Determining Registered Nurses’ Readiness for Evidence-Based Practice

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ABSTRACT

Background: As health care systems worldwide move toward instituting evidence-based practice (EBP), its implementation can be challenging. Conducting a baseline assessment to determine nurses’ readiness for EBP presents opportunities to plan strategies before implementation. Although a growing body of research literature is focused on implementing EBP, little attention has been paid to assessing nurses’ readiness for EBP.

Objective: The purpose of this study was to assess registered nurses’ readiness for EBP in a moderate-sized acute care hospital in the Midwestern United States before implementation of a hospital-wide nursing EBP initiative.

Design and Methods: A descriptive cross-sectional survey design was used; 121 registered nurses completed the survey. The participants (n = 121) completed the 64-item Nurses’ Readiness for Evidence-Based Practice Survey that allowed measurement of information needs, knowledge and skills, culture, and attitudes. Data were analyzed using descriptive statistics and a post hoc analysis.

Results: The majority (72.5%) of respondents indicated that when they needed information, they consulted colleagues and peers rather than using journals and books; 24% of nurses surveyed used the health database, Cumulative Index to Nursing & Allied Health Literature (CINAHL®). The respondents perceived their EBP knowledge level as moderate. Cultural EBP scores were moderate, with unit scores being higher than organizational scores. The nurses’ attitudes toward EBP were positive. The post hoc analysis showed many significant correlations.

Conclusions and Implications: Nurses have access to technological resources and perceive that they have the ability to engage in basic information gathering but not in higher level evidence gathering. The elements important to EBP such as a workplace culture and positive attitudes are present and can be built upon. A “site-specific” baseline assessment provides direction in planning EBP initiatives. The Nurses’ Readiness for EBP Survey is a streamlined tool with established reliability and validity.

KEYWORDS evidence-based practice, readiness, attitudes, survey, knowledge, culture, informational literacy, implementation


INTRODUCTION

Worldwide evidence-based practice (EBP) has emerged as a major health care initiative. Various nations are encouraging the translation of evidence into health care decision-making through the establishment of forums, centers and institutes, such as Canada (i.e., National Forum on Health), the United States (US; i.e., Agency for Health Care Research & Quality), and the United Kingdom (UK; i.e., National Institute for Health & Clinical Excellence). International collaborative endeavors to compile, analyze, synthesize, and report clinical evidence have been established (e.g., Cochrane Collaboration, Joanna Briggs Institute, Research Triangle...
Institute). Additionally, global initiatives are indicated by the increasing number of World Wide Web sites addressing EBP policy and practice issues and by EBP colloquia, workshops, and seminars. Increasingly, the professional literature shows the translation of research into clinical practice (Hinshaw 2000; Gerrish & Clayton 2004; American Nurses Credentialing Service 2005; Holleman et al. 2006; Sigma Theta Tau International 2008), with nearly 25% of nurse executives in the US ranking “Toward EBP” as their top choice of interest (Advisory Board Company 2005).

Although various forces have advanced the interest in EBP, closing the gap between conducting research and applying findings in practice settings can be daunting. Planning nursing EBP initiatives is often accompanied with questions such as: Where do we begin? Are we ready for EBP? Conducting an EBP readiness assessment can help one address these questions and others. A readiness assessment is a dedicated period of introspection designed to identify an institution’s ability for engaging in the EBP journey. In addition to providing assessment data for EBP planning, it is a means to evaluating progress over time. Each institution’s journey is unique. Gathering institution-specific EBP information can quickly identify the strengths and challenges of an institution before EBP is implemented. Determining an institution’s readiness for EBP by conducting a baseline assessment is the key to planning implementation strategies.

BACKGROUND
A readiness assessment for identifying and measuring variables that can impede or facilitate EBP is important. Numerous international investigators have identified variables that influence and affect EBP (McNeil et al. 2003; Wallin et al. 2003; Egerod 2004; Mott et al. 2005; Pravikoff et al. 2005; Upton & Upton 2006).

A study conducted in the US indicated nurses’ readiness for EBP from the perspective of informational literacy (Pravikoff et al. 2005). The study showed that “RNs in the United States aren’t ready for evidence-based practice” (p. 50). These findings are noteworthy and the study’s rigor is recognized; however, extrapolation of the findings to more homogeneous populations should be done with care. Pravikoff and colleagues (2005) have identified informational literacy variables that are ideal for consideration in a readiness assessment, but a more comprehensive and inclusive assessment of readiness for EBP is necessary.

McSherry (1997) and Estabrooks (1999) reported that EBP is dependent on attitudes, understanding, and confidence. O’Donnell (2004) examined Danish nurses after introduction of EBP and found them to have an overall positive attitude, although they lacked knowledge regarding the finer points of EBP. McSherry and colleagues’ (2006) in a study of a sample of UK nurses found them to have a positive attitude toward research, but knowledge and confidence were found to be the obstacles to EBP. A US study had similar findings (Melnky et al. 2004). In an Australian study, Mott et al. (2005) found the lack of knowledge to be an obstacle to EBP. Many of these studies were conducted during or following EBP implementation. Preintervention studies addressing nurses’ knowledge, skills, abilities, and attitudes toward EBP are limited. Additionally, analyses of psychometric properties of measurement (tools) are rarely included.

Another readiness variable that has been suggested in the literature is EBP culture. The requirement of a supportive culture for EBP initiatives has been well documented (Gerrish & Clayton 2004; Advisory Board Company 2005; American Nurses Credentialing Center 2005; Fannings & Oakes 2006; Slolzenberger 2007). Melnyk & Fineout-Overholt (2005) identify variables of importance for an EBP culture, such as mentors, administrative support evidence, time, and resources. Wallin et al. (2003, 2006) studied prerequisites for EBP and professional development in Sweden and found supportive leadership, human resources, and the use of evidence (i.e., research findings) in the clinical area to be significant factors in establishing EBP. Although the literature indicates that EBP culture is multifaceted, consisting of organizational (e.g., administrative support and mentors) and unit components (e.g., using research), tools for measuring these components are rare. However, many variables identified in the literature could be used in a preinitiative readiness for EBP assessment.

Aims and Purpose
The purpose of this study was to determine nurses’ readiness for EBP in a moderate-sized teaching hospital in the Midwestern US before a hospital-wide EBP initiative. The EBP nursing initiative was a major endeavor directed toward all nursing units and divisions within the hospital. The goal, to incorporate evidence into the basics of nursing, would involve all levels of nursing (administration, management, education, staff) and would be the first formal nursing EBP initiative in the facility. On the basis of the literature, the four EBP areas assessed were: (1) informational needs, (2) perceived knowledge, (3) organizational/unit culture, and (4) attitudes. The intent in collecting baseline data was to identify the strengths and challenges before initiating EBP. This assessment data would then be used during the EBP program-planning phase. A long-term aim is to evaluate the EBP initiative and progress, comparing preinitiative baseline data with future postinitiative data.
Readiness for Evidence-Based Practice

Four questions guided this study:

1. What are the EBP informational needs of nurses? Specifically, at what frequency do they need and seek information, how do they find information, and what is the availability and use of workplace resources and computer skills?
2. What are nurses’ perceptions of their abilities (i.e., knowledge) to engage in EBP?
3. What is the workplace culture (i.e., organizational and unit) for EBP?
4. What are nurses’ attitudes toward EBP?

Ethical Issues and Approval
The proposed study plan was submitted to the hospital’s institutional review board and was approved as an expedited study. A cover letter explaining the study was attached to all surveys. The cover letter also addressed the voluntary nature of the survey and ensured confidentiality. Return of the completed survey was taken as consent to participate in the study.

METHODS
This was a descriptive, explorative survey in which nurses were asked to complete the “Evidence-Based Practice Readiness Survey” developed for the purpose of the study.

Survey Development: Nurses’ Readiness for EBP Survey
The environmental readiness framework developed by the Registered Nurses’ Association of Ontario (RNAO; RNAO 2002) and a review of the literature guided the development of the readiness survey. The survey was pilot-tested with 21 nurses from the hospital. The participants were asked to complete the survey and comment on its appearance and clarity. As the result of the pilot test, an adjustment was made to one question to give more clarity, and a formatting change was made: bolding item choices for greater ease in reading. The final survey instrument contained 64 questions. Ten demographic items were designed to describe the population (e.g., age, employment status, nursing education, etc.).

Informational Needs
A modified version of the Informational Literacy for Evidence-Based Nursing Practice© (Pravikoff et al. 2005) questionnaire was used to examine nurses’ informational needs. This questionnaire was developed in the US and has been used in various settings (Pierce 2000; Tanner 2000; Pravikoff et al. 2005). The complete questionnaire consists of 71 items; 35 items were used in this study. These 35 items addressed this study’s previously stated question: What are the informational needs of nurses? The item responses had various rank-order formats. Some items required respondents to answer “more than adequate,” “adequate,” “less than adequate,” or “totally inadequate” to questions about workplace informational resources such as online resources. One dichotomous item required a “yes” or “no” response to a question about being familiar with the term EBP. Content validity has been previously established (Pierce 2000). Permission to use the items was obtained.

Evidence-Based Culture: Organizational and Unit
EBP culture was measured using selected subscales from the Nursing Evidence-Based Practice Survey© (Titler et al. 1999). Content validity of the survey was established through expert review by three reviewers. Construct validity was undertaken and established with responses from 451 nurses (J. Hill 2006, pers. comm., Sept.). A factor analysis allowed identification of many retainable factors (i.e., subscales). Reliability for the measure, as determined by Cronbach’s alpha, was 0.84. The authors of the survey indicate that it can be used as a five- or three-factor model, depending on the interests of the users. Survey information was received through personal communication with the primary author in 2005.

Two subscales from the survey were used for this study. The 14 items allowed measurement of culture as a reflection of unit and organizational EBP activities. The unit culture subscale consists of seven items using a five-point, Likert-type scale to measure level of agreement-disagreement (strongly disagree = 1 to strongly agree = 5). The items indicated helpfulness about having a journal club to discuss nursing research and a bulletin board to share research articles, as well as nurses’ use of research in practice. The possible scores ranged from 7 to 35, with higher scores indicating a workplace (i.e., unit) with a higher environmental or cultural base for EBP. The organizational culture subscale also consisted of seven items and used the same five-point, Likert-type scale. The items were specific to research-based activities, beyond the unit to the institution at large, such as awareness of institutional research projects being conducted and the use of nurse research mentors. Higher scores indicated a workplace (i.e., organization) with a higher cultural base for EBP. Permission to use the measure was received from the primary author (Titler et al. 1999).

Perceived EBP Knowledge
Perception of evidence-based knowledge was measured using a tool developed for the purpose of this study. Knowledge was conceptualized as the nurse’s perception of
having enough knowledge, skills, and access to resources to undertake EBP. The perceived knowledge scale consisted of three items and had a five-point Likert-type scale, measuring level of agreement-disagreement (strongly disagree = 1 to strongly agree = 5) with each statement. The possible scores ranged from 3 to 15, with higher scores indicating greater perception of EBP knowledge. Content validity of the survey was established through expert review by three reviewers. Validity testing through the factor analysis allowed identification of the three items as a single factor with an Eigenvalue of 2.1. Internal reliability (Cronbach’s alpha) of perceived knowledge was undertaken and was shown to be moderate, with a reported coefficient alpha of 0.80 (Picard & Thiel 2006; Thiel & Landstrom 2006; Landstrom & Thiel 2006).

Attitudes Toward EBP
The Nurses’ Attitudes Toward EBP Scale (NATES) was used to measure attitudes and beliefs toward EBP and was developed specifically for this study. The 11-item NATES has a five-point Likert-type scale, for measuring level of agreement-disagreement (strongly disagree = 1 to strongly agree = 5) with each statement, such as, “If I engage in EBP it will help me provide quality nursing care” and “Evidence-based practice for nursing disregards clinical experience.” The possible scores ranged from 5 to 55, with higher scores indicating a more positive attitude toward EBP. The 11 items identified by factor loading were subjected to a validity analysis. A single factor (attitudes) was identified. The factor analysis supports a single factor consisting of the 11 items. Internal reliability (Cronbach’s alpha) of the NATES was undertaken and was shown to be strong, with a coefficient alpha of 0.93. The NATES’ validity and reliability have been reported elsewhere (Opalek & Thiel 2006; Picard & Thiel 2006; Landstrom & Thiel 2006).

Sample and Subjects
The survey was distributed to a convenience sample of 205 nurses working in a 251-bed moderate-sized teaching hospital in the US. It was distributed to registered nurses (RNs) in all units within the hospital by nurses who had a working relationship (e.g., staff nurses, managers, and educators) with the target population. The 205 nurses who received the survey represented 25% of RNs working in the facility. Of the 205 surveys distributed, 121 were returned, equaling a 59% return rate. Data collection occurred over 2 weeks during mid-December 2005.

Data Analysis
The descriptive statistics (i.e., frequencies, percentages, means, range, and standard deviations [SD]) were calculated. The frequencies and estimates of central tendency (e.g., mean) and dispersion (e.g., SD) were calculated to describe the demographic characteristics of respondents and informational literacy variables. The alpha coefficients (i.e., Cronbach’s alpha coefficient) were generated to determine internal consistency of each measure: (1) perception of EBP knowledge, (2) evidence-based cultures, and (3) NATES. A post hoc analysis among relevant variables, categorized as interval level data, was performed using Spearman’s rank correlation coefficient, which is used for nonparametric measures of correlations with interval- and ordinal-level data (Polit & Beck 2006). The estimated coefficient is denoted by rho, and p value of 5% or lower were considered significant.

RESULTS

Demographics
Table 1 shows the respondents’ (n = 121) demographic characteristics. The typical respondent was white (96.6%, n = 112), female (90.8%, n = 108), 40–49 years of age (46.2%, n = 54), held an associate’s degree (37%, n = 44) or baccalaureate degree in nursing (47.9%, n = 57), and the year of most recent nursing degree was 1995 or later (57.6%, n = 64). The nursing role of the respondent was overwhelmingly that of staff nurse (77.2%, n = 92). The respondents worked an average 10.6 years (SD = 7.9).

Informational Needs
The participants were asked a series of questions related to informational literacy. Table 2 indicates the informational needs of the respondents in this study. When asked how they found nursing information, 72.5% (n = 87) said they always or frequently ask colleagues and peers; library or bibliographic databases were rarely or never used (72.9%, n = 86 and 56%, n = 65, respectively). When asked to indicate the frequency with which they personally sought information, nearly two-thirds (62%, n = 75) of respondents indicated they seek a peer or colleague daily or many times a day. Nearly 83% (82.7%, n = 75) of respondents indicated using journal articles at least monthly. Using research reports on a monthly basis was reported by 43.3% (n = 52); 45.8% (n = 55) indicated never using this method. Nearly 64% (63.9%, n = 76) reported never using the hospital library, and 75% (n = 91) indicated they did not use the CINAHL. The respondents were asked about the availability of workplace information resources and their success and ability in using them. Seventy-eight percent (n = 93) of respondents indicated online resources were more than adequate or adequate. The majority (91%) of respondents felt some degree of being successful in using the Internet (World Wide Web). The participants were asked to
rate their overall ability to use computers and computer programs. On a scale from 1 (novice) to 5 (expert), the majority of respondents felt fairly comfortable with their ability to use a computer (mean = 3.47), but felt less capable in using databases (mean = 2.83). Nearly 75% (73.6%, \( n = 89 \)) of respondents indicated they were familiar with the term “evidence-based practice.”

**Perceived EBP Knowledge**

The study participants perceived their EBP knowledge level as moderate (mean = 9.84, \( SD = 2.2 \)). Many significant correlations were found, as shown in Table 3. Knowledge was significantly correlated with the level of nursing education (\( \rho = 0.254, p < 0.01 \)) and years in nursing (\( \rho = 0.223, p < 0.05 \)), indicating that knowledge scores increased as the level of education and

<table>
<thead>
<tr>
<th>TABLE 1</th>
<th>Demographic profile of respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>n</strong></td>
<td><strong>%</strong></td>
</tr>
<tr>
<td><strong>Age (n = 117)</strong></td>
<td></td>
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<tr>
<td>&lt;30 years</td>
<td>11</td>
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<tr>
<td>30–39 years</td>
<td>27</td>
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<tr>
<td>40–49 years</td>
<td>54</td>
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<tr>
<td>50–59 years</td>
<td>23</td>
</tr>
<tr>
<td>60 and over</td>
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<tr>
<td><strong>Gender (n = 119)</strong></td>
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<td>11</td>
</tr>
<tr>
<td>Female</td>
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<tr>
<td><strong>Nursing degree (n = 118)</strong></td>
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<td>Diploma</td>
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<tr>
<td>Associate degree</td>
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<tr>
<td>Baccalaureate degree</td>
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</tr>
<tr>
<td>Master’s degree</td>
<td>8</td>
</tr>
<tr>
<td><strong>Race/ethnicity (n = 116)</strong></td>
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<td>White (non-Hispanic)</td>
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<tr>
<td>Asian</td>
<td>1</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
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<tr>
<td><strong>Role (n = 119)</strong></td>
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<td>CNS/NP</td>
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<tr>
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<tr>
<td><strong>Most recent nursing degree (n = 111)</strong></td>
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<td>2000–2006</td>
<td>36</td>
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<tr>
<td>1995–1999</td>
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<tr>
<td>1990–1994</td>
<td>14</td>
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<tr>
<td>1985–1989</td>
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<tr>
<td>1984–earlier</td>
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<tr>
<td><strong>Years in nursing</strong></td>
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<tr>
<td>Range = 3 months to 40 years</td>
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<tr>
<td>Mean = 10.6 years (( SD = 7.9 ))</td>
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<tr>
<th>TABLE 2</th>
<th>Informational needs of respondents</th>
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<td><strong>How often need information</strong></td>
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</tr>
<tr>
<td>Often (several times a week)</td>
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<tr>
<td>Regularly (weekly)</td>
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</tr>
<tr>
<td>Occasionally (1–2 times a month)</td>
<td>35</td>
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<tr>
<td>Seldom (&lt;1 month)</td>
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<tr>
<td><strong>How they found information</strong></td>
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<tr>
<td>Colleagues/peers</td>
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<tr>
<td>Always</td>
<td>15</td>
</tr>
<tr>
<td>Frequently</td>
<td>72</td>
</tr>
<tr>
<td>Sometimes</td>
<td>31</td>
</tr>
<tr>
<td>Rarely</td>
<td>2</td>
</tr>
<tr>
<td>Never</td>
<td>–</td>
</tr>
<tr>
<td>Librarian</td>
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<tr>
<td>Always</td>
<td>–</td>
</tr>
<tr>
<td>Frequently</td>
<td>9</td>
</tr>
<tr>
<td>Sometimes</td>
<td>23</td>
</tr>
<tr>
<td>Rarely</td>
<td>38</td>
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<tr>
<td>Never</td>
<td>48</td>
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<td>Journals/books</td>
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<td>47</td>
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<tr>
<td>Sometimes</td>
<td>39</td>
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<tr>
<td>Rarely</td>
<td>16</td>
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<td>Never</td>
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<td>Biographic databases</td>
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<tr>
<td>Frequently</td>
<td>12</td>
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<tr>
<td>Sometimes</td>
<td>33</td>
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<tr>
<td>Rarely</td>
<td>24</td>
</tr>
<tr>
<td>Never</td>
<td>36</td>
</tr>
<tr>
<td>Attend conferences/workshops</td>
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<td>Always</td>
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<tr>
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<td>32</td>
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<td>Frequency sought information</td>
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</tr>
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</tr>
<tr>
<td>Weekly</td>
<td>33</td>
</tr>
<tr>
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<tr>
<td>Weekly</td>
<td>22</td>
</tr>
<tr>
<td>Monthly</td>
<td>74</td>
</tr>
<tr>
<td>Not at all</td>
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(Continued)
TABLE 2
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<tr>
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<td>10</td>
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</tr>
<tr>
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<tr>
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<tr>
<td>Daily</td>
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<td>–</td>
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<tr>
<td>Weekly</td>
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<td>–</td>
</tr>
<tr>
<td>Daily</td>
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<td>–</td>
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<td>Weekly</td>
<td>3</td>
<td>2.5</td>
</tr>
<tr>
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<td>25</td>
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</tr>
<tr>
<td>Not at all</td>
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<td>75.5</td>
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<tr>
<td>More than adequate</td>
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<tr>
<td>Adequate</td>
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<td>3.4</td>
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<tr>
<td>Successful in using World Wide Web</td>
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<tr>
<td>Highly successful</td>
<td>43</td>
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<td>Successful</td>
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<td>Highly successful</td>
<td>8</td>
<td>6.7</td>
</tr>
<tr>
<td>Successful</td>
<td>10</td>
<td>8.3</td>
</tr>
<tr>
<td>Somewhat</td>
<td>14</td>
<td>11.6</td>
</tr>
<tr>
<td>Poor</td>
<td>22</td>
<td>8.3</td>
</tr>
<tr>
<td>Do not search</td>
<td>65</td>
<td>53.7</td>
</tr>
<tr>
<td>MEDLINE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Highly successful</td>
<td>14</td>
<td>11.7</td>
</tr>
<tr>
<td>Successful</td>
<td>16</td>
<td>13.3</td>
</tr>
<tr>
<td>Somewhat</td>
<td>29</td>
<td>24.2</td>
</tr>
<tr>
<td>Poor</td>
<td>19</td>
<td>15.8</td>
</tr>
<tr>
<td>Do not search</td>
<td>42</td>
<td>35.0</td>
</tr>
<tr>
<td>Ability to</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Use the computer</td>
<td>3.47 (mean)</td>
<td></td>
</tr>
<tr>
<td>Use operate windows</td>
<td>3.40 (mean)</td>
<td></td>
</tr>
<tr>
<td>Word process</td>
<td>3.13 (mean)</td>
<td></td>
</tr>
<tr>
<td>Databases</td>
<td>2.83 (mean)</td>
<td></td>
</tr>
<tr>
<td>Familiar with the term “evidence-based practice”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>89</td>
<td>73.6</td>
</tr>
<tr>
<td>No</td>
<td>32</td>
<td>26.4</td>
</tr>
</tbody>
</table>

years in nursing increased. The Cronbach's alpha coefficient for the knowledge measure scale in this study was 0.80.

EBP Culture: Unit and Organizational

Unit and organizational cultures were assessed using two subscales from the survey (J. Hill 2006, pers. comm., Sept.). Overall, the respondents had moderate scores; higher unit culture score (mean = 25, SD = 3.71) than organizational culture score (mean = 20.5, SD = 4.47). Significant correlations were found, as shown in Table 3. Unit culture was significantly related to nursing education (rho = 0.225, p < 0.05) and years in nursing (rho = 0.217, p < 0.05). Both unit and organizational cultures were significantly related to EBP knowledge (rho = 0.450, p < 0.01 and rho = 0.504, p < 0.01, respectively). The Cronbach's alpha coefficient for unit culture scale in this study was 0.75, and for organizational culture scale was 0.74.

Nurses' Attitudes Toward EBP

The nurses' attitudes were assessed using the NATES. Overall, the respondents' attitudes toward EBP were positive (mean = 41.7, SD = 6.95). Many significant correlations between the NATES and other variables were found (Table 3). The NATES was significantly correlated with nursing education (rho = 0.248, p < 0.01), years in nursing (rho = 0.236, p < 0.01), and age (rho = 0.210, p < 0.05). It was strongly correlated with unit culture (rho = 0.626, p < 0.01) and moderately correlated with organizational culture (rho = 0.357, p < 0.01) and EBP knowledge (rho = 0.379, p < 0.01). The alpha coefficient for the NATES in this study was 0.93.

DISCUSSION

Information Needs

As expected, the nurses who completed the survey needed information to support their nursing role. The primary method of obtaining information was through peers and colleagues, followed by journals and books, conferences and workshops, databases, and then librarians. These findings are consistent with those of others (Pravikoff et al. 2005). The nurses' ability to find and use research reports is important in EBP and should be considered when conducting a readiness assessment. The number of respondents in this study who used research reports was low, and the characteristics were somewhat similar to those who did not use research reports at all. Even though a majority of nurses had difficulty finding information using electronic health databases (e.g., CINAHL and MEDLINE), worksite online resources were adequate, and a high comfort level was indicated concerning using computers. Intervention
and implementation strategies could build upon computer comfort level of nurses in teaching in-depth search skills using health databases as part of an EBP plan. Establishing competencies directed toward conducting searches would likely increase the comfort level and sustain organizational and unit EBP momentum. An interesting finding was the number of nurses reading journal articles (82.7% used on a monthly basis or more often), considering limited hospital librarian hours (e.g., 12 hours per week) and reported infrequent library use by the respondents. It is possible that the nurses obtained articles through means other than the library; however, this requires further inquiry.

When comparing this study’s demographics and findings (informational needs) with those of Pravikoff et al.’s study (Table 4), some striking differences are evident. One noteworthy difference is the work setting. In Pravikoff et al.’s study, 60% of the nurses worked in a hospital setting compared with 100% in this study. The differences in the demographic characteristics might affect the generalization of findings to other populations and settings, such as in this study. The descriptive nature of this study indicates the importance of a site-specific assessment in determining nurses’ readiness for EBP.

The findings about informational needs indicated various informational assets and challenges that might affect EBP implementation and planning. Addressing these needs will require a collaborative team approach of librarians, technology staff, and others. The Informational Literacy for Evidence Based Nursing Practice® (Pravikoff et al. 2005) questionnaire is a fitting information measure for consideration when conducting a site-specific readiness for EBP assessment.

### Perceived EBP Knowledge

Nurses in this study perceived they possessed a moderate level of knowledge (knowledge/skills) to engage in EBP. Additionally, a majority of nurses were familiar with the term “evidence-based practice,” which indicates previous exposure to content or EBP. Significant correlations were found between knowledge and other variables (Table 3) such as nursing education and years since receiving nursing degree. Recent graduates or nurses with higher education are likely to have had varying degrees of experiences with EBP as part of their college or university curricula. Other researchers have found the level of nursing education to influence EBP (Gerrish & Clayton 2004).

Perceived EBP knowledge does not necessarily translate into actual knowledge. Validation of actual knowledge may be desired in some settings when conducting a readiness for EBP survey, for example, when nurses have been previously exposed to EBP content such as during prior initiatives. Additionally, actual knowledge scores can be helpful for evaluating EBP progress over time. The development of tools or metrics to measure actual knowledge can be daunting. Various resources are available to help in the endeavor. Resources such as articles, textbooks, and toolkits offer readily accessible content for EBP teaching-learning plans. Participation in academic centers (colleges

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**TABLE 3**

<table>
<thead>
<tr>
<th>Correlations of study variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>KNOWLEDGE</td>
</tr>
<tr>
<td>-----------</td>
</tr>
<tr>
<td>Perceived knowledge</td>
</tr>
<tr>
<td>n = 121</td>
</tr>
<tr>
<td>Unit culture</td>
</tr>
<tr>
<td>Organizational culture</td>
</tr>
<tr>
<td>n = 115</td>
</tr>
<tr>
<td>Attitudes (NATES)</td>
</tr>
<tr>
<td>n = 115</td>
</tr>
<tr>
<td>Nursing education</td>
</tr>
<tr>
<td>n = 111</td>
</tr>
<tr>
<td>Years in nursing</td>
</tr>
<tr>
<td>n = 111</td>
</tr>
<tr>
<td>Age</td>
</tr>
<tr>
<td>n = 117</td>
</tr>
</tbody>
</table>

<sup>a</sup>Correlation is significant at the 0.05 level (2-tailed).

<sup>b</sup>Correlation is significant at the 0.01 level (2-tailed).
TABLE 4
Demographic characteristics of two studies

<table>
<thead>
<tr>
<th></th>
<th>CURRENT STUDY</th>
<th>NATIONAL STUDY (PRAVIKOFF ET AL.)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>Sex</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>91</td>
<td>91</td>
</tr>
<tr>
<td>Male</td>
<td>9</td>
<td>7</td>
</tr>
<tr>
<td>Not known</td>
<td>*</td>
<td>2</td>
</tr>
<tr>
<td>Age in years</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;30</td>
<td>9</td>
<td>5</td>
</tr>
<tr>
<td>30–39</td>
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<td>16</td>
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<td>40–49</td>
<td>46</td>
<td>36</td>
</tr>
<tr>
<td>50–59</td>
<td>20</td>
<td>33</td>
</tr>
<tr>
<td>&gt;59</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>Age under &lt;40</td>
<td>32</td>
<td>21</td>
</tr>
<tr>
<td>Racial/ethnic background</td>
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<td></td>
</tr>
<tr>
<td>White (non-Hispanic)</td>
<td>97</td>
<td>86</td>
</tr>
<tr>
<td>Black, African American</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Asian</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Not known</td>
<td>*</td>
<td>1</td>
</tr>
<tr>
<td>Highest nursing education</td>
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<td></td>
</tr>
<tr>
<td>Diploma</td>
<td>8</td>
<td>17</td>
</tr>
<tr>
<td>Associate degree</td>
<td>37</td>
<td>34</td>
</tr>
<tr>
<td>Baccalaureate</td>
<td>48</td>
<td>39</td>
</tr>
<tr>
<td>Master’s degree or</td>
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<td>9</td>
</tr>
<tr>
<td>Doctorate</td>
<td>–</td>
<td>&lt;1</td>
</tr>
<tr>
<td>Not known</td>
<td>–</td>
<td>&lt;1</td>
</tr>
<tr>
<td>Year of most recent nursing degree</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1995–1999</td>
<td>25</td>
<td>18</td>
</tr>
<tr>
<td>1990–1994</td>
<td>13</td>
<td>13</td>
</tr>
<tr>
<td>1985–1989</td>
<td>18</td>
<td>16</td>
</tr>
<tr>
<td>1980–earlier</td>
<td>11</td>
<td>41</td>
</tr>
<tr>
<td>Not known</td>
<td>*</td>
<td>1</td>
</tr>
<tr>
<td>Hospital work setting</td>
<td>100</td>
<td>60</td>
</tr>
</tbody>
</table>

and universities) designed to facilitate and advance EBP through expert leadership and developed programs or courses can be helpful for hospitals with limited educational resources (i.e., personnel). Additionally, EBP “essential” competencies, such as those developed by Stevens (2005), can provide direction for content planning and evaluation.

EBP Culture
The respondents perceived their workplace environment as moderately supportive for engaging in EBP. Unit culture and organizational culture were significantly correlated with having enough perceived knowledge to engage in EBP. Although the lack of knowledge has been identified as a barrier to EBP by others (Melnyk et al. 2004; McSherry et al. 2006; Upton & Upton 2006), the detection of a relationship between EBP cultures (unit and organizational) and knowledge is unclear. The importance and influence of the workplace environment on EBP have been articulated by various authors (Wallin et al. 2003; Gerrish & Clayton 2004; Advisory Board Company 2005; Melnyk & Fineout-Overholt 2005). Creating an EBP culture requires a commitment by administrators to invest in an EBP vision. Mission statements that reflect a pledge to EBP and engagement articulated in nursing performance descriptions are essential cultural components. The investment of resources to enable nurses to engage in EBP at the bedside is essential. Providing nurses with mentors and support to search for the evidence, fostering journal clubs, and a willingness by nurses to try new approaches based on best evidence are some activities that foster positive EBP cultures. A cultural component of a readiness assessment provides valuable information, and the tools used in this study are brief and adequate measures to incorporate in site-specific readiness for EBP assessment.

Nurses’ Attitudes Toward EBP
Nurses in this study held positive attitudes toward EBP. These findings are consistent with those of other studies (Melnyk et al. 2004; O’Donnell 2004; McSherry et al. 2006). As depicted in Table 3, many variables were found to be significantly correlated with nurses’ attitudes (NATES). The strong relationship between nurses’ attitudes and unit culture and moderate relationship between nurses’ attitudes and organizational culture imply the influence of an institution’s environment on nurses’ attitudes. The detection of a significant relationship between attitudes and culture (e.g., organization and unit) is a new finding. Although not surprising, the association between knowledge and attitudes indicates the role knowledge plays in fostering belief in the value of EBP. These findings support the importance of nurses’ attitudes in promoting EBP. If nurses do not believe in the value of EBP, its implementation can be difficult (Melnyk 2005; Melnyk & Fineout-Overholt 2005). Initial and ongoing awareness of nurses’ attitudes and beliefs can be a gauge for evaluating the implementation process. The NATES is a brief measure with established reliability and validity that can easily be incorporated into a readiness assessment.

Limitations
The self-report method raises the question of reporting bias and the extent to which nurses’ responses are accurate
and not socially desirable. Additionally, the descriptive nature of this study makes generalization of findings other than to the study’s facility difficult. Another limitation is the fairly small sample size ($n = 121$), which was about 25% of the targeted population (e.g., RNs in the hospital). Although convenience sampling was the selected method for the study, the available participants might not be representative of the target population. Quota sampling, which is a sample of a designated proportion of the population, would have allowed for a better representation of nurses.

**CONCLUSIONS**

The findings of this study indicate that the abilities and skills of nurses to engage in EBP are not adequate in this site. Even though worksite online resources were adequate, a need exists for higher level computer skills (e.g., database and programs) along with improved access to EBP-related resources (e.g., library). Overall, the nurses perceived having a moderate level of knowledge to engage in EBP. Although measuring “perceived” knowledge is valuable when conducting a baseline readiness assessment, actual knowledge is a likely measure for educational outcomes.

The readiness assessment identified assets such as nurses’ engagement in reading journals and positive attitudes toward EBP that can be built upon. The presence of a moderate degree of unit and organizational EBP cultures is a foundation that can be further developed and strengthened.

Although hospitals may have some commonalities, the degrees of variations might affect EBP initiatives. Conducting a site-specific readiness assessment gives data for site-specific focused planning and implementation strategies. The findings of this study indicate that the Nurses’ Readiness for Evidence-Based Practice Survey might be worthwhile to use in collecting baseline data. It is a streamlined tool for measuring nurses’ readiness for EBP.

**IMPLICATIONS FOR PRACTICE**

As a result of this study, many linkages to action and practice are possible:

1. Before implementing an EBP initiative, a baseline site-specific assessment should be conducted to determine readiness for EBP.
2. A readiness for EBP assessment for nurses should include: informational needs (e.g., informational literacy), knowledge, culture (unit and organization), and nurses’ attitudes toward EBP.
3. A readiness for EBP assessment provides important information for planning EBP initiative(s), benchmarking, and program evaluation.
4. The ways to improve staff representativeness when conducting a readiness survey include: incorporate a formal survey “kickoff” plan; identify administrative, manager, and unit “champions” as survey motivators; and use various modes to advertise, such as hospital or unit newsletters, cafeteria table advertisement cards, and intranet.
5. Because self-reports raise the question of reporting bias, actual engagement in EBP can be readily observed by:
   - Hearing EBP: listen for: (1) “Why” statements (e.g., Why are we doing this?), (2) “What” statements in daily conversations and during meetings (e.g., What are the facts? What is the evidence?), (3) EBP terms (e.g., best practice and level of evidence), and (4) staff talking with patients about the evidence.
   - Doing EBP: observe staff for: (1) writing and articulating clear clinical problems, (2) engagement in updating and writing nursing policies and procedures based on evidence, (3) using evidence to support rationale, and (4) using databases.

**References**


