The Effect of Evidence-Based Practice on Workplace Empowerment of Rural Registered Nurses

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Abstract

Through evidence based practice implementation, autonomous practice and innovation strategies can stimulate workplace empowerment, providing a framework for retention and recruitment within rural healthcare organizations. This pilot study determined the relationships that exist between evidence based practice use and workplace empowerment among rural Registered Nurses. Forty-two rural Registered Nurses completed an online survey examining their level of evidence based practice use and workplace empowerment. A Spearman's rho found a strong, positive correlation between overall evidence based practice use and workplace empowerment ($r = 0.648$, $p < .001$). Through regression analysis, educational background was determined to be a confounding variable for overall evidence based practice utilization and perceived level of workplace empowerment. While the resultant small sample size negates generalization of this pilot study to a larger population, the results uphold the premise that organizational support of innovation, as evident within the tenets of evidence based practice, can potentially impact nurses' sense of empowerment in the workplace. The results are valuable to healthcare administrators, quality and risk professionals, professional development educators, and direct care nurses when determining the needs of RNs for evidence based practice education, mentorship, and advancement of organizational empowerment structures. Future studies should examine rural Registered Nurses' workplace empowerment levels as a source of innovation, which can be a direct result of evidence based practice utilization. Evidence based practice, in conjunction with similar empowering work structures, can enhance rural nurses' ability to implement highly reliable, quality healthcare services in an environment conducive to learning, autonomy, productivity, and innovation.

Keywords: Evidence-based practice (EBP), Rural, Healthcare, Empowerment, Nursing, Workplace

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Background, Rationale, and Significance

Over the last 20 years, the number of Registered Nurses (RNs) throughout the United States has been in a constant state of flux. The national projected supply and demand of RNs in 2000 was 1,889,243 and 1,999,950 respectively (National Center for Workforce Analysis [NCWA], 2002). In 2020, those statistics will be dramatically different, with projections for supply at 2,001,998 and demand at 2,810,414 (NCWA, 2002). Many factors have influenced this dramatic shift, including an aging workforce, a reduction in sufficiently prepared nurses ready to enter the workforce, and increasing work role dissatisfaction (NCWA, 2002). These issues directly affect the motivation of RNs to continue bedside practice, particularly in rural organizations, culminating in a negative effect on the health and wellbeing of the citizenry (Dunkin, Juhl, & Straton, 1996).

Rural RNs must contend with the complexities of role diffusion, necessitating a robust clinical aptitude to efficiently address a variety of patient care encounters. Role diffusion is the need for clinicians to have a diverse knowledge base and clinical proficiency applicable to a range of ages, cultures, and pathophysiological states that may occur in rural healthcare practice (Koessl, 2009). The tenets of Evidence-Based Practice (EBP) lessen the challenges associated with role diffusion through the reduction of unscientific, isolated, or ritualistic traditions in patient care. EBP also fosters a sense of autonomous nursing practice; however, rural RNs may experience barriers to EBP utilization due to isolation from research mentors and insufficient awareness of relevant resources (Koessl, 2009). Through targeted training efforts for EBP incorporation in bedside practice, rural RNs may develop a heightened sense of autonomy and workplace empowerment in practice.

The influence of EBP use on the level of workplace empowerment of RNs in rural healthcare organizations has not been widely studied. EBP use can positively affect patient safety through a culture of empowerment and autonomous practice among RNs (Armstrong & Laschinger, 2005; Armstrong, Laschinger, & Wong, 2009). Therefore, rural healthcare organizations may experience heightened levels of workplace empowerment among nursing staff through the incorporation of EBP principles.

Purpose of Study

The purpose of this correlational exploratory pilot study was to determine levels of comprehension and EBP uses among of RNs in rural healthcare organizations and examine the perceived level of workplace empowerment experienced by those nurses. Through the conceptual framework of Kanter's Theory of Organizational Empowerment as discussed in the seminal works of Laschinger et al., it was hypothesized that RNs in rural healthcare organizations who report higher levels of comprehension and use of EBP processes will have correlating higher levels of workplace empowerment within an organization through improved clinical practice opportunities (Wilson & Laschinger, 1994; Laschinger, 1996; Laschinger, Sabiston, & Kutszcher, 1997).

Methods

Research Design

This pilot study was a cross-sectional, descriptive, correlation study that sought to answer the following research question: "To what extent do rural RNs' perceptions and their utilization of EBP affect self-reported workplace empowerment levels?"

Study Participants

A random, cross-sectional sample of RNs from Louisiana was recruited for participation. A contact list of actively licensed in-state RNs currently practicing in direct patient care (N = 5,980) was purchased from the Louisiana State Board of Nursing (LSBN). The criteria for inclusion in this study were active licensure, residential status, direct patient care practice, and current employment as an RN in the State of Louisiana. The criteria for exclusion from the study were nurses who held an active license but resided outside of Louisiana, current employment in metropolitan areas as defined by the U.S. Office of Management and Budget (2000), and RNs not involved in direct patient care.

Based on a systematic sampling process, an interval of every 12th RN actively employed in direct patient care activities in rural areas was invited to participate in the survey (N = 500). If the 12th RN was known to the principal investigator either by previous or current association or employment, then the 13th RN was selected as a potential participant to minimize any bias. This selection method ensured a sample of participants who were not known to the principal investigator. The study received approval from the A.T. Still University Institutional Review Board – Protocol # 2010-86. Participation was on a voluntary basis.

Data Collection

A notification letter with hyperlink to the online survey was sent to each potential participant explaining the study and instructions. Consent was indicated by completion of the online survey. A 20-minute timeframe was anticipated for completion of the three-part online survey. To maximize survey completion rates, multiple mailings were completed. Post card reminders were mailed to all potential participants at three weeks following the initial mailing with a reminder of how to access the survey hyperlink. The online survey was open for participant completion from January through March 2011.

The benefits of participating in this study included an opportunity to reflect upon a) personal experience with EBP, b) individual empowerment levels within current nursing positions, and c) the potential influence of organizational EBP use on workplace empowerment levels. Confidentiality was maintained by storing data in a password protected computer, accessible by the principal investigator only. To reduce risk of employer awareness of participation, the principal investigator recommended that participants complete the survey in a private location, such as their home.

Demographic data questionnaire. A demographic data questionnaire included general, unidentifiable data grouped into three subsections. Section I consisted of gender, age, and population served by participants' employer. Section II consisted of educational preparation such as basic nursing preparation, highest degree held, and if participants ever completed a statistics and/or research course. Section III consisted of employment status, primary employer type, primary work role, primary area associated with work role, length of time in current work role, current involvement in direct patient care, and Magnet designation status of employer.

Evidence-based practice questionnaire. The Evidence-Based Practice Questionnaire (EBPQ), developed by Upton and Upton (2006), evaluated rural RNs' attitudes, knowledge, and individual implementation levels of evidence based practice within various practice settings. The EBPQ is a 24-item survey, with a 7-item Likert scale organized into three separate subscales. In previous reliability testing, all three individual subscales achieved a Cronbach's alpha of .70 or higher and a Cronbach's alpha of .87 for the entire tool, demonstrating a statistically reliable tool for evaluating nurses' perceptions. Construct validity determined a positive but moderate relationship, with correlation coefficients ranging from .3 - .4 ($p < .001$). Brown et al. (2010) obtained similar validity and reliability, as the original pilot, in determining implementation of EBP among RNs in a southern California medical center. Prior approval to use this tool was obtained from the principal developers.

Psychological empowerment instrument. The Psychological Empowerment Instrument (PEI), a seminal work developed by Spreitzer (1995), is a valid and reliable tool used to evaluate the perceived level of workplace empowerment in employees. The survey, consisting of 12 self-scored items using a 7-item Likert scale, was incorporated in prior studies to evaluate the perceptions of workplace empowerment among nurses, service employees, and industrial workers (Spreitzer, 1995; Spreitzer, 1996). The PEI examined participants' impressions of empowerment within the workplace, including confidence in ability to perform assigned work, autonomy and control levels, perceived level of organizational impact, and opportunities for independent decision-making (Spreitzer, 1995). Comprised of four subscales, the PEI exhibited an internal reliability via Cronbach's alpha of .72 with validity averages of .80 during pilot study, demonstrating a reliable and valid tool to assess perceptions of empowerment (Spreitzer, 1995). Prior approval to use this tool was obtained from the principal developer.

Statistical Analysis

All data collected from the completed surveys (N = 42) were entered into a Microsoft® Excel spreadsheet and corresponded to a variable code book which defined each question in a coded format to ensure consistency. The transcribed data were then uploaded into the IBM® Statistical Package for Social Sciences (SPSS, Inc. Chicago, IL) Statistics Standard Gradpack 19 for data analysis. The data were scanned for any transcription or coding errors by calculating and analyzing frequencies along with the maximum and minimum for each variable with no coding errors identified. None of the data were missing therefore all data were useable for analysis.

This study was conducted based on the research question to what extent does rural RNs' perceptions and their utilization of EBP affect self-reported workplace empowerment levels. Descriptive statistics including frequencies and percentages determined the attributes of the obtained demographic data from the sample population in comparison to the general population of RNs in Louisiana. Chi square tests examined specific attributes of the sample and population demographic means to determine statistical differences between groups.

Measures of central tendency analyzed collected survey responses to the EBPQ and PEI. Nonparametric correlation analysis (Spearman's rho) was used to identify relationships between EBPQ and PEI that demonstrated EBP utilization as a predictor of empowerment in the work setting. Multiple linear regressions were used to predict workplace empowerment with EBP comprehension and utilization, while controlling for age, sex, educational background, prior research experience, and time in work role. The alpha level for all testing was set at the .05, two-tailed.

Results

Of the 500 potential participants, 42 (8.4%) Registered Nurses (RNs) responded to the survey (Table 1). The majority of respondents were female (78.6%), ages 30-39 (26.2%), and employed in a population service area of 25,000-49,999 (33.3%). In terms of basic nursing education, the majority of the sample (76.2%) had baccalaureate level preparation. A Bachelor of Science in Nursing was the highest degree held for 57.1% of the sample. Most participants also completed a statistics or research course at some point in their education (92.9%). A majority of respondents were employed full-time (97.6%), within an acute care hospital setting (83.3%), in a medical unit (26.2%), and in their current work role for five to ten years (35.7 %).

Table 1

Sample and Population Demographics

Characteristic	Specific Attribute	Study Sample (N=42)[a] N (%)	Louisiana RN Population (N=46,828)[b] N (%)	*p* Value
Gender	Male	9 (21)	5231 (11)	.03
	Female	33 (77)	41597 (89)	
Age Range	20-29	9 (21)	10037 (13)	.32
	30-39	11 (26.2)	12973 (28)	
	40-49	8 (19)	10648 (23)	
	50-59	10 (23)	9601 (21)	
	60-69	3 (7)	3569 (8)	
Population Range in Work Area	Below 2500	2 (4)	NA	
	2500-4999	5 (11)	NA	
	5000-9999	4 (9)	NA	
	10000-24999	6 (14)	NA	
	25000-49999	14 (33)	NA	
	50000-99999	6 (14)	NA	
	100000-249999	3 (7)	NA	
	Over 250000	2 (2)	NA	
Preparatory Nursing Education	A.D.N	10 (23)	19021 (41)	.00
	BSN	32 (76)	22633 (48)	
Highest Degree Held	A.D.N	9 (21)	15853 (34)	.01
	BSN	24 (57)	18575 (40)	
	BS/BA not Nursing	1 (2)	2496 (5)	
	MSN	5 (11)	3946 (8)	

Characteristic	Specific Attribute	Study Sample (N=42)[a] N (%)	Louisiana RN Population (N=46,828)[b] N (%)	*p* Value
	MS/MA not Nursing	2 (4)	1545 (3)	
	Doctorate in NSG	1 (2)	161 (0)	
Statistics/Research Course	Yes	39 (93)	NA	
	No	3 (7)	NA	
Employment Status	Full Time	41 (98)	35485 (76)	.00
	Part Time	1 (2)	6080 (13)	
Primary Employer Type	Acute Care Hospital	35 (83)	28014 (60)	.01
	Cmty/Pub Health	2 (4)	4545 (10)	
	Home Health	4 (9)	3751 (8)	
	MD Office	1 (2)	804 (2)	
Primary Clinical Area within Primary Work Role	Anesthesia	1 (2)	1290 (3)	.00
	Case Mgmt	1 (2)	NA	
	CCU/ICU	4 (10)	5061 (11)	
	Education	1 (2)	199 (0)	
	Emergency Care	6 (14)	2957 (6)	
	Geriatrics	1 (2)	1767 (4)	
	Home Health	4 (10)	2913 (6)	
	Maternal/Neonatal	2 (5)	3104 (7)	
	Medical	11 (26)	7492 (16)	
	Oncology	1 (2)	1014 (2)	
	OR/PACU/RR	2 (5)	3345 (4)	
	OTPT/ SDS	2 (5)	NA	
	Pediatrics	1 (2)	1914 (4)	
	Rehab	1 (2)	NA	
	Surgical	3 (7)	NA	
	Utilization Review	1 (2)	NA	
Time in Current Role	Under 6 months	3 (7)	NA	
	1 year	1 (2)	NA	
	2-4 years	13 (31)	NA	
	5-10 years	15 (36)	NA	

[a] Total study sample (n=42). [b] Total population of RNs in Louisiana 2009 (n=46,828)
Note. NA = Not Available,

In Table 1, a representative portion of the larger Louisiana RN population was evident in the study sample (Louisiana State Board of Nursing, 2010). Through chi square testing, several demographic indicators were compared to the larger population, demonstrating a statistically significant difference, except for age range.

Outcomes of EBPQ and PEI surveys

Measures of central tendency for the EBPQ and PEI survey outcomes are presented in Table 2.

Table 2

Means of EBPQ and PEI (N = 42)

Scale	Mean	SD	95% CI
EBP Process	4.42	1.09	(4.08, 4.76)
EBP Attitude	4.05	.28	(3.97, 4.14)
EBP Skill	4.67	.86	(4.40, 4.94)
Overall EBP Utilization	4.44	.58	(4.26, 4.62)
Workplace Empowerment	5.39	.72	(5.17, 5.62)

Note. Results based on the following scale parameters – 1 = Very Strongly Disagree, 2 = Strongly Disagree, 3 = Disagree, 4 = Neutral, 5 = Agree, 6 = Strongly Agree, 7 = Very Strongly Agree

The mean of respondents' opinions of EBP utilization was 4.44 (neutral) with opinions of workplace empowerment at 5.39 (agree). Table 3 presents the Spearman rho correlations between the EBPQ subscales, overall EBP use, and perceived workplace empowerment levels from the PEI.

Table 3

EBPQ Subscales and PEI Correlations [a] (N=42)

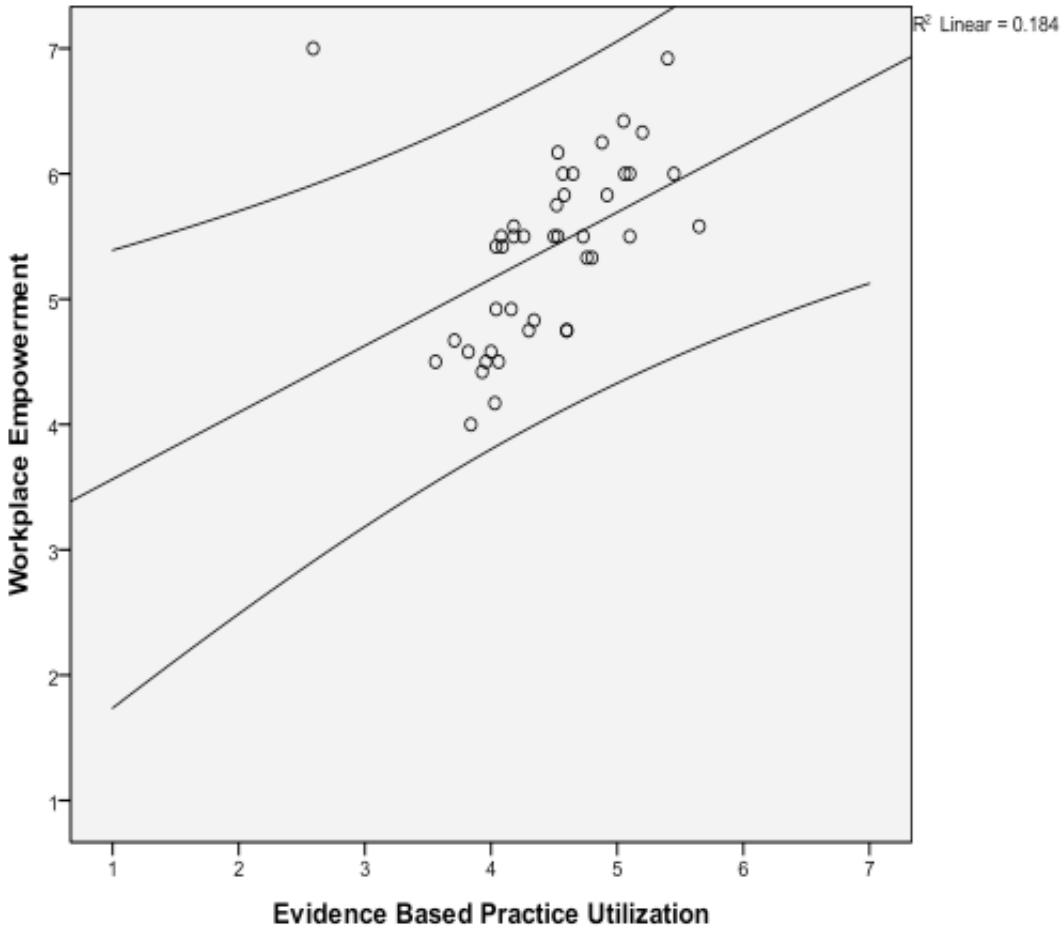
		EBP Process	EBP Attitude	EBP Skill	Overall EBP Utilization
Workplace Empowerment	Correlation Coefficient	.421	.091	.656	.648
	Sig. (2-tailed)	.006*	.568	.000*	.000*

[a]Spearman's rho; *Statistically significant, p< .05

Respondents' use of EBP process was moderately correlated to workplace empowerment (r = .421, p = .006). Attitudes to EBP did not correlate to workplace empowerment (r = .091, p = .568). Respondents' skill level in EBP demonstrated a high correlation to workplace empowerment (r = .656, p = .000). There was a strong, positive correlation between overall EBP utilization and workplace empowerment (r = .648, p< .001). The coefficient of determination (r *squared*) for overall EBP utilization and workplace empowerment was .184 (95% CI = .174, .891; p = .005) (Figure 1).

Figure 1

Workplace Empowerment by Overall Evidence-Based Practice Utilization



Note. Results based on the following scale parameters for both variables: 1 = Very Strongly Disagree, 2 = Strongly Disagree, 3 = Disagree, 4 = Neutral, 5 = Agree, 6 = Strongly Agree, 7 = Very Strongly Agree

Multiple linear regressions controlled the effects of confounding variables such as gender, age, education, prior exposure to statistics or research course work, and time in work role. Gender (β = .038, p = .813), age (β = .290, p = .063), prior exposure to a statistics or research course (β = .053, p = .739), and time in work role (β = .117, p = .459) were not related to overall EBP utilization. For workplace empowerment levels, gender (β = .085, p = .592), age (β = .124, p = .435), prior exposure to a statistics or research course (β = .042, p = .793), and time in work role (β = .149, p = .346) did not demonstrate any significant relationships. Educational background demonstrated a moderate, positive correlation with overall EBP utilization and workplace empowerment (β = .464, p = .002; β = .332, p = .031 respectively). Controlling for educational background, workplace empowerment remained moderately correlated to overall EBP utilization (*r* = .454, β = .350, p = .036) (Tables 4 & 5).

Table 4

Highest Degree Held Regression Model Summary [c]

Model	R	R^2	Adjusted R^2	Standard of Error of the Estimate
1	.429[a]	.184	.163	.660
2	.454[b]	.207	.166	.659

[a]Predictors: (Constant), Overall EBP Utilization
[b]Predictors: (Constant), Overall EBP Utilization, Highest Degree
[c]Dependent Variable: Workplace Empowerment Level

Table 5

Highest Degree Held Coefficients Model [a]

Model	β	*p*	95% CI
1 (Constant)		.000	(1.43, 4.64)
Overall EBP Utilization	.429	.005	(.17, .89)
2. (Constant)		.000	(1.59, 4.89)
Overall EBP Utilization	.350	.036	(.03, .84)
Highest Degree	.170	.297	(-.09, .29)

[a] Dependent Variable: Workplace Empowerment Level

Discussion

Evidence-based practice is defined, throughout the literature, as the systematic evaluation and implementation of sound scientific research, coupled with clinical expertise and patient preferences, that facilitate optimal health outcomes for patients (Melnyk et al., 2004; Pravikoff, Tanner, & Pierce, 2005; Neville & Horbatt, 2008; Lenz & Barnard, 2009). The principles of EBP facilitate a sense of motivation, autonomy, expertise, and innovation amongst nursing employees. Essential nursing practice concepts, such as accountability and innovation in patient care activities, have a positive correlation to structural empowerment levels when grounded in expertise and clinical judgment (Laschinger & Wong, 1999; Faulkner & Laschinger, 2008).

As defined by Kanter's (1977) seminal work on the Structural Theory of Organizational Behavior, structural empowerment is the process of mobilizing resources as derived from formal and informal power structures that enable employees to achieve work goals (Wilson & Laschinger, 1994; Laschinger, 1996; Laschinger et al., 1997). Formal power, by definition, facilitates employee discretion, establishes a recognition structure, and is fundamental to achieving organizational goals by the employee (Wilson & Laschinger, 1994; Laschinger, 1996; Laschinger et al., 1997). Informal power is based upon the generation of interpersonal relationships forged amongst colleagues within an organization and exists vertically as well as horizontally within the hierarchical structure (Wilson & Laschinger, 1994; Laschinger, 1996; Laschinger et al., 1997). Informal power structures can particularly influence a sense of innovation amongst nurses, evident in interdisciplinary networking, journal clubs, and team building activities (Laschinger, Gilbert, Smith, & Leslie, 2010). Employees who have access to formal and informal power within the organization generally exhibit higher productivity levels, a

sense of accomplishment, gravitate towards innovative processes, and share sources of power structures with other less empowered employees (Laschinger et al., 1997; Knol & von Linge, 2009).

The data collected in the study are valuable to healthcare administrators, quality and risk professionals, professional development educators, and direct care nurses to determine the needs of RNs for EBP education, mentorship, and advancement of organizational empowerment structures. The purpose of this pilot study, therefore, was to investigate what relationships exist between rural RNs' utilization of EBP and their perceptions of workplace empowerment. It was hypothesized that rural RNs' who reported higher levels of comprehension and utilization of EBP processes would have correlating higher levels of workplace empowerment within their healthcare organization. The findings presented in this study support the proposed hypothesis, and establish a parallel with previous studies examining the relationships between empowerment as a predictor for patient safety, climate and autonomous practice environments that fostered innovation in the clinical setting (Laschinger & Wong, 1999; Armstrong et al., 2009). Though a small sample size was elicited in this pilot study, the results are reflective of prior findings by Laschinger and collegues (1997) seminal work which demonstrated that the precepts of autonomous practice, foundational to EBP utilization, are critical to a sense of workplace empowerment among front-line nursing staff in both urban and rural healthcare organizations.

The respondents of this study offered a neutral opinion to EBP comprehension and utilization while demonstrating a higher mean level for workplace empowerment levels (Table 2). This finding may be relative to a majority of respondents having worked in a rural population and not within a highly specialized care department (Table 1). As discussed by Olade (2004), rural nurses frequently regard EBP as an academic or regulatory mandate instead of a means to advance and improve nursing practice. Of the potentially confounding variables examined through linear regression, a moderate correlation existed between educational background and overall EBP utilization, as the majority of the respondents had baccalaureates. This correlation is consistent with previous studies that determined nurses' level of education as a positive contributor to higher levels of EBP utilization in the practice setting, primarily due to the exposure of the baccalaureate prepared nurse to theoretical and research underpinnings (Wilson & Laschinger, 1994; Eller, Kleber, & Wang, 2003; Olade, 2004). In examination of workplace empowerment levels, the resultant higher mean may be a reflection of the sample, which consisted of a majority of RNs who had functioned in their current work roles for greater than five years (Table 2). Longevity within a particular work role can contribute directly to a sense of inclusion and empowerment (Wilson & Laschinger, 1994; Armstrong et al., 2009).

Using Spearman's rho, a statistically significant correlation between overall level of EBP utilization and workplace empowerment (r = .648, p = .000) was evident. A similar study conducted by Olade (2003) demonstrated that, while 76% of nurse respondents had an unfavorable or indifferent attitude towards EBP, they did express an interest in research utilization within their practice setting if barriers were eliminated. Additionally, 65% of the respondents reported a heightened curiosity about research with only 20% feeling adequately prepared to analyze and implement research within their clinical practice (Olade, 2003). These results demonstrate a concern for rural healthcare organizations, where administrative support, educational resources, and clinician comprehension of EBP principles are potentially ambiguous.

As postulated in Kanter's Structural Theory of Organizational Behavior, workplace empowerment is driven by a culture of organizational inquiry, supportive structures, interdisciplinary collaboration, clinical autonomy, a spirit of innovation, and a strong learning

environment irrespective of clinical discipline (Wilson & Laschinger, 1994; Laschinger, 1996; Laschinger & Havens, 1996; Laschinger et al., 1997; Van Patter Gale & Schaffer, 2009). While the results of hypothesis testing do not demonstrate a causal effect, there is evidence that a statistically significant positive relationship exists between rural RNs' EBP utilization and their level of workplace empowerment. The results of this pilot study uphold the premise that organizational support of innovation, as evident within the tenets of EBP, can directly impact nurses' sense of empowerment in the workplace (Knol & van Linge, 2009). Nursing administrators amenable to a work environment grounded in EBP may increase nurses' empowerment and commitment to the organization as a whole.

Study Limitations

The number of returned surveys, only 8.4% of the 500 RNs, is a study limitation that impacts generalizability to a larger population. While demonstrating a representative portion of the RNs employed in rural Louisiana with respect to several of the demographic indicators, the pilot study sample size may impose bias to the overall results. Notably, there were a significantly higher percentage of females with baccalaureate preparation employed in a full time position within an acute care setting. Chi square testing was statistically significant. A power effect size was not completed within the initial phases of the study design, which could have contributed to uncertainty as to the significance and representation of the sample to the general population.

This study was based upon rural RNs' self-reported perceptions of EBP utilization and workplace empowerment via the EBPQ and PEI surveys. Direct measurements through observations of empowerment structures and EBP use were not conducted in this study. Despite this limitation, the perceptions elicited in this study demonstrate support of Kanter's organizational empowerment model through a strong correlation of EBP utilization and workplace empowerment levels.

Practice Implications and Recommendations for Future Research

Although evidence-based practice within the rural healthcare setting remains in its infancy, opportunities may exist to empower professional nurses to employ its tenets within their direct care activities, resulting in positive benefits for both patients and healthcare organizations alike. Evidence-based practice, in conjunction with similar empowering work structures, can enhance rural nurses' ability to implement relevant, high quality healthcare services in an environment conducive to learning, autonomy, productivity, and innovation. Organizations that interweave the ideology of innovative and autonomous practice into their culture through workplace empowerment mechanisms will reap administrative, financial, and human capital benefits.

A study by Knol and von Linge (2009) determined empowerment levels directly affected nurses' sense of innovation and ability to impart behaviors reflective of EBP into their daily practice. A future research opportunity would be the examination of rural RNs' workplace empowerment levels as a source for innovation, which can be viewed as a direct result of EBP utilization. Additionally, inclusion of a broader sample would support or refute this initial pilot study's findings to the rural RN population at large.

Conclusions

Evidence-based practice is a foundational component of outcomes-based clinical decision-making and individualized care plan development, necessitating a sense of clinical inquiry and innovation within the rural healthcare organization (Schoonover, 2009). To effectively

implement evidence-based practice and facilitate quality services, nurses must have a spirit of clinical inquiry fostered by applicable research utilization techniques, an appreciation of patient-centered care, and sufficient individual clinical expertise (Pravikoff et al., 2005; Vratny & Shriver, 2007; Lenz & Barnard, 2009). The cumulative effect of evidence-based practice implementation is to progressively stabilize and improve the health of the general public through efficient and equitable utilization of rigorous scientific research through a systematic critical analysis correlated to patient preferences and the clinician's expertise level. The progressive integration of evidence-based practice structures in various practice settings can reduce barriers to utilization among rural nurses, thus facilitating workplace empowerment and stimulating value-added quality service within the rural healthcare organization.

References

Armstrong, K., & Laschinger, H. (2005). Structural empowerment, magnet hospital characteristics, and patient safety culture. *Journal of Nursing Care Quality, 21*, 124-132. [MEDLINE]

Armstrong, K., Laschinger, H., & Wong, C. (2009). Workplace empowerment and magnet hospital characteristics as predictors of patient safety climate. *Journal of Nursing Care Quality, 24*(1), 55-62. [MEDLINE]

Brown, C. E., Ecoff, L., Kim, S. C., Wickline, M. A., Rose, B., Klimpel, K., & Glaser, D. (2010). Multi-institutional study of barriers to research utilization and evidence-based practice among hospital nurses. *Journal of Clinical Nursing, 19*, 1944-1951. [MEDLINE]

Dunkin, J. W., Juhl, N., & Straton, T. (1996). Why rural practice? *Nursing Management, 27*(12), 26-28.

Eller, L. S., Kleber, E., & Wang, S. L. (2003). Research knowledge, attitudes and practices of health professionals. *Nursing Outlook, 51*, 165-170. [MEDLINE]

Faulkner, J. & Laschinger, H. (2008). The effects of structural and psychological empowerment on perceived respect in acute care nurses. *Journal of Nursing Management, 16*, 214-221. [MEDLINE]

Gale, B.V., & Schaffer, M. A. (2009). Organizational readiness for evidence-based practice. *Journal of Nursing Administration, 39*(2), 91-97. [MEDLINE]

Kanter, R. M. (1977). *Men and women of the corporation*. New York: Basic Books.

Koessl, B. D. (2009). *Factors influencing rural nurses attitudes and beliefs towards evidenced based practice* (Master's thesis). Retrieved from http://etd.lib.montana.edu/etd/2009/koessl/KoesslB0509.pdf

Knol, J., & Van Linge, R. (2009). Innovative behaviour: The effect of structural and psychological empowerment on nurses. *Journal of Advanced Nursing, 65*, 359-370. [MEDLINE]

Laschinger, H. S. (1996). A theoretical approach to studying work empowerment in nursing: A review of studies testing Kanter's theory of structural power in organizations. *Nursing Administration Quarterly, 20*(2), 25-41. [MEDLINE]

Laschinger, H. S. & Havens, D. S. (1996). Staff nurse work empowerment and perceived control over practice: Conditions for work effectiveness. *Journal of Nursing Administration, 26*(9), 27-35. [MEDLINE]

Laschinger, H. S. & Wong, C. (1999). Staff nurse empowerment and collective accountability: Effect on perceived productivity and self-rated work effectiveness. *Nursing Economics, 17*, 308-316. [MEDLINE]

Laschinger, H. S., Gilbert, S., Smith, L. M. & Leslie, K. (2010). Towards a comprehensive theory of nurse/patient empowerment: Applying Kanter's empowerment theory to patient care. *Journal of Nursing Management, 18*, 4-13. [MEDLINE]

Laschinger, H. S., Sabiston, J. A., & Kutszcher, L. (1997). Empowerment and staff nurse decision involvement in nursing work environments: Testing Kanter's theory of structural power in organizations. *Research in Nursing & Health, 20*, 341-352. [MEDLINE]

Lenz, B. K., & Barnard, P. (2009). Advancing evidence-based practice in rural nursing. *Journal for Nurses in Staff Development, 25*(1), E14 - E19. [MEDLINE]

Louisiana State Board of Nursing. (2010). *2009 Annual Report.* Baton Rouge, LA: Louisiana State Board of Nursing.

Melnyk, B. M., Fineout-Overholt, E., Feinstein, N. F., Li, H., Small, L., Wilcox, L., & Kraus, R. (2004). Nurses' perceived knowledge, beliefs, skills, and needs regarding evidence-based practice: Implications for accelerating the paradigm shift. *Worldviews on Evidence-Based Nursing, 3rd Quarter, 1*, 185-193. [MEDLINE]

National Center for Health Workforce Analysis. (2002). *Projected Supply, Demand, and Shortages of Registered Nurses: 2000-2020.* Washington, D.C.: U.S. Department of Health and Human Services Health Resources and Services Administration, Bureau of Health Professions.

Neville, K., & Horbatt, S. (2008). Evidence-based practice: Creating a spirit of inquiry to solve clinical nursing problems. *Orthopaedic Nursing, 27*, 331-337. [MEDLINE]

Olade, R. A. (2004). Evidence-based practice and research utilization activities among rural nurses. *Journal of Nursing Scholarship, 36*, 220 -225. [MEDLINE]

Olade, R. A. (2003). Attitudes and factors affecting research utilization. *Nursing Forum, 38*(4), 5-15. [MEDLINE]

Pravikoff, D. S., Tanner, A. B., & Pierce, S. T. (2005). Readiness of U. S. nurses for evidence-based practice. *American Journal of Nursing, 105*(9), 40-51. [MEDLINE]

Schoonover, H. (2009). Barriers to research utilization among registered nurses practicing in a community hospital. *Journal for Nurses in Staff Development, 25*, 199-212. [MEDLINE]

Spreitzer, G. M. (1995). Psychological empowerment in the workplace: Dimensions, measurement, and validation. *Academy of Management Journal, 38*, 1442-1465.

Spreitzer, G. M. (1996). Social structural characteristics of psychological empowerment. *Academy of Management Journal, 39*, 483-504.

Upton, D., & Upton, P. (2006). Development of an evidence-based practice questionnaire for nurses. *Journal of Advanced Nursing, 53*, 454-458. [MEDLINE]

U.S. Office of Management and Budget. (2000). *Rural Population Indicators for United States.* Retrieved from http://www.ers.usda.gov/data/ruraldefinitions/LA.pdf

Vratny, A., & Shriver, D. (2007). A conceptual model for growing evidence-based practice. *Nursing Administration Quarterly, 31*(2), 162-170. [MEDLINE]

Wilson, B., & Laschinger, H. S. (1994). Staff nurse perception of job empowerment and organizational commitment. *Journal of Nursing Administration, 24*(4S), 39-47. [MEDLINE]