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Organizational Readiness for Evidence-Based Practice

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Objective: This study explored factors that affect the adoption or rejection of evidence-based practice (EBP) changes and differences in nurse manager and staff nurse perceptions about those factors.

Background: Roger's Diffusion of Innovations Theory explains relevant organizational strategies for guiding practice change.

Methods: The primary author developed the Evidence-Based Practice Changes Survey consisting of 12 items, completed by 92 nurses at a level 1 trauma center.

Results: Top barriers to EBP were insufficient time, lack of staff, and not having the right equipment and supplies. Top reasons to adopt EBP were having personal interest in the practice change, avoiding risk of negative consequences to the patient, and personally valuing the evidence. Several statistically significant differences emerged for demographic variables.

Conclusion: Planning for EBP change must address barriers and facilitators to practice change and emphasize the benefit for patients and value of the practice change to nurses.

Healthcare leaders are striving to balance the desired vision for evidence-based practice (EBP) change with what is practical. Evidence-based practice requires translating the research findings into useful components, presenting the evidence and practice change, championing the practice change, and supporting bedside staff in the application of the changes to their patient care. To accomplish these actions, both staff nurses and nurse leaders must have knowledge of the change process and the barriers and drivers to practice change in their work setting.

Incorporating EBP into the workplace requires developing a culture of inquisitiveness, openness, and continual emphasis on lifelong learning as a professional obligation.[1] March[2] reports that work stress is reduced for nurses when evidence-based guidelines are enacted that give very clear parameters for effective patient care.

Barriers to EBP

Barriers to EBP involve individual nurse characteristics, organizational characteristics, the nature of research information, and the healthcare environment.[3] Nurses may lack the skill to locate research information, preferring to seek information from a colleague rather than search for a journal article or look in a textbook.[4] Other personal barriers include the inability to critically appraise or synthesize the research literature and lack of search skills, computer skills, and library and computer access.[5,6]

Organizational barriers are lack of time for nurses to retrieve clinically useful information, inconvenient library location, lack of managerial commitment and available information technology, and different goals for practice between administrators and staff nurses.[3,4,7] Changing organizational culture around a practice requires that the change is consistent with organizational philosophy and political agenda and that resources are available to support the change.[4]

Nurses have identified problems in interpreting research findings and using them because the research is seen as too complicated, too scholarly, excessively statistical, ambiguous, and having limited or no relevance to practice.[3,4,8] Although

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nurses recognize the value of research-based knowledge, they view research as overwhelming in language, volume, and writing style and want more guidance and direction for practice.

A healthcare environment that diminishes nurses' independence, authority, or power over their practice will decrease integration of EBP. Healthcare professionals rarely function alone; therefore, their ability to change a clinical practice cannot be made without the consent and approval of others such as hospital administrators, physicians, or other members of the healthcare team.[6,9] Although a multi-disciplinary focus to change will increase the success of implementation, working across disciplines also brings tension.[4] Change is impeded when a practice is unclear to the nursing staff; the nurses involved do not see a need for the change; the individuals that are affected by the change are not involved in the planning process; there is poor communication of the change; job characteristics are altered because of the change; vested interests are involved; and there is a lack of respect and trust in the change agent, administrative sponsor, or champion.[10]

Facilitators of EBP

A dedicated project lead person (champion, change agent, or facilitator) is important to a successful implementation. Important characteristics that the champion needs to possess are drive and a positive enthusiastic approach, along with knowledge of the project, a certain level of hierarchy to give the person credibility in the eyes of the medical staff, a manager of others, and good communication skills.[4] Drivers to using best practice guidelines for practice change include awareness of the need for the practice change; availability of additional resources; enhanced distribution of the best practice change; feedback to the nurses on their performance; and ownership by leaders, developers, and clinicians.[11] Nurse managers serve as models of change for nurses and other support staff.[9] They can enhance adoption of EBP through providing the resources and the support for the work and celebrating success with recognition of unit staff.[12] Nurses must be able to see a clear link between research and implications for practice.[4] Evidenced-based practice guidelines for practice should have the following characteristics:

- plain wording,
- explicit recommendations based on the clinician's role,
- packaged together in a user-friendly format,
- relevant information that deals with a specific problem, and

- computer-based support systems that can provide timely and current information about practice and management issues.[13]

Organizational Change Strategies

In planning organizational change, leaders need to clearly define the problem and goals in measurable terms, identify strategies to address the barriers and motivators for change, and consider all stakeholders and organizational parameters. Stakeholders include individual practitioners, patient or groups of patients for whom the change is intended, the shared environment in which the change will occur, the organization in which the change will occur, the financial situation, and the political circumstances at the time of the change.[14,15] Rogers' Diffusion of Innovations Theory suggests that to move forward with an innovation or new idea, the practice change must have an advantage over the idea or process that it is replacing; be compatible with the values, experiences, and needs of adopters; have the ability to be trialed; and be visible to others.[16] Diffusion is a social process that involves interpersonal communication and relationships. The 5 steps in the innovation decision process are (1) knowledge, (2) persuasion, (3) decision, (4) implementation, and (5) confirmation. Change agents facilitate the flow of communication about the innovation to the users of the change. By establishing a relationship, the change agent is seen as reliable, capable, and truthful. Champions support an innovation and help to overcome resistance and indifference. Champions occupy a key relationship with staff, possess the facility to analyze and understand the staff's abilities, and have good interpersonal and negotiation skills. See Table 1 for a detailed explanation of the stages in the innovation process in an organization.

Organizational Readiness

To determine organizational readiness for integrating evidence into practice at a level 1 trauma center, a study was designed to compare nurse manager and staff nurse perceptions about factors that influence adoption of EBP changes and barriers that prevent the integration of the practice changes. Recognizing and planning for the barriers and capitalizing on the supports for adoption of practice change will move EBPs forward.

Methods

A nonrandomized sample of staff nurses (registered nurses [RNs]) and nurse managers from 8 acute

Table 1. *Innovation Stages in an Organization*

Stage	Organizational Strategies	Evidence-Based Change Example
Agenda setting	Problem is identified	Identified inconsistency in storing breast milk practices across organization
	Priorities are set	Conducted critical appraisal of studies on best practices for freezing and storing breast milk
	Begin sequence for motivation to change	
Matching	Match problem for innovation	Recommendations made based on literature appraisal
	Determine feasibility	Few resources were required for practice change other than time to write and disseminate policy
Redefining/ Restructuring	Innovation is re-invented to match organizational needs and structure	Clinical educator for newborn intensive care unit served as change agent
	Organization is modified to fit the innovation	Freezer space was identified
	Members of the organization begin to think of the innovation as their own	Reinforced that breast pumps were available in central equipment room
Clarifying	Innovation is put into use throughout the organization	Program manager for Women's Health Services served as champion
	Importance of innovation is understood by staff	Organizational-wide policy was written and disseminated
	Innovation gradually becomes imbedded in organizational structure and processes	
Routinizing	Innovation is integrated into routine actions of organization	Policy is applied on all care units where breast-feeding women patients are present, for example, general medicine

Innovation stages and strategies derived from Rogers.[16]

and critical care units in a level 1 trauma center were invited to complete the Evidence-Based Practice Changes Survey. During a regularly scheduled nurse manager meeting, all nurse managers in the organization were informed of the study and invited to participate. The researcher briefly presented the purpose of the study and also asked permission of the managers to conduct research with the nursing staff on their units. Eight managers of inpatient areas agreed to invite their staff to participate. Paper copies of the survey were distributed to 426 nurses, with 48 received by nurse managers during the managers' meeting and the remaining 378 distrib-

uted by the researcher to the mailboxes of all nurses working on the participating units. Additional information for staff was provided by a cover letter attached to the survey and on fliers posted in staff break rooms. Approval was granted for the survey by the hospital Human Subjects Research Committee. Completion of the survey implied consent. Confidentiality of participants was maintained by having no identifying data present on the survey.

Since no existing tool was found in the literature, the primary researcher developed a 12-item survey (items can be seen in column 1 of Table 2), with additional demographic items tailored to the

Table 2. *Rank of Barriers and Reasons to Adopt Evidence-Based Practice (EBP) (n = 92)*

	Percentage of Being in Top 3	Rank 1		Rank 2		Rank 3	
		n	%	n	%	n	%
Barrier to EBP							
Insufficient time	88.0	44	47.8	20	21.7	17	18.5
Lack of staff	57.7	10	10.9	26	28.3	17	18.5
Do not have the right equipment or supplies	42.5	10	10.9	18	19.6	11	12.0
Inadequate or poor training	41.3	9	9.8	9	9.8	20	21.7
No one told me about it	26.0	13	14.1	4	4.3	7	7.6
Lack of interest	21.7	5	5.4	8	8.7	3	7.6
Reason to Adopt EBP							
I am interested in the topic or practice change	72	16	17.4	27	29.3	24	26.1
I value it	60	28	30.4	21	22.8	7	7.6
There will be negative consequences to the patient	58	29	31.5	13	14.1	12	13.0
Manager supports it	42	15	16.3	9	9.8	15	16.3
Clinical educator supports it	30	5	5.4	12	13.0	11	12.0
A regulatory agency says I have to do it	28	3	3.3	6	6.5	17	18.5

organization. Participants ranked barriers to EBP and reasons to adopt practice changes and responded to Likert-type scale items that addressed application of evidence to practice. Three open-ended questions focused on expectations for EBP. The hospital Evidence-Based Nursing Practice Committee reviewed survey items for content validity and clarity. Reliability was not evaluated. The data were analyzed using SPSS program (SPSS Inc, Chicago, Illinois). Descriptive and inferential statistics included frequencies, means, cross-tabs, t tests, analysis of variance, and χ^2. For data analysis, Likert-type scale items were converted to *yes* (strongly agree and agree) and *no* (neutral, disagree, and strongly disagree). Qualitative data were analyzed by the researcher and a clinical nurse specialist using a content analysis approach.

Demographic Results

Ninety-two nurses completed the survey: 67 staff nurses, 20 nurse managers, and 5 respondents with an unknown job classification. The overall response rate was 21.5% of the surveys distributed. The opinions from the survey represented 42% of all the nurse managers (n = 48) and 7.5% of inpatient staff RNs employed at the medical center at the time of the survey (n = 895). Sixty-five percent of the respondents were licensed for 10 or more years, 61% worked full-time, 50% had worked at the institution for 10 or more years, 25% worked for 3 to 9 years, and 24% had worked for less than 3 years. Most had a bachelor of science degree (52%), 9% had a master's degree, and 37% had completed an associate degree or diploma program.

Barriers to EBP Changes
The top 3 barriers ranked by all respondents to EBP changes were insufficient time, lack of staff, and not having the right equipment or supplies available. There were no significant differences between staff nurses and nurse managers. However, the nurses licensed for less than 3 years were more likely to rank insufficient time as a barrier in comparison with nurses licensed for a longer period ($F = 3.394$; $P = .038$). Also, there was a significant difference between the 3 age groups on lack of interest and the use of EBP, with the age group of 26 to 41 years having the greatest lack of interest ($F = 4.147$; $P = .019$).

Reasons to Adopt EBP Changes
The 3 top ranked reasons to adopt EBP changes were having personal interest in the topic or practice change, personally valuing the evidence, and avoiding risk of negative consequences to the patient. The item ranked the lowest was "a regulatory agency says I have to do it." Although not one of the top 3 reasons to adopt EBP, there was a statistically significant difference between staff nurses (mean = 0.81) and nurse managers (mean = 0.30) on the item "clinical educator supports it" ($t = 2.070$; $P = .045$). See Table 2 for ranking of all barriers and reasons to adopt EBP.

Application of EBP
There were 2 statistically significant differences between nurse managers and staff nurses in agreement on the survey items that addressed application of EBP. A greater percentage of staff nurses agreed that EBP does not take into account the limitations of the practice setting in comparison with nurse managers (Pearson $\chi^2 = 5.117$; $P = .024$). Also, a greater percentage of nurse managers agreed that sufficient information could be accessed for questions about the practice change (Pearson $\chi^2 = 7.503$; $P = .006$) (Table 3).

Table 3. *Agreement for Application of Evidence-Based Practice for Overall Sample*

Question	Staff Nurse, %	Nurse Manager, %
Application of evidence-based practice is essential for effective nursing practice	90.9	100
Literature and research findings are useful in my daily practice	72.0	82
Adoption of evidence-based practice puts an unreasonable demand on my time	18.5	15
Evidence-based practice does not take into account the limitations of my practice setting[a]	48.5	20
Evidence-based practice helps me make decisions about patient care	76.9	90
There is sufficient information available for me to access when I have questions about the practice change[b]	40.2	75
All of the practice changes so far have been practical and fit well with the workflow of the unit	32.3	55

[a]Pearson $\chi^2 = 5.117$ (2 sided); $P = .024$.
[b]Pearson $\chi^2 = 7.503$ (2 sided); $P = .006$.

Table 4. *Qualitative Themes*

Question	Themes
What are the expectations of your role in helping with a practice change?	Ability to provide resources and education Serve as a change agent and facilitator Be a role model and teacher Learn and implement the change into practice Support and advocate for the practice change Evaluate
List the reasons for adopting evidence-based changes into your practice.	Improve patient care and outcomes Improve the work environment Increase professional accountability and ensure the future of nursing as a profession Improve efficiency Comply with regulatory agencies
How are we doing with practice changes as an institution?	Institution was graded as poor, fair, showing improvement, or good There are too many changes at one time Using regulatory agency requirements as a rationale for change is negative There is difficulty sustaining changes A barrier to success is a lack of resources

In addition, there were 2 significant differences for demographic characteristics. Full-time nurses were more likely to agree that EBP helps them make decisions about patient care compared with part-time nurses (Pearson χ^2 = 4.060; P = .044), and nurses aged 42 to 60 years had the highest percentage of disagreement on the item that practice changes have been practical and fit with the unit workflow (Pearson χ^2 = 7.690; P = .021).

Responses to the open-ended questions were grouped into common themes (Table 4). Both managers and staff nurses commented that there are too many changes at one time. Nurse managers and staff nurses also identified that regulatory agency requirements were a negative motivator as a reason for the practice change. An equal number of staff nurses and nurse managers identified that the institution has historically had difficulty sustaining practice changes. Staff nurses and nurse managers both identified lack of resources as a major barrier to the success of implementation of practice changes.

Discussion

Differences Between Nurse Managers and Staff Nurses

Staff nurses found the support of the clinical educator was an important reason to adopt a practice change, which was not viewed as important by nurse managers. Clinical educators may function as change agents in their interpersonal relationships with staff nurses, which is consistent with Rogers' Diffusion of Innovations Theory. Staff nurses agreed with the statement that EBP does not take into account the limitations of the practice setting, whereas nurse managers disagreed. This suggests that nurse managers may not have as clear a picture of the work setting and its restrictions, which may be experienced daily by the staff nurses who are on the front line delivering patient care. Nurse managers and staff nurses also had divergent viewpoints about the availability of information to respond to questions about practice change. Staff nurses disagreed, indicating that there is difficulty in accessing the information when they need it to answer their questions.

Demographic Differences

Nurses who had been licensed as an RN the least amount of time felt that the barrier of insufficient time was much more important compared with nurses who had been licensed longer. Newer, less experienced nurses may be less able to prioritize and organize their patients' care and needs; therefore, time is likely a factor in fitting a new practice into their patient care repertoire. Lack of interest in EBP surfaced as a barrier for the 26- to 41-year age group. These nurses may be distracted by the competing needs of home and family.

Nurses who were employed part-time disagreed more often with the statement that EBP changes helped them to make decisions about patient care. This finding suggests that nurses employed part-time may not be as engaged in practice changes or recognize the background information of expert

practice, research findings, and patient preferences that support the EBP change. Nurses in the age group of 42 to 60 years disagreed with their younger counterparts that past practice changes have been practical and fit with the unit workflow. Assuming that nurses in this age group have more experience, their response may indicate that they have ideas that might help to customize the practice change for a better fit with the work of the unit. Rogers' Diffusion of Innovations Theory suggests that adopting a practice change is not a passive role of putting a template into practice, but instead, it is an opportunity for adopters of the practice to participate in the adaptation of the practice to fit their unique workplace.[16]

Rogers' Diffusion of Innovations Theory proposes that changes require time before they become routine.[16] Responses of the nurses in this study indicated that lack of time is an important barrier to implementation of EBP changes, which is consistent with the theory. The goal of most organizations is to stay current with practice and provide excellent patient care. As new ways of caring for patients are discovered, nursing cannot delay implementing those improved methods. Making time available to nurses to learn about and apply the practice change is essential to the success of the practice change.

According to Rogers' Diffusion of Innovations Theory, the easier it is to see the benefits to the patient of the practice change, the more likely it is to be adopted.[16] This is consistent with study findings, since nurses identified benefits to patients as reason to adopt EBP change. Rogers[16] also suggested that a central component in the diffusion process is modeling the innovation or practice change by peers to the potential adopters. An insufficient amount of staff negatively impacts the process of modeling the practice and imitation by new adopters, which is essential to get the new practice into the routine of patient care. Rogers' Diffusion of Innovations Theory also recognizes that practice changes that do not fit with the values of the adopters of the change will not be as well suited to the group as will a practice change that is valued, consistent with the findings of this study.

A limitation of this study is the sample size, which represents the opinions of less than 10% of the hospital nursing staff. Although there were a number of statistically significant findings, these findings might be different with a larger representation from the nursing staff.

Implications for Practice and Research

When planning future EBP changes, the barriers of insufficient time, lack of staff, and lack of equip-ment and supplies must be addressed to make adoption of the practice change successful. Nurses also need immediate access to computers with links to important information, journal articles, and textbooks that provide background knowledge that helps them to answer questions related to the practice change. The champion of the change must be accessible to the nurses, along with other leaders and innovators who can answer questions and reinforce the practice change.

Taking advantage of the caring nature of nursing during planning for education about the practice change and being intentional about capturing the interest of the participants may increase the buy-in and adoption of the change. The introduction of the practice change and the design of the education or training should emphasize the positive effects for the patient and the value for the nurse. Extra support may need to be given to some staff nurses to assist them in adopting EBP changes. The least experienced nurses, who are often slower in accomplishing patient care, may need additional support for prioritization and time management, along with mentoring for the application of EBP. The nurses who are in the 26- to 41-year-old age range may need to be encouraged to keep up their interest level in the practice change; giving them a specific responsibility related to the practice change may motivate their involvement. Nurses who are employed part-time may not be fully engaged in the practice change and may need help in understanding the evidence that supports the practice. Involving the clinical educator as a part of the support system of the EBP change is an important step in obtaining and maintaining interest and value in the practice change.

Modifications of EBP changes may be required in some practice settings to fit the unique needs of the patient population served. Involving the leaders among the staff nurses on those units to assist with the adaptation and to become agents of the change is essential for successful implementation. Refer to Table 1 for an example of an application of an EBP change that took place in the study organization (freezing and storing of breast milk) based on Rogers' innovation stages.

For future research, the modification of future implementation plans for practice changes based on the significant findings from this study needs to be evaluated to see if there is greater success of adoption. A study of the sustainability of EBP changes over time also needs to be done.

Conclusion

Addressing the barriers of lack of time, insufficient staff, inadequate supplies and equipment, along

with the perceived lack of support by nursing administration, and lack of resources for answering questions should enhance adoption of the practice change. Capitalizing on factors that support adoption of practice change by ensuring that it has value and interest to the nurse and serves to decrease negative patient outcomes will increase the speed with which the practice change is incorporated into the routine of patient care. It is also important to have the participation of staff nurses in discussion, planning, design, implementation, and evaluation of the practice change. Nurses in this study indicated that adopting EBP changes into their nursing practice was an essential part of their role, benefited the patient, and made them feel better about their practice. They also suggested that adopting evidence into practice was an important part of being professional and accountable and maintained the nursing profession.

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