two questions will now be considered separately.

The meaning of ‘evidence’

It is apparent that the most common, but by no means exclusive, meaning of the word ‘evidence’ is primary research findings. There are, however, many variations on this theme. Just one example is a national report which indicates that there are numerous ways in which the term ‘evidence’ can be perceived (Tranmer et al. 1998). In this report evidence was defined as information based on historical or scientific evaluation of a practice that was accessible to decision-makers in the health care system. The types of evidence considered acceptable included:

• experimental (randomized clinical trials, meta-analyses and analytic studies);

• non-experimental (quasi-experimental, observational);

• expert opinion (consensus, based on published literature and consensus process, commissioned reports);

• historical or experiential (Tranmer et al. 1998).

After examining other literature the variations in the meaning of the term ‘evidence’ can be summarized as:

• Evidence as truth.

• Evidence as knowledge (including, tacit, expert opinion and experiential).

• Evidence as any relevant information that confirms or refutes a belief.

• Evidence as primary research findings.

• Evidence as meta-analyses and systematic reviews.

Because of this variation there is a strong argument for restricting the use of the term ‘evidence’ in EBP symbolism to research findings. Even then there is a debate on which formulations of research findings are most valuable. There have been suggestions of a hierarchy of levels of evidence. One such classification of levels has been suggested as follows:

• Findings based on a systematic review which has been packaged and collated, forming recommendations for practice, as in the case of clinical guidelines.

• Systematic reviews and overviews of appraised research.

• Sound research that has been identified by individuals searching sources themselves.

• Expert opinion or the results of quality improvement programmes’. (McClarey & Duff 1997, Morgan 1997). This classification seems to be based on the systematic review as its major focus. There is, however, no consistent orientation to the definition or quality of systematic reviews. For instance the Cochrane library prefers the inclusion of papers that are either randomized controlled trails or clinical trials. Cochrane review groups are reluctant to accept studies based on qualitative data when in essence there is no reason to believe that systematic reviews cannot be conducted using phenomenological data. There are many examples in the literature of reviews that have included studies using qualitative data (for example Grootenhuis & Last 1997). Accepting the pre-eminence of quantitative data and taking account of this criticism another formulation of these levels can be suggested:

• Meta-analysis of two or more studies using identical forms of data.

• Externally monitored large-scale research projects (for example government/industry commissioned).

• Authoritative published judgement of studies adopting the same research question or similar data. (systematic review).

• Student-conducted and supervised literature critiques (PhD theses).

• Expert and research informed opinion (textbooks, opinion papers).

These suggestions, however, are still controversial and a lack of consensus about the meaning of the term ‘evidence’
amongst health care professionals can lead to more variation in meaning. It is possible to dismiss this concern by saying that if the symbolism improves performance then does it really matter. This then begs the question of what is the human performance that is being described?

The meaning of evidence-based practice

After considering the status of the term ‘evidence’ it is now possible to consider the action element of the symbolism, that is evidence–based practice. Other terms are used in this symbolism such as evidence-based health care, evidence-based medicine, evidence-based nursing and evidence-based decision-making. Evidence-based practice will be adopted for the following discussion simply because it is believed to be the mostly widely used generic term for the phenomenon in question.

An examination of the definitions previously cited and the associated papers indicates a polarization of belief about many elements of the EBP process. The following dimensions can be observed and various proponents adopt different positions on each of them.

• The Datum dimension – hypothetico-deductive research findings vs. any relevant information.
• The Scientific dimension – include interpretive approaches vs. exclude interpretative approaches (i.e. use of qualitative or hermeneutic data).
• The Social dimension – the individual client vs. client group focus.
• The Organizational dimension – practitioner vs. organizational decision-making.

In fact the different criteria adopted on each of these dimension often give the impression that the term EBP is often used as a euphemism for other long standing traditions. The following euphemisms are plausable:

• EBP as research-based practice;
• EBP as an information management process;
• EBP as professional practice development;
• EBP as clinical judgement/problem solving;
• EBP as managed care.

These concomitants have been laid out in Figure 1. One interpretation of this figure is that EBP is in fact a product of the conceptual overlapping of already existing traditions. If this is the case then EBP symbolism may be merely a replacement for failed systems of quality assurance! Could the symbol EPB be replaced by QA in the model described in Figure 1? If this is not plausible then one can suggest that it may be just an expansion of research based-practice (applied research). Is it simply an adjunct that attempts to solve the issues of research uptake by facilitating the dissemination and comprehension of research findings during an information explosion (for example Robinson 1995, Silagy & Lancaster 1995, McArthur 1997, Gould et al. 1998). Then it could be concluded that it is merely an artefact of information technology.

In the final analysis it is seems that EBP symbolism lacks consensus and that there is very little evidence to support the contention that a new construct or process exists.

Conclusion

This paper has raised as many questions as answers. The major challenge of this paper is still the question, what is the evidence that EBP in nursing is a viable construct or process? The defence of the concept has taken many forms since 1995 and one paper in particular takes issue with many of the rationales forwarded by the proponents of evidence-based medicine (Feinstein & Horowitz 1997). One additional concern is that most of what is being said about evidence based practice (and this paper included) is based on subjective, albeit expert or informed, opinion. Authors are largely expressing personal opinions about the nature of the construct and the process. It is difficult to find any empirical evidence (research) to support the notion that the term ‘evidence’ is a stable construct or that EBP is a distinct process which offers more than a novelty effect in a basically political scenario (Feinstein & Horowitz 1997). In order to avoid future disenchantment with the concept of evidence-based nursing a number of questions should be resolve by nurses. They are:

• Are we saying that EBN is a combination of all the concomitants described in Figure 1?
• If so are we sensibly combining the knowledge bases which inform these concomitants?
• Is there any sensible justification for aggregating these knowledge bases in the absence of any evidence that EBP is a useful construct or process?
• What is the problem with using the term research-based nursing instead of evidence-based nursing and incorporating this into a model of quality assurance at the practitioner and organizational level?
It is the authors’ contention that the belief that evidence-base practice is a new construct results in the continuing dislocation of the research processes from the quality assurance process in nursing at the practitioner level, and that this is a recipe for further disenchantment if not resolved. It is hoped that this paper will provoke further thought on this.

References