ORIGINAL RESEARCH

Staff Nurses' Use of Research to Facilitate Evidence-Based Practice

Study finds there are continuing barriers.

Nurses are expected to use research evidence in their practice, in keeping with the Institute of Medicine's vision for a health care system that "draws upon the best evidence to provide the care most appropriate to each patient."[1] The American Nurses Credentialing Center also requires that research findings be applied to practice at Magnet-designated hospitals.[2] And with most hospitals emphasizing prevention and early intervention for complex clinical problems such as pressure ulcers and falls, aspects of which serve as nursing-sensitive indicators,[3] it's critical that nurses be able to bring the latest evidence to bear on practice improvement efforts.

The idea of basing nursing practice on research evidence isn't new. In 1975, Lindeman identified both increasing the use of research in practice and improving its quality as nursing priorities.[4] The term *evidence-based practice (EBP)* has since come into widespread use. As Melnyk and Fineout-Overholt have noted, the term now refers to a "lifelong problem-solving approach to clinical practice" that incorporates external evidence (research), internal evidence (performance improvement or outcomes management data), and patient preferences and values.[5] Yet despite the recognized importance of EBP, there continues to be a sizable gap between the emergence of research findings and their application to practice.[6-10]

RESEARCH UTILIZATION AS A COMPONENT OF EBP

Although the term *research utilization* is often used in tandem with *evidence-based practice*, the terms mean different things.[11] EBP designates a wide-ranging process that involves several steps, including creation of a clinical question, critical appraisal of the literature, application of findings, and evaluation of outcomes.[5, 12, 13] Research utilization is a subset of that process, and refers to one or more ways of applying findings to practice.[11] EBP models consider many types of evidence, including empirical research, clinical expertise, the expressed needs of patients, and the opinions of thought leaders. In research utilization, the word *research* means "only the findings of (usually scientific) research."[11]

Estabrooks defined *overall* research utilization as "the use of any kind of research findings (nursing and nonnursing) in any aspect of your work as a registered nurse."[11] She also described three ways in which research findings can influence clinical nursing practice. These include *instrumental* or *direct* utilization, in which research findings are concretely applied in day-to-day nursing practice; *conceptual* or *indirect* utilization, which occurs when research findings change nurses' thinking but not necessarily practice or policy; and *symbolic* or *persuasive* utilization, in which research findings are used to persuade others to make changes in policy or practice.

Factors influencing research utilization. In an examination of 26 factors that might influence research utilization, Estabrooks identified only three that had a significant direct effect on such use: attitudes toward research, belief suspension, and in-services attended in the last year.[14] But other factors, such as research courses taken and professional affiliations, may have indirectly affected research use. In a later systematic review of 20 studies, Estabrooks and colleagues identified six categories of predictors of research use that were tested most often[15]:

- beliefs and attitudes
- involvement in research activities

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ABSTRACT

Objectives: To determine to what extent RNs in an acute care multihospital system used research findings in their practice; what types of knowledge they used in their practice; and what personal, professional, and organizational factors enhanced or hindered their research utilization.

Methods: A cross-sectional, descriptive, online survey design was used. The survey, which asked about use of research findings in practice and evidence-based practice (EBP) participation, was placed on the hospital system intranet. Of the 2,900 RNs invited to participate, 1,112 nurses completed usable surveys, for a response rate of 38%. This article reports findings for 794 of the staff nurses who responded to the survey.

Results: The forms of knowledge that staff nurses reported relying on most were their personal experience with patients, conferences, hospital policies and procedures, physician colleagues, and nursing peers. Although a variety of resources were available for nurses to use in locating research and implementing EBP, respondents reported many of the same barriers that have been reported in other studies over the last two decades: lack of time, lack of resources, and lack of knowledge. Although their attitudes about research utilization and EBP were positive overall, respondents expected unit-based educators and clinical nurse specialists to collect and synthesize the research for them.

Conclusions: These findings are similar to those of other recent studies regarding nurses' research utilization and EBP. A great deal of work remains to be done if we are to inform, educate, and assist staff nurses in using research and implementing EBP. It may be unrealistic to expect bedside nurses to add these activities to their duties unless they are compensated for the time and have the support of master's- or doctorally prepared nurses to serve as EBP coaches and champions.

Keywords: evidence-based practice, research utilization, staff nurses

- information seeking
- education
- professional characteristics
- other socioeconomic factors

The most frequently assessed predictor was attitudes toward research, which demonstrated "a consistent pattern of positive effect,"[15] with several studies showing that nurses who valued research were more likely to use research findings in practice.[16-18] Demographic factors such as age and sex were not associated with research utilization in any of the studies.[15] Nor was research utilization found to be consistently associated with professional characteristics such as educational level, years of RN experience, and clinical specialty.[15] A few studies have found significant associations between nurses' use of practice innovations and personal factors such as research conference attendance and reading selected journals.[19, 20] Still, taken together, these findings suggest that individual characteristics alone do not sufficiently explain nurses' use of research in practice.

Barriers to research utilization. Many studies have examined barriers to research utilization, most using the BARRIERS Scale,[21] an instrument designed for self-report in four categories: characteristics of the nurse, characteristics of the organization or setting, characteristics of the research, and characteristics of the research communication. Across numerous studies, certain barriers consistently emerged. Many of these were organizational factors, including[18, 22-25]:

- insufficient time to implement new ideas
- insufficient time to read research
- lack of authority to change patient care procedures
- lack of support from physicians, managers, and other staff members
- inadequate infrastructure support (such as libraries and ethics committees)

Despite these barriers, some studies have shown that nurses place a high value on research and on applying its findings to practice.[18, 23] But a study by Pravikoff and colleagues of 760 randomly selected U.S. nurses found that their "lack of value for research in practice" was a major barrier to its use.[10]

Nurses' information needs are substantial, with one study reporting 1,820 clinical decisions made during 180 hours of observation.[25] To meet information needs, nurses turn to a wide variety of sources, grouped by Estabrooks and colleagues into four categories: social interactions, practice experience, documents, and intrinsic knowledge (such as knowledge gained from nursing school, common sense, and prior experiences).[26] For example, Pravikoff and colleagues found that nurses reported that their most frequent source of information was a peer or colleague.[10] This is understandable, given the time constraints of daily practice and the frequent need for rapid decision

making. Other individual barriers identified included lack of computer skills, lack of access to a computer, lack of library access, and lack of search skills.[10] Pravikoff and colleagues concluded that, because of gaps in information literacy and computer skills, lack of access to research resources, and their attitudes toward research, U.S. nurses "aren't ready for evidence-based practice."[10]

A recent study of 1,015 U.S. nurses by Melnyk and colleagues found that 35% agreed or strongly agreed that their colleagues consistently implemented EBP with their patients.[9] And 33% agreed or strongly agreed that EBP mentors were routinely available in their health care system. But 76% of respondents agreed or strongly agreed that it was important for them to receive more education and skills building in EBP. Based on their findings, Melnyk and colleagues stated that barriers to implementing EBP "are the same ones that have been cited by nurses for over two decades, including lack of time, knowledge, mentors, and organizational support," among others.

Only 11% of respondents said they did not know much about EBP.

OUR OBJECTIVES

Since the study by Pravikoff and colleagues,[10] many hospitals have invested in building research infrastructures that support EBP. Thus the purpose of our study was to understand the personal, professional, and organizational factors that influence research utilization among hospital RNs. Specifically, we aimed to quantify their research utilization and establish a baseline from which to measure the effectiveness of future interventions to improve EBP. The three research questions guiding the study were as follows:

1. To what extent do RNs in the hospital system use research findings in their practice?
2. What types of knowledge do RNs in the hospital system use in their practice?
3. What personal/professional and organizational factors enhance or hinder research utilization by RNs in the hospital system?

METHODS

Setting. This study took place in a 10-hospital health care system located in a metropolitan area in south central Texas. Of the 10 hospitals, eight were acute care facilities, one was a regional children's hospital, and one was an acute care psychiatric hospital. Four of the hospitals were Magnet facilities and the other six were designated as Pathway to Excellence facilities.

Design. A cross-sectional, descriptive online survey was conducted to examine hospital RNs' use of knowledge and research, as well as the organizational factors influencing research utilization and EBP. Approval for the study was obtained from the hospital system's institutional review board. All RNs across the hospital system received an e-mail invitation to participate in the survey, which was posted on the hospital system intranet for eight weeks from April to June of 2010. The electronic survey was accessible to RNs at work and from home.

Instrument. The survey instrument consisted of 53 items grouped into five sections. Section one consisted of 12 questions about the four types of research utilization—overall, direct, indirect, and persuasive—and provided Estabrooks's definitions of each type. Section two consisted of 23 questions on the demographic and professional characteristics of the participants. Section three consisted of six questions about nurses' use of knowledge in practice, including attitudes toward research and sources of knowledge about practice. Section four consisted of one question aimed at identifying factors that influenced nurses' decision to apply research findings in practice. Section five contained nine questions about organizational resources that were available to support research utilization. The survey also contained two additional open-ended questions.

Sections one, three, and four of the survey were adapted from the Research Utilization in Nursing Survey, an instrument that was developed by Estabrooks[11, 14] and subsequently adapted by Kenny.[8] The Research Utilization in Nursing Survey was selected for inclusion because of its positive rating in a systematic review of the literature on 14 research utilization instruments.[27] It was described as having "the strongest psychometric properties for measuring nurses' attitudes toward using and participating in research."[27] Permission was obtained from both Estabrooks and Kenny to slightly modify the instrument response set. In our survey, the adapted questions used a 5-point Likert scale (ranging from 1 representing "never" to 5 representing "very often") rather than the 7-point scale used by Kenny.

Validity. When the original instrument was created by Estabrooks, it was reviewed for content validity by two researchers with expertise in research utilization.[11] The final instrument used in our study was also reviewed for content validity by three researchers with expertise in this area, and by two master's-prepared nurses familiar with the hospital system in order to determine whether the survey content was consistent with capabilities present within the system. When the instrument was pilot tested with six nurses, they agreed that the content reflected questions about research use that should be asked of this system's staff nurses.

Table 1. Scored Subscales Within the Survey Questionnaire

Subscale	Cronbach α in a previous study[a]	Cronbach α in this study
Attitude toward research	0.75	0.78
Trust that research is useful in practice	0.88	0.87
Belief that research findings are similar to values of the nurse	0.87	0.84
Importance of using research findings in practice	0.86	0.81
Supportiveness of people in the organization regarding research utilization	0.93	0.89
Organizational support present in the workplace	No data	0.89
Access to technology or library support	No data	0.74

[a] Kenny DJ. Research utilization of registered nurses in U.S. Army hospitals [doctoral dissertation]. Amherst, MA: University of Massachusetts Amherst; 2002.

Reliability. Only parts of the questionnaire consisted of items that could be scored. The remaining questions were inventory-type questions that asked about such activities as journals read or resources used. Response choices for these items were presented in a pull-down menu; nurses could select single or multiple responses, or none at all, as they deemed appropriate. The parts of the questionnaire that consisted of subscales with established reliability are presented in Table 1.

RESULTS

Sample. Of the 2,900 RNs invited to participate, 1,112 nurses (38%) completed usable surveys. Of these, 794 were completed by staff nurses who answered "yes" to the question: "Do you spend more than 50% of your working hours delivering direct patient care?" Those 794 respondents are the focus of this paper. Table 2 provides key demographic characteristics of this group. (Some participants skipped some questions; all demographics percentages are based on the actual number of respondents to a given question.)

Most of the nurses (88%) were female. Seventy percent were employed at the Magnet hospitals. The hospital system that was the setting for our study is known for hiring baccalaureate-prepared nurses, with 49% of the sample having a bachelor's of science in nursing (BSN); another 4% had nursing diplomas or associate's degrees and were in school to obtain a BSN. While a majority of respondents (68%) had six or more years of nursing experience, 54% had worked in this hospital system for five years or less. Sixty-three percent did not belong to a professional organization and 70% held no nursing certification.

Regarding education about EBP, 54% said they had learned about it in nursing school, 20% said they had attended a continuing education course, and 40% said they had attended a hospital-based education session. Thirty-four percent said they were self-taught; only 11% said they did not know much about EBP. The hospital system uses a clinical ladder that ranges from RN level I (novice) to RN level IV (expert). Nurses at all levels are expected to incorporate EBP, as well as safety and process improvement efforts. When asked about job satisfaction, most respondents (80%) said they were satisfied or very satisfied with their current job.

Nonparametric statistical procedures were used to determine whether there were major differences in findings between the nurses working in Magnet hospitals and those working in Pathway to Excellence hospitals. Since no significant differences were found, the answers to the research questions are presented for the aggregate.

Responses to research question 1: 'To what extent do RNs in the hospital system use research findings in their practice?' The rating scale and mean research utilization scores for respondents are provided in Table 3. With regard to *overall* research utilization in some aspect of nursing practice, 37% said they had used research "sometimes" in the past year; another 45% indicated they had done so "often" or "very often." Furthermore, most respondents said they would use research in their practice to educate patients (86%), try a new procedure (86%), change unit practice (86%), educate another nurse (85%), change their own practice (83%), or change a policy or guideline (83%). Sixty-two percent said they would use research to persuade a patient to make a change; 58% would use research to persuade another nurse to change her

Table 2. Demographic Characteristics of Staff Nurse Respondents

Characteristics		n (%)
Sex (n = 788)		
	Female	695 (88)
	Male	93 (12)
Age, in years (n = 771)		
	22–29	143 (19)
	30–39	220 (29)
	40–49	183 (24)
	50–59	184 (24)
	≥ 60	41 (5)
	Mean, 41.5	
Level of nursing education at entry (n = 771)		
	Diploma	53 (7)
	Associate's degree	343 (44)
	Baccalaureate	368 (48)
	Master's degree	7 (1)
Highest level of nursing education (n = 776)		
	Diploma	46 (6)
	Associate's degree	295 (38)
	Baccalaureate	380 (49)
	Baccalaureate (other field)	31 (4)
	Master's degree	21 (3)
	Master's degree (other field)	2 (< 1)
	Doctorate	1 (< 1)
	Doctorate (other field)	0 (0)
No. of years worked as RN (n = 766)		
	New graduate (< 1)	26 (3)
	1–5	212 (28)
	6–10	141 (18)
	11–15	101 (13)
	16–20	99 (13)
	21–25	61 (8)
	≥ 26	126 (16)
	Mean, 13.4	
No. of years worked in hospital system (n = 783)		
	0–5	421 (54)
	6–10	150 (19)
	11–15	82 (10)
	16–20	45 (6)
	21–25	38 (5)
	≥ 26	47 (6)
	Mean, 8.9	

Table 2. Continued

Job title (n = 794)		
	RN level I	26 (3)
	RN level II	371 (47)
	RN level III	93 (12)
	RN level IV	264 (33)
	Internal per diem	40 (5)
Type of shift worked (n = 748)		
	12-h days	318 (43)
	12-h nights	228 (30)
	8-h days	128 (17)
	8-h evenings	27 (4)
	8-h nights	7 (1)
	Other	40 (5)
No. of certifications (n = 794)		
	0	554 (70)
	1	219 (28)
	2	21 (3)
No. of professional memberships (n = 791)		
	0	497 (63)
	1	230 (29)
	2	47 (6)
	3	14 (2)
	4	3 (< 1)

Note: Percentages are based on the actual number of respondents, excluding "missing" responses. Some percentages may not sum to 100% due to rounding.

or his practice; and 55% would use research to persuade another health professional to make a change. When asked whether it would make a positive difference in patient care if nurses used research in their practice more, 84% agreed or strongly agreed that it would.

When asked about *direct* research utilization in some aspect of nursing practice within the past year, 38% of respondents said they had "sometimes" used research and 46% said they had used research "often" or "very often." Seventy-two percent said they had partially or fully implemented research findings or clinical practice guidelines within the last year. But 36% of respondents said they avoided using research in direct patient care because they did not believe they had the authority to do so, even though they were convinced of its usefulness. When the nurses were asked about *indirect* research utilization to change their own thinking or opinions within the past year, 76% said they used research "sometimes," "often," or "very often" in this way. Regarding *persuasive* research utilization within the last year, 55% said they had used their knowledge of research findings "sometimes," "often," or "very often" in persuading others in decision-making positions to change conditions, policies, or practices.

The nurses were also asked to answer open-ended questions. The following quotes are indicative of themes that emerged in response to the first such question: "What is the one most common source from which you learn about research findings?"

> I am not interested in research and never do so independently. If my manager, my educator, of the [hospital system] instructs me to change my practice based on policy and procedure, I do so. Otherwise, I just stick to what I know and what I do.

> Our nurse educator on our unit passes new research to the staff via staff meetings and posting information/articles in the break room or bathroom.

Table 3. Mean Research Utilization Scores[a]

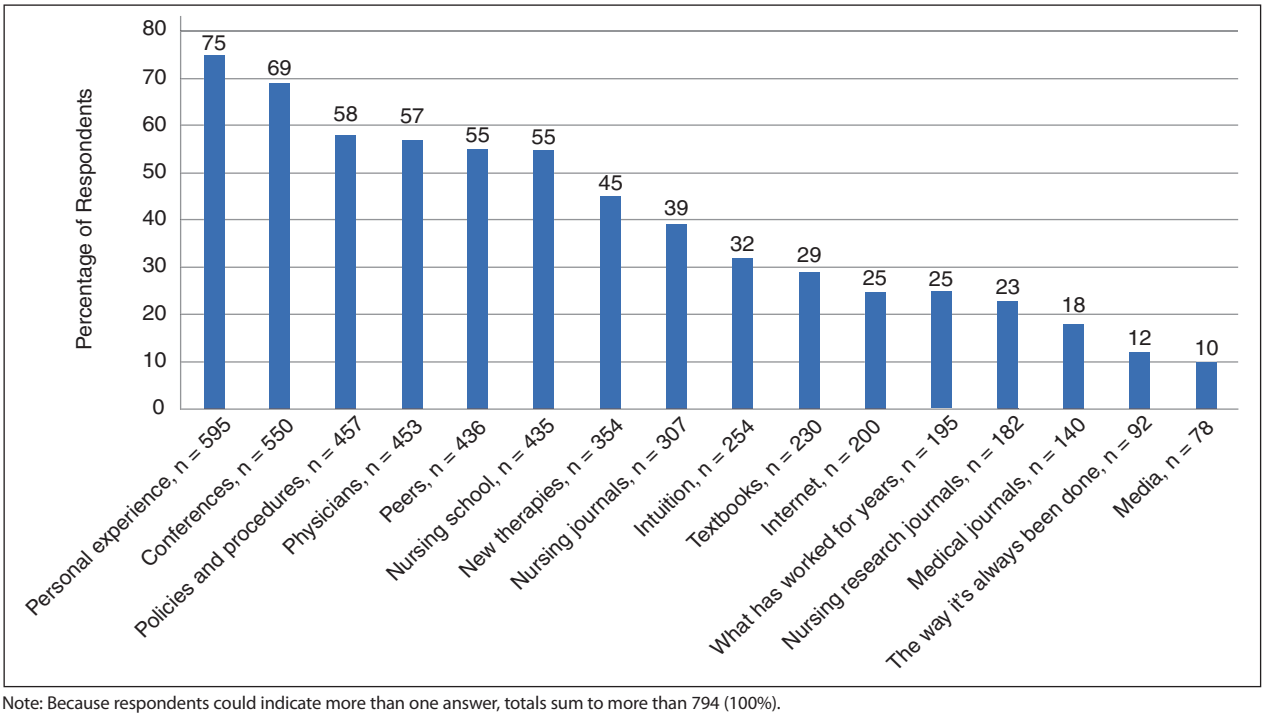
	n	Mean	SD
Overall	794	3.36	0.99
Direct	791	3.37	0.96
Indirect	785	3.16	1.01
Persuasive	790	2.58	1.02

[a] Scores were based on a 5-point scale: 1, never; 2, rarely; 3, sometimes; 4, often; 5, very often.

> Research findings? On regular days, I sometimes don't have time to read my e-mail, much less read about research at work. You are overtaxing bedside nurses with not only the physical bedside nursing but research reading as well.
>
> As part of my BSN in college we were required to read studies and nursing journals. I cannot say that I have seen nurses directly use evidence from research in their personal practice since being hired.
>
> Our unit, neonatal ICU, has a CNS who researches best practice and keeps us up to date. In addition, I work in a hospital system that utilizes shared governance whereby standardized care policies are arrived at based on research and best practice.
>
> Usually it is with online browsing, or Critical Care/ED nurse specific websites. I have found since being a new nurse with the healthcare system that the orientation and education of nurses is very poor. In our department I am not even sure what our educator does.

Responses to research question 2: 'What types of knowledge do RNs in the hospital system use in their practice?' Respondents indicated that they relied on a variety of knowledge types and sources. Seventy-five percent relied on personal experience, while 69% reported using knowledge gained at conferences. Regarding the previous five years, 41% of respondents said they had attended a local conference, 19% had attended a conference in Texas, and 16% had attended a national conference. Twenty-five percent said they had attended at least one conference within the previous year. Other types and sources of knowledge that respondents reported using in their practice are depicted in Figure 1. After personal experience and conferences, the most commonly used were hospital policies and procedures (58%), physicians (57%), peers (55%), and nursing school (55%). Many nurses also used nursing (39%) or medical journals (18%), although nursing research journals specifically were only used by 23% of the nurses. Among the nursing journals most frequently read (one or more issues in the past year) were *AJN*, *RN*, and *Nursing* (369, 266, and 259 respondents, respectively). The most

Figure 1. 'The knowledge I use in my practice is based on . . .'



Note: Because respondents could indicate more than one answer, totals sum to more than 794 (100%).

frequently read nursing research journal was *Nursing Research* (70 respondents).

Quotes indicative of themes that emerged in response to a second open-ended item—"Please list research findings you have used in your practice in the last 12 months"—include the following:

> I really have used very little findings. None I can recall right now, though I have taken some continuing education courses.

> If by "practice" you mean my work as a bedside nurse here (during the past 3 months), . . . none.

> I spend all of my time actually doing patient care. My opinion is there is a place for those who want to do research studies and the information can be quite useful. I also believe if you put the "research" nurses in a hospital setting with a patient load, those same nurses would not take very good care of the patients. Let the researchers do research and let the bedside nurse concentrate on taking good care of the patients. If you want a nurse to do both, I believe you will have a nurse that isn't particularly good at either.

> Policy changes . . . but not sure they are based off of research. I wish I knew the reference to the research article that the change is based off of.

> Findings have been used mainly in papers for school. I have used other research engines from the school library, which are easier to use, both CINAHL and Medline are difficult to learn to use. There is little access to these search engines on the units and little time to research during a shift.

> Care bundles to reduce bloodstream infection, ventilator-associated pneumonia, oximetry parameters set so as to not cause retinopathy of prematurity, not using saline with suctioning, how often to change vent tubing . . . countless ways. Constantly being updated by our CNS who works in a multidisciplinary team with respiratory, physicians, NPs, etc. Our CNS also is our link in multiple multisite national children's hospital studies.

> Changes in wound care, ways to reduce falls and improve patient safety fall education when patient is admitted along with the use of transfer equipment. Ways to improve medication accuracy (2-patient identifiers) and ways to improve patient satisfaction (4P's).

> The importance of gravity, position changes, and oral hydration in labor. Uses and best practice of electronic fetal monitoring and the importance of skin-to-skin contact for warmth of infant. Positive effects of a doula or other labor support person on mother, baby, and other family members. Postpartum depression education/research treatments, risks, causes, etc. Using alcohol for 15+ seconds to clean IV ports, biofilm and care of urinary catheters, and lots more!

Responses to research question 3: 'What personal/professional and organizational factors enhance or hinder research utilization by RNs in the hospital system?' In this study, attitudes regarding research utilization were considered to be personal or professional factors. Figure 2 displays the responses to the questions that elicited respondents' attitudes. Nearly all either strongly agreed (63%) or agreed (34%) with the statement, "Research is needed to improve nursing practice." Eighty-nine percent of respondents said they were willing to implement research when it contradicted something they learned in nursing school. And 50% had "some faith" that nurse researchers would produce research that could safely be used in practice.

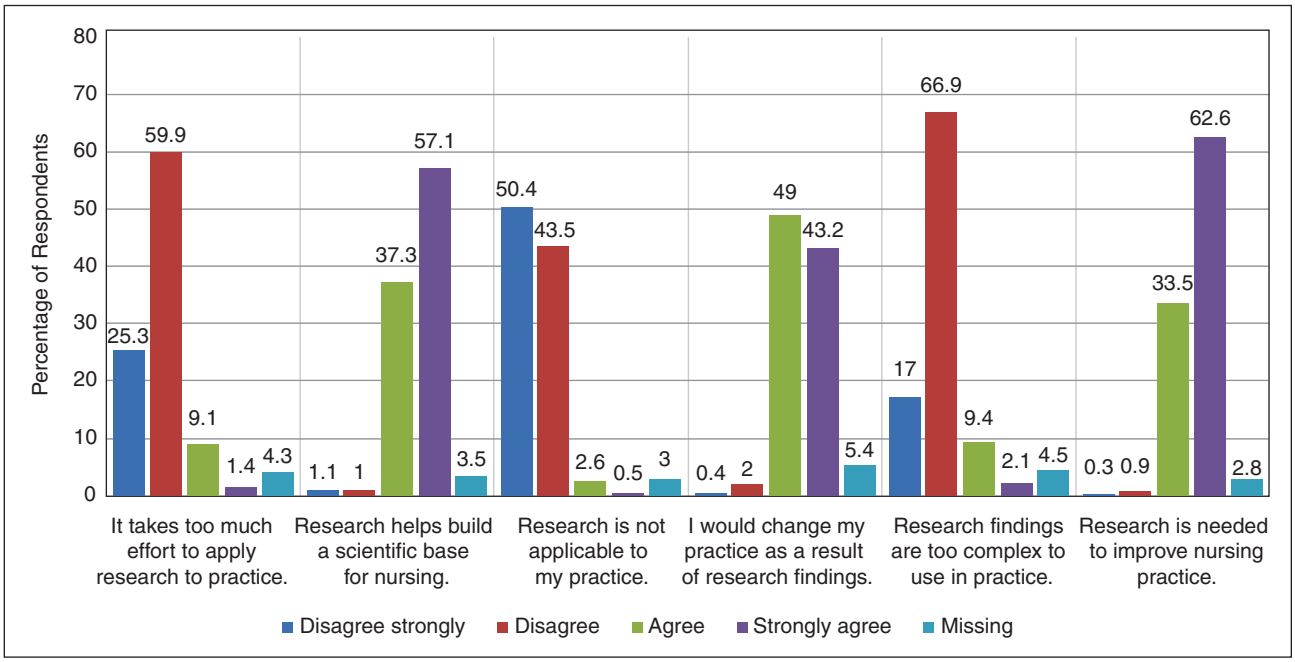
When asked about their use of relevant organizational resources, only 30% of the nurses knew that a librarian was available to help them search the literature. Fewer than 50% indicated using resources other than a computer and the search engine Google (see Table 4). More than two-thirds (71%) said they used Google, and nearly half (45%) reported using CINAHL, MEDLINE, or both. When asked about librarian support, only 10% of all respondents said they used the librarian support available to them. Although the hospital system's medical library was available to the nurses,

Table 4. 'Of the tools available to you at work and/or home, which tools do you use?'

Tool	No. Indicating Use (%)
Journal club	53 (7)
Library	123 (16)
Computer	642 (81)
CINAHL/MEDLINE	358 (45)
Google	564 (71)
Librarian	81 (10)
Literature search support	54 (7)

Note: Because respondents could indicate more than one answer, totals sum to more than 794 (100%).

Figure 2. 'Describe your beliefs about research.' (n = 794)



66% said they never used it. Only 14% of respondents said that a journal club specific to their unit or work area was available to them, and just 7% said they used these clubs.

Figure 3 depicts nurses' responses to a question about the degree to which various people in the hospital system supported nurses' use of research. Figure 4 shows nurses' responses to a question about the extent to which various organizational factors supporting research utilization and EBP were present in their workplace. When asked "How is your unit or work area best described in terms of innovation?" 71% of respondents perceived their unit as either "somewhat innovative" or "very innovative," whereas 29% perceived their unit as "very traditional," "quite traditional," or "somewhat traditional."

Quotes indicative of themes that emerged in response to a third open-ended question—"What are the things you think facilitate research utilization?"—include the following:

> Strong support by nursing administration. I feel this hospital and this healthcare network needs to recognize that all nurses are interested in research (including ADN and Diploma grads) not just BSNs and MSNs. By encouraging ADNs and Diploma nurses to enter into research, this not only elevates the professionalism in nursing, it benefits the patients, the network and the individual nurses.

A supportive manager.

The ability to use research in practice and support from administration to try new things and have an open mind to changing bedside nursing to improve patient outcomes.

Working in a teaching hospital, because all of us are motivated to continue learning, even those of us who are not presently enrolled in school.

Having a "champion"; having administration (manager + up) support research and implement change. The willingness of team members adapting their practices. Funding, interest, flexibility, resources, greater nurse autonomy, improved policy/procedure, expanded focus, pedi-centric goals, staffing, improved tuition reimbursement, incentive, pay for off-floor time for staff, and increased conference budget.

DISCUSSION

The hospital system that was the setting for our study had expended substantial resources during the three years prior to the survey to ensure that its nurses understood the importance of EBP and had access to the resources they needed to perform EBP activities. Furthermore, a doctorally prepared full-time nurse researcher was hired to create a system-level center for nursing research, which was designed to offer education, consultation, and assistance regarding EBP and research. A small medical library was already

available; the hospital system hired another medical librarian, for a total of two, to assist the staff with literature searches and instruction regarding the use of online library databases. In short, nurses had access to a wide variety of research tools and resources.

practice bundles (such as skin care and ventilator-associated pneumonia prevention bundles). The nurses were told the bundles were evidence based and critical to providing safe, high-quality care. Although individual nurses were often unable to discuss the evidence related to bundle components, when respondents were asked what EBP guidelines they used most often, the bundles were most frequently mentioned.

Our results showed that these staff nurses did not see themselves as active consumers of research.

Yet the overall, direct, indirect, and persuasive research utilization scores were similar to those found in the study by Kenny, when she examined research utilization by nurses at three U.S. Army hospitals.[8] In all four research utilization areas, mean scores for the nurses in Kenny's study fell in the middle range, as did ours. Moreover, our findings that most respondents neither used the hospital system's medical library nor consulted the librarians were similar to results reported by Pravikoff and colleagues.[10] Like the nurses in that study, more than half of our respondents used their physician colleagues or nursing peers as primary sources of practice information rather than the literature, although 58% did report using policies and procedures. Our finding that 75% of the sample said their practice was primarily based on their personal experience of nursing is noteworthy, as it perhaps contradicts what respondents said when asked about their overall and direct use of research evidence (82% and 84%, respectively, said they used research in their practice "sometimes" to "very often"). This finding may be related to the tremendous amount of education the system's nurses received on a variety of

Our respondents provided some quotes that mirrored findings of other studies that suggest staff nurses perceive finding and using research evidence as an esoteric activity that lies beyond their immediate responsibilities.[28,29] Indeed, some of the quotes were quite negative about integrating research findings into practice. These quotes may be representative of attitudes underlying the resistance that is sometimes encountered during efforts to implement EBP. Several respondents in our study also expressed a belief that they shouldn't be expected to search the literature or engage in other research utilization activities without paid release time for those activities; as in other studies,[28,29] time was often mentioned as a barrier.

Furthermore, many nurses seemed to expect their unit educator or clinical nurse specialist to search the literature, synthesize the relevant findings, and concisely convey this evidence to them. Champions for both research utilization and EBP were repeatedly mentioned as either a need or a unit-based benefit.

Figure 3. 'To what degree are the following people supportive of you using research?' (n = 794)

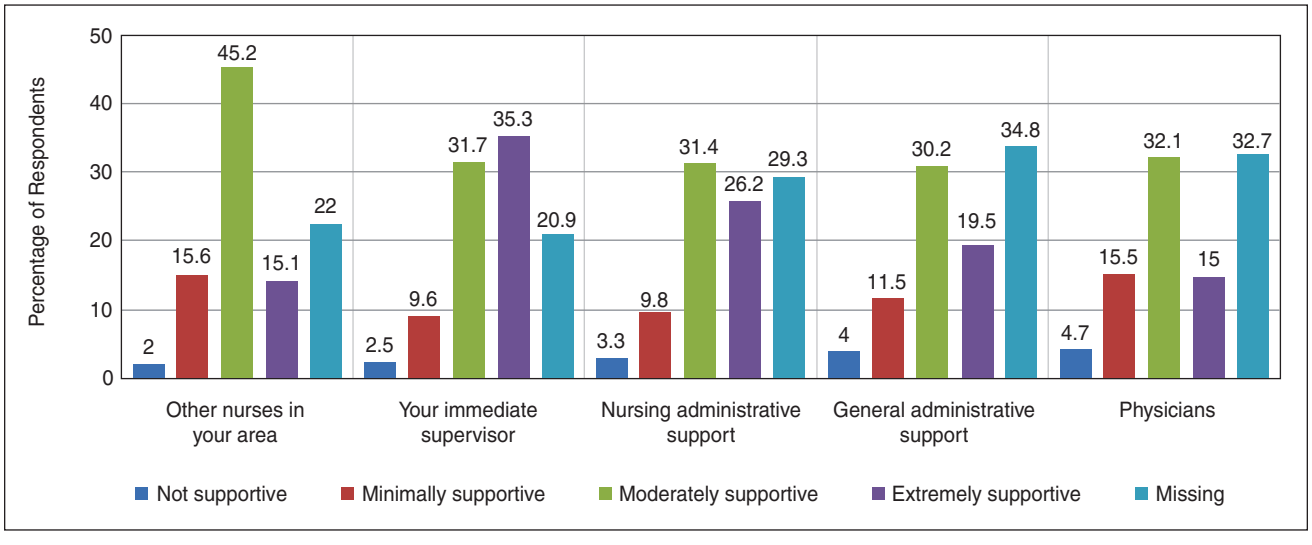
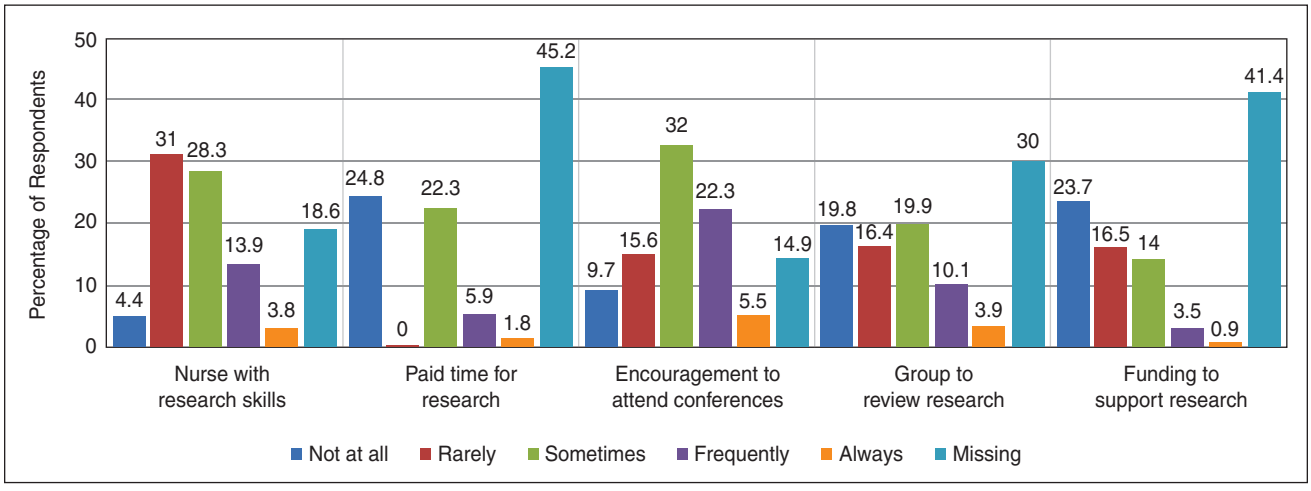


Figure 4. 'To what extent are organizational factors present in your workplace?' (n = 794)



Study participants also repeatedly stated that they would not change their practice if they couldn't be convinced that the change would improve care and patient outcomes. Such results indicate that it may be unrealistic to expect bedside nurses to execute all the components of EBP. As other researchers have noted, clinical nurse specialists are well positioned to champion research utilization and promote EBP among frontline nurses.[30, 31]

Limitations of this study include both its sampling of nurses from only one hospital system and its cross-sectional design, which limit the generalizability of the findings. It would be helpful to examine nurses' attitudes toward and use of EBP methods over time, especially at hospitals that are just beginning to seek Magnet designation. Another limitation was the use of self-report, which is not always reliable. On the other hand, the anonymous nature of data collection may have encouraged greater honesty.

Recommendations. Although the nurses in this study clearly recognized the importance of applying evidence to practice, they said they needed help in finding the evidence. Our results showed that these staff nurses did not see themselves as active consumers of research. Rather, they expected unit-based educators or clinical nurse specialists to find, read, analyze, and synthesize the evidence for them. Thus it's vital that educators and clinical nurse specialists understand the components of EBP and work with unit managers to engage the staff in research utilization and EBP implementation. Several recent articles have described a variety of ways that such activities may take place.[32-35] Larger hospitals may be able to hire clinical nurse specialists or master's-prepared unit educators, but smaller community hospitals often cannot afford to do so and may need to rely instead on unit managers.

Further education about research utilization and EBP implementation may be needed. For example, at larger hospitals, a doctorally prepared nurse or nurse researcher might create classes to teach nurses how to read the literature and understand statistical findings. Smaller hospitals without a nurse researcher on staff might partner with faculty at a local school of nursing to offer such classes. Hospital-based librarians could visit the nursing units to provide in-service training in how to search the literature. (*Editor's note: AJN*'s instructive series, *Evidence-Based Practice, Step by Step*, may also be useful and is available at http://bit.ly/LB1Jsz.)

We believe, as do others,[9, 36] that nurse leaders, managers, and educators have a responsibility to create a culture that supports EBP and research utilization. Melnyk and colleagues pointed out that without such a culture, "evidence-based care is not likely to be sustained."[9] While recent graduates may have learned about research utilization and EBP through their coursework, more senior nurses may need to be educated through hospital-based classes. It's vital that nurse leaders intentionally include the latter on EBP teams, both to promote their support of EBP efforts and to use their clinical expertise. Nurse leaders are also critical to obtaining added resources—such as in-service training and paid release time—that appear necessary to stimulate staff nurse involvement in research utilization.

Lastly, with the current emphasis on interdisciplinary education and work groups, nurses increasingly work with other disciplines in developing practice protocols and guidelines. To ensure that best nursing practices are being represented, nurses must be able to use research and know how to bring relevant findings to bear on practice. In some settings, nurses might also be asked to educate health care workers in other disciplines on research utilization and EBP.

CONCLUSIONS

This study's findings are similar to those of other recent studies regarding nurses' research utilization and EBP. The staff nurses we surveyed cited many of the same barriers that have been reported previously: lack of time, lack of resources, and lack of knowledge. And despite their expressed awareness of the value of research, they often want others to collect and synthesize the evidence and convince them of its benefit before they will adopt new practices. A great deal of work remains to be done if we are to inform, educate, and assist staff nurses in using research and implementing EBP. It may be unrealistic to expect bedside nurses to add these activities to their duties unless they are compensated for the time and have the support of master's- or doctorally prepared nurses to serve as EBP coaches and champions. ▼

For 97 additional continuing nursing education activities on research topics, go to www.nursingcenter.com/ce.

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