

**Evidence:
The knowledge of
most worth**

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Author's Contribution

I certify that this thesis is my own work and it has not been published or reproduced elsewhere. I was primarily and principally responsible for the development of the research proposal and research questions, the selection of research methods and submissions to the Human Ethics Committees of the University of Sydney and The College of Nursing for permission to conduct the studies with New South Wales nurses. The review of literature and the three separate studies reported in this thesis were planned and conducted by me. This included all processes involved in the collection, management and analysis of data and the interpretation and presentation of the results.

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Abstract

Similar to their colleagues throughout the world, nurses and midwives in New South Wales (NSW), Australia, welcome evidence-based practice (EBP) as a means to improve patient or client outcomes. This thesis explores the way nurses and midwives understand evidence for EBP and aims to determine whether members of these professions currently have the knowledge and skills necessary to implement evidence-based care.

Three separate studies were conducted to explore NSW nurses' readiness for EBP. Attitudes, knowledge and skill were investigated using an EBP questionnaire returned by 383 nurses. The views of 23 nursing opinion leaders were elicited during qualitative in-depth interviews, and their ideas on maximising the potential for future nurses to confidently engage in EBP were explored. Current approaches to teaching EBP in undergraduate nursing programs were investigated by examining documents issued by NSW nursing education providers.

The results demonstrate many differences between the ways NSW nurses currently understand evidence for EBP, and a range of approaches to teaching EBP in undergraduate nursing programs. Under current conditions, nurses graduating from universities in NSW commence practice with varying levels of preparation for EBP and enter into a professional arena that is itself struggling to cope with the concepts and language of this approach to improving healthcare.

Evidence for the effectiveness of EBP is slowly accumulating and despite some small positive signs, the collective results of this thesis suggest that current educational approaches are not capable of producing the kind of results that are both necessary and desirable for the promotion of evidence-based nursing practice in NSW.

Articulating a commitment to EBP, using a common language and a consistent approach are among the recommendations made for the future promotion of EBP in nursing education.

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Overview

The challenge, promise and success of evidence-based practice (EBP) is reflected in the discussions of healthcare professionals around the world. In this thesis, I discuss EBP within the context of nursing in New South Wales, Australia. Specifically, I attempt to explore an assumption that is sometimes made of nurses and perhaps of others in the healthcare professions. This assumption is that there is a common or shared understanding of evidence for EBP, and that there is a sufficient level of knowledge and skill to implement evidence-based care.

Specifically, this thesis argues that a lack of clarity and absence of a consistent language for describing evidence for nursing practice has contributed to an indiscriminate approach to the way EBP is taught in nursing. This thesis demonstrates that, under current conditions, nurses graduating from universities in New South Wales (NSW) commence practice with varying levels of preparation in EBP and enter into a professional arena that is itself struggling to cope with the concepts and language of this approach to improving patient or client care. Lack of consistency in approaches to teaching EBP is therefore identified as yet another barrier in the long list of factors known to impact upon evidence implementation. Although it is my view that the interpretation of evidence for practice is necessarily driven by context, lack of consensus on the meaning of evidence within the nursing profession creates a confused and confusing landscape against which beginning nurses attempt to understand what evidence actually is. It is proposed that this lack of consistency may even

discourage beginning nurses from engaging with evidence-based care, as it is difficult, if not impossible, to practice using evidence if you are not sure what 'evidence' means or what it consists of within a specific context. It is argued that until this landscape is adequately explored, defined and agreed, current approaches to teaching EBP will not produce the kind of results that are both desired and necessary for implementing EBP in nursing.

The intention of this thesis is not to prescribe what evidence is or can be, nor to propose yet another definition of EBP for nursing. Rather, the thesis argues that it is fundamental to the growth of an evidence-based profession that a common approach to the promotion and language of EBP be adopted. Further, this common foundation for EBP must be laid while students are being prepared to nurse (at undergraduate level). Like the many other skills required of the new graduate nurse, EBP is not something which can suddenly be 'switched on' in the early and challenging phase of adjustment to clinical practice. It requires that a basic and shared foundation level of knowledge and understanding has been achieved during preparation for this practice.

I undertook this thesis assuming that it would be possible to demonstrate that nurses had a common foundation level of knowledge and skill for EBP. While I have now learned never to assume anything, I remain convinced that my assumption about a general level of EBP knowledge existing within the nursing profession is also shared by others. Revisions of the national standards for competent nursing and midwifery practice in Australia in 2005

assume knowledge of evidence and evidence transfer among nursing and midwifery graduates. These standards determine that on entry to practice, 'the registered nurse provides evidence-based nursing care to people of all ages and all cultural groups' and 'practices within an evidence-based framework'.¹ Similarly, the midwife 'uses research to inform midwifery practice' and 'interprets evidence as a basis to inform practice'.² While these revised standards are a positive step forward, I do not believe this level of competence is currently possible in the new graduate nursing population of NSW using current educational approaches.

The results of the three separate studies conducted as part of this thesis show that there are currently many differences between individual ways of understanding evidence and many different frameworks for teaching EBP to nurses. The background of experience and practice that nurses bring to the educational and clinical sectors combine to produce a range of definitions of evidence, and variation in how EBP education is approached. The results of this thesis demonstrate that a shared view of evidence does not yet exist within the context of evidence-based nursing practice in NSW.

In this thesis, I therefore propose that more attention needs to be paid to this foundation level of preparation for EBP in undergraduate nursing programs. I believe this to be fundamental to achieving the goals of EBP education in nursing, if we understand these goals to include:

- to adequately prepare nurses to meet professional and public expectations for evidence-based practice;

- to make it possible for nurses to understand the links between evidence, practice and outcome;
- to demonstrate to colleagues, others in the healthcare professions and the public, the capacity for evidence-based practice change in nursing to improve patient care;
- to encourage nurses to question and evaluate their practice through research;
- to improve the teaching of evidence-based practice in the future.

Preparation for EBP must begin with communicating about evidence in a clear and consistent way to undergraduates. Further, a common approach is required to integrate EBP education into the continuing professional development of nurses through the recognition of 'evidence champions' in the academic, practice and organisational setting. While I do not believe that the tenets of this proposal are sufficient to resolve all the issues brought to bear by the context of nursing education, nursing practice and healthcare in general, one has to start somewhere. It is my view that many of the current approaches to EBP education in nursing show a lack of thought for the appropriateness and timeliness of content delivery in relation to the nursing professional pathway, with even less attention paid to the foundation on which this knowledge is laid.

Background

The success of evidence-based medicine (EBM) and the wider application of its theory to evidence-based healthcare have dominated much of the healthcare and policy literature over the past 10 years. EBM has been credited with confirming the efficacy of many treatments, as well as with exposing the ineffectiveness of many

others. EBM is also compelling to the nursing profession which supports the principle that EBP is likely to make a positive contribution to healthcare outcomes, care delivery, clinical teaching and research. Identifying evidence for nursing also offers the profession a means to a more transparent framework for practice and the opportunity to move closer to the goals of clinical governance and evidence-based patient care.

Many of the strategies proposed to address evidence transfer and utilization in nursing are based on an assumption of shared professional knowledge: a common platform of understanding upon which evidence is brought to the clinical arena for nurses to implement. But what is the shared professional knowledge of the nursing profession in Australia with regard to EBP? For some in nursing, 'research' and 'evidence' mean the same thing. For others, clinical experience, patient preferences and other contextual factors can be equally or more highly valued as 'evidence' for patient care.

The move of Australian nursing education from a hospital-based training model to the tertiary sector was completed more than ten years ago, in the mid-1990s. The profile of nurse academics in Australian universities at that time revealed a group comparatively under-qualified at the doctoral level and under-represented in senior academic roles compared to academics from other disciplines.³ An Australia-wide study of nursing research education practices – also conducted around the mid-1990s – found wide variation in subject requirements and differences of opinion in both the necessity and format of research education at undergraduate and postgraduate

levels.⁴ Historically, there have been few nurses with experience in both research and education to champion EBP education in Australian nursing.

More recently, the hegemony that produces and maintains barriers associated with EBP within Australian nursing has been challenged⁵ and a benchmark proposed to embed EBP into nursing curricula.⁶ Other aspects of EBP studied in the Australian nursing context include information retrieval,^{7,8} barriers to evidence implementation,^{9,10} models for evidence utilization^{11,12} and reviews of research output.^{13,14} However, the three studies conducted for this thesis provide the first comprehensive overview of Australian nurses' knowledge, skill and understanding of evidence for EBP.

Progress in preparing nurses for EBP is variable between countries. In the United Kingdom, government-directed priorities for healthcare and EBP have influenced both the speed and extent to which health professions have engaged with evidence-based care. However, as recently as last year (2005), a study of 700 registered nurses in the United States¹⁵ reported that many had received little or no training in information retrieval, did not understand the value of research, and were generally unprepared for evidence-based care. In fact, fewer than half of the respondents in the US study were even familiar with the term 'evidence-based practice'.

In this thesis, these same broad questions about preparation and readiness for EBP are posed within the Australian context. Are nurses in Australia prepared for evidence-based care? Are they familiar with

the terms and language associated with EBP? Is there still a mismatch between beliefs and practices in research education? Are providers of undergraduate nursing education ready, willing and able to prepare students for the next level of competence that is demanded as a national standard – practicing within an evidence-based framework? Can we move our profession from one which passively values research for its contribution to care, to one which actively encourages nurses to identify, think about and use research and other evidence within their clinical context?

The specific research questions explored by this thesis seek to evaluate current levels of EBP knowledge and skill among NSW nurses, to explore current views and attitudes towards evidence, and to examine undergraduate education practices with regard to EBP. By examining the views of both novice and experienced nurses, including those who are leaders and role models in the profession, this thesis challenges the proposition that nurses have a common understanding of ‘evidence’ and share an agreed approach to preparing nurses for using evidence in practice.

Aims

The three central aims of this thesis are to:

1. determine what nurses in NSW currently know and understand about EBP and explore how individual perceptions of evidence impact upon their readiness for evidence-based nursing.
2. examine current approaches to teaching EBP to undergraduate nurses in NSW in an attempt to identify the skills and knowledge required to

maximise the potential for nurses of the future to confidently engage in evidence-based care.

3. make recommendations for teaching EBP. These recommendations are offered as a starting point for a shared professional approach to improving nurses' readiness for EBP.

Design and Method

Three separate studies were undertaken to address the aims of this thesis. All were conducted in New South Wales (NSW), a state with the largest population (6.5 million people) and the highest number of public health facilities in Australia.

The three studies conducted for this thesis are:

1. A survey of NSW nurses

A survey entitled *Nurses' Perceptions of Evidence-based Practice* examines the knowledge, skills and attitudes of working clinical nurses and final year nursing students towards evidence and EBP.

2. Opinion-leader interviews

Semi-structured interviews were conducted with nursing opinion leaders to determine the ways in which they understand evidence for EBP and to elicit their views on what skills are required for EBP in nursing.

3. Content analysis of education documents

Documents relating to research subjects offered in NSW undergraduate nursing programs were analysed to determine

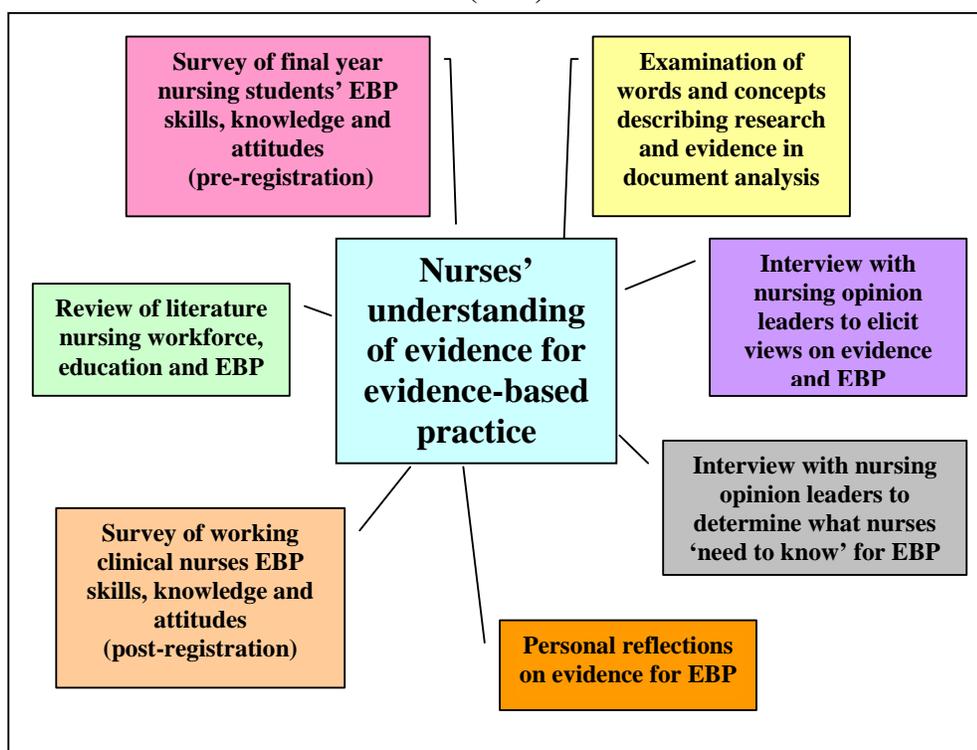
how words and concepts relating to research and evidence are used.

Throughout my candidature, I kept a journal to record the evolution of my own thinking about EBP and my responses to emerging literature. Through this journal, I was able to track the development of the research questions posed by this thesis and reflect on my own experiences of learning and teaching EBP. These reflections give the personal context in which this work was undertaken.

It was also important to me that the background against which the results of these studies are reported was made explicit. Therefore, the review of Australian and international literature in this thesis places nursing practice, education and EBP firmly within the context of Australian healthcare. The results of the three different methodological approaches to uncovering perceptions of evidence among NSW nurses are combined with my personal experience of EBP and findings from this literature review to inform the development of recommendations and a framework for preparing Australian nurses for EBP.

The range of perspectives offered by the various approaches to nurses' understanding of evidence for EBP explored in this thesis can be represented by the following diagram.

Figure (i): Exploration of NSW nurses' understanding of evidence for Evidence-based Practice (EBP)



Summary of findings

The survey of NSW nurses' skills, knowledge and attitudes towards EBP revealed that while both pre- and post-registration nurses are clearly supportive of practice based on evidence, it cannot be assumed that even recent graduates have a level of EBP knowledge and skill that is adequate to permit their direct engagement in evidence-based care. Pre-registration nurses (those about to graduate from a Bachelor of Nursing course but not yet registered as nurses) expressed more confidence in EBP skills than did working clinical nurses (post-registration), but actual scores of self-rated knowledge and skill were low to moderate in both groups. About half of all respondents viewed the provision of evidence-based protocols or guidelines developed by

others as the most appropriate way to move nursing from opinion-based to evidence-based approaches to practice.

Nurses are more confident asking colleagues or peers for information than searching for research or other evidence themselves,^{15,16} yet NSW nurses responding to the *Nurses' Perceptions of Evidence-based Practice* survey commonly believed that up to 70% of their current nursing practice is based on evidence. But what did they mean by 'evidence'? The survey findings revealed that individual definitions of evidence ranged from something that has been 'researched' or supported by 'proof', to complex combinations in which research, experience, clinical expertise and patient values were all considered in making evidence-based clinical decisions.

The results of the survey also suggested that continuing education strategies for EBP must be more responsive to variations in the educational background of pre- and post-registration nursing students, to nurses' previous preparation for EBP and to the context of nurses' clinical work. Interviews with opinion leaders in NSW and an analysis of documents from education providers revealed inconsistent aspirations for the preparation of undergraduates for EBP and the use of a diverse range of approaches to teaching, the terms and language used, and definitions of evidence.

Governments, healthcare providers and the nursing profession itself increasingly demands that nurses use evidence for their practice. The results of this study demonstrate, however, that only small progress has been made in preparing nurses to meet this demand. Along with a

raft of already identified barriers to EBP, this thesis argues that the inability of the nursing profession to use a clear and consistent language to describe evidence for practice has contributed to an indiscriminate approach to teaching the skills required for EBP. This has resulted in a variable level of preparation or readiness for EBP amongst nursing graduates and a foundation which is currently failing to offer a secure and stable base upon which to build the practice knowledge required for the further development of an evidence-based profession.

Chapter outline

The research questions explored in this thesis developed over a period of time during which my own understanding of EBP grew and changed. The main impetus for this work came from teaching EBP to post-registration nurses and being surprised and challenged by an assumption I had made about what they would already know and understand about using evidence in practice. To place this thesis within context, *Chapter 1* provides a personal account of how the research questions for this study evolved and how my interaction with historical and contextual factors within Australian nursing and healthcare have impacted upon the way I have come to understand EBP while working in this environment. *Chapter 1* concludes with an outline of the aims of the thesis, the research questions and a description of the approaches used to study these questions. The research questions explored by this thesis are:

1. What do nurses in NSW understand as evidence for evidence-based practice?

2. What level of knowledge and skill do NSW nurses have in regard to the concepts of evidence-based practice?
3. What do opinion leaders and role models in nursing understand as evidence for EBP?
4. How are the concepts of research and evidence being articulated and communicated to undergraduate nursing students?

In the same way that my own assumptions about EBP provided the impetus for this thesis, the historical and contextual factors influencing Australian healthcare, nursing education and practice also impact upon nurses' ability to engage in evidence-based care. *Chapter 2* discusses the literature on EBP and nursing education against the background of Australian healthcare. It looks briefly at the profile of the Australian nursing workforce, the history and development of nursing education in Australia, and finally the development of EBP in nursing. This contextual review of literature identifies a broad range of factors that influence the ability of health professionals to practice and teach using evidence.

A survey entitled *Nurses' Perceptions of Evidence-based Practice* was chosen to explore the first and second research questions and to examine the attitudes, knowledge and skills of nurses in NSW towards EBP. The adaptation of the survey, the method of distribution, as well as a full description of the results are presented in *Chapter 3*. Responses to the survey are summarised using a combination of descriptive and inferential statistical analyses. A qualitative thematic analysis is used to analyse an open-ended

question in the survey: 'What do you understand the word 'evidence' (in the term evidence-based practice) to mean?'

Chapter 4 presents the results of interviews with nursing opinion leaders (research question three). There is a brief discussion on the phenomenographic method used to conduct and analyse the interviews. This method is based on the idea that capturing elements of difference (variation) is more useful for explaining a phenomenon than establishing what is the same (consensus). The analysis explores the limited number of qualitatively different ways in which the phenomenon of EBP is experienced, conceptualised or understood by nursing opinion leaders. The chapter concludes with a summary of opinion leaders' views on the preparation or skills required for EBP, particularly in undergraduate programs.

Chapter 5 presents the method and results of the content analysis used to address the fourth and final research question. The aim of the content analysis was to identify trends in the way words and concepts associated with EBP are communicated or articulated to prospective and current nursing students. Pre-selected words under the category headings of 'research', 'evidence' and 'enquiry' were examined in three sets of documents. The documents were either accessed online or were requested from providers of undergraduate nursing education in NSW.

The triangulation of methods used in this thesis attempts to secure a more in-depth understanding of how evidence and EBP are perceived and understood by nurses in NSW. In *Chapter 6* the results of the three

studies are combined and summarised, and then applied to the development of recommendations for teaching EBP to nurses in Australia. The recommendations are presented as a conceptual framework which relates the findings of the thesis to educational inputs and EBP learning outcomes across a continuing learning and development pathway. An example illustrates the application of the framework to the continuing education of post-registration nurses in NSW. The thesis concludes with a discussion of the implications of the findings for nursing education in Australia.

Limitations

Each of the three studies conducted as part of this thesis have specific methodological and practical limitations. Despite return of the survey by 383 NSW nurses', a low overall response rate (23%) limits the representativeness of the sample and the generalisability of survey findings. While a range of nursing opinion leaders were interviewed, it has not been determined exactly how much their views, judgments and beliefs towards EBP influence individual nurses' perceptions of evidence. Further, the conduct and analysis of opinion leader interviews using the emerging but not yet well known method of phenomenography focussed the results on differences between opinion leaders' understanding of evidence. While capturing this range of variation is the aim of phenomenography, a continuum of understanding is more difficult to interpret and discuss against the objective and categorical findings of the enumerative content analysis chosen for the third study. Despite these limitations, the three different methods used to analyse three different data sets concerning

the same phenomena (EBP) produced consistent results in regard to finding variation in the meaning of evidence, and in approaches to teaching EBP.

Nurses in NSW share many workforce and workplace characteristics with nurses throughout Australia and around the world. Although this study was conducted with nurses in only one state of Australia, this state (NSW) supplies both the largest number of nursing graduates and the largest pool of geographically dispersed clinical nurses employed in the country. NSW nurses are therefore likely to be representative of nurses in many other parts of Australia and other similar regions of the world.

Statement of intention

This thesis explores the attitudes, skills and knowledge of NSW nurses and opinion leaders towards EBP. It looks at how evidence is understood by nurses and how it is presented in documents used to convey information to prospective and current nursing students. In an attempt to represent the full range of nurses' views as accurately as possible, and to avoid the 'jargon soup' referred to by Gray,¹⁷ I have tried not to place my own or others' interpretations on the ways in which NSW nurses' describe their understanding of evidence for EBP. My own definition of evidence-based practice is context-based, and rather than enter into a discussion of whether it is right or wrong, I accept that my definition may be different to some of my colleagues. I understand EBP as an approach to practice in which the best available evidence (preferably from research) is used to make clinical and other

healthcare decisions which seek to understand and value patient and family preferences, utilizes clinical expertise, and respects the context (political, organizational, cultural and social) in which the decision is made. I regard research that is appropriate to the clinical question as the major and preferable component of evidence for practice, but also recognise that in the real world, good quality evidence from research may not be available for all nursing decisions. I therefore believe it is important for nurses to understand and recognise differences in the quality of evidence for evidence-based nursing practice.

My own journey teaching EBP in nursing led to the questions identified and explored in this thesis. However, the issues raised around EBP are likely to be shared by other health professions around the world in their attempts to promote and use EBP to improve outcomes for their patients and clients. In this thesis I have tried to drill down to the core of just one of these issues. I have attempted to examine the ways in which evidence is actually understood by nurses, and relate this to the clearly different ways in which evidence and EBP is presented to nurses, particularly in the educational environment. I use the term 'nurse' throughout this thesis to refer to nurses and midwives collectively. I understand that in other contexts this practice is unacceptable to the midwifery profession and I respect and support their right to be identified as a separate discipline. However, in a document which uses the words nurse and nursing very frequently, I ask for indulgence in the interests of clarity and brevity.