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Correlation between professional autonomy and evidence-based practice in nurses

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Introduction: **Evidence-based nursing practice in Iran has not yet been fully implemented; and there is disagreement on the factors affecting its implementation. The aim of this study was to investigate the relationship between nurses' professional autonomy by implementing evidence-based practice by them.** ***Methods and Materials:*** **In this descriptive correlational study, stratified random sample of 196 nurses in hospitals subordinated to Shahid Beheshti University of Medical Sciences in Tehran, Iran, were invited to the study. Data were collected in April 2017, using a standard three-part questionnaire and were analyzed with descriptive and inferential statistics.** ***Results:*** **The average age of nurses participating in the study was 29.74±5.81. 97.4% of nurses were women. The majority of nurses (84.7%) had a bachelor's degree and the majority (80.6%) had between 5 and 10 years of clinical experience. 4.6% of the nurses had head positions and the others (95.4%) were normal nurses. There was no correlation between demographic characteristics of nurses and implementation of evidence-based nursing practice. Nurses professional autonomy have a significant impact on the implementation of evidence-based nursing practice (r= 4.151, P< 0.05).** ***Conclusion:*** **Based on the findings of the study with increasing levels of nurses' professional autonomy, the implementation of evidence-based practice improves and it tends to enhance the quality of nursing services. So, health care system can act by professional support from nurses, and promote the nurses' strength and independence in the performance of professional practice, in order to eliminate the gap between theory and practice in health care.**

INTRODUCTION

Evidence-based nursing is the practical application of the best available clinical evidence being derived from systematic and scientific research findings on health or nursing problems of patients as well as their preferences and values (1). Nowadays, the changing nursing paradigm is shifting from traditional discoveries, clinical experience, and pathophysiological logic to evidence-based practice, integrating clinical expertise with the best available evidence of patients and clinical conditions (2).

The implementation of evidence-based nursing is in fact a process of compiling questions for seeking research evidence; obtaining appropriate evidence using various information sources; critiques, evaluating and comparing evidence; using research evidence in nursing practice and assessing nursing performance based on research evidence (3). The implementation of evidence-based nursing is recognized as the best practice in health care services, which leads to improved patient conditions and treatment outcomes, such as delaying the initiation of antibiotic treatment in adult patients with febrile neutropenia as well as prevention and treatment of bedsores in patients (5, 4).Nurses, as health team professionals, are responsible for integrating research evidence into nursing practice in order to implement evidence-based performance (6). Studies have shown that most nurses use their knowledge, their colleagues' knowledge, the experiences gained during training, nursing texts and clinical routines, while they rarely use research evidence (8, 7). In addition, obstacles such as the lack of time and the required skills for searching and reviewing evidence have prevented the performance of evidence-based nursing (8). Researches also show that organizational culture, group cohesion, leadership support and job satisfaction are related to the implementation of evidence-based nursing (9, 10, 11).

It has also been shown that nurses with higher professional autonomy are able to make free decisions about their performance, and this refers to decision making based on nursing evidence with an emphasis on patients' opinions (12). Professional autonomy allows nurses to understand the implicit problems of patients, improve their technical and diagnostic skills, and provide comprehensive and holistic care; these are all that is needed to implement evidence-based care and create positive outcomes (13, 14).

Some researchers are worried that following standard guidelines such as EBP (Evidence Base Practice) will impede professional autonomy (15). The issue of professional autonomy has been one of the controversial issues of the health care system in the last decade. Crosby (2013) has emphasized that professional autonomy is an integral element of evidence-based performance (16); in addition, evidence-based performance creates a clearer professional identity and supports the authority of clinical nursing (14). However, there are few studies that have tried to identify all the factors affecting the implementation of evidence-based practice in nursing, including professional autonomy.

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Previous studies have shown that barriers to using research such as lack of time, limited knowledge about statistical analysis and inadequate organizational support prevent the implementation of EBN in nursing practices (17, 18, 19). Understanding the barriers to using research in clinical settings is important, as it leads to the successful implementation of EBP (20); however, despite repeated expressions of barriers to using research in clinical practice (21), evidence-based nursing practice has not yet been fully implemented. So far, not all aspects of this issue, including the impact of professional autonomy on the performance of evidence-based performance, have not been addressed. Therefore, this study attempted to investigate the relationship between nurses' professional autonomy and the implementation of evidence-based performance by them.

MATERIALS AND METHODS

In this descriptive-correlational study 196 nurses participated, working in two hospitals affiliated to Shahid Beheshti University of Medical Sciences in Tehran, Iran, and having bachelor or higher degrees in nursing and at least one year of direct nursing experience in the hospital (nurses working in outpatient departments or quality improvement center and nursing office were not invited to this study). In this study, the required sample size with 95% confidence (5% error rate) and 80% test power was determined using Cochran formula, which was considered as 196 nurses. After obtaining informed consent from them, self-report questionnaires were completed. Data were collected in April 2017. The data gathering tool was a questionnaire consisting of three parts:

A) Nurses' personal and professional information questionnaire including age, gender, education, organizational status and the overall clinical experience.

B) The Schutzenhofer Professional Autonomy Scale (SPAS), which was developed by Scatzenhofer in 1987 (22). This scale assesses how nurses carry out nursing practices through independent decisions and consisting of 30 points on a 4-point Likert scale (1= very unlikely, 4= very likely).Each item is weighted from 1 to 3 points, so that 10 items have weigh 1, 10 items weight 2 and 10 items weigh 3. The weight assigned to the items represents low, moderate and high level of professional autonomy. The total scale score, with a weight gain for all items, is ranged from 60 to 240. Scores 6-120, 121-180, and 181-240 represent respectively low, moderate, and high levels of professional autonomy.

C) The EBP Implementation Scale (EBPIS), developed and tested by Melnick et al in 2008 (23), examines the level of implementation of EBP, including the behavior related to the search and evaluation of research evidence, the sharing of evidence research with colleagues or patients, integrating research evidence into practice and evaluating outcomes. This scale consists of 18 items in Likert scale of 5 points from 0 to 4 (0= no time, 1= one to three times, 2= four to five times, 3= six to seven times, 4= eight times and more) and the total score is between 0-72. The higher score indicates more implementation of the EBNP (Evidence Base Nursing Practice). Since these scales have so far not been used in any of the internal texts they were used in this research after the permission of the main instrument makers. The questionnaires was translated and retranslated first into Persian and then into English by a person familiar with English language without having access to the original questionnaire, and the two editions were co-controlled. Face validity and content validity were used to evaluate the validity of the tools.The research tools were given to 10 hospital nurses (outside of the research sample) to examine the expressions in terms of simplicity, fluency and clarity, and express their views. After receiving their comments, the necessary revisions were made. Then content validity was evaluated qualitatively using the opinions of 14 experts. After receiving their comments, the necessary revisions were made. Then, using the opinions of 14 experts, content validity was evaluated qualitatively. To determine the quantitative content validity, the content validity index was determined and it was acceptable (S-CVI = 0/98). Cronbach's alpha was used to assess the reliability of the tools, and its value was 0.89 for the professional autonomy questionnaire and 0.95 for the evidence-based performance questionnaire. Data were analyzed using SPSS software version 19. For this purpose, descriptive and inferential statistics (frequency, percentage, mean, standard deviation, chi-square, Spearman correlation coefficient, t-test, ANOVA) were used.

FINDINGS

The findings showed that the majority of the subjects i.e. 191 people (97.4%) were women and only 5 people (2.6%) were male. The average age of the respondents was 29.74 ± 5.81 years, and the majority of them were in the age range of 22 to 54 years. 166 people of the studied units (84.7%) had a bachelor's degree in nursing and 30 people (15.3%) had higher degrees. The majority (80.6%) had a clinical experience of 5 to 10 years. Only 9 people of the studied units (4.6%) had head nursing post and the rest (95.4%) were nurse. There was no statistically significant difference between EBNP implementation in terms of gender, age, level of education, organizational status and clinical experience (Table 1).

The results of nurses' professional autonomy examination revealed that 172 nurses (87.8%) were in a low level of professional autonomy, 19 (9.9%) people were in a moderate level and only 5 nurses (2.3%) have high professional autonomy. The results of the implementation of EBNP showed that mean score of implementation being done by nurses was 8.26 ± 2.07 with a score of 4 to 18. In addition, Spearman correlation test showed that there was a significant correlation between professional autonomy of nurses and EBNP implementation by them, and the group with high professional autonomy showed statistically significant difference in terms of the implementation of EBNP compared to the other groups. (r= 4.151, p= 0.000).This means that as nurses' professional autonomy increases, the implementation of EBNP by them increases as well (Table 2).

The results also showed that the mean of EBNP implementation was significantly different in terms of different levels of nurses' professional autonomy; the average EBNP implementation increased with the increase of nursing professional autonomy. According to the results of the multiple correlation test and among all the factors studied, demographic characteristics were not correlated with the implementation of EBNP, and the strongest link with the implementation of EBNP was the high level of professional autonomy.

DISCUSSION AND CONCLUSION

The findings of this study showed that Iranian nurses had very low levels of EBNP implementation. However, Cohen and Lehman's study (2008) reported an average level of implementation of EBNP in nurses in the United States (18).Findings from other studies in Iran may explain that in these therapeutic settings there are several acceptable justifications for the specific clinical nursing conditions; including high workload, high proportion of patients to nurses and hospital

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Table 1 EBNP implementation bydemographic characteristics

Items	Categories	n (%)/M ± SD	EBNP implementation	
			M ± SD	t(p)
Age (years)	-	29.74±5.81	-	0.035 (0.487)
Gender	Male	5 (2.6)	10.00±3.03	1.791 (0.074)
	Female	191 (97.4)	8.22±3.10	
Education	Bachelor degree	166 (84.7)	8.21±3.12	-0.760 (0.447)
	Advanced degree (master, PhD student)	30 (15.3)	8.54±3.01	
Overall clinical experience (year)	-	7.44±2.28	-	0.003 (0.953)
Organizational status	Head nurse	9 (4.6)	7.66±2.67	-1.878 (0.061)
	Nurse	187 (95.4)	8.41±3.19	

Table 2 Relationships between professional autonomy and EBNP implementation

Items	Categories	Possible range	n (%)	EBNP implementation	
				M ± SD	r (p)
professional autonomy	High	181-240	5 (2.3)	13.39±3.75	4.151 (0.000)
	Moderate	121-180	19 (9.9)	21.10±8.37	
	Low	60-120	172 (87.8)	16.1 ±5.75	
EBNP implementation	-	0-72	-	8.26±2.07	

organizational culture that does not allow searching or reading research papers during working hours (24, 25, 26). It is important for nurses to have organizational support and professional autonomy; this could be considered as an important factor in researching and using their results in practice. There was no difference in the level of nursing education in EBNP implementation in this study. However, in other studies, increasing the level of education through creating a positive attitude towards the implementation of EBNP and changing the level of research evidence's search skills, increased the implementation of EBNP by nurses (5, 17, 18). Furthermore, in the present study, there was no relationship between age, gender and clinical experience with the implementation of EBNP by nurses. While a combined study conducted by Black et al. (2015) showed that educational strategies could be used to change ideas and to employ more research in action (27), and using current educational approaches and new curriculum training, younger nurses, had a clearer understanding and more trust in research findings as well as their impact on quality performance than older nurses (27, 28, 29). The study also helped to understand the meaningful relationship between nursing professional autonomy and EBNP implementation. Professional autonomy includes examining the needs of patients by nurses, designing and implementing individualized nursing care for each patient, and assessing the outcomes of patients, which is based on the latest research evidence. This process is facilitated with having professional autonomy (30).The results of this study showed that the vast majority of Iranian nurses (87.8%) considered their autonomy in a low level, while in the Kang and Yang study, 2014, the majority of Korean nurses (90 %) reported an average level of professional autonomy (31). On the other hand, there was a significant correlation between professional autonomy of nurses and the implementation of EBNP by them, and the group with high professional autonomy showed statistically significant differences in terms of the implementation of EBNP compared to the other groups; and most researchers agree that professional autonomy as an important structural dimension is essential for achieving professionalism and evidence-based practice in nursing (32, 33, 34, 35).

Professional autonomy actually means someone's right to decide for him/herself and to act accordingly (36). Independent decision making is knowledge-based and knowledge acquisition needs education; specific activities such as regular nursing conferences, journal clubs and collaborative conferences with an interdisciplinary approach can improve professional autonomy helping EBNP implementation and the improvement of safe provision of services to patients (37). Therefore, it is imperative for health managers and planners to improve nurses' skills in using research and enhance their professional autonomy, by creating a positive organizational climate and developing educational programs for them in order to enhance EBP implementation in Clinical environments. Certainly, further research, especially in the area of discovering barriers to promoting nurses' professional independence and its strategies, will facilitate independent decision-making by nurses to enhance the quality of care provided to patients, in other words, to implement evidence-based performance.

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