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Leslie Kendrick

University of San Diego, lcaputo@sandiego.edu

Tara Hughes

University of San Diego, tdowling@sandiego.edu

Joseph Burkard DNSc, CRNA

University of San Diego Hahn School of Nursing and Health Science

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Establishment of Best Practice Skills for Advanced Practice Nurses

Leslie F. Kendrick & Tara K. D. Hughes

Joseph F. Burkard, DNSc, CRNA

University of San Diego

Abstract

Over the past two decades, nursing researchers have defined nurses' perceptions of evidence-based practice as well as facilitators and barriers to its implementation. This project seeks to take the next step through a current assessment of registered and advanced-practice nurses' assimilation of evidence-based practice as well as a current literature review of the research to clinical use gap. This is a cross-sectional, retrospective project. Through analysis of two self-administered questionnaires to both registered and advanced-practice clinical nurses as well as literature review findings, five recommendations for advanced-practice nurses were created. Ultimately, the goal of this project seeks to establish evidenced-based practice implementation strategies for advanced-practice nurses to effectively bridge research to the bedside. Areas of evidence-based practice implementation that remain unanswered or weakly executed provide a direction for research moving forward.

Keywords: translational science, implementation science, improvement science, nursing, clinical practice, evidenced based practice, implementation strategies, bedside

Establishment of Best Practice Skills for Advanced Practice Nurses

Background and Significance

The evidence-based practice paradigm has been the standard for quality and safe care for decades. Evidence-based practice is taught in academia and is part of the mission of healthcare organizations worldwide. Nevertheless, the execution of translating evidence to practice remains, in large part uncharted territory in the literature as well as in clinical institutions. Translational science and implementation science are new areas of study in their infancy. The journey of a research finding to its utilization at the bedside continues to take 17 years and some sources claim an even longer timeframe (Fineout-Overholt et al., 2005). Despite the familiarity of evidence-based practice and its importance being ubiquitous within the medical world, it is clear implementation remains ambiguous.

Healthcare pioneers have long demanded that evidence must impact practice. In the early 1970s, the detriments of not utilizing the latest evidence to care for patients was first voiced by Dr. Archie Cochrane (Fineout-Overholt et al., 2005). He asserted the failure of the healthcare community to implement the already proven intervention of administering corticosteroids to mothers in preterm labor to prevent premature infant death (Fineout-Overholt et al., 2005). Florence Nightingale in the 1850s is known for being the first nurse that understood the importance of data collection to understand care and affect patient outcomes as she cared for victims during the Crimean War (McMenamin et al., 2019). Providing care based on tradition, “the way it has always been done,” has, in fact, been an idea opposed for many years.

For the past two decades researchers have looked to healthcare professionals to define the positive and negative factors affecting implementation of evidence, and understanding the evidence to care gap. Hundreds of articles have defined barriers and facilitators to evidence-

based practice at all levels including government, local, organizational, and professional. A wealth of literature defines the attitudes of healthcare professionals toward evidence-based practice. Indeed, this is the first step to combating the problem of translating evidence. However, the end goal of implementing evidence into practice remains unsuccessful. The current information gap that endures lies in the identification of clear implementation strategies to assimilate evidence into practice. Latest research to define specific implementation strategies and organization standards that facilitate quick and accurate use of evidence at the bedside remains rather miniscule. According to a systematic review of 61 articles seeking to understand this gap, “the lack of comparative research evidence to inform communication and dissemination of evidence, including uncertain evidence, impedes timely clinician, patient, and policymaker awareness, uptake, and use of evidence to improve the quality of care” (McCormack et al., 2013, p. vi). Certainly, translational science is a vast field of study impacted by a multitude of factors including the type of healthcare setting, healthcare systems or lack thereof, politics, and patient populations. Still, specific determinants can be deduced from the research that has been completed.

Purpose/Aims

The medical world’s need for practical guidance in executing evidence-based practice in the clinical setting is overdue. While large strides have been made in both academia and healthcare institutions to embed and establish evidence-based practice, clear overarching evidence-based principles have yet to be instituted. The components of this project are twofold. Through the review of a current literature and survey of clinical nurses, both advanced practice and registered nurses, this project aims to provide some guidance to translating evidence. This

project seeks to name implementation strategies and organizational structures that must be in place to foster continuous, effective evidence-based practice.

Evidence-Based Practice Model

A multitude of evidence-based models exist to help nurses translate current research to practice. The PEACE framework was selected to steer this project. The PEACE framework is a five step process. The steps are as follows: problem identification, evidence review, appraisal of evidence, changing practice or conducting research, and evaluation of practice change (Tahan et al., 2016, p. 58). This model was chosen for its simplicity and focus on collaboration to ensure proper research is analyzed and disseminated. The PEACE framework was developed in 2011 by New York Presbyterian nurses across multiple shared governance councils (Tahan et al., 2016). Specifically, these councils help facilitate evidence-based practice projects and ensure nursing practice standards are rooted in the best available evidence (Tahan et al., 2016). The different councils spent four months reviewing common evidence-based practice models, analyzing their strengths, weaknesses, and applicability for bedside use. An agreement was reached that most of the models were quite lengthy and complicated which led to the decision to create the PEACE model.

Literature Review/Evidence for the Problem

Research over the last decade is clear and corresponds with the status of nurses' commitment to use of evidence-based practice. Clinical nurses consistently have a positive attitude towards allowing research to guide their care. In a cross-sectional survey of nurses and midwives, 95% stated that "evidence-based practice improves clinical practice and is essential for the development of the nursing and midwifery profession" (Veeramah, 2016, p. 344). Almost 97% of nurses surveyed agreed that nurses should employ evidence into their clinical

practice (Verramah, 2016, p. 344). In another study of 458 nurses, the desire of participants to obtain the necessary skills and knowledge needed to utilize evidence was found to be a facilitator to evidenced-based practice implementation (Brown et al., 2009). Indeed, clinical nurses at all levels of care desire to model their practice based on evidence. The many barriers to this achievement have prevented evidence-based practice from becoming an enduring reality.

Research defining the barriers to evidence-based practice highlights the many causes that thwart its implementation. A key barrier is a personnel issue, specifically lack of clinical leadership. Nurses report lack of nursing leadership to drive change. In one survey, the large majority of nurses admit a slim presence of Advanced Practice Nurses, nurse leaders with their doctorate, and health science librarians to form an intrinsic evidence-based practice team in their clinical settings (Warren, et al., 2016). In a systematic review of 70 articles defining barriers and facilitators to the process of carrying out a complex primary care intervention, lack of leadership and, in turn, lack of defined roles and responsibilities to support a practice change was a key barrier (Lau et al., 2016). This lack of leadership results in no strategic planning which is foundational to achieving a practice change. Lack of personnel with the educational background in evidence-based practice to head the change process was also defined as a barrier (Lau et al., 2016). Assimilating evidence into practice is no simple task. Nursing professionals with evidence-based practice knowledge and leadership skills are crucial to the use of evidence in any clinical setting.

Another problem repeated again and again by nurses is lack of time to be involved in the arduous research process. In one survey, “78% reported that they had neither accessed national guidelines or a systematic review (71%) in the past eight weeks nor used an evidence-based practice guideline or systematic review to change clinical practice (62%)” (Warren, et al., 2016,

p. 18). Due to many reasons, nurses report no time at work as well as outside work to dedicate to research (Brown et al., 2009). Nursing at every level consists of heavy workloads focused on demanding patient care needs. To add research as an expectation into the busy clinical workday is unattainable.

Nurses consistently report lack of involvement in evidenced-based practice processes, impeding the clinical execution of evidence. In one study, 79% of clinical nurses described their participation in decision making as “None” to “Somewhat” (Warren et al., 2016, p. 18). Nurses report lack of mentorship by nursing leaders to support their involvement in translating evidence to the bedside (Brown et al., 2009). Clinical nurses at all levels are crucial components to the patient care process. Not including nurses in practice changes has led to suboptimal delivery of the evidence-based practice process and thereby lead to deficient practice.

Design

We developed two surveys using a Likert scale of zero to five. The initial survey consisted of seventeen questions. This survey was established to understand the baseline of Bachelor of Nursing Science prepared nurses’ current practices as well as understanding and familiarity with evidence-based practice. A follow-up survey was created and distributed to students that graduated with their advanced practice nursing degree within the past few years. The advanced practice nursing survey was also created using the Likert scale and consisted of twenty questions.

Methods and Justification

The initial survey was distributed to nursing graduate students enrolled in two Southern California universities. The survey was the first assignment for students to complete in their initial graduate research course. Each student was asked to fill out a survey the first week of class

and to have a fellow nurse colleague fill out the same survey. The survey was disseminated between 2009 and 2020. Over the twelve years, 590 surveys were collected.

A second survey was created and sent out in the fall of 2020 but only to those students who had graduated. The survey was sent to 300 graduates, however, only 50 responses were received. The second survey was created based on current research findings regarding nursing implementation of evidence-based practice to identify enduring barriers over the past decade since project initiation.

Ethical Considerations

This study was approved by the Institutional Review Board of the University of San Diego, Hanh's School of Nursing (IRB-2021-47).

Results

A statistical analysis was done using the Kruskal-Wallis test to compare each question's responses over the eleven years. While there were identifiable differences from year to year, the responses, as a whole, varied little over the years.

The question, "delivering care using your unit's or agency's evidence-based protocol," showed significant positive differences between 2009 and 2020 with an alpha value of 0.05 ($p < .001$). When asked, nurses identified they are constantly monitoring the effectiveness of the care they are providing with a median score of "somewhat agree" from 2016 to 2020, with a statistically significant alpha value of 0.05.

Stable or neutral responses showing no significant differences over the eleven years were demonstrated in questions relating to actively supporting and participating in implementation of evidence-based practice protocols and being aware of quality improvement activities in your agency.

Nurses in 2009 recognized bringing credible research evidence to the attention of peers and leaders with a median response of “agree” but, over the years there was a significant change in responses towards a more neutral response ($p < .001$).

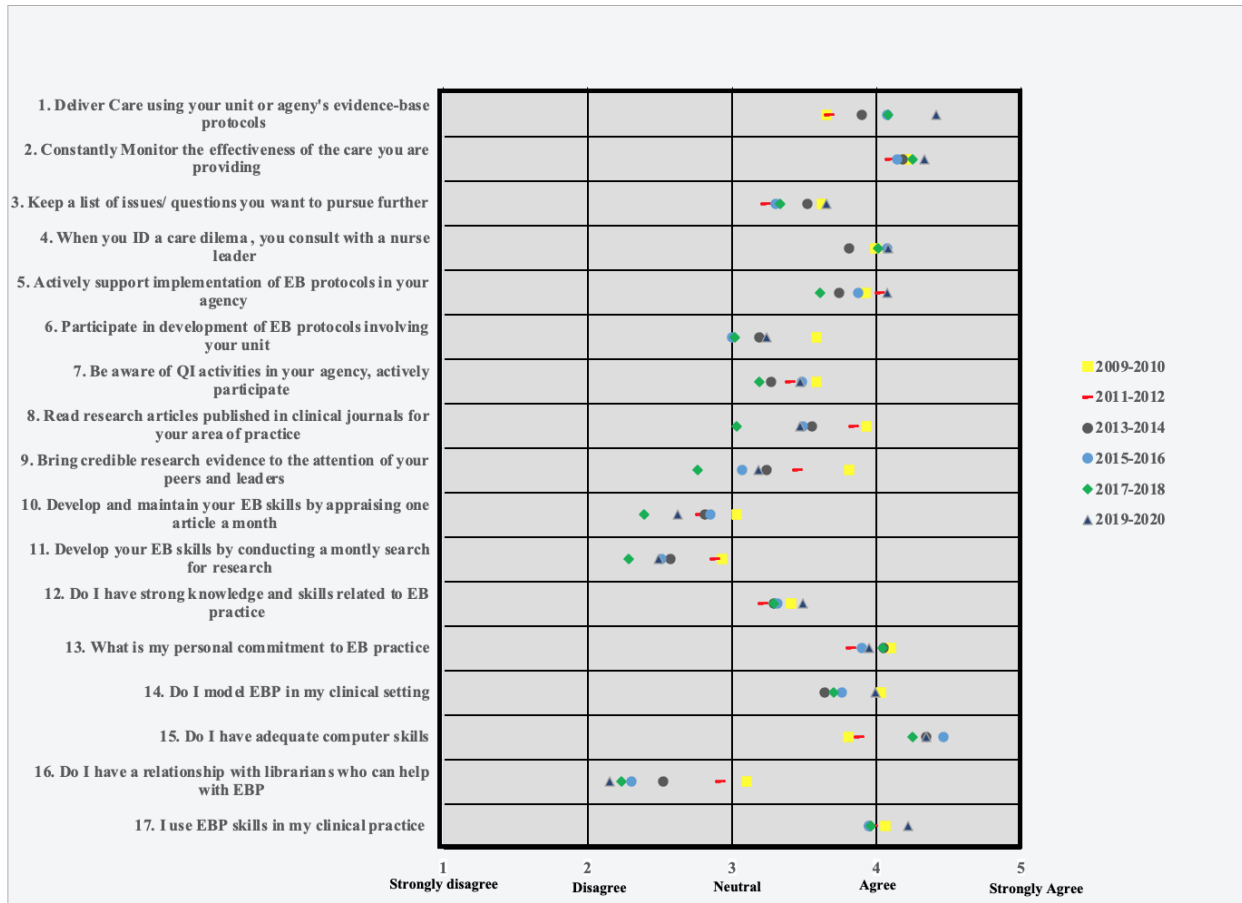
During the years 2016 to 2020, a response of “somewhat disagree” for nurses conducting a monthly search for research and appraisal of one article a month was noted, but from 2009 to 2015 this question was in the “agree” category. This indicates a decline over the years.

The questions “nurses have a personal commitment to evidence-based practice” and “model it in their clinical practice” showed overall responses of “agree” or “strongly agree” over the years, but values did not show any significant improvement in the later years of the survey.

The lowest ranking question with the responses of “disagree” to “strongly disagree,” that also showed a decline in favorable responses over the years was “nurses have a relationship with librarians to help with evidence-based practice” ($p < .001$). Figure 1-1 illustrates each individual question with mean responses over the eleven years.

Figure 1

Mean Responses for Initial Survey 2009 to 2020



Note: This figure represents the mean response to the initial survey over eleven years.

The second survey had seven identical questions from the original survey that were compared using a Mann-Whitney test. There was no significant change from the initial survey in the questions, “nurse delivers care using your agency’s evidence-based protocols,” and “nurse continues to monitor the effectiveness of care they are providing.” There was also no significant change in nurses working with librarians on evidence-based practice from the initial survey, continuing low Likert-scale responses. There was a significant change with the questions regarding advanced practice nurses keeping a list of questions they want to research in the literature as well as the identification of problems that they want to pursue further and consult

nurse leadership ($z = 3.32, p < .001$). The median shifted to a higher value for the question “advanced practice nurses actively support and participate in evidence-based practice” compared to the initial survey, but the results were not significant. Advanced practice nurses likert scores significantly increased regarding reading research articles and bringing that research to their peers and leaders ($z = 5.56, p < .001$).

There were additional questions that were asked after the initial survey results were analyzed and a literature review was conducted. When asked if advanced practice nurses have time built into their schedule to focus on evidence-based practice, 58.8% disagreed, 15.7% reported a neutral response, and the remaining 25.5% agreed to having allotted time to conduct evidence-based practice in their schedule. Results showed 72.6% of advanced practice nurses agreed that they collaborate with other professionals with evidence-based practice and gather input from all health care team members. Responses indicated 39.2% of advanced practice nurses identified their institution does not have an established evidence-based practice infrastructure for evidence-based practice process and implementation Neutral responses accounted for 15.7% and the remaining 54.9% did report established infrastructures in their workplace. Advanced practice nurses reported 43.2% do not work at an institution with professionals trained or educated in evidence-based practice who hold positions solely dedicated to evidence-based practice within the organization while 47.1% do have evidenced-based practice trained personnel. Responses showed 9.8% reported neutral to this question. Lastly, when asked if formal evidence-based practice training exists for medical staff, 47% responded “no”, 25.5% responded “neutral,” and only 27.5% reported that they do work at a setting that provides formal training for their staff. Table 1 displays these results.

Table 1

Mean and Standard Deviation of second survey additional questions

N=52	M	SD
Do I have time built in my schedule to contribute to EBP processes?	2.6	1.2
Do I collaborate with other professionals when conducting EBP ?	3.8	1.0
Do I gather input from all health team members before implementing EBP ?	3.8	1.1
Does my institution have an established EBP infrastructure for EBP process and implementation?	3.1	1.2
Does my institution have professionals trained or educated in EBP who hold positions solely dedicated to EBP within the organization?	3.1	1.4
Does my institution ensure multidisciplinary participation in EBP process and implementation?	3.5	1.1
Does my institution provide formal EBP training for medical staff?	2.8	1.2

Note: Table describes results of questions asked to graduated students.

Study Limitations

The initial survey had a 100% response rate due to it being a required assignment for students. The second survey had a limited amount of participation. Graduates' personal emails were used, however, some emails were no longer active. Some surveys were not completed in full and some questions showed responses other than those provided with the scale, and therefore were possibly not accurately categorized. In those circumstances the lesser score was chosen for

data analysis.

Discussion

Overall, there was an underwhelming improvement in nurses' assimilation of evidence-based practice. With a strong emphasis on evidence-based practice in academia as well as its inclusion in organizations' strategic plans, evidenced-based practice still has yet to reach its fullest realization. Eleven years of time did not yield big achievements in evidence-based practice, highlighting just how challenging its execution really is.

Several responses over the years remained neutral, demonstrating no or very little improvement. These include the identification of care dilemmas and the consultation of nursing leadership when encountering gaps in care. Nurses actively support evidenced-based practice and are aware of quality improvement activities, but results indicate nurses do not demonstrate maximal involvement. Nurses consistently report having average knowledge and skills in evidence-based practice processes, demonstrating room for improvement.

Several improvements were made over the survey duration. Nurses consistently follow evidence-based protocols of their clinical departments. This was, in fact, the highest scoring question within the 2020 survey. Nurses are committed to practicing with the guides of standardized protocols and clinical practice guidelines. Other areas that showed progress over the years pertain to the individual nurse's commitment to evidence-based practice. These include computer skills, evidenced-based practice skills, and modeling a practice grounded in evidence. Finally, the highest scoring question in 2009, nurses monitor the effectiveness of the care they provide, demonstrated improvement consistently through 2020. Nurses strive to better themselves as individual utilizers of evidence.

Areas of decline over the eleven years call for special attention to understand the cause.

In 2009, the least scoring question indicated that most nurses are not conducting monthly literature reviews. There was an improvement just one year later in 2010, but it was short lived, as another steep decline in positive responses occurred in 2017. Other areas of decline in evidence-based practice included reading and bringing research to peers, participating in creating evidence-based practice protocols or quality improvement activities, and having a relationship with a librarian, all essential to the translation of evidence. Evidence-based practice activities that require many hours seem to be where nurses fall short.

A close look at the advanced practice nurses survey results provides an understanding of the clinical impact of having an evidence-based practice education. Advanced practice nurses keep lists of issues or questions they want to pursue further. They accomplish this through conducting literature reviews themselves, sharing research with peers, and participating in evidence-based practice processes, an improvement from the initial survey results. As with initial survey participants, advanced practice nurses continue to use evidence-based protocols and monitor the effectiveness of their care, showing no decline but also no advancement. Advanced practice nurses are also no better at maintaining professional relationships with librarians to assist in the continuous evidence-based practice process. Having an advanced practice degree does indeed benefit the translation of evidence but many deficits still remain.

Evidence to Action

Grounded in the above literature review and survey analysis findings, five recommendations to provide a starting place for evidence-based practice implementation within clinical institutions are as follows:

1. Institutions must have established infrastructures dedicated solely to evidenced-based practice/quality improvement implementation. Medical professionals holding the positions

within such infrastructures should only have that position within the organization, not juggling a clinical role as well. Evidence-based practice/quality improvement team members must have the academic background of evidence-based practice education, specifically a Master's or Doctorate degree.

2. Evidence-based practice infrastructures and initiatives must be multidisciplinary, ensuring input across all disciplines to achieve professional engagement, autonomy, and empowerment.

3. One role of the evidence-based practice team should be to formally provide research and evidence-based practice process education to advanced practice and clinical nurses to achieve an engaged nursing staff.

4. Advanced practice nurses should be included in evidence-based practice processes including the identification of clinical practice questions, gaps in care, applicability, and feasibility of practice changes, but should not hold formal evidence-based practice positions in addition to their primary clinical employment.

5. Time for evidence-based practice contributions of advanced practice nurses should be built into their current workload and schedules.

Implications for Future Research

The gaps in evidence-based practice implementation research are extensive. Researchers understand this shortcoming of healthcare delivery and have thus taken the initial step of defining the problem. Future research should focus on the many individual factors that impact evidence-based practice. Setting-specific research is essential for targeting the needs of assimilating evidence based on specific healthcare environments. Research must also seek to define the specifics of effective evidence-based practice councils or teams. This should include

team structures within various types of institutions. The goal of research moving forward must be the achievement of standardization of evidence-based practice implementation and policy development.

Conclusions

Research has exhausted the initial question of identifying all the factors that impact evidenced-based practice application. Nursing leaders can and should claim implementation strategies that can be deduced so far from the literature that has already been conducted to provide a direction for future research as well as a starting place for healthcare organizations. The fact that it takes well over a decade for patients to benefit from new knowledge is simply unsatisfactory. Healthcare professionals have long voiced their needs in the delivery of evidence-based care. May the research and clinical realms of healthcare boldly and collaboratively embark on this desperate yet exciting endeavor.

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