

DIFFERENCES IN ACCESS TO EVIDENCE BASED PRACTICE TRAINING AMONG HEALTH PROFESSIONALS

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ABSTRACT

Research aims: To determine the availability of externally delivered awards and topics in evidence based practice to health professionals.

Method: Cross-sectional survey of health related awards offered externally within the Australian tertiary education system.

Major findings: Of the awards found to have content matter in evidence based practice which are offered externally, partially externally, or via the Internet, 76.1% are accessible by nurses, 23.9% midwives, 17.4% other health, 6.5% physiotherapists, and only 8.7% are accessible to general or medical practitioners.

Conclusions: Students of nursing and midwifery have greater access to externally delivered evidence based practice awards and topics at the graduate level than students in other health professions. This may correspond to greater advocacy and adoption of evidence based practice within these groups.

INTRODUCTION

The adoption of the techniques of evidence based practice (EBP) to improve the quality of health care is currently being promoted in nursing (Carnwell 2000; Closs and Cheater 1999), medicine (Del Mar and Glasziou 2001; Silagy 1999) and allied health care. An evidence based clinical practitioner is able to consult the research literature to generate new clinically focused knowledge for health care decision making. This involves a structured process, from the formulation of a clinically focused question, to identifying appropriate research literature, interpreting the literature, and finally applying this newly acquired clinically focused and research based knowledge to the specific clinical case being considered.

EBP requires a set of skills not typically obtained through training in clinical practice. An initial stage in the process requires the finding of evidence based clinical guidelines, systematic reviews, and original research articles that are likely to be useful in addressing a specific clinical problem. This stage requires a high degree of familiarity with research literature and electronic databases.

Once an appropriate piece of research literature is discovered, its validity and consequence must then be determined. This involves applying a framework of critical analyses to the study design to determine the rigor, significance and scope of the results. Consequently, to effectively implement EBP, clinicians also require some skills in epidemiology and biostatistics.

Lastly, and most importantly, the evidence based practitioner must have the clinical experience and research skills to be able to ensure that the knowledge generated from analysing research findings meets clinical information needs. At the beginning and end of the EBP process this is particularly important. If the initial clinically focused question is not generalised enough it will not be possible to be able to find a research based

answer, however if this question is not specific enough it will not be useful for clinical decision making.

As such, in order for clinicians to use EBP they must first overcome a number of barriers, one of the most important of which is obtaining access to training in EBP (Glanville et al 2000; Kneale 2000; Retsas 2000; Thomson et al 2000; Rosswurm and Larrabee 1999). This training should provide clinicians with the skills described above, as well as the ability to use the tools of EBP, such as clinical practice guidelines and critically appraised topics. Educational material catering to meet this new demand for training should include information on how to locate, critique and apply current 'best' evidence for the purposes of improving practice.

Much training in EBP is provided through continuing professional education short courses. However, in addition, one would also expect to find flexibly delivered graduate awards for those health care professionals hoping to both obtain an academic qualification and improved technical skills in EBP. Flexibly delivered awards are accessible to a wider variety of clinicians and health care professionals than face-to-face awards, because they can be studied after hours, at home, or in the workplace. They are also more accessible to rural and remote professionals.

We surveyed Australian universities to see which professional groups can access flexible education at the graduate level in EBP skills. We wanted to find which institutions offer EBP awards and topics through external delivery, which non EBP awards have topics in EBP, which professional groups these awards and topics target, and which awards advocate EBP to their prospective external audience. The search strategies we adopted reflect those available to prospective students.

METHODOLOGY

The survey was undertaken from 5 March 2001 until 26 April 2001. An award is defined as a program of study, such as a master of nursing or a graduate diploma in primary health care, and a topic is a subject offered within an award, such as 'research and evaluation for practice'.

Externally delivered awards catering to health care professionals were surveyed using a multi-step process. Initially, educational directories were used to identify awards with content relevant to EBP. Education directories included in the survey were *The Directory of Higher Education Courses 2001*, *The Good Universities Guide to Postgraduate and Career Upgrade Courses 2001*, and *The Distance Education Directory 2001*. Students use these directories to locate externally delivered postgraduate awards for study. This approach has led to a cross-sectional view of the nature and number of awards available to students seeking access to training in EBP.

Awards were reviewed in detail if there was reference to any of a set of keywords chosen that imply a focus towards EBP (Table 1). We searched for awards containing

EBP in both an 'explicit' (Level 1) and 'implicit' (Level 2) sense. To be classed as a 'Level 1' award, topics offered within the award had to use the words 'EBP' or 'evidence based' in their descriptions. Level 2 awards were those with descriptions reflecting the principles of EBP but not using these terms. Without using these terms, an award remained 'Level 2' (implicit focus) regardless of whether it was probable that the overriding concern of the award and/or topic was that of EBP.

Table 1: List of phrases used in identifying awards and topics.

(evidence AND based AND practice) OR EBP OR (evidence AND based AND medicine) OR EBM
research AND practice
clinical AND (applied science OR research OR theory)
clinical AND epidemiology
(appraisal OR critiquing) AND research
critically AND appraised AND topic
application AND research
(clinical OR practice) AND research AND (techniques OR dissemination)
investigative AND approaches AND practice

Search terms and phrases that formed inclusion criteria for web and paper-based searching. The keywords are related through logical operators (capitalised). In cases of multiple logical operators brackets specify precedence.

In a second phase, identified awards were examined to the topic level for material oriented towards EBP. Topic information was accessed on the institution's web site, from paper-based promotional material, and through electronic correspondence with program and award coordinators. Following this, awards that could not be conservatively said to contain externally delivered topics with EBP oriented material were excluded from the study. The final list of awards represents the subset of the total number of distance delivered awards containing EBP oriented topics.

RESULTS

Table 2 shows the awards that were identified that contained EBP oriented content. In total 45 unique awards were identified that contained EBP oriented content. Awards are listed as being Level 1, containing topics that refer explicitly to EBP content, or Level 2, topics containing material with an implicit EBP focus. Fifty eight percent of awards identified contained Level 1 topics, 42% contained Level 2. In total, 45 unique EBP awards were found, and only 29 EBP topics. This is due to several awards giving access to the same topic, and topic information being less accessible or available than award information.

Table 2: Externally delivered postgraduate awards with EBP content as determined by survey.

State	Award	Level	
New South Wales	Grad Cert of Anaesthetics & Recovery Room Nursing	1	
	Grad Cert of Gastroenterological Nursing	1	
	Grad Cert of Perioperative Nursing	1	
	Grad Dip in Health Science (Drug & Alcohol)	2	
	Grad Dip of Clinical Practice (Acute Care)	1	
	Master of Health Science	2	
	Master of Applied Management (Nursing)	2	
	Master of Health Science (Drug & Alcohol)	2	
	Queensland	Grad Cert of Clinical Nursing	2
		Grad Cert of Independent Midwifery	1
		Grad Dip of Clinical Nursing	2
		Grad Dip of Nursing (Mental Health)	1
		Grad Dip of Occupational Health & Safety Nursing	1
		Grad Dip of Public Health	1
Master of Advanced Nursing Practice		2	
Master of Advanced Nursing Practice (RR)		1	
Master of Clinical Nursing		2	
Master of Midwifery (Post-Endorsement)		1	
Master of Midwifery (Pre-Endorsement)		1	
Master of Nursing		1	
Master of Nursing Studies		2	
Master of Occupational Health & Safety Nursing		1	
Master of Public Health	1		
South Australia	Post Grad Dip of Midwifery	2	
	Grad Cert in Health (Midwifery)	2	
	Grad Dip of Clinical Nursing	1	
	Grad Dip of Nursing Science	1	
	Master of Clinical Nursing	1	
	Master of Midwifery	1	
	Master of Nursing	2	
Victoria	Master of Surgery	2	
	Grad Dip of Case Management	1	
	Master of Clinical Medicine	1	
	Master of Nursing (Coursework)	1	
	Master of Public Health	1	
Western Australia	Post Grad Dip of Advanced Clinical Nursing	1	
	Grad Cert of Perioperative Nursing	1	
	Grad Dip of Health Science (Diabetes)	2	
	Master of Clinical Nursing	2	
	Master of Midwifery	1	
	Master of Nursing	2	
	Master of Sports Physiotherapy	1	
	Post Grad Cert of Nursing (Clinical Nursing)	2	
	Post Grad Dip of Midwifery	2	
	Post Grad Dip of Nursing (Clinical Nursing)	2	

The awards were further examined according to the professional group(s) they targeted in terms of providing educational services. Table 3 shows the number of awards available to each professional group. (Note that a given award can be accessed by more than one professional group. Nursing and midwifery professionals have the largest number of awards that contain EBP oriented content available to them out of all professional groups.

Table 3: Number and percentage of unique externally delivered postgraduate EBP oriented topics and awards that are available to different professional groups.

Professional group	Available EBP topics (1)	Percentage of available EBP topics (2)	Available EBP awards (1)	Percentage of available EBP awards (2)
Medicine	2	6.9	4	8.7
Midwifery	12	41.4	11	23.9
Nursing	22	75.9	35	76.1
Physiotherapy	2	6.9	3	6.5
Other health	3	10.3	8	17.4

1. Available EBP topics and awards are that number of the identified unique EBP topics (29) and awards (45) that were available to the professional group.

2. Note that a given unique EBP topic or award could be available to multiple professional groups.

It would be anticipated that professional groups with more external awards would also have a greater proportion of EBP oriented awards accessible to them when compared to other professional groups. However, further examination showed that while nursing and midwifery professionals had more externally delivered postgraduate awards available to them, in total there were disproportionately more EBP awards available for these professionals.

DISCUSSION

The survey method was chosen to reflect the award/topic selection process undertaken by students looking for coursework in EBP. Difficulties experienced by us in locating courses were likely to reflect those faced by intending students, and are also indicative of barriers to access to EBP educational programs.

Frequently, award descriptions were little more than titles. This fact or simply not being listed within educational directories, may have led to the omission of some awards offering EBP. Web sites often proved uninformative for the same reasons. Accessibility varied greatly from site to site and institution to institution. Awards not discovered in directories were sometimes found on web sites. Some awards, although advertised, no longer existed. Course coordinators and other staff members contacted by email or telephone to confirm

findings often did not respond despite repeated requests. Those who did respond were usually very helpful and more than thorough in confirming findings and/or providing additional data. Information obtained this way often led to the discovery of new awards. Some of these may have failed earlier selection criteria or simply had not been located previously. It is undoubtedly true that the quality of directory information, Internet access, or staff aid influenced accessibility to students and also our findings.

It should be noted that we did not systematically investigate internal awards such as those offered in medicine and epidemiology at the University of Sydney. Other degrees not surveyed, such as those offered to undergraduates or those outside of the categories we searched, may also have contained EBP topics. The categories we surveyed included: community health (16 awards), health (54), health administration (19), health education (11), health science (29), medical aid (6), medicine (16), nursing (41), physiotherapy (2), and psychology (19).

Nevertheless, more awards with either an implicit (Level 2) or explicit (Level 1) EBP content were found to accommodate nurses and midwives than other groups: 74% target these two groups alone. The survey findings support the conclusion that nurses and midwives have greater access to education in EBP than students or professionals from other health disciplines. It could be argued that this trend is due to there being a greater number of externally delivered awards available to nurses and midwives. Our analysis shows, however, that the observed proportion of EBP oriented awards available to nurses and midwives significantly exceeds the proportion expected, based on differences in the total number of (external) awards available to each professional group. Further, a comparison of the relative proportions of topics and awards available to each professional group found them to show a similar pattern.

There could be several reasons why nurses and midwives have greater access to externally-delivered EBP courses. Firstly, there may be an increased need and a greater market for externally delivered EBP oriented awards for these groups. Secondly, nursing and midwifery departments may be greater advocates of EBP than other disciplines.

The techniques of EBP are promoted as both useful and applicable in the literature. Greater accessibility to EBP training may result in greater adoption of EBP. In addition, EBP provides a model for self-directed learning and development applicable to all health professionals worldwide (Sackett et al 2000). Whether this model is being taken up by all areas of health care remains to be seen, but in the domains of nursing and midwifery it is certainly being encouraged.

REFERENCES

- Camwell, R. 2000. Essential differences between research and evidence-based practice. *Nurse Researcher*. 8(2):55-68.
- Closs, S.J. and Cheater, F.M. 1999. Evidence for nursing practice: A clarification of the issues. *Journal of Advanced Nursing*. 30(1):10-17.
- Del Mar, C.B. and Glasziou, P.P. 2001. Ways of using evidence-based medicine in general practice. *Medical Journal of Australia*. 174:347-350.
- Glanville, I., Schrim, V. and Wineman, N.M. 2000. Using evidence-based practice for managing clinical outcomes in advanced practice nursing. *Journal of Nursing Care Quality*. 15(1):1-11.
- Kneale, J. 2000. Evidence-based practice and orthopaedic nursing. *Journal of Orthopaedic Nursing*. 4(1):16-21.
- Retsas, A. 2000. Barriers to using research evidence in nursing practice. *Journal of Advanced Nursing*. 31(3):599-606.
- Rosswurm, M.A. and Larrabee, J.H. 1999. A model for change to evidence-based practice. *Journal of Nursing Scholarship*. 31(4):317-322.
- Sackett, D.L., Straus, S., Richardson, S. and Haynes, B. 2000. *Evidence-based medicine: How to practice and teach EBM*. London: Churchill Livingstone.
- Silagy, C. 1999. How to treat evidence-based medicine. *Australian Doctor*. 1:1-8.
- Thomson, P., Angus, N.J. and Scott, J. 2000. Building a framework for getting evidence into critical care education and practice. *Intensive Critical Care Nursing*. 16(3):164-174.