

Readiness and Resistance, Building a Culture of Evidence-based Practice in Nursing

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Doctor of Nursing Practice Final

November 17, 2020

Abstract

Healthcare consumers trust clinicians to make clinical decisions based on the best possible evidence, which is proven to result in positive outcomes; however, evidence-based practice is not consistently practiced, which leads to medical errors, patient injury, and death. The purpose of this Doctor of Nursing Practice (DNP) scholar project is to initiate a culture of evidence-based practice (EBP) among the in-patient registered nurses of the chosen practicum site. A needs assessment, in the form of an electronic survey was launched for the identified nursing group participants, which served to identify the nurses' beliefs, knowledge, and readiness to accept the culture change. The survey evidence indicated that EBP education was required for the nurses to increase their knowledge of the EBP process. Evidence-based practice online education was delivered to a select group of inpatient registered nurses with a participation rate of 93%. The education module contained a pretest and posttest, in which the test score averages indicated there was evidence of increased knowledge among the participants. The initiatives of the project enabled EBP culture building, which facilitates empowering the nurse to identify and nurture their spirit of inquiry in practice issue changes, thereby facilitating positive patient outcomes. This is the strong foundation for future development of a culture where the practice of EBP is normal and not the exception.

Keywords: evidence-based practice in nursing, assessment of beliefs and knowledge, increased education, culture change, positive patient outcomes, nurse empowerment

I dedicate this final project presentation to my loving family who have supported me throughout my study in obtaining the Doctor of Nursing Practice degree: my husband, Danny; and my two sons, Joshua and Benjamin; as well as my grandchildren, Jacob, Isaac, Silas, and Vivian. I also dedicate this to all of the healthcare individuals that strive to provide quality care to those they serve. May these healthcare providers always carry the torch to promote and deliver the best possible evidence-based care.

Acknowledgements

I am extremely grateful for the support, wisdom and guidance of my DNP Scholar project team: Dr Melody Cash, Faculty lead and Goshen College -EMU DNP Consortium Co-Director; Patti Gasper, Peer; Cathy Ernst-Rittenhouse, Practice Mentor/Expert; and all individuals at the practicum project site who were instrumental in the positive progression of the project. In addition, I am thankful to have the leadership of Dr Ruth Stoltzfus, Goshen College -EMU DNP Consortium Co-Director, and all other faculty who were instrumental in offering guidance and support throughout the project and program of study.

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Readiness and Resistance, Building a Culture of Evidence-Based Practice in Nursing: A Community Hospital Approach

The delivery of safe healthcare to trusting patients is under scrutiny today, due to the alarming number of patient injuries and deaths related to healthcare error, positioning it as the third leading cause of death in this country. A recent publication by physician researchers Makary and Daniel (2016) of Johns Hopkins Medical Center, reviewed medical record data over a period of eight years to discover an alarming number of medical errors, resulting in 250,000 to 400,000 patient deaths each year. The evidence revealed that commonly the death certificate does not contain medical error as the cause of death; therefore, it is not reported to the Centers for Disease Control (CDC) as a traceable statistic. Only 5% of these medical errors are caused by incompetence, whereas 95% involved competent people trying to achieve the best outcomes, while working in poorly designed systems (Makary & Daniel, 2016). These hard facts are disturbing and dismal to healthcare organizations as well as the people who trust that they are receiving quality care. Therefore, critical measures should be implemented across the United States (US) healthcare system, to prevent such errors from occurring.

Evidence-based practice (EBP) in nursing allows the nursing discipline to embrace a strategy to combat this massive problem through providing quality care based on valid current research, thus, improving population health outcomes and costs while improving clinician engagement. These initiatives are what is known as the Quadruple Aim in Healthcare, a term that originated from the Institute of Healthcare Improvement (IHI) agency (Institute for Healthcare Improvement, 2020). It is also highly recognized as the initiative the Institute of Medicine (IOM) set in 2003, in which the goal is to have 90% of the clinical decisions in healthcare be based on high quality evidence by 2020 (Harper et al., 2017).

Although a tremendous amount of effort has been aimed at the implementation and building of the EBP culture, there remains a large deficit in clinical areas throughout the US healthcare system in 2020. This DNP project serves to examine the key issues surrounding the readiness for and resistance to building an EBP culture, thus facilitating a better understanding of what will be needed for EBP education delivery. The implemented education module is aimed to increase the EBP knowledge for inpatient registered nurses (RNs) of a 255-bed community hospital system, located in Virginia.

Statement of the Issue

Evidence-based practice in nursing has been defined as a direct approach to delivery of safe healthcare guided by the best evidence for clinical decisions, and clinical expertise, while also incorporating the patient preferences and values (Melnik & Fineout-Overholt, 2019). There is a national initiative to increase the use of EBP across the healthcare system; however, the push still lacks momentum to be noticeable in smaller, independent organizations. Quality research findings validate a lack of EBP competency and immersion to the clinical areas, pointing to a need to increase the knowledge of clinicians in order to improve healthcare. This DNP project meets the educational needs of the inpatient registered nurses at the practicum site. The educational intervention is established as the leading critical component enabling a culture of EBP practice.

Purpose and Objectives

Identifying the beliefs, degree of readiness and level of knowledge regarding the practice of EBP among the RNs of the practicum site was the first initiative, and was critical for recognizing the areas needed for development of the education module. This information was

used to directly influence the content for the education delivery. The core objectives of the project were to:

1. Implement a voluntary survey to inpatient registered nurses, regarding the nurses' perception of EBP knowledge and beliefs.
2. Collect the survey data results as an aid to identifying areas of essential EBP education needs, to be applied during the development of the EBP education module.
3. Develop and implement an online EBP education module to be delivered to all inpatient registered nurses, thereby increasing their level of EBP knowledge in understanding the important steps in creating and implementing a practice change.

Organizational System Strategic Plan

The survey of EBP readiness in the clinical areas of the practicum site are in direct alignment with the organization's strategic plan. The Chief Nursing Officer (CNO) promoted the survey process of inpatient RNs, to discover their beliefs, readiness and knowledge in accepting the integration of EBP into the nursing discipline. In addition, it is in the organization's strategic plan to begin the development of a culture which supports patient care decisions being centered from an evidence-based approach. This DNP project directly collaborated with the organizational resources in surveying the readiness for, and degree of acceptance to delivering high-quality evidence-based care.

Relevance to Nursing Practice

The ability to use evidence in guiding practice is vital for nurses in the present complex healthcare arena. Nurses have direct influence over the quality and safety of healthcare delivery, through the practice of EBP. This framework supports the quality patient safety movement, promotes an increased level of knowledge, and translation of evidence to practice, all of which

serve to maximize quality and effectiveness of care in the practice of nursing (White et al., 2016).

Facilitators and Barriers

Although research has established that an evidence-based approach to patient care has tremendous power in the supporting the quadruple aim of healthcare, many organizations struggle to integrate EBP due to identified barriers. Commonly revealed obstructions include lack of knowledge and skills by RNs, lack of support from nursing leadership, and insufficient resources for implementation and sustainability (Melnik et al., 2017).

Multiple studies have revealed that nurses report having the resources to implement EBP, but they do not frequently access these resources to guide their practice (Melnik et al., 2012; Melnik & Raderstorf, 2021; Warren et al., 2016). Such was the case when Warren et al. (2016) surveyed 1608 nurses, discovering that 49% of the nurses reported they could readily access EBP resources, however 78% reported that they had not accessed any national guideline review, or systemic review or evidence in general. Furthermore, 69% reported they had not formed a clinical practice question, and 53% stated they had not changed their clinical practice based on evidence, or on patient outcome data (p. 17). Melnik and Raderstorf (2021) reported several other barriers that inhibited the delivery of evidence-based care, including: reports that it takes too much time, resistance to change, lack of power to make change, inadequate EBP mentors for support, and a deeply embedded historical culture of always doing things the same, without changing.

The substantial need of leadership support and education resonated through the research that Melnik et al. (2012) conducted as one of the first studies to assess the practice of EBP in the US. Of the 1,015 RN respondents to the survey, only 53.6% agreed or strongly agreed that EBP

was consistently practiced in their organization, 32.5% agreed that there were available mentors to assist them with EBP, and 76.2% agreed that it was important for them to receive more education to build EBP skills. These are important implications for the organizational nurse leaders and educators who are responsible for building a supportive culture of EBP (pp. 413-414).

Melnik et al. (2018) conducted a survey at the first Invitational Expert Forum held by the Ohio State University College of Nursing (OSUCON), Helene Fuld Health Trust National Institute for Evidence-Based Practice in Nursing and Healthcare. The National Expert Forum of leaders comprised of nursing faculty, clinicians, leaders, and researchers, were invited to complete a survey on their perceptions of the current state of EBP, and the initiatives they believe were needed to promote the culture of getting evidence to the bedside. The assessed areas included perceptions of: (1) the state of EBP in the US, (2) identified facilitators and barriers, and (3) current initiatives to advance the culture of EBP in the US (pp. 7-10). A total of 47 participants completed the survey, followed by breakout work sessions to address the current needs of EBP in the nation. The survey answers were rated on a Likert scale from 0 = poorly to 10 = extremely well. Surprisingly, 76.6% of the respondents felt that the US healthcare system was consistently implementing EBP on a scale of only 0 to 5, and 74% reported that their organization only invested 10% or less of their budget into EBP initiatives (pp. 11-13). From the work sessions, the experts recommended that the national healthcare agenda place a higher priority on advancing EBP care (Melnik et al., 2018, p. 11). They suggested three top action items to implement EBP across the US healthcare system: first, to link healthcare service reimbursement to EBP; second, to increase interprofessional education and collaboration; and third, to add more support resources. They further outlined leadership strategies that were

imperative to advancing the culture of EBP: (a) placing EBP as a priority, (b) increasing the education of EBP application, (c) taking a collaborative approach to healthcare (p. 15).

From a myriad of research findings centered on the barriers preventing EBP from being practiced in all healthcare settings, an echoing concept is the ability for nurse leaders to influence the change and sustainability of EBP. The OSUCON, Helene Fuld Health Trust National Institute for Evidence-Based Practice in Nursing and Healthcare created a national organization to support the research, teaching, and leadership in promoting EBP. Common themes identified from collective research findings were used to guide the institute in publishing a guide which outlined 12 steps and strategies for implementing EBP (Tucker & Melnyk, 2019). Nurse leaders can successfully implement and sustain the change of EBP using this established framework. The following are the steps to success:

- Use compelling data and rationales to identify whether and why change is needed.
- Assess the organization's readiness for change along with organizational strengths and potential barriers.
- Create a compelling and exciting vision for change that's clearly communicated to all key stakeholders and staff.
- Solicit input on the vision from all key stakeholders and staff.
- Convene specific leadership teams to develop a detailed strategic plan with SMART (specific, measurable, action-oriented, realistic, time-sensitive) goals.
- Provide effective change training and education for leaders and staff along with tools and resources for success.
- Leverage social networks, champions for change, opinion leaders, and mentors.
- Use evidence-based implementation strategies to promote and sustain change.

- Engage in small change steps for quick wins.
- Provide regular recognition and appreciation.
- Evaluate outcomes by monitoring progress over time and modifying the strategic plan as indicated.
- Disseminate progress and outcomes to stakeholders and staff and celebrate accomplished goals.

(Tucker & Melnyk, 2019, pp. 6-9)

One example of how leadership can support change involves new nurse residents through the American Association of Colleges of Nursing's (AACN) Vizient Nurse Residency Program (2020), which provides EBP education to new nurse residents. This was evident in observations of new nurse residents at the project practicum site. All residents who began employment in June 2019 are enrolled in the AACN Vizient program for their first year, which also requires each resident to complete an EBP project by the end of the program. The projects are evaluated to ensure that they are EBP worthy, meaning that they are supported by the best evidence to create change. Although these are new nurses in the clinical field, they are pioneers at this site in augmenting the beginning culture of EBP in this community hospital setting.

Additionally, nursing leadership at the practicum site also supports the culture of EBP by requiring that all RNs who are ranked on the clinical ladder to develop and present an EBP change project, beginning October 2020. See Appendix A for the EBP poster template for arranging the presentation of evidence, including steps of change. All clinical ladder nurses must first complete the online EBP education module, prior to working on a practice change project. Directors will oversee and approve all project ideas. The professional presentations will promote

the culture of EBP and allow the nurses to be publicly recognized through showcasing presentation.

Literature Review

Evidence search strategies, keywords, inclusions and exclusion criteria. Literature searches were performed using the following electronic databases: CINAHL Complete, Medline Complete, PubMed Central, and PubMed Central.

Keyword searches included: *evidence-based practice models, implementation strategies, magnet designation requirements, barriers to implementation, quadruple aim of healthcare, advancing research through close collaboration (ARCC), evidence-based survey tools, and evidence-based education model, beliefs of evidence-based practice in nursing, plan/do/study/act model, medical error rates, and healthcare improvement strategies*. Some terms were excluded from the results. The keyword search excluded the terms evidence-based medicine and evidence-based practice, due to being broad in terminology; resulting in an excess of research not related to the specific desired research subject.

Summary of the Evidence

Although there has been a significant focus and investment on the building of EBP skills among nurses, there continues to be an enormous inconsistency in making practice decisions that are based from the best evidence. For example, Melnyk et al. (2018) conducted one of the first US studies which involved 19 healthcare systems. The survey resulted in 2,344 nurses reporting they felt they were not capable of meeting EBP competency standards. This data resulted from how the nurses scored themselves against the 24 EBP core competencies, which were established by Melnyk et al. (2014). Based on a Likert scale from level 1 (not competent) to a level 4 (highly competent) all the nurses scored themselves within a level 2 (need improvement) (Melnyk et al.,

2018). In addition, Warren et al. (2016) conducted a cross-sectional survey of 1608 registered nurses across seven hospitals of the Maryland and District of Columbia area to assess their beliefs about EBP by using the Melnyk and Fineout-Overholt (2003) survey tool Evidence-Based Practice Beliefs (EBPB), and the Organizational Culture and Readiness for System-Wide Integration of EBP Scale (OCSIEP). Surprisingly, only 41% of the nurses claimed they agreed or strongly agreed that they knew how to make practice changes and only 44% felt confident about their ability to implement EBP (p. 17). These findings revealed that the problem is directly linked to the lack of education in the EBP process. This evidence also suggested that there are many other components lacking for a well-established culture of EBP in nursing, such as database availability for searchable evidence, an organizational culture of change, opportunities for EBP mentor development and leadership support (Warren et. al, 2016).

The American Nurses Credentialing Center (ANCC) is responsible for credentialing hospitals as either Magnet or Pathway to Excellence designation and requires hospitals to demonstrate nurse engagement of incorporating evidence into practice (Wilson et al., 2015). Data was collected from surveys conducted in 14 of these designated hospitals by Wilson et al. (2015) in 2013, to determine if nurses practicing in these facilities felt an increased readiness and engagement to embrace EBP due increased education levels and organizational support. Encouraging of the 2,441 registered nurses, approximately 80% revealed that they had a moderate to high understanding of EBP. In addition, the nurses who held certifications reported a higher frequency of EBP behaviors ($M=2.79$, $SD = .58$) versus non-certified nurses ($M=2.58$, $SD=.53$). In summary, the nurses who had continued education and career advancement perceived themselves as more likely to participate in EBP, contrast to the nurses who worked at the bedside without education or career advancement. The latter nurses struggled with

understanding research and the application of EBP (Wilson et al., 2015). Some of the other barriers to EBP use was nurses reporting they had lack of time to research evidence, or the lack of knowledge in research interpretation.

Researchers Gerrish and Cooke (2013) examined some of the issues surrounding the use of EBP by surveying 337 nurses on their perceived barriers to translating evidence to practice. The data revealed the two most common concerned responses were, “I do not have sufficient time to find research reports,” and “I do not feel confident in judging the quality of research reports” (Gerrish & Cooke, 2013, p.101). These sentiments resonate among nurses in many healthcare settings and are directly related to the lack of education and resources to implement EBP.

These perceived deficits and barriers were expected to surface from the nurse survey at the project practicum site, which has never formally introduced the framework of EBP to the nursing division. The survey was utilized to examine the nurses’ beliefs and readiness for EBP implementation through a process of using Melnyk and Fineout-Overholt (2003) EBPB and OCSRSEP tools. Permission was received to use the survey tools prior to launching the survey (see Appendix M). Following the survey data aggregation, a formal education model was tailored according to the deficits of knowledge in the EBP process.

Supportive Statement

The delivery of safe healthcare is of utmost importance in order to reduce the number of medical errors and patient deaths. The framework of EBP provides a problem-solving approach to improve the delivery of care by using the best possible evidence. EBP integrates the IHI Quadruple Aim of Healthcare, which supports the improvement of healthcare delivery and patient outcomes (Institute for Healthcare Improvement, 2020).

Identified Gaps in Literature

There are several gaps in research related to the current state of EBP in the US. Further research initiatives could be aimed at studying why leaders are not embracing EBP when it is proven to be the catalyst for improvements in healthcare. Such research would allow nurses and leaders to better identify these areas and develop a strategic plan to combat these barriers (Melnyk et al., 2017). For instance, one area that has not been reviewed is the return on investment in regard to the costs of implementing EBP, which improves healthcare, compared to the financial loss to healthcare organizations due to medical errors and poor patient outcomes (Melnyk et al., 2015).

The degree to which increased knowledge of EBP directly impacts patient outcomes is likely significant but remains unexamined. For example, the Advancing Research and Clinical Practice through Close Collaboration (ARCC) model supports education focused on the process of EBP. The model has consistently been used since 2002 as the framework for EBP implementation; however, there remains a gap in research that reviews the impact of EBP education on positive patient care and outcomes (Kim et al., 2017). This evidence would assess the efficacy of education on both implementation and sustainability.

Conceptual and Theoretical Framework

It is important to establish an EBP framework model by which to guide the development of the scholarly project. The model that best supports this endeavor is the ARCC (see Appendix B, Melnyk & Fineout-Overholt, 2002). The framework supports the following strategies:

- Ongoing assessment for the organization to implement and sustain EBP culture.
- Increasing EBP knowledge and skills through workshops and one-on-one mentoring.

- Facilitating education of the nursing staff toward a culture of EBP, with a focus of overcoming barriers.
- Using evidence to foster best practice.

The ARCC model directly aligns with the project goals and is synchronized with the practicum site health care organization's goals of creating a culture of EBP among the nurses. Currently the American Association of Colleges of Nursing (AACN) Vizient Nurse Residency program promotes the education of new nurses in the use of EBP. This program will be an excellent cornerstone to lead in developing the EBP culture for all nurses in the organization. The Vizient program supports the Melnyk and Fineout-Overholt ARCC model in educating and implementation of EBP among the residents. In addition, it also supports the initial surveying of the nurses' knowledge beliefs and barriers using the EBP Beliefs Scale (Melnik et al., 2017).

Alongside the ARCC EBP model, there should be an established framework to provide clear directions for how evidence can be translated to the bedside by thorough planning, implementation, and evaluation. The Plan-Do-Study-Act (PDSA) method of translation was utilized for improvement (Institute for Healthcare Improvement, 2020) (see Appendix C). Using the PDSA method, the following steps outline the plan of translation:

- Plan: Survey the nursing staff using the EBPB and OCSIEP tools to reveal the level of knowledge regarding the EBP process and support of their organization.
- Do: Make recommendations for increased education by using the Melnyk & Fineout-Overholt ARCC EBP implementation method, and the Melnyk and Fineout-Overholt Education model.

- Study: Re-survey nurses after the EBP education has been implemented, which will result in data to examine whether there is increased knowledge and to determine identified barriers of the process.
- Act: Review survey data to develop future directions in the increased knowledge and fostering of the EBP culture.

The PDSA model will allow the building of a culture in place, through evaluating the process of implementation. Additionally, identifying barriers and successes help to advance further culture building (Melnyk & Fineout-Overholt, 2019).

Methodology

Needs Assessment

As requested by the organization's Chief Nursing Officer, and through full collaboration with the executive nursing leadership team, an online descriptive survey, on a voluntary and anonymous basis, was administered to nurses over a three-week period. The survey information was distributed using the organization's internal email, which included a link to the survey. The email also included a quick response (QR) code to be used by those who chose to utilize smart phone technology to access the survey. Flyers were also posted throughout the inpatient units to inform and request survey participation. This survey represented an assessment to determine the EBP education needs of the inpatient RN group.

Executive leadership support was one of the identified crucial resources needed in order to substantiate and prioritize the need to embrace EBP. This support will also be needed to utilize the development of EBP mentors to guide others in understanding the framework of EBP, and in developing projects that are foundationally centered on the best evidence. The practicum site's CNO gave full approval to the DNP project, which included resources needed to survey and

assist in collecting data for the education process. The approval also allowed for the use of the organization's SurveyMonkey software, to conduct all the planned surveys, with the caveat that the CNO would be the first to view the data results. The Human Resource department has access to the software and willingly set up the survey process, including the data acquisition of the survey completion. In addition, the Human Resource department provided the resources needed to launch the EBP education module within Healthstream, including enrolling the required participants.

Setting

The project practicum site is a 255 bed, full access, community hospital located in Virginia. The hospital is one of the larger employers in the area, with a nursing staff of approximately 550 to 575 nurses. The organization has not yet pursued Magnet designation by the American Nurses Credentialing Center, which supports nursing excellence through the application of using evidence-based practice to improve patient outcomes (American Nurses Credentialing Center, 2020); however, there are plans in the future for the designation. Having the foundation of an established EBP culture will greatly assist the organization upon pursuit of this quality designation.

Participants

Participants included all inpatient RNs who were employed by the organization, for a total of 377. Employment status, such as; full time, part time, or per diem, was not differentiated. The survey population was selected through collaboration with the clinical educators and executive leadership of the organization. The demographics of the survey categorized the participants according to unit or department, primary work role, number of years in nursing, highest degree in nursing, number of years since obtaining last degree in nursing, and whether

the participant had any specialty certification in nursing. These identifiers were requested by senior leadership to be used in future expansion of EBP culture development.

Tools

One of the first initiatives in creating a culture of evidence-based practice (EBP) in nursing is to survey the nurses about their beliefs, knowledge, and organizational readiness to support the culture of EBP. Experts Melnyk and Fineout-Overholt (2019) developed several specific survey tools to examine the beliefs and degree of readiness the nurses report in embracing the EBP culture change. The EBPB and OCRSIEP survey tools have consistently shown validity and internal reliability (see Appendix D, Appendix E).

The EBPB survey is a tool used to gather the nurses' beliefs about the use of EBP in clinical practice. It is a 16 item, five-point Likert scale indicating: 1 (strongly disagree), 2 (disagree), 3 (neither agree nor disagree), 4 (agree), 5 (strongly agree). Higher scores represent an increased level of belief supporting EBP. The EBPB tool has an established reliability (Cronbach's $\alpha = .90$) with validity supported by significant correlation with relevant variables (Friesen et al., 2017).

The OCRSIEP survey is a 19-item tool that measures the participants' beliefs about their organization's readiness, resources and principles, to accept and sustain the EBP culture (Harper et al., 2017). The items are measured on a Likert scale: 1 (none at all), 2 (a little), 3 (somewhat), 4 (moderately), 5 (very much). Higher scores represent a higher level of support for readiness. The survey shows strong internal consistency and established reliability (Cronbach's $\alpha = .94$) (Friesen et al., 2017).

Both survey tools were used to reveal information regarding the nurses' beliefs, but more specifically, their level of knowledge regarding EBP in nursing. It was intended to identify what

further education was needed. This information was the major component driving the online education content for the inpatient registered nurses. The survey tools allowed direct insight into how proficient the nurse feels regarding the use of EBP.

The aggregated data was used to determine the education and support needs prior to beginning the EBP culture change. The impetus for using these tools came from Melnyk and Fineout-Overholt's (2019) culture of EBP, which has been developed into the Helene Fuld Health Trust National Institute for Evidence-based Practice in Nursing and Healthcare, at Ohio State University, College of Nursing. The Fuld Institute is a national hub for teaching and information and is the driving force of cultural change in making practice decisions based on the best evidence (The Ohio State University, Helene Fuld Health Trust National Institute for Evidence-based Practice in Nursing and Healthcare, 2019).

Project Plan

Survey data results from the administration of the EBPB and OCSIEP tools were analyzed to discover areas of EBP knowledge and deficits. This data was beneficial for building the EBP education module. The survey was conducted over a three-week period, allowing ample time for responses. An acceptable response rate is considered a minimum of 20% completion participation in the survey. This rate is based on Moran et al., (2017), who described that the average rate of survey participation is between 10 – 20%. The survey information was distributed by email, and advertised by flyers posted in acute care units, and in executive leadership announcements during specific unit meetings. The aggregated survey data was summarized in a descriptive statistical approach, identifying education needs (Motulsky, 2018), reviewing for trends in what areas the nurses scored high versus low in terms of beliefs, knowledge of EBP, and whether the organization supports a culture of change. In particular, the

following specific items in the EBP Beliefs survey tool assessed the nurses' perceptions of EBP knowledge:

- I am clear about the steps of EBP.
- I am sure I can implement EBP.
- I believe that critically appraising evidence is an important step in the EBP process.
- I know how to implement EBP sufficiently enough to make practice changes.

(Melnyk & Fineout-Overholt, 2003)

Statistical analysis was performed to determine the results as they directly reflect the level of EBP knowledge to implement. The full data set was shared with the executive nursing leadership group, shared governance members, and ultimately, with all inpatient RNs that were requested to participate in the survey. After the sharing of data, collaboration began with the clinical educators and executive leadership to create an educational model based from the Melnyk and Fineout-Overholt (2019), ARCC model, which directly aligned with the project goal of providing education for the inpatient nurses.

The EBP education module (see Appendix F) is based on Melnyk and Fineout-Overholt (2019) model of EBP implementation, contained the following components:

- History of EBP in nursing.
- Regulatory, federal and national organization's governance over the immersion of EBP, promoting making clinical decisions based on the best evidence.
- Importance of using EBP in the clinical area to provide the best care and outcomes for the patient.
- Inclusion of all steps of EBP project implementation (1) cultivating a spirit of inquiry, (2) formatting a PICOT question, (3) critically appraising the evidence, (4) integrating the

best evidence with clinical expertise and patient preference/values, (5) evaluating outcomes of the practice decision or change based on evidence, and (6) disseminating the outcomes to the major stakeholders.

The education was delivered in an online format (Dressler, 2020) through the existing Healthstream education software of the organization. Provided within the module was a pretest and posttest (see Appendix G) to measure the students' knowledge both before and after participation in the education module, with a determined due date for completion, and a competency passing score of 80% for the posttest. The pretest and posttest questions were developed as a tool to compare correct answer averages before education participation, and after completion of the education. The test questions were formulated from direct request of the CNO, and consideration of the EBP education content. The tests consisted of the same five questions, containing basic inquiry into the history, the degree of importance of EBP, and the steps of the EBP process. Upon completion of the posttest, there was an education evaluation survey (see Appendix H), which was used to determine the efficacy of the education module. Nursing leadership demonstrated understanding that building a culture of evidence-based practice does not occur quickly; instead, it requires cultivating three parts: accepting it as the way to practice, building the resources needed, and sustaining the cause.

Project Implementation Plan (Timeline)

The scholarly project addressed the level of evidence-based practice knowledge and readiness among the inpatient registered nurses of the practicum site, to proceed with the EBP education delivery and culture building. The following describes the timeline for implementing the project:

- February 2020. To establish the current EBP knowledge and readiness of the nurses, a voluntary survey was administered in February 2020, over a period of four weeks, to a total of 377 inpatient registered nurses. The survey tools of Melnyk and Fineout-Overholt (2019), including EBPB and the OCRSIEP, were utilized with full support of the practicum site nursing leadership group and Nursing Shared Governance committee. A total of 377 nurses were given access to the survey, with a return participation rate of 28.6% on the EBPB survey, followed by 22.2 % on the OCRSIEP survey.
- July - August 2020. The survey results were shared with the nursing leadership group and the Shared Governance committee through direct presentation of data, followed by discussion of data analysis. In addition, an overview of the EBP education module was presented, including some examples of completed EBP projects.
- September 2020. Presentation of the EBP education module to both nursing leadership group and the clinical educator group.
- September 2020. Delivery of the online EBP education module to be implemented for all inpatient RNs to participate.
- November 2020. Following the completion of EBP education, a survey will be administered using the EBPB and OCRSIEP tools. The response data will be utilized to compare/contrast data from the original survey.

Additional initiatives are occurring throughout the organization as a result of EBP culture introduction, all of which align and augment this project's goals. The initiatives include the following:

- Adoption of an EBP practice project poster template to be used for all presentations.

- Nursing leadership requiring all clinical ladder projects to be completed and presented using the EBP framework, resulting in practice change based on quality evidence.
- New nurse residents employed within the past year, are required to complete an EBP practice issue project, which is related to their clinical area.
- Identification of future EBP mentors, who are Shared Governance committee members, who will be vital in the progression and sustainability of EBP.

IRB Approval

The application for the practicum organization Institutional Review Board (IRB) was accepted on November 12, 2019, for processing. On December 30, 2019, the IRB exempted the proposal for full review due to categorizing the project as quality improvement in nature. They further stated that the project would not involve patient identifiers or risk to patients, assigning the study as IRB# 00002496 (see Appendix I). The Institutional Review Board (IRB) application for the Doctor of Nursing Practice academic site of Eastern Mennonite University (EMU), was completed on June 6, 2020, designating it as a quality improvement project, and therefore exempt from IRB review which negates the need for a full IRB review (see Appendix J).

COVID 19 Impact on Implementation

The overwhelming demands of the COVID 19 pandemic, across the practicum healthcare organization, resulted in a direct impact on the progression of the Doctor of Nursing Practice project, while also influencing a change from the original project proposal. The implementation of the EBP education delivery was provided to a smaller group of 57 RNs, consisting of nursing leadership, shared governance members and clinical educators, instead of the original proposed plan of 377 inpatient RNs. Additionally, the decision was made by executive nursing leadership

to not administer the follow-up post education survey, using the EBPB and ORCIEP tools, but instead these will be administered at a future date to be determined by the organization. These changes will be reflected in the data analysis.

Evaluation

Project Data Analysis

Several important components of quantitative data were produced from surveying nursing staff about their beliefs, knowledge and readiness for developing a culture of EBP using the EBPB and OCRSIEP survey tool (see Appendix K, Appendix L). Additionally, areas of quantitative data were examined to reveal the pre- and post- EBP education test, followed by the evaluation of the education's quality (see Appendix G, Appendix H). This data summary is described in the following findings.

EBPB Survey Findings

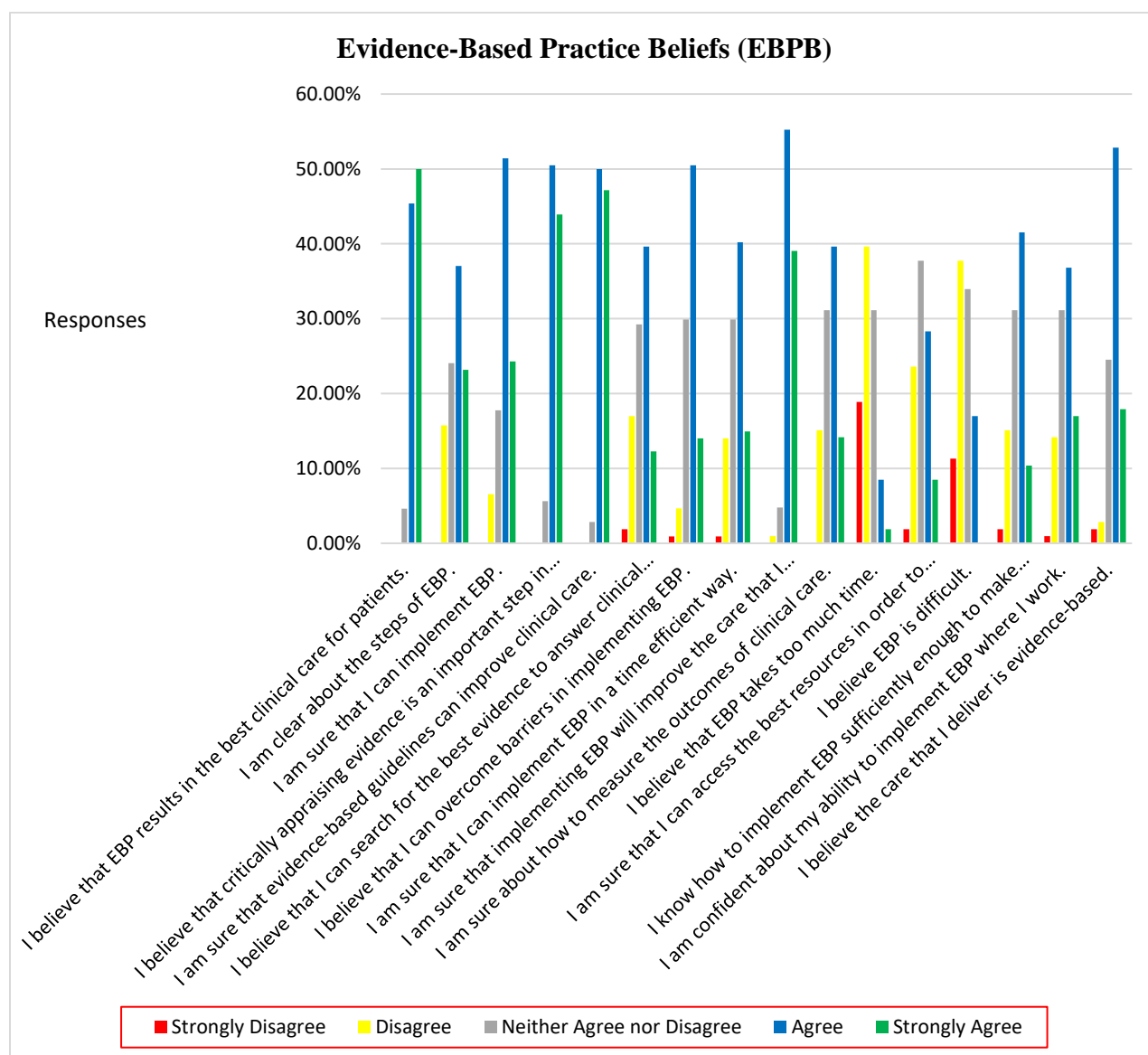
The EBP survey was completed prior to formal introduction to EBP in nursing, using the EBPB and OCRSIEP tools (Melnik & Fineout-Overholt, 2019). This data was extracted from SurveyMonkey and uploaded into an Excel spreadsheet for analysis. The survey was offered to 377 RNs; however, only 108 (28.2%) completed the EBPB survey, and 84 (22.2%) completed the OCRSIEP survey. Descriptive statistics were used to categorize the percentage of responses to the questions. These findings served to identify the need for educational directives.

The EBPB survey results were positive, with most responses in the "agree" response of the Likert scale, which indicates that the RNs have a positive belief in the importance of building a culture of EBP. Table 1.1 displays the results of the 16 - question EBPB survey. Most of the responses showed agreement that EBP is important in the care of the patient. The areas that drove the decision to offer the detailed steps of EBP in the education, was the question "I am

clear about the steps of EBP. The data revealed that only 23% strongly agreed, 37% agreed, and 24% neither agreed nor disagreed.

Table 1.1

EBPB Survey Response Results



Note. The table shows the average of all responses based on a Likert scale. The questions are directly from the EBPB survey. Survey reprinted from Melnyk, B. M., and Fineout-Overholt, E. (2019). *Evidence-based practice in nursing & healthcare: A guide to best*

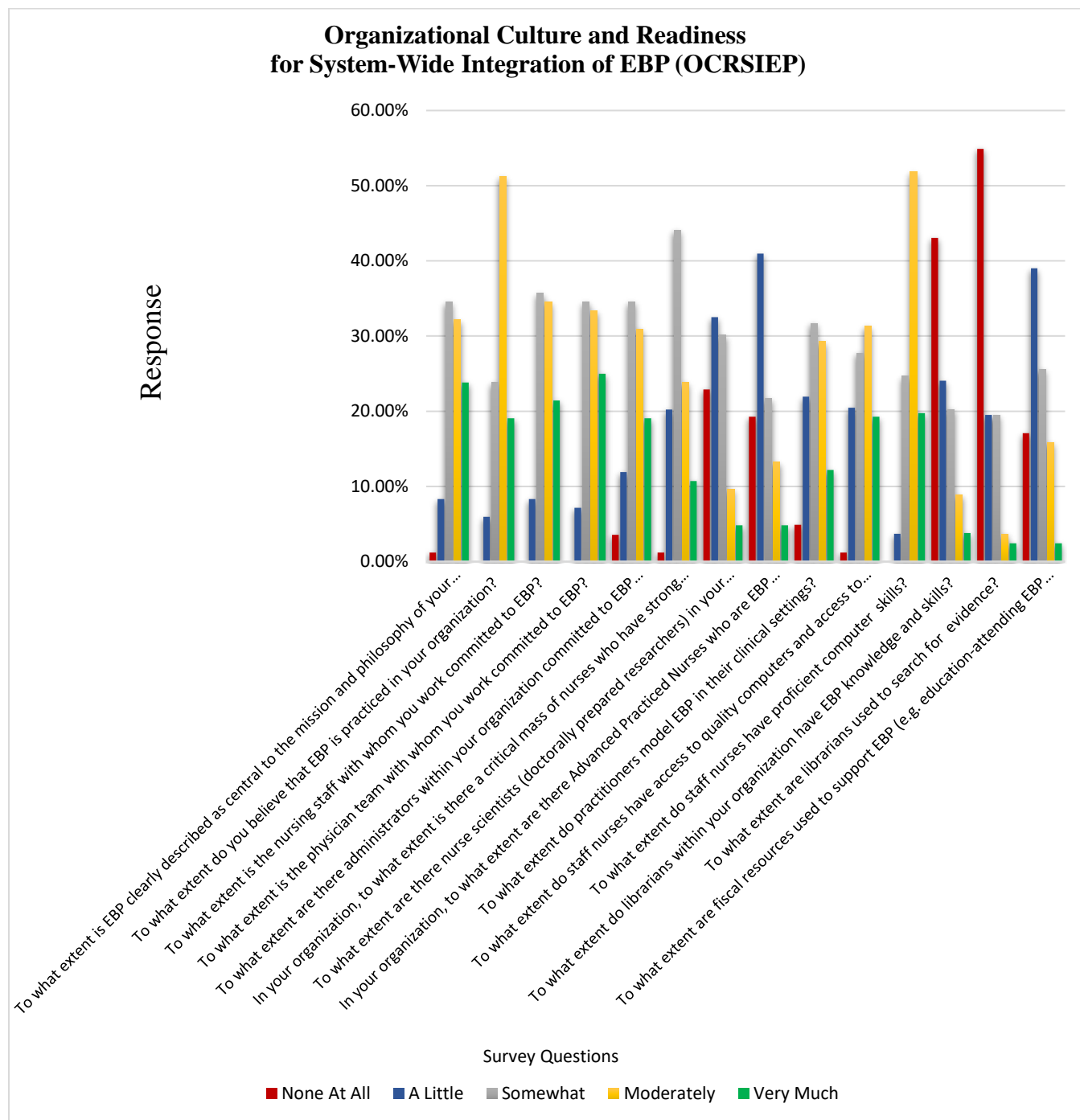
practice (4th ed.). Wolters Kluwer Health. Copyright 2003 by Melnyk and Fineout-Overholt. Used with permission from the authors on October 17, 2019.

OCRSIEP Survey Findings

The following table 1.2 displays the results of the 14 question OCRSIEP survey. The Likert scale of the OCRSIEP represents a range from “none at all” to “very much” in the assessment that the organization supported using EBP. The overall majority response was in the moderate positive range, demonstrating readiness for EBP implementation; however, it was evident that the high level responses of 54% “none at all” or 24% “a little” in the area of librarian resources, signifies that the organization lacks these resources to assist the nurse to find appropriate research. Surprisingly, there were overwhelming positive results demonstrating that 51% of the respondents believe EBP is practiced in the organization.

Table 1.2

OCRSIEP Survey Response Results



Note. The bars show the average of the responses based on a Likert scale from “none at all” to “very much”, as the legend specifies. The questions are directly from the OCSIEP survey.

Survey reprinted from Melnyk, B. M., and Fineout-Overholt, E. (2019). *Evidence-based practice in nursing & healthcare: A guide to best practice* (4th ed.). Wolters

Kluwer Health. Copyright 2003 by Melnyk and Fineout-Overholt. Used with permission from the authors on October 17, 2019.

EBP Education Outcomes

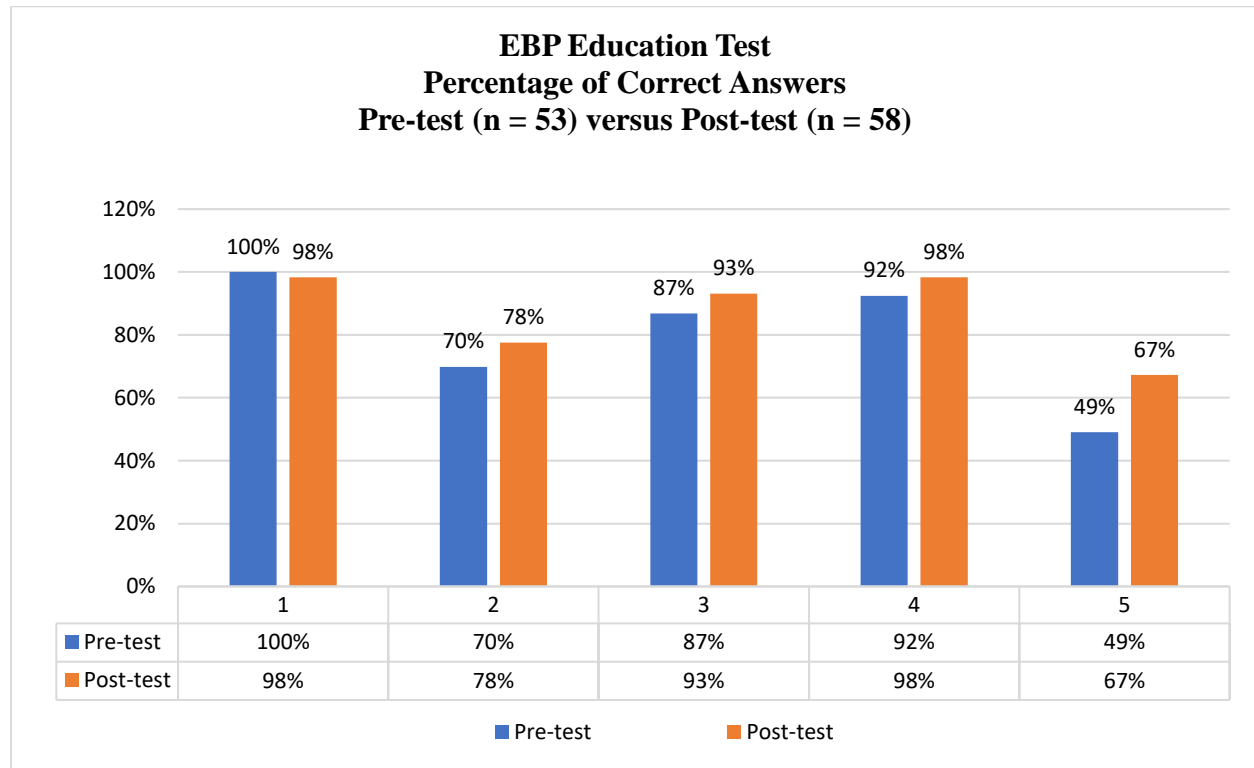
The EBP education delivery consisted of a guided lecture in an online format (Dressler, 2020), delivered through Healthstream software, requiring participation of 57 members from the nursing leadership group, shared governance committee members and clinical educators. A total of 53 members (93%) completed the education module, pretest and posttest (see Appendix G). Overall, there were positive trends in the data. Table 1.3 demonstrates the average number of correct responses to the five questions, comparing pretest versus posttest. Question one, “The foundation of evidence-based practice is the conscientious use of current best evidence in making clinical decisions”, resulted in a 100% correct rate in the pretest; however, the posttest results decreased to 98%. This result reflects that 98% to 100% of the nurses demonstrated a basic understanding of the EBP foundation. Answers to questions two through five consistently demonstrated improvement from pretest to posttest scores, demonstrating an increased level of knowledge during post- education participation. Overall test scores revealed a pre-assessment score average of 80%, and an increased post-assessment score average to 87%. The following are the EBP pretest/posttest education questions:

1. The foundation of evidence-based practice is the conscientious use of current best evidence in making clinical decisions about patient care.
2. What is the first step in the development of an evidence-based practice project?
3. What does the abbreviation in a PICOT question signify or mean?
4. What is one of the major components that will facilitate evidence-based practice in clinical decision making?

5. What are the highest levels of evidence to support a practice change?

Table 1.3

Comparison of Pretest to Posttest Averages Post EBP Education



Note. Average of correct responses of EBP education pretest scores compared to posttest scores. It is important to note that five participants required a retake of the posttest to obtain the required 80% pass rate, as indicated in the difference of pretest n=53 to posttest n=58.

The EBP education evaluation was completed by (87%) or 46 of the 53 participants. The outcomes were favorable as reflected in table 1.4, which displays the majority in the “agree” or “strongly agree” response.

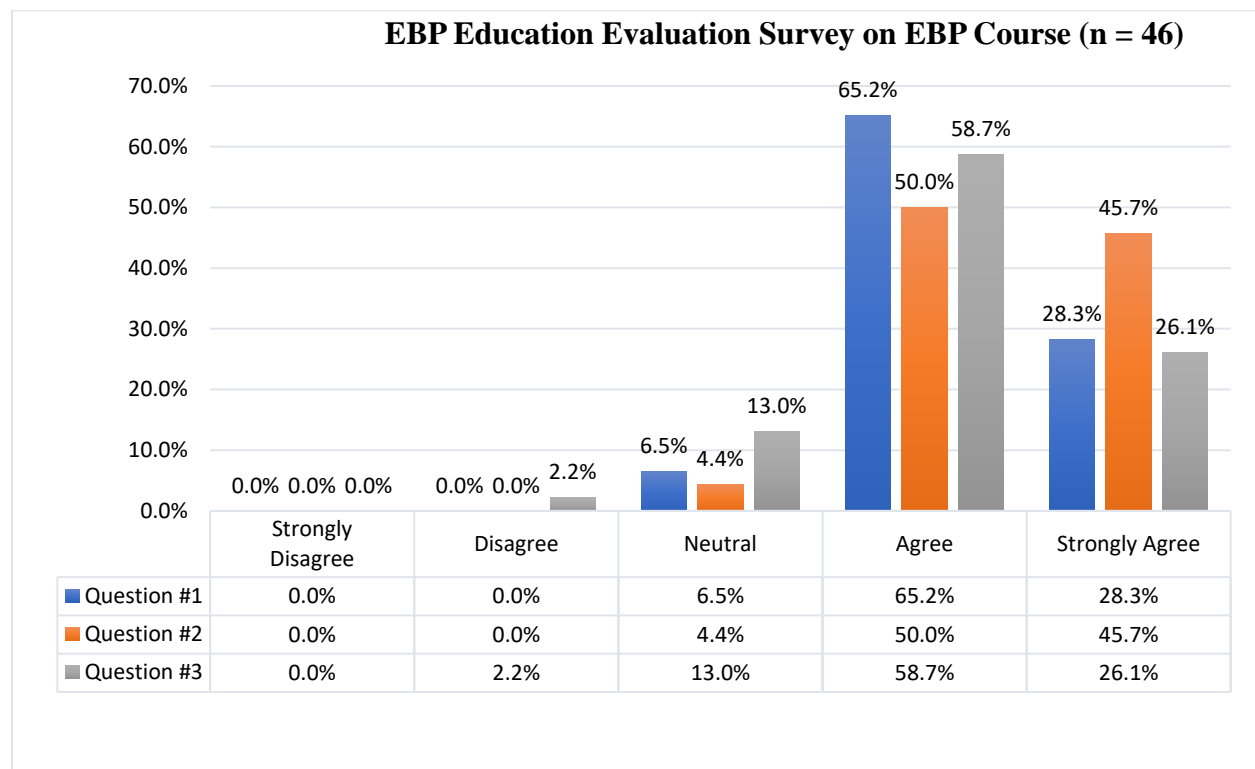
EBP Education Evaluation Survey Outcomes

The EBP education evaluation survey results revealed positive trends in the responses to three evaluation questions. A total of 46 (87%) completed the education evaluation survey

questions (see Appendix H), which was voluntary and not required as completion of the education. As table 1.4 illustrates, question one “Did the course content and lecture meet the course objectives”, resulted in a 65.2% agree, followed by 28.3% strongly agree. Also, the important evaluation question two “Do you feel you have the basic understanding of evidence-based practice in nursing process”, revealed that 58.7% agreed; whereas, 45.7% strongly agreed that the education participants felt they understand the EBP process.

Table 1.4

Outcomes of the EBP Education Evaluation Survey



Note. The following questions were used in the education evaluation. Question #1 Did the course content and lecture meet the course objectives? Question #2 Do you feel you have the basic understanding of evidence-based practice in nursing process? Question #3 Did the instructional methods in this course facilitate your learning?

Key Findings

The overall results of the EBP education delivery, and evaluation of the education, was positive and measurable. The total average of both pre- and post- knowledge testing revealed an increased average from 80% pre-education to 87% post-education of the 53 participants. This is encouraging for the organization because it shows they have a baseline level of 80% from the beginning yet demonstrated improvement after participation in the education initiative. Additionally, the education evaluation survey data revealed that 58% “agreed” and 33% “strongly agreed” that the education module content and delivery facilitated learning.

Discussion

Summary of Findings and Outcomes

The outcome data of the survey process and the EBP education delivery demonstrated that the nursing discipline has general interest and support, which is vital for developing a culture, where the practice of using evidence to make clinical decisions is the standard. The observed engagement of executive nursing leadership, and shared governance members was encouraging and vital in culture development and sustainability. The education data revealed that there was a positive baseline of knowledge before the participation of the education module, which is encouraging and demonstration of a small knowledge gap. One area of needed strength, as reported by the nurses in the survey, is in the area of needing guidance when searching for research, due to having no librarian services for support. Additionally, the designation and development of EBP mentors is likely to be important to cultural development; however, this phase is yet to be determined, and will be guided by executive nursing leadership.

Limitations

Survey participation to determine the beliefs, knowledge, and readiness of EBP was on a voluntary basis, with a participation rate of 28 % on the EBPB survey, and 22% of the OCSIEP survey. Because of this small percentage of participation, the results may not clearly represent the beliefs or knowledge of the entire nursing group. The major limitation for progression of the project was the decreased engagement of nursing leadership, due to the impact of the COVID-19 pandemic. Leadership was responsible to make implementation timeline decisions; however, these were delayed due to more critical priorities of patient care. The barrier of delayed implementation also resulted in lower participation in EBP education, decreasing the proposed 377 attendees to 57 (n=53). The low volume of participants was not an inclusive representation of the inpatient RN group. In addition, the education pretest and posttest questions were requested to be simple and minimal by executive nursing leadership, which did not challenge the education participants to demonstrate a higher level of knowledge. Further limitations in outcome data was impacted due to the inability to re-survey the nurses after the intervention in order to measure and compare improvement in their EBP beliefs, knowledge, and readiness. This effort was paused; however, this is an initiative that nursing leadership plans to pursue in the near future.

Implications

Nurses inherently want to provide safe quality care to patients; however, they commonly lack the support needed to practice and sustain evidence-based care. The support they seek is for increased EBP education, clear observation that leadership places EBP as a priority, and guidance from qualified EBP mentors (Christenbery, 2018). When supported in the practice of using evidence to make clinical decisions, the nurse has the potential to standardize nursing

practice, and to create a culture of ownership in the successes of positive outcomes, to establish a goal of zero patient harm (p.193). Through development of an EBP culture, the practicum site has the possibility to position the nursing discipline in the pursuit of these EBP goals.

Nurse leaders are the largest influence on the implementation and support of EBP in the organization. They have the potential to directly guide the nurses' spirit of inquiry, allocating time to locate the best possible evidence to implement a practice change, which fosters a culture of EBP (Schaefer & Welton, 2018). They also set the stage for EBP development and use, which has the impact to improve patient outcomes, decrease health care cost and increase nurse satisfaction (p.628). The consistent practice of evidence-based care has the potential to directly influence health policy by following the same framework of clinical EBP, with some modifications through the application of the Evidence-informed Health Policy model, developed by Melnyk and Fineout-Overholt in 2015 (Melnyk & Raderstorf, 2021). The model relies on external evidence which may be driven by governmental influence around policy issues, while also combining the values and ethics of the organization stakeholders (Melnyk & Fineout-Overholt, 2019, p. 537-538). Using this model would guide dissemination in a fashion that is appealing to the policy-making stakeholders. The practicum organization nursing leadership has specific goals to expand and include this model once the EBP culture is established, which will be a requirement if the organization pursues Magnet status through the ANCC (American Nurses Credentialing Center, 2020).

Future Considerations

There are several areas in which the organization has the potential to expand for the future. Requiring increased EBP education participation by all inpatient RNs, including new hires to complete during the orientation phase, will facilitate increased knowledge. Re-surveying

the nurses using the EBPB and OCRSIEP tools, once all EBP education delivery is complete would allow sufficient data to determine whether there was a positive increase in the RNs' beliefs and readiness relative to increased EBP education. Comparing this data to the pre-education survey data, could reveal the future needs of support in the EBP culture. The organization is still in the novice realm of EBP adoption, however, there is potential for growth with these initiatives.

Sustainability

The DNP project consumes a large amount of time and resources from the student and practicum organization in order to be successful. Melnyk and Fineout-Overholt (2019) suggested the key element of EBP mentors as the catalyst for promoting continued advancement of evidence-based care after the implementation of the concept (p.515). The mentor has a direct impact by supporting the clinical staff in preparation for and guidance of the process. The ARCC model supports the establishment of mentors within the organization for this initiative. The practicum site has identified several members of the shared governance committee, who have volunteered to become mentors (Melnyk & Fineout-Overholt, 2019). In addition, Ketron (2019) states that the most significant sustainability action is to develop academic practice partnerships (p.94). This means that the partnership between the DNP student and practicum organization has the potential to strengthen the success and sustainability of the project. It was established early on for the DNP student to become an academic partner with the organization, due to previous appointment as a member of the organization's Vizient Nurse Residency program advisory board. This allows the ability to partner and foster the new nurse resident's EBP projects, which are required during the first year of employment. In addition, this partnership with the

organization will continue to validate the education initiative and ensure the longevity of the EBP culture building.

Conclusion

It is well established that healthcare organizations across the nation are troubled about the increasing amount of patient errors and death, and they recognize the need to change in order to improve patient outcomes (Makary & Daniel, 2016) . The culture of evidence-based practice in nursing has the potential to facilitate this change by empowering nurses to make clinical decisions to improve patient outcomes. Despite the barriers that were present during the development of the project, the practicum organization demonstrated support for and dedication to building a culture of EBP in nursing. The DNP project facilitated the organization's cultural change by laying the groundwork for EBP implementation, by assessing the nurses' beliefs, knowledge, and readiness. This assessment was followed by an education initiative to increase the nurses' knowledge of EBP. This knowledge has the potential to increase the use of EBP to provide excellent patient care; therefore, supporting the goal of achieving optimal healthcare quality outcomes.

Dissemination

Dissemination of the project began with the first presentation of the EBPB and OCRSIEP survey data to the Nursing Shared Governance committee and Executive Nursing leadership group. The shared governance members were responsible for sharing information with the RNs of their hospital unit. The RNs are the major stakeholders in the process, so it is important to keep them engaged in the progression by sharing data and milestones of the initiative. Additionally, before implementation of the EBP education module, the Nursing Shared Governance and Nursing Leadership groups were presented with the proposed education outline.

This action was vital in receiving feedback prior to implementation of the education and demonstrates continue engagement of the stakeholders.

The EBP education data will be presented to the Shared Governance and Executive Nursing Leadership members during the December 2020 meeting. The data comparing test scores before and after the education participation will be shared, including the education module evaluation results. This allows these stakeholders to take the information back to their respective units to share with the RNs. Additionally, it gives the Shared Governance and Nursing Leadership group the information they need in order to consider changes to the EBP education module prior to the implementation to all inpatient RNs.

The OSUCON, Helene Fuld Institute of Evidence-based Practice in Nursing and Healthcare will host a national summit for EBP, scheduled for September 2021. Plans are made to engage and present an abstract for either a poster or podium presentation. This engagement will allow the opportunity to share progress toward creating a culture of EBP and participant learning of the current national trends centered on EBP.

The sharing of the organization's initial EBPB and OCRSIEP survey data will be delivered to the OSUCON, Helene Fuld Institute of Evidence-based Practice in Nursing and Healthcare, in December 2020. This was an agreed upon deliverable, in exchange for using the survey tools without cost.

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Appendix A

Evidence-Based Practice Poster Template

<div>1</div> <div>Title of the Research Project</div> <div>Your name and credentials</div>		
<div>2</div> <div>INTRODUCTION</div> <div>Identification of Practice Issue</div> <div>Spirit of Inquiry</div>	<div>5</div> <div>EVIDENCE-BASED CHANGE</div> <div>Formulating the Plan</div> <div>Change proposal and plan</div> <div>Include all areas needed for a complete plan of what the change will need to be successful.</div>	<div>6</div> <div>MEASURING THE OUTCOME</div> <div>How will you measure the outcomes of the practice change</div>
<div>3</div> <div>PICOT QUESTION</div> <div>Clinical Question - PICOT Question</div>		
<div>4</div> <div>EVIDENCE</div> <div>Summarizing the evidence that identifies and supports the need for a practice change.</div>		<div>7</div> <div>FUTURE DIRECTIONS</div> <div>What future directions should be considered?</div> <div>What outcomes may develop that change may need to be revisited.</div>
		<div>8</div> <div>REFERENCES</div>

Appendix B

Advancing Research and Clinical Practice through Close Collaboration

(ARCC Model)

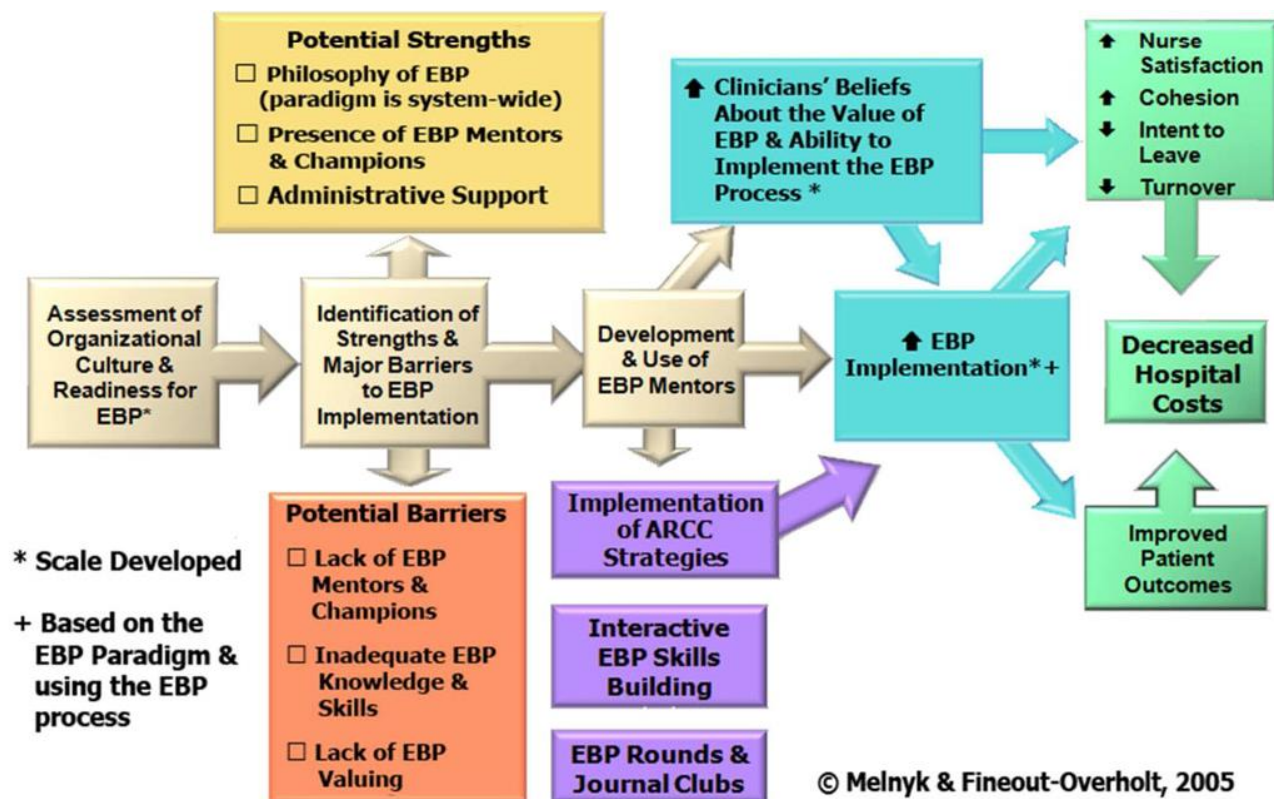
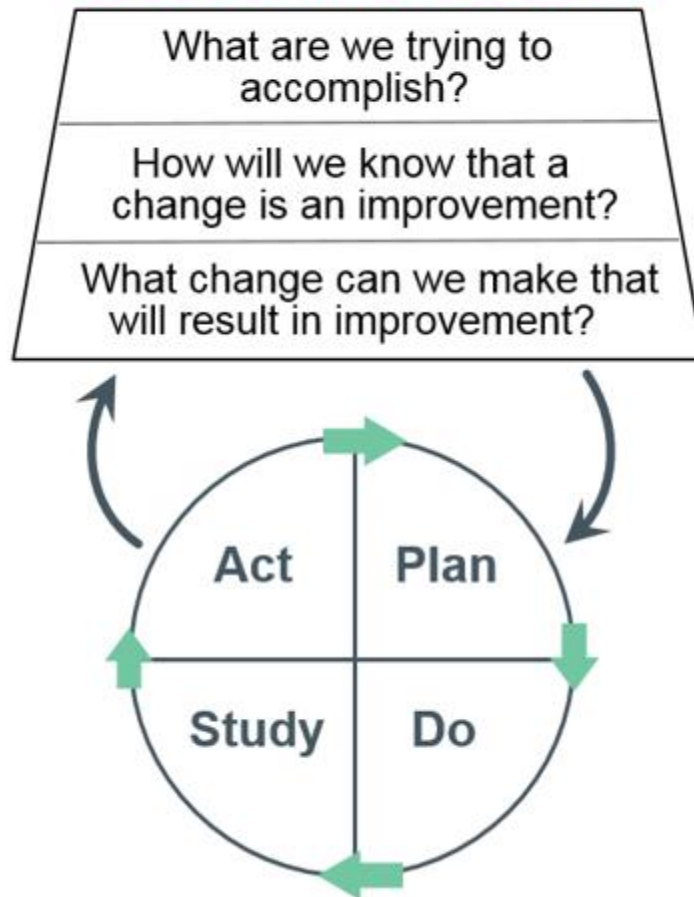


Figure 1. Reprinted from Melnyk, B. M., Fineout-Overholt, E., Giggelman, M., & Choy, K. (2017). A test of the ARCC model improves implementation of evidence-based practice, healthcare culture, and patient outcomes. *Worldviews on Evidence-Based Nursing*, 14(1), p. 6. Copyright 2005 by Melnyk and Fineout-Overholt. Reprinted with permission.

Appendix C

Plan, Do, Study, Act (PDSA) Model

Model for Improvement



Institute for Healthcare Improvement. (2020). *Improvement in health and healthcare across the world.*

Appendix D

Evidence-Based Practice Beliefs Survey (EBPB)

Below are 16 statements about evidence-based practice (EBP). Please circle the number that best describes your agreement or disagreement with each statement. There are no right or wrong answers.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
1. I believe that EBP results in the best clinical care for patients.	1	2	3	4	5
2. I am clear about the steps of EBP.	1	2	3	4	5
3. I am sure that I can implement EBP.	1	2	3	4	5
4. I believe that critically appraising evidence is an important step in the EBP process.	1	2	3	4	5
5. I am sure that evidence-based guidelines can improve clinical care	1	2	3	4	5
6. I believe that I can search for the best evidence to answer clinical questions in a time efficient way.	1	2	3	4	5
7. I believe that I can overcome barriers in implementing EBP.	1	2	3	4	5
8. I am sure that I can implement EBP in a time efficient way.	1	2	3	4	5
9. I am sure that implementing EBP will improve the care that I deliver to my patients.	1	2	3	4	5
10. I am sure about how to measure the outcomes of clinical care.	1	2	3	4	5
11. I believe that EBP takes too much time.	1	2	3	4	5
12. I am sure that I can access the best resources in order to implement EBP.	1	2	3	4	5
13. I believe EBP is difficult.	1	2	3	4	5
14. I know how to implement EBP sufficiently enough to make practice changes.	1	2	3	4	5

15. I am confident about my ability to implement EBP where I work.	1	2	3	4	5
16. I believe the care that I deliver is evidence-based.	1	2	3	4	5

Figure 3. Survey reprinted from Melnyk, B. M. and Fineout-Overholt, E. (2019). *Evidence-based practice in nursing & healthcare: A guide to best practice* (4th ed.). Wolters Kluwer Health. On Copyright 2003 by Melnyk and Fineout-Overholt. Used with permission from the authors October 17, 2019.

Appendix E

Organizational Culture & Readiness for System-Wide Integration of Evidence-based Practice Survey (OCRSIEP)

Below are 19 questions about evidence-based practice (EBP). Please consider the culture of your organization and its readiness for system wide implementation of EBP and indicate which answer best describes your response to each question. There are no right or wrong answers.

Item	None at All	A Little	Somewhat	Moderately	Very Much
1. To what extent is EBP clearly described as central to the mission and philosophy of your institution?	1	2	3	4	5
2. To what extent do you believe that EBP is practiced in your organization?	1	2	3	4	5
3. To what extent is the nursing staff with whom you work committed to EBP?	1	2	3	4	5
4. To what extent is the physician team with whom you work committed to EBP?	1	2	3	4	5
5. To what extent are there administrators within your organization committed to EBP (i.e., have planned for resources and support [e.g., time] to initiate EBP)?	1	2	3	4	5
6. In your organization, to what extent is there a critical mass of nurses who have strong EBP knowledge and skills?	1	2	3	4	5
7. To what extent are there nurse scientists (doctorally prepared researchers) in your organization to assist in generation of evidence when it does not exist?	1	2	3	4	5
8. In your organization, to what extent are there Advanced Practiced Nurses who are EBP mentors for staff nurses as well as other APNs?	1	2	3	4	5
9. To what extent do practitioners model EBP in their clinical settings?	1	2	3	4	5
10. To what extent do staff nurses have access to quality computers and access to electronic databases for searching for best evidence?	1	2	3	4	5
11. To what extent do staff nurses have proficient computer skills?	1	2	3	4	5
12. To what extent do librarians within your organization have EBP knowledge and skills?	1	2	3	4	5

13. To what extent are librarians used to search for evidence?	1	2	3	4	5
14. To what extent are fiscal resources used to support EBP (e.g. education-attending EBP conferences/workshops, computers, paid time for the EBP process, mentors)	1	2	3	4	5
15. To what extent are there EBP champions (i.e., those who will go the extra mile to advance EBP) in the environment among:					
a. Administrators?	1	2	3	4	5
b. Physicians?	1	2	3	4	5
c. Nurse Educators?	1	2	3	4	5
d. Advance Nurse Practitioners?	1	2	3	4	5
e. Staff Nurses?	1	2	3	4	5
16. To what extent is the measurement and sharing of outcomes part of the culture of the organization in which you work?	1	2	3	4	5
Item	None	25%	50%	75%	100%
17. To what extent are decisions generated from:					
a. direct care providers?	1	2	3	4	5
b. upper administration?	1	2	3	4	5
c. physician or other healthcare provider groups?	1	2	3	4	5
Item	Not ready	Getting Ready	Been Ready but Not Acting	Ready to Go	Past Ready & onto Action
18. Overall, how would you rate your institution in readiness for EBP	1	2	3	4	5
Item	None at All	A Little	Somewhat	Moderately	Very Much
19. Compared to 6 months ago, how much movement in your organization has there been toward an EBP culture. (place a hatch mark on the line to the right that indicates your response)	1	2	3	4	5

Figure 3. Survey reprinted from Melnyk, B. M. and Fineout-Overholt, E. (2019). *Evidence based practice in nursing & healthcare: A guide to best practice* (4th ed.). Wolters Kluwer Health. Copyright 2005 by Melnyk and Fineout-Overholt. Used with permission from the author on October 17, 2019.

Appendix F

Evidence-Based practice Education Module Power Point

Evidence-Based Practice in Nursing Developing a Culture of Best Practice



Course Objectives

- ▶ Review the status of healthcare in the United States, including the goal statement by the Institute of medicine regarding evidence-based practice.
- ▶ Review the history of evidence-based practice (EBP) in nursing, including the foundation and importance of EBP culture building.
- ▶ Discuss 7 steps to a complete EBP project, which serves to create a practice change and improve outcomes.
- ▶ Review the initiative in building a culture of evidence-based practice in nursing.



Healthcare in the United States

- ▶ The delivery of safe, quality healthcare is under scrutiny today due to the rising percentages of medical errors and patient deaths.
- ▶ Physician researchers Makary & Daniel (2016) of Johns Hopkins University, reviewed medical record data over an eight-year period to discover that medical errors ranked as the third leading cause of deaths, resulting in 250,000 to 400,000 each year.
- ▶ Also discovered was that only 5% of these deaths were related to negligence or incompetence, whereas the other 95% resulted from competent people trying to achieve the best outcomes, while working in poorly designed systems, and not using the best evidence.

History of Evidence-Based Practice (EBP) in Nursing

- ▶ Dr. Archie Cochrane (1972) was a strong proponent of using the best research (already published) to make clinical decisions in the care of patients. He set the foundation for what is now the Cochrane Collaboration, which is a repository of systematic reviews. This was also the beginnings of the evidence-based medicine model.
- ▶ From this foundation, the nursing discipline structured the framework of evidence-based practice in nursing, which has evolved as the approach to best practice in the delivery of patient care.



What is evidence-based practice?

How does it involve me?

- ▶ Evidence-based practice in nursing is appraising research that is already published, to be used as evidence to substantiate in making a practice change to improve patient outcomes.
- ▶ It is a problem-solving approach to clinical practice that integrates the conscientious use of best evidence in combination with a clinician's expertise as well as patient preferences and values to make clinical decisions in patient care.

Best Evidence + Clinicians Expertise + Patient Preferences = EBP



Importance of EBP Culture Building

- ▶ Although there has been a large immersion of EBP in nursing across the healthcare arena, there still remains a gap in consistent practice of EBP.
- ▶ EBP is the key to the Quadruple Aim of Healthcare, which supports enhanced healthcare quality, improves patient outcomes, reduces healthcare cost, and empowers clinicians/nurses to create change.
- ▶ There is up to a 17 year gap from evidence that is produced from researchers, to changing practice at the bedside!
- ▶ It is time to embrace building a culture in providing the highest quality of care and the best patient outcomes through the implementation of evidence based practice in nursing.

Commitment to Quality Patient Care Developing a Culture

- ▶ The nursing discipline participated in the survey process of determining their beliefs and organizational readiness to begin the process of EBP in Nursing.
- ▶ It has been identified by nursing leadership, nursing shared governance, and the nursing discipline that building a culture of EBP will develop the best patient care, and improve patient outcomes.
- ▶ This culture will empower the nurses to become involved in the organizational evidence-based practice change process.

7 Steps to Development of an Evidence-Based Practice Project



Step 1 Cultivate a spirit of inquiry



This creates an environment for nurses to question their current practice, to discover if there are improved ways based on current evidence, research.

Enables you to question- Is there a better way to do this?

Many excellent patient care changes which have resulted in improved patient outcomes has resulted from the spirit of inquiry among nursing.

Step 2 The PICOT question will assist in the search for evidence through identifying the search terms

P - Population What type of patient group or interest group?

I - Intervention Can be a treatment, diagnostic test, condition on what you are proposing as the change.

C - Comparison The comparison of what is currently being done, comparing it to the proposed change or intervention.

O - Outcome The perceived or expected outcome of the change intervention.

T- Time The time it will take for an intervention to achieve an outcome. Time is not always needed in the question.



Step 3 Search for the best evidence to support the change

- ▶ By using the PICOT question, you can develop the search terms to find best evidence in support of the practice change.
- ▶ Using OVID data base, use all of the search terms, adding filters to find specific published research articles. Search for full text.
- ▶ Review the research articles for appropriateness to the subject.
- ▶ Do not rule out research from other countries, due to many practice issues are recognized worldwide. Research articles more than 10 years old may be outdated evidence, unless it is groundbreaking profound research, or a meta-analysis.



Step 4 Evaluate the evidence

Critical appraisal of the evidence discovered is vital in determining the best evidence for support.

1. **Are the results of the study valid?** (*Validity*) Did the researchers conduct the study using the best research design and methods possible?

2. **What are the results?** (*Reliability*)

In quantitative research

- Did the intervention work, and if so, how large was the effect? Can the results be generalized?

In qualitative research

- ▶ Does the research approach fit the purpose of the study?

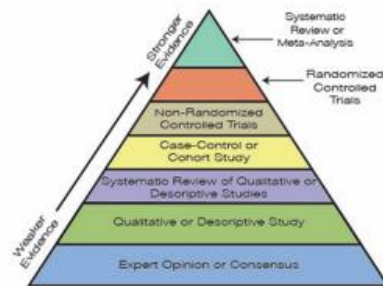
3. **Will the results help me in caring for my patients?** (*Applicability*) Are the subjects in the study similar to the patients for whom I care? Are the benefits greater than the risks of treatment? Is the treatment feasible to implement in my practice setting? Would my patients readily accept the treatment and do they have the resources needed?

Level of Evidence + Quality of Evidence = Strength of Evidence

Step 4 The levels of evidence

- **Level I:** Systematic reviews or meta-analyses of RCTs
- **Level II:** Single RCTs
- **Level III:** Controlled trials without randomization
- **Level IV:** Case-control and cohort studies
- **Level V:** Systematic reviews of descriptive and qualitative studies
- **Level VI:** Single descriptive or qualitative studies
- **Level VII:** Opinion of authorities and/or reports of expert committees/panels

► Melnyk and Fineout-Overholt (2019)



Step 5 Putting evidence into action by formulating a change plan

Through the creation of an EBP poster, all of the evidence, change proposal and planning initiatives can be displayed and presented to stakeholders.

The poster should be formatted in the electronic template to be printed for display.

The following poster template will include all the components necessary for a complete project proposal and implementation.

<div>1</div> <div>Title of the Research Project</div> <div>Your name and credentials</div>		
<div>2</div> <div>INTRODUCTION</div> <div>Identification of Practice Issue Spirit of Inquiry</div>	<div>5</div> <div>EVIDENCE-BASED CHANGE</div> <div>Formulating the Plan Change proposal and plan Include all areas needed for a complete plan of what the change will need to be successful.</div>	<div>6</div> <div>MEASURING THE OUTCOME</div> <div>How will you measure the outcomes of the practice change</div>
<div>3</div> <div>PICOT QUESTION</div> <div>Clinical Question - PICOT Question</div>		
<div>4</div> <div>EVIDENCE</div> <div>Summarizing the evidence that identifies and supports the need for a practice change.</div>		<div>7</div> <div>FUTURE DIRECTIONS</div> <div>What future directions should be considered? What outcomes may develop that change may need to be revisited.</div>
		<div>8</div> <div>REFERENCES</div>

Step 6 Evaluate the Outcomes

RESULTS



- After the practice change is complete, it is important to assess and evaluate the outcomes of the practice change. This is vital in gathering data to evaluate if the change is proceeding as planned. This can be accomplished in many ways.
- This is important in gathering information to share with the stakeholders on the success of the practice change, or evaluating that further changes need to be adjusted.

Step 7 Share the Outcomes with Stakeholders



It is vital to the engagement and sustainability for the outcome information be shared with the major stakeholders, those who were involved in the change.

This can be accomplished through presentation, poster information, through internal technology to generate information to stakeholders or newsletters.

This is the one step that often is left out after celebrating the practice change.

Organizations Steps of EBP Projects

- First consult with your immediate supervisor on your idea for a practice change (spirit of inquiry).
- Complete the Practice Change Project forms and return to immediate supervisor.
- Once the project steps are complete, including the poster template, share this work with your immediate supervisor.
- All EBP Practice Change Projects will be required to be presented to the immediate practice areas of change, and the yearly nursing symposium.
- This is a requirement for a clinical ladder project.

References

Makary, M., & Daniel, M. (2016). Medical errors are third leading cause of death in the US. *British Medical Journal*, 353. doi.org/10.1136/bmj.i2139

Melnyk, B.M., & Fineout-Overholt, E. (2019). *Evidence-based practice in nursing & healthcare: A guide to best practice* (4th ed.)

Philadelphia, PA: Wolters Kluwer Health.

Appendix G

Evidence-Based Practice Pretest/Posttest Questions

1. What is the first step in the development of an evidence-based practice project?
 - A. Collecting evidence
 - B. Spirit of inquiry
 - C. Implementation planning
 - D. Reviewing outcomes

2. What does the abbreviation in a PICOT question used for evidence searching signify or mean?
 - A. Prevention, Intervention, Culture, Opposition, Time
 - B. Population, Intervention, Comparison, Outcomes, Time
 - C. Population, Improvements, Comparison, Obstacles, Translational
 - D. Project, Intervention, Change, Ovid, Test

3. The foundation of evidence-based practice is the conscientious use of current best evidence in making clinical decisions about patient care?
 - A. True
 - B. False

4. What is one of the major components that will facilitate evidence-based practice in clinical decision making?
 - A. The normal historical culture of the organization
 - B. Basing the decision solely on the clinician's expertise
 - C. Peer pressure
 - D. The best quality and highest level of evidence to support change

5. What are the highest levels of evidence to support a practice change?
 - A. Expert opinion
 - B. EBP Implementation and Quality Improvement projects
 - C. Case studies
 - D. Systematic Reviews and Randomized Controlled Trials

Appendix H

Evidence-Based Practice Education Evaluation

	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)
Did the course content and lecture meet the course objectives?					
Do you feel that you have the basic understanding of the evidence-based practice in nursing process?					
Did the instructional methods in this course facilitate your learning?					

Appendix I

Practicum Site Institutional Review Board Exemption



Notice of IRB EXEMPTION

Principal Investigator: Pam Dressler, RN, BSN, MSN

Protocol Title: Assessment of Readiness and Implementation of Evidence-Based Practice in a Community Hospital Setting

IRB #: 00002496

IRB Study #: NA

Type of Review: Initial – EXEMPT – Category 4

Date of Approval: 12.30.19

The Institutional Review Board Chairman of [REDACTED] has reviewed your study submission and has determined that it is EXEMPT from IRB submission, review and approval.

Exemption from IRB Committee review is based on the fact that data is being gathered from the organization data repository; there are no patient identifiers and no risk to patients. This is strictly a Quality Improvement study which uses existing knowledge to improve health care outcomes within a local health care institution or setting.

When an activity involving data is intended to evaluate an existing practice and attempt to improve it based upon existing knowledge, the [REDACTED] IRB would not classify this activity as research and the activity would not be subject to the Department of Health and Human Services (DHHS) human research regulations.

The [REDACTED] Institutional Review Board, FWA 00003292, is duly constituted, fulfilling all requirements for diversity, and has written procedures for initial and continuing review of human subjects research protocols. The AH IRB complies with all US regulatory requirements related to the protection of human research participants, specifically 45CFR46, 21CFR50, 21CFR56, 21CFR312, 21CFR812, 45CFR164.508-14. In addition, the AH IRB complies with the guidelines of the Office of Human Subjects Protection of the OHHS.

[REDACTED]
IRB Chair

10 Jan 2020
IRB Signature Date

Appendix J

Eastern Mennonite University Institutional Review Board Exemption



Institutional Review Board

Dr. A. Kate Clark, Chair
1200 Park
Road Harrisonburg, VA 22802
irb@emu.edu | 540-432-4710

To: Pam Dressler

Date: June 6, 2020

Study Purpose : This project will serve to identify the beliefs, readiness and knowledge of the community hospital practicum site, regarding the culture of EBP, through a survey of inpatient registered nurses (RNs). The survey data results will aid in identifying the crucial areas needed for development of an EBP education module, providing it to all of the inpatient registered nurses.

Researcher(s): Pam Dressler
Advisor: Dr. Melody Cash

Status: Study Exemption: Quality Improvement project and therefore not a systematic investigation designed to develop or contribute to generalizable knowledge outside of organization

Dear Pam,

The Board has determined that your quality improvement project as written is not considered research and is therefore exempt from IRB review as outlined in 45 CFR part 46 which defines research as a systematic investigation designed to develop or contribute to generalizable knowledge.

You can read more about definitions of research and explore the decision trees by following this link <https://www.hhs.gov/ohrp/regulations-and-policy/decision-charts/index.html>.

The Board wishes you the best in your quality improvement project.

Regards,

A. Kate Clark, Ph.D.

IRB Chair Assistant

Professor of Nursing www.emu.edu/irb

HHS IRB Organization: IORG0009231

IRB: IRB00011005

Federalwide Assurance: FWA00025473

Appendix K

Evidence-Based Practice Beliefs (EBPB) Survey Outcomes

EBP Beliefs Scale Survey					
	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
I believe that EBP results in the best clinical care for patients.	0.00%	0.00%	4.63%	45.37%	50.00%
I am clear about the steps of EBP.	0.00%	15.74%	24.07%	37.04%	23.15%
I am sure that I can implement EBP.	0.00%	6.54%	17.76%	51.40%	24.30%
I believe that critically appraising evidence is an important step in the EBP process.	0.00%	0.00%	5.61%	50.47%	43.93%
I am sure that evidence-based guidelines can improve clinical care.	0.00%	0.00%	2.83%	50.00%	47.17%
I believe that I can search for the best evidence to answer clinical questions in a time efficient way.	1.89%	16.98%	29.25%	39.62%	12.26%
I believe that I can overcome barriers in implementing EBP.	0.93%	4.67%	29.91%	50.47%	14.02%
I am sure that I can implement EBP in a time efficient way.	0.93%	14.02%	29.91%	40.19%	14.95%
I am sure that implementing EBP will improve the care that I deliver to my patients.	0.00%	0.95%	4.76%	55.24%	39.05%
I am sure about how to measure the outcomes of clinical care.	0.00%	15.09%	31.13%	39.62%	14.15%
I believe that EBP takes too much time.	18.87%	39.62%	31.13%	8.49%	1.89%
I am sure that I can access the best resources in order to implement EBP.	1.89%	23.58%	37.74%	28.30%	8.49%
I believe EBP is difficult.	11.32%	37.74%	33.96%	16.98%	0.00%
I know how to implement EBP sufficiently enough to make practice changes.	1.89%	15.09%	31.13%	41.51%	10.38%
I am confident about my ability to implement EBP where I work.	0.94%	14.15%	31.13%	36.79%	16.98%
I believe the care that I deliver is evidence-based.	1.89%	2.83%	24.53%	52.83%	17.92%

Figure 3. Survey reprinted from Melnyk, B. M., and Fineout-Overholt, E. (2019). *Evidence-based practice in nursing & healthcare: A guide to best practice* (4th ed.). Wolters Kluwer Health. Copyright 2003 by Melnyk and Fineout- Overholt. Used with permission from the authors on October 17, 2019.

Appendix L

Organizational Culture & Readiness for System-Wide Integration of Evidence-based Practice Survey (OCRSIEP) Outcomes

Organizational Culture Readiness Survey					
	None at All	A Little	Somewhat	Moderately	Very Much
To what extent is EBP clearly described as central to the mission and philosophy of your institution?	1.19%	8.33%	34.52%	32.14%	23.81%
To what extent do you believe that EBP is practiced in your organization?	0.00%	5.95%	23.81%	51.19%	19.05%
To what extent is the nursing staff with whom you work committed to EBP?	0.00%	8.33%	35.71%	34.52%	21.43%
To what extent is the physician team with whom you work committed to EBP?	0.00%	7.14%	34.52%	33.33%	25.00%
To what extent are there administrators within your organization committed to EBP (i.e., have planned for resources and support [e.g., time] to initiate EBP)?	3.57%	11.90%	34.52%	30.95%	19.05%
In your organization, to what extent is there a critical mass of nurses who have strong EBP knowledge and skills?	1.19%	20.24%	44.05%	23.81%	10.71%
To what extent are there nurse scientists (doctorally prepared researchers) in your organization to assist in generation of evidence when it does not exist?	22.89%	32.53%	30.12%	9.64%	4.82%
In your organization, to what extent are there Advanced Practiced Nurses who are EBP mentors for staff nurses as well as other APNs?	19.28%	40.96%	21.69%	13.25%	4.82%
To what extent do practitioners model EBP in their clinical settings?	4.88%	21.95%	31.71%	29.27%	12.20%
To what extent do staff nurses have access to quality computers and access to electronic databases for searching for best evidence?	1.20%	20.48%	27.71%	31.33%	19.28%
To what extent do staff nurses have proficient computer skills?	0.00%	3.70%	24.69%	51.85%	19.75%
To what extent do librarians within your organization have EBP knowledge and skills?	43.04%	24.05%	20.25%	8.86%	3.80%
To what extent are librarians used to search for evidence?	54.88%	19.51%	19.51%	3.66%	2.44%
To what extent are fiscal resources used to support EBP (e.g. education-attending EBP conferences/workshops, computers, paid time for the EBP process, mentors)	17.07%	39.02%	25.61%	15.85%	2.44%
Q3. To what extent are there EBP champions (i.e., those who will go the extra mile to advance EBP) in the environment among:					
	None at All	A Little	Somewhat	Moderately	Very Much
Administrators?	7.41%	25.93%	23.46%	25.93%	17.28%
Physicians?	4.94%	25.93%	24.69%	30.86%	13.58%
Nurse Educators?	1.20%	10.84%	21.69%	28.92%	37.35%
Advance Nurse Practitioners?	7.41%	28.40%	27.16%	19.75%	17.28%

Staff Nurses?	3.61%	25.30%	32.53%	30.12%	8.43%
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Q4. To what extent is the measurement and sharing of outcomes part of the culture of the organization in which you work?

	None at All	A Little	Somewhat	Moderately	Very Much
	6.10%	15.85%	30.49%	35.37%	12.20%

Q5. To what extent are decisions generated from:

	None at All	A Little	Somewhat	Moderately	Very Much
direct care providers?	6.17%	34.57%	34.57%	16.05%	8.64%
upper administration?	1.23%	11.11%	30.86%	33.33%	23.46%
physician or other healthcare provider groups?	1.23%	27.16%	20.99%	34.57%	16.05%

Q6. Compared to 6 months ago, how much movement in your organization has there been toward an EBP culture.

	None at all	A Little	Somewhat	Moderately	Very Much
	10.13%	27.85%	35.44%	20.25%	6.33%

Figure 3. Survey reprinted from Melnyk, B. M., and Fineout-Overholt, E. (2019). *Evidence-based practice in nursing & healthcare A guide to best practice* (4th ed.). Wolters Kluwer Health. Copyright 2005 by Melnyk and Fineout-Overholt. Used with permission from the authors on October 17, 2019.

Appendix M

RE: Permission request regarding the EBP survey tools

1 Bern
1 EBP-C



Melnyk,
Bernadette <melnyk.15@osu.edu>
to me, Bindu

Fri, Oct 18, 2019, 3:56 PM

Hi Pam,
It is good to hear from you. I am currently not charging for use of these tools. All you will need to do is complete paperwork for their use, which I will have Bindu send along to you. Best wishes and I look forward to seeing you for the Summit!

Warm and well regards,
Bern
Bernadette Mazurek Melnyk, PhD, APRN-CNP, FAANP, FNAP, FAAN
Vice President for Health Promotion
University Chief Wellness Officer
Dean and Professor, College of Nursing
Professor of Pediatrics & Psychiatry, College of Medicine
Executive Director, the Helene Fuld Health Trust National Institute for EBP

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<http://millionhearts.hhs.gov/index.html>
www.healthyacademics.org
 twitter@bernmelnyk

-----Original Message-----

From: Pamela Dressler <pdressler@marybaldwin.edu>
 Sent: Friday, October 18, 2019 1:09 PM
 To: Melnyk, Bernadette <melnyk.15@osu.edu>
 Subject: Permission request regarding the EBP survey tools

Dear Dr Melnyk,

I am excited that I will be attending the Fuld Institute for EBP Summit in November, and I am in awe of how you and colleagues have developed the EBP initiatives to increase quality patient outcomes. I am an Assistant Professor in the undergraduate and graduate nursing programs at Mary Baldwin University, Staunton, Virginia. I teach EBP in the nursing program and use your textbook as I have found it to be an excellent resource in the delivery of EBP education. I am also a DNP student at Eastern Mennonite University, Harrisonburg, Virginia, in my last year of study. My scholar project is progressing well, which involves working with one of the local community hospital settings (250 beds), in the implementation of EBP into the clinical areas. One of the first initiatives at the practicum site is to survey the nurses on the level of understanding and readiness of EBP. This will involve formulating a questionnaire that will be dispersed by Survey Monkey, with a target date of January 2020. My question to you, what is required in obtaining permission to use your instruments to evaluate EBP in clinical settings? I am most interested in the following tools:

- EBP Beliefs Scale
- EBP Implementation Scale
- Organizational Culture and Readiness for System-Wide Integration of EBP Survey

You have developed such solid reliable survey tools that directly target the information that I believe will be desired to determine the organization's needs in developing a culture of EBP. I appreciate your time and consideration in this request.

Thank you,
Pam Dressler

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