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Evaluating the Level of Integration of Evidence-Based Practice Content in Doctor of Nursing Practice Curricula

Darryl DuVall*, DNP, CRNA and Cynthia E. Fitzgerald PhD, RN

Clinical Associate Professor at Washington State University, USA

***Corresponding author**
Darryl DuVall, Clinical Associate Professor at Washington State University, Washington, E-mail: djdpedal@me.com

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Abstract

Evidence-based practice, (EBP), is associated with improved patient outcomes, yet evidence is lacking demonstrating that the majority of advanced practice nurses practice or teach from this framework. The objectives of this study were to evaluate the level of integration of EBP in Doctor of Nursing Practice curricula and explore the relationship between demographics, faculty beliefs and reported implementation of EBP. The Organizational Culture & Readiness for School-wide Integration of Evidence-based Practice Survey instrument, along with customized demographic questions, was utilized in a web based format. A discrepancy still exists between reported integration of EBP in nursing curricula and EBP in nursing practice. The most frequently named barrier to EBP was the continued teaching of how to conduct rigorous research versus evidence-based care in advanced clinical education tracts. Doctor of Nursing Practice (DNP) faculty age appeared to be an important factor in the barriers to EBP implementation and merits further investigation.

Keywords: evidence-based practice: DNP; curricula; advanced nursing practice

Introduction

Despite widespread agreement about the value of including evidence-based practice (EBP) in nursing education, the extent to which nursing education programs have responded to this professional mandate remains unclear. To evaluate the extent to which Doctor of Nursing Practice (DNP) programs across the United States have been effective in integrating EBP into their curricula, the *Organizational Culture & Readiness for School-wide Integration of Evidence-based Practice Survey* was used to query DNP Program Directors. This survey, which explores perceived barriers and faculty resource issues that may be related to the implementation of Evidence-Based Practice, was developed to query faculty members about the state of evidence-based practice and about readiness for evidence-based practice within nursing programs [1].

Background

Evidence-based medicine (EBM) was defined by David Sackett in 1996 as, "...the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients" [2]. Shortly afterwards, nursing authors began to refine the title of this practice, publishing definitions of *evidence-based nursing* (EBN) and *evidence-based practice* (EBP) that attempted to be more inclusive of other health professions and to acknowledge nursing's multiple perspectives and ways of generating and sharing new knowledge that integrates an acknowledgement of relevant research within a framework of lifelong learning [3, 4]. By 1998, a journal devoted to EBP in nursing, *Evidence-Based Nursing*, began to publish best practice content specifically for nursing. A currently well-accepted definition of evidence-based practice that can be applied within nursing suggests that it is an approach to clinical decision-making that relies on "a synthesis of evidence from multiple studies and combines it with the expertise of the practitioner as well as patient preferences and values"[5].

Evidence-based practice is associated with improved patient outcomes [6], and there is widespread acceptance of the importance of the concept of EBP in nursing education and practice [7]. Nonetheless, the majority of nurses do not translate or incorporate research findings into their practice [4, 8, 9] and an education-practice gap has been acknowledged [10-12]. Nursing practice is becoming more complex, and schools relying on established or standardized curricula may struggle to adapt to the needs of nurse graduates in the current complex health environment [13]. Despite strong calls for curriculum innovation and reform, nursing educators have not yet been successful in fully incorporating EBP into graduate nursing education programs [13].

The widely accepted Institute of Medicine (IOM) report, *The Future of Nursing: Leading Change, Advancing Health*, acknowledged the pivotal role played by nurses in the ever changing health care milieu [14]. This report emphasized the numerous modifications in undergraduate and graduate nursing education that its authors suggest will be necessary to ensure the ongoing and continued quality and safety of patient care. Additionally, a previously published IOM report, *Health Professions Education: A Bridge to Quality* suggested that all health professionals be educated using a set of core competencies that included patient-centered care, interdisciplinary

teams, evidence-based practice (EBP), quality improvement (QI), and informatics [15].

Efforts to incorporate EBP in nursing curriculum have been documented since the early 2000s and recently, and the development of DNP programs have increased emphasis on the importance of providing this education to advanced practice nursing. As early as 2002, the National Organization of Nurse Practitioner Faculties (NOPF) asserted in guiding documents that primary care nurse practitioner educational programs should build EBP competencies into the curricula [16, 17]. In 2004, as part of an effort to address the practice-education gap at the graduate level, the American Association of Colleges of Nursing (AACN), published the *Position Statement on the Practice Doctorate in Nursing* [18]. AACN's commitment to advancing EBP within nursing education has been clear in its many publications including *The Essentials of Doctoral Education for Advanced Nursing Practice* [19]. As one result, it is likely that EBP content is embedded in most graduate nursing program curricula; however, there is little clarity about the extent to which nursing faculty have incorporated this content into foundational and clinical courses or even into to research-related coursework.

Nurse educators face a number of challenges as they attempt to narrow the practice-education gap. Barriers to the implementation of EBP in practice and in education include, but are not limited to: inadequate EBP knowledge and skills, a lack of EBP mentors, the continued teaching of how to conduct rigorous research versus evidence based care in advanced clinical education tracts, perceived lack of time for curricular redesign, and a lack of administrative support or incentives available for faculty to foster and develop EBP knowledge and skills [8, 20-22].

Methodology

This study was undertaken to explore the extent to which DNP Programs in the United States have adopted EBP and to examine relationships between faculty characteristics (age, teaching experience, faculty regarding EBP), knowledge and understanding of EBP, organizational readiness for EBP implementation, barriers to EBP implementation and each program's implementation of EBP within the curriculum. With permission from its authors, the *Organizational Culture and Readiness for School-wide Integration of Evidence-based Practice* (*OCRSIEP*) instrument was distributed to potential study participants. The OCRSIEP is a 25 item-scale that measures organizational culture and readiness for system-wide integration of evidence based practice. Responses are measured on a 5-point Likert scale in which respondents are asked to indicate their agreement with each item ranging from *None at All to Very Much* [1]. Additionally, for each survey item, participants could select "I choose not to answer" as an option. This instrument has recognized content validity with consistency reliabilities > .85 [23]. Cronbach's alphas with this instrument have been reported > 0.92 [23, 24]. This compares similarly to earlier psychometric testing of the EBP Beliefs Scale and the EBP Implementation Scale in which Cronbach's alpha scored > .90 for each scale [22].

Survey Items

The OCRSIEP items address EBP-related beliefs, practices, and perceptions of overall organizational readiness for integration of EBP-related content in DNP education [23]. Additional author-developed items queried participants about demographic variables (see Table 1).

Table 1. Author-developed survey items

1	Age
2	Years in the profession of Nursing
3	What is the age range of the majority of the DNP faculty in your program?
4	What is the average amount of time in years that has elapsed since completion of the doctorate degree for the majority of your DNP faculty?
5	Do the majority of your faculty members regularly practice nursing in the clinical setting?

Following the receipt of approval from the Institutional Review Board (IRB), an email was sent to the 150 Program Directors of all DNP programs listed at the time of the study on the website of the Commission on Collegiate Nursing Education (CCNE), the accrediting body for DNP programs. The body of the email included a link to the survey. Completion of the survey indicated the participant's consent to participate in the study. The survey was compiled and administered by Advancing Research and Clinical practice through close Collaboration (ARCC), LLC, via a secure web address.

Results

This study was undertaken to explore the level of integration of EBP content in DNP curricula and to explore relationships between demographic variables, faculty beliefs, and the reported integration of evidence-based content. Descriptive statistics included the frequency of responses. Cross-tabulation was used to analyze the relationship between select variables. Chi-squared tests were performed to determine significant differences between participant demographics and item responses as well as cross-tabulation results. Inter-item correlations were evaluated on the 25 survey items.

Demographics

Sixty-four DNP program directors completed the survey for a response rate of 43 percent. The responding DNP Program Directors had a mean age of 57 with the majority concentrated in the 55-64 age group (48%) and a smaller group in the 45-54 years of age range (27%). Smaller respondent groups were in the less than 45 age group (7%) and over 65 age group (18%). This age grouping was similarly reflected in the number of years respondents had been in the nursing profession. The mean time engaged in nursing profession was 37.5 years; with respondents concentrated in 30-39 years group (44%), 40-49 years (27%) and 20-29 years (17%).

Participants reported on the age of faculty teaching in DNP programs, indicating that the majority of DNP program faculty in the CCNE accredited programs were in the 46-55 age group (58%) and over 56 ages (27%) with younger faculty in the minority 36-45 and 25-35 age groups (14%) and (2%) respectively. A significant majority (75%), of participants reported the majority of DNP program faculty maintained current clinical practice. On average, DNP Program Directors reported that DNP faculty members had held doctoral degrees (PhD or DNP) for 7.76 years (SD = 4.04), with a range of 2 to 20 years. The number of DNP faculty members formally trained in EBP ranged from 1 to 53 (M = 8.11, SD = 8.86).

EBP Mentors

A specific survey item queried directors on the extent of EBP mentors within their organization, *in your organization, to what extent are*

there faculty who are EBP mentors? The majority of participants answered either somewhat (31%) or moderately (36%). Based on survey responses, there was a trend for more recently graduated doctoral faculty believing there was a critical mass of EBP-trained faculty members in their institution as compared to previously graduated faculty. This reached statistical significance [$2(9, N = 53) = 20.80$, $p = 0.01$]. A similar trend for recently completed doctoral faculty members believing there were available EBP-trained mentors in their institution however did not meet statistical significance [$2(15, N = 53) = 16.33$, $p = 0.36$]. Notably, while 6 respondents in programs with 13 or more EBP-trained faculty members noted EBP as a central mission of their programs, the relationship between the number of EBP trained faculty as compared to faculty who believe EBP is a central mission to the institution did not reach statistical significance [$2(16, N = 53) = 14.08$, $p = 0.59$].

Reported Integration/Faculty Beliefs

The survey item addressing EBP integration, *to what extent to you believe that EBP is practiced in your organization, was answered moderately or very much* by 41% and 44% of respondents, respectively. Noteworthy was the descriptive integration item addressing program community partners, *to what extent are community partners with whom you work committed to EBP*, which was answered by the majority as only *some what* (23%) and *moderately* (25%).

Six items in the OCRSIEP that addressed faculty beliefs regarding EBP warranted further analysis based on the survey results. Table 2 includes descriptive statistics for six items of the EBP targeted toward faculty beliefs regarding EBP. Important belief factors for EBP selected by respondents are as follows with mean response scores in parentheses.

1. *To what extent is the faculty with whom you work committed to EBP (4.55)*
2. *To what extent is EBP clearly described as central to the mission and philosophy of your institution (4.22)*
3. *To what extent are there administrators within your organization committed to EBP (4.03).*

Identified as less important by survey respondents were the following survey items.

1. *In your organization, to what extent is there a critical mass of faculty who have strong EBP knowledge and skills (3.92).*
2. *To what extent are fiscal resources used to support EBP (3.73)*
3. *In your organization, to what extent are there faculty who are EBP mentors (3.65).*

Cross-tabulation of these responses revealed a high correlation between the extent of faculty committed to EBP and the extent of administrators committed to EBP.

Table 2: Faculty Beliefs Regarding EBP

	Mean Response	Standard Deviation	Minimum Value	Maximum Value
Faculty Committed To EBP	4.55	0.72	2	5
EBP Central to Mission of Institution	4.22	1.09	1	6
Administrators Committed to EBP	4.03	1.04	1	5
Critical Mass of Faculty with EBP Skills	3.92	0.91	2	5
Fiscal Resources Used to Support EBP	3.73	1.19	1	6
Faculty that are EBP Mentors	3.65	1.04	1	6

Upon examination of survey item responses related to faculty beliefs regarding EBP integration, there was a high correlation between respondents' belief that their programs had EBP-committed faculty and their belief they had EBP-committed administration (0.42). Furthermore, there was a strong relationship between respondents' belief that EBP was central to the mission of their programs and the belief that they had administration supportive of EBP. The belief of existing EBP-committed faculty in the DNP program had a moderate positive association with existing EBP-mentors (0.33) and strong association with beliefs of a critical mass of EBP-trained faculty (0.48). In addition, the belief that EBP is central to the mission of the organization had a moderate though small (0.20) positive association with the belief of an administration committed to EBP.

Barriers

One specific survey item asked participants about perceived barriers to the implementation of EBP within their organization. Item number 15 asked respondents *"What do you think are the biggest barriers to implementation of EBP amongst faculty in your DNP Program?* Respondents were able to choose more than one response. (Table 3)

Table 3: Perceived Barriers to EBP Amongst Faculty

	Responses	Percent
Lack of EBP knowledge and skills	16	36.36
The continued teaching of rigorous research versus EBP care in advanced clinical education tracts	21	47.73
Lack of time	20	45.45
Lack of administrative support or incentives	7	15.91
Lack of EBP mentors	11	25.00
Resistance to change	14	31.82

Respondents more frequently described barriers to implementation of EBP including, "the continued teaching of how to conduct rigorous research versus evidence based care in advanced clinical practice" (N = 21) and lack of time (N = 20). Less frequently, respondents reported the barriers including resistance to change (N=14) and lack of administrative support (N = 7).

Cross-tabulation of survey items indicated resistance to change and lack of EBP knowledge and skill barriers were highly associated, while lack of administrative support or incentives and the continued teaching of how to conduct rigorous research versus evidence based care in advanced clinical practice barriers had the lowest levels of association. Cross-tabulation of barriers by age group revealed those in the 55-64 age group selected the continued teaching of how to conduct rigorous research versus evidence based care in advanced clinical practice most often while those in the below 45 age group selected this barrier least often.

Faculty Age

As previously mentioned, the majority of survey participants have been in the nursing profession for 30-39 years. Very few respondents

have been in the nursing profession for less than 20 years. (Table 4)

Table 4

Years in the Nursing Profession	Frequency	Percent
Below 20	5	8.47
20-29	10	16.95
30-39	26	44.07
40-49	16	27.12
50-59	2	3.39
Total	59	100

More recent graduated doctoral faculty reported believing there was a critical mass of EBP-trained faculty members in their institution. Respondents in the 30-39 years in the nursing profession group selected the EBP barrier, *the continued teaching of how to conduct rigorous research versus evidence-based care in advanced clinical education tracts*, most often and those with less than 20 years in the nursing profession selected the same barrier the least often. One survey item addressed clinical practice, "*Do the majority of your faculty members regularly practice nursing in the clinical setting?* Seventy five percent of respondents answered yes. A chi-squared test revealed that the proportion of participants who answered *yes* to the faculty practice question did not significantly differ across the four faculty age groups, [$2(3, N = 58) = 1.85, p = 0.60$].

Discussion

Faculty mentors play a pivotal role in the implementation of a culture supportive of EBP in their organizations. As mentioned previously, there was a statistically significant trend for more recently graduated doctoral faculty believing there was a critical mass of EBP-trained faculty members in their institution compared to previously graduated faculty. In addition, more recently graduated doctoral faculty reported believing a more critical mass of EBP-trained faculty members in existence in their institutions. If the trend is of more junior faculty perceiving there are more EBP trained faculty in their institution versus their more experienced colleagues, this is an interesting finding suggesting doctoral faculty age may be a factor related to barriers to EBP integration throughout nursing curricula warranting further investigation.

Our survey results align with established factors that facilitate the implementation of EBP in organizations [9]. Interestingly, though respondents reported EBP as a core value of their programs there was not a correspondingly high response to administrative and funding support for EBP. Additionally, eighty five percent of this survey's respondents believed that EBP is practiced in their organization either "moderately" or "very much", but the majority of respondents believe that community partners are committed to EBP only "somewhat" or "moderately". This validates previous findings that although faculty view EBP positively, their attitude toward it was more positive than their EBP-knowledge, skills and practice [25]. Thus, a discrepancy still exists between reported integration of EBP in nursing curricula and reported EBP in nursing practice. It is difficult to disseminate and sustain EBP principles without the implacable support of clinical agencies.

Nursing leadership plays a pivotal role in promoting EBP [4, 26]. This study found a high correlation between respondents' belief that their programs had EBP-committed faculty and their belief that they had EBP-committed administration. The current study adds additional evidence that leadership in organizations help shape the EBP climate and plays an integral role in determining the level of organizational EBP implementation [26].

Educational institutions have attempted to be innovative in nursing EBP-curricular design. However, much of what is described in the published literature as innovative design is actually a rearrangement of didactic content from one course to another [27]. The current study supports the premise that faculty in nursing institutions continue to teach EBP in a single course, or teach the rigorous process of how to conduct original research versus translating existing research into clinical practice [4]. DNP faculty must teach EBP or "translational research" across the entire curricula if the EBP principle is expected to be entrenched in our curricula and clinical settings. Additionally, this study validates the findings that traditional research knowledge and skills among faculty does not equate to a thorough understanding of the EBP process [25]. Faculty must be afforded the opportunity to learn EBP principles so that they are able to incorporate these important concepts in all of their courses. DNP faculty age may be an important factor in the barriers to EBP implementation and merits further investigation based on they survey results.

Historically, research courses are taught in isolation of other courses, resulting in the failed application to clinical practice [28]. Simple classroom teaching of EBP principles improves students' knowledge of EBP. Clinically integrated teaching of EBP principles improves students' EBP skills, attitudes and behaviors [28, 29] Consequently, the continued teaching of rigorous research versus translational research in graduate nursing curricula might be a potential contributor to the practice-education gap.

Curricular changes could translate to: 1) more effective implementation of EBP in nursing, 2) facilitation of Magnet status for organizations, and 3) expedition in meeting the Quality and Safety Education for Nurses, (QSEN), educational competencies for graduate education [4, 5, 29].

Study Limitations

The relatively small number of responses limited the extent to which statistical analyzes could be completed; for example, it was not possible to conduct an exploratory factor analysis that might have contributed further to establishing the reliability of the survey instrument in a population of DNP Program Directors. Further, the findings of this study may not be generalizable to all DNP Program Directors given the small sample size.

Conclusion

Consistent and standard integration of EBP content throughout graduate nursing curricula is necessary to prepare advanced practice nurses to practice with an EBP framework throughout their career. This assertion is clearly supported by national organizations that guide nursing programs in the development and evaluation of DNP program curricula. Clinicians educated in an evidence-based framework demonstrate a number of skills. Often, the manner in which clinicians acquire knowledge to make decisions is thought to determine the quality of the clinician [30]. EBP trained clinicians document the beneficial patient outcomes related to evidence based practice, which include decreased: care costs, complications, lengths of stay, and rehospitalizations [9].

Nursing educators should be compelled to prepare all nursing doctoral graduates (DNP and PhD) to critically appraise evidence, assess its efficacy and utility, and apply these to the diagnosis, treatment, and prognosis of patients. Barriers to EBP have been well described in the literature. It is time to focus less on barriers to EBP implementation and more on the on the strategies in which to overcome these barriers.

References

1. Fineout-Overholt E, Melnyk B (2006) Organizational Culture and Readiness for System Wide Implementation of EBP (OCRSIEP) Scale. In. Gilbert, AZ: ARCC LLC Publishing.
2. Sackett DL (2000) Evidence-based medicine : how to practice and teach EBM (2nd ed.. ed.). Edinburgh ; New York: Edinburgh; New York : Churchill Livingstone.
3. Ingersoll GL (2000) Evidence-based Nursing: What it is and What it isn't. In (Vol. 48, pp. 151-152): Nursing Outlook.
4. Melnyk B, Fineout-Overholt E, Gallagher-Ford L, Kaplan L (2012) The State of Evidence-Based Practice in US Nurses: Critical Implications for Nurse Leaders and Educators. Journal of Nursing Administration 42: 410-417. doi:10.1097/NNA.0b013e3182664e0a
5. Melnyk BM (2015) Evidence-based practice in nursing and healthcare : a guide to best practice (Third edition. ed.): Philadelphia : Wolters Kluwer Health.
6. Melnyk BM (2014) Speeding the Translation of Research into Evidence-Based Practice and Conducting Projects That Impact Healthcare Quality, Patient Outcomes and Costs: The 'So What' Outcome Factors. Worldviews on Evidence-Based Nursing 11: 1-4. doi:10.1111/wvn.12025
7. Stevens K (2013) The Impact of Evidence-Based Practice in Nursing and the Next Big Ideas. In (Vol. 18): Online Journal of Nursing.
8. Fink R, Thompson CJ, Bonnes D (2005) Overcoming barriers and promoting the use of research in practice. Journal of Nursing Administration 35: 121-129.
9. Melnyk BM, Gallagher-Ford L, Long LE, Fineout-Overholt E (2014) The Establishment of Evidence-Based Practice Competencies for Practicing Registered Nurses and Advanced Practice Nurses in Real-World Clinical Settings: Proficiencies to Improve Healthcare Quality, Reliability, Patient Outcomes, and Costs. Worldviews on Evidence-Based Nursing 11: 5-15. doi:10.1111/wvn.12021
10. Benner PE (2010) Educating nurses : a call for radical transformation (1st ed.. ed.). San Francisco: San Francisco : Jossey-Bass.
11. Burns P, Poster EC (2008) Competency development in new registered nurse graduates: Closing the gap between education and practice. Journal of Continuing Education in Nursing 39: 67-73.
12. Thompson JL, Mallet-Boucher M, McCloskey C, Tamlyn K, Wilson K (2013) Educating nurses for the twenty- first century abilities- based outcomes and assessing student learning in the context of democratic professionalism10. Retrieved from doi:10.1515/ijnes-2013-0031
13. Phillips JM, Resnick J, Boni MS, Bradley P, Grady JL, et al. (2013) Voices of innovation: Building a model for curriculum transformation. International Journal of Nursing Education Scholarship 10. doi:10.1515/ijnes-2012-0008
14. Committee on the Robert Wood Johnson Foundation Initiative on the Future of Nursing, a. t. I. o. M. (2011). The future of nursing : leading change, advancing health. Washington, D.C.: Washington, D.C. : National Academies Press.
15. Institute of Medicine . Committee on the Health Professions Education, S (2003) Health professions education : a bridge to quality. Washington, D.C.: Washington, D.C. : National Academies Press.
16. Crabtree MK, Stanley J, Werner KE, Schmid E (2002) Nurse Practitioner Primary Care Competencies in Specialty Areas: Adult, Family, Gerontological, Pediatric, and Women's Health. Retrieved from www.nonpf.org
17. Stiffler D, Cullen D (2010) Evidence-based practice for nurse practitioner students: a competency-based teaching framework. Journal of Professional Nursing 26: 272-277. doi:10.1016/j.profnurs.2010.02.004
18. AACN Position Statement on the Practice Doctorate in Nursing (2004) Retrieved from www.aacnnursing.org
19. The Essentials of Doctoral Education for Advanced Nursing Practice (2006) Retrieved from www.aacnnursing.org
20. Al Hadid LA, Abu Hasheesh M, Al Momani M (2011) Validating a Tool that Explores Factors Influencing the Adoption of Principles of Evidence-Based Practice. Journal of Nursing Education 50: 681-687. doi:10.3928/01484834-20110930-03
21. Emerson RJ, Records K (2008) Today's challenge, tomorrow's excellence: the practice of evidence-based education. Journal of Nursing Education 47: 359-370. doi:10.3928/01484834-20080801-04
22. Melnyk BM, Fineout-Overholt E, Mays MZ (2008) The Evidence-Based Practice Beliefs and Implementation Scales: psychometric properties of two new instruments [corrected] [published erratum appears in WORLDVIEWS EVID BASED NURS 2009 1st Quarter;6(1):49]. Worldviews on Evidence-Based Nursing 5: 208-216.
23. Melnyk BM, Fineout-Overholt E, Giggleman M, Cruz R (2010) Correlates among cognitive beliefs, EBP implementation, organizational culture, cohesion and job satisfaction in evidence-based practice mentors from a community hospital system. Nursing Outlook 58: 301-308. doi:10.1016/j.outlook.2010.06.002
24. Wallen GR, Mitchell SA, Melnyk B, Fineout-Overholt E, Miller-Davis C, et al. (2010) Implementing evidence-based practice: effectiveness of a structured multifaceted mentorship programme. Journal of Advanced Nursing 66: 2761-2771. doi:10.1111/j.1365-2648.2010.05442.x
25. Stichler JF, Fields W, Kim SC, Brown CE (2011) Faculty knowledge, attitudes, and perceived barriers to teaching evidence- based nursing. Journal of Professional Nursing 27: 92-100. doi:10.1016/j.profnurs.2010.09.012
26. Newhouse RP (2007) Creating infrastructure supportive of evidence-based nursing practice: leadership strategies. Worldviews on Evidence-Based Nursing 4: 21-29.
27. Pardue KT, Tagliareni ME, Valiga T, Davison-Price M, Orehowsky S (2005) Substantive innovation in nursing education: shifting the emphasis from content coverage to student learning. Nursing education perspectives 26: 55-57.
28. Melnyk BM, Fineout-Overholt E, Feinstein NF, Li H, Small L, et al. (2004) Nurses' perceived knowledge, beliefs, skills, and needs regarding evidence-based practice: implications for accelerating the paradigm shift. Worldviews on Evidence-Based Nursing 1: 185-193.
29. Fineout-Overholt E, Johnston L (2005) Teaching EBP: a challenge for educators in the 21st century. Worldviews on

Evidence-Based Nursing 2: 37-39.

30. Facchiano L, Snyder CH (2012) Evidence-based practice for the busy nurse practitioner: Part one: Relevance to clinical practice and clinical inquiry process. Journal of the American Academy of Nurse Practitioners 24: 579-586. doi:10.1111/j.1745-7599.2012.00748.x