Original Article

Workshops for the development of evidence-based practice among nursing leaders: a pilot study

Fernanda Carolina Camargo[1], Gilberto de Araújo Pereira[2], Helena Hemiko Iwamoto[3], Lourraine Tavares Lorena[4], Mayla Borges Goulart[5], Divanice Contim[6]

[1] Nurse, PhD in Health Care. Epidemiological Surveillance Nurse at the Clinical Hospital of the Triângulo Mineiro Federal University. Uberaba, Minas Gerais, Brazil. E-mail: fernandaccamargo@yahoo.com.br.

[2] Statistician, Ph.D. in Statistics. Assistant Professor, Triângulo Mineiro Federal University. Uberaba, Minas Gerais, Brazil. E-mail: pereira_gilberto@yahoo.com.br.

[3] Nurse, PhD in Basic Nursing. Associate Professor at the Triângulo Mineiro Federal University. Uberaba, Minas Gerais, Brazil. E-mail: helena.iwamoto@gmail.com.

[4] Undergraduate Nursing Student at the Federal University of Triângulo Mineiro. Uberaba, Minas Gerais, Brazil. E-mail: lourraine16@hotmail.com.

[5] Nurse. Nursing specialist at the Clinical Hospital of the Triângulo Mineiro Federal University. Uberaba, Minas Gerais, Brazil. E-mail: maylagoulart@hotmail.com.

[6] Nurse, PhD in Basic Nursing. Assistant Professor, Triângulo Mineiro Federal University. Uberaba, Minas Gerais, Brazil. E-mail: d.contim@uol.com.br.

Received: 10/21/2016.
Accepted: 09/13/2017.
Published: 12/31/2017.

Suggest citation:
Camargo FC, Pereira GA, Iwamoto HH, Lorena LT, Goulart MB, Contim B. Style and quality of life of waste collectors. Rev. Eletr. Enf. [Internet]. 2017 [cited __/__/__];19:a50. Available from: http://doi.org/10.5216/ree.v19.43803.

ABSTRACT

The objective of this study was to analyze the effectiveness of motivational workshops to implement Evidence Based Practice (EBP) among nursing leaders. This was a pilot, virtually experimental, before and after type study, conducted in a public teaching hospital. Researchers applied the Evidence-Based Practice Questionnaire and The Barriers to Research Utilization Scale and analyzed differences of means via Student's t-test for paired samples or Wilcoxon's test for non-parametric data. Although they had positive attitudes towards EBP, the workshops were not effective in broadening skills (initial mean=109.8; final mean=107, p=0.58). However, they significantly reduced the perception of barriers (initial mean=73.2; final mean=66.6, p<0.10), the main ones being related to the lack of authority to propose changes, and work overload. Researchers observed that the intervention was effective for motivational purposes. Conducting new research to assess the inclusion of this practice in units headed by nursing leaders is encouraged.

Descriptors: Evidence-Based Nursing; Evidence-Based Practice; Leadership; Hospitals, Teaching.

INTRODUCTION

Nurses work in various scenarios and deal with the resignification of life and death on a daily basis. It is important to recognize that nursing, as a profession, has been characterized throughout the centuries as a witness of the weaknesses and vulnerabilities of the human condition[1-2]. Performed by professionals with various educational levels, nursing practice is guided by future-related phenomena that

focus on what is still to come[1]. This means that nurses' performance involves a kind of human complexity that goes beyond biomedical rationality and requires the recognition of human health needs pervaded by cultural, subjective, and relational aspects—that is, by life projects that are unique for each subject or group cared for[1-3].

According to Nightingale's principles, modern nursing emerged as a science organized by research methodologies and statistical analyses, to be unfolded in direct care actions for the recovery of health and maintenance of life—a science understood as practice of effect[2-3]. Currently, difficulties defined by diverse barriers are observed for a later application of the knowledge created by this science and its incorporation into practical scenarios[1,4-6].

These difficulties pervade the individual scope of each professional's ability to incorporate the results of scientific investigations, resistance to change by multi-professional teams, lack of support and structure in the health care services, and quality of studies that are not developed in depth to propose responses to the daily challenges of this profession[4-6].

The incorporation of reliable scientific evidence, which can support decision making among nurses, is a guiding principle of the Evidence Based Practice (EBP)[5,7]. Despite being an important requirement for advanced nursing practice, EBP-oriented work is a challenge worldwide[4-5,7].

In the present study, EBP is understood as a tool to reconcile scientific research and the daily practice of nurses to achieve more qualified and safer interventions. Despite advances in the scientific production in nursing on the Brazilian national level over the last decades, managing knowledge and care have been regarded as distant poles[6-8].

A recent bibliometric review of EBP identified that, since 2009, there has been an increase in the Brazilian production on the subject in nursing journals, with most studies (84.9%) having a theoretical-reflexive approach[9]. Only two studies presented interventions for the dissemination of EBP in a hospital environment[8,10]. These results point to gaps in the Brazilian national production, which requires interventional studies that can support the integration of research into care practice[9]. On the international level, especially in countries in the Northern Hemisphere, this topic has been discussed since the 1970s, with scientific publications pointing to alternative models to the implementation of EBP. However, reconciling *research* and *action* is still challenging in these countries as well[1,5,8].

In the hospital scenario, the engagement of nursing leaders has been pointed out as an alternative to overcome barriers to the development of EBP[4,11]. Nurses who hold management positions are key to enabling changes to the team's work routines, procedures, and behaviors, and to mobilize nursing teams to adopt innovations such as EBP[11].

Thus, the development of nursing leaders' skills in EBP seems to be a strategy that favors a new vision for nursing teams regarding the integration of research in health care. The skills in EBP are understood as the articulation between the concepts about knowledge, attitudes, and practices. Knowledge is the mastering of cognition and understanding, whereas attitudes are in the realm of the affective internalization of values.

Practice, in turn, is understood as mastering skills, handling, and creation[12].

Experts in this theme[5] have presented a proposal for the development of "Nursing Practice Evidence Based Skills in Care Scenarios," which integrates various processes. Among these processes is the formulation of questions by a strategy according to the PICOT anagram: P—person, population studied, or health problem; I—intervention to be analyzed; C—comparison of intervention to be analyzed; O—clinical outcome; and T—time, in addition to a systematic search for quality evidence. In addition, stakeholder involvement is critical to help the critique and implementation of the intervention (co-workers, institution leaders, and people cared for who may benefit from the change). Another step in this proposal is the integration of evidence with nurses' expertise and the preferences of the people under care to adopt the best clinical decision. The assessment of interventions and dissemination of results among co-workers and policymakers is an important step in the proposal that will lead to the incorporation of evidence into internal protocols to implement best practices in the health care environment. It is also important to support other work groups in the implementation of EBP.

Nevertheless, for health care teams to adopt innovations such as EBP in their daily practice, motivation emerges as a crucial aspect, in addition to their ability to put these innovations into practice[4,11]. Therefore, motivating change is a primary action for the adoption of new practices.

In this sense, the engagement of leaders who are capable of motivating change and lead to transformations in the hospital scenario is a precondition to deploying EBP[4-5,11-12]. From this perspective, questions emerge about: how to disseminate and motivate EBP among nursing leaders in the hospital scenario; and what is the effectiveness of a proposed intervention to implement this practice among nursing leaders? Based on these research questions, this study aimed to analyze the effectiveness of motivational workshops to implement Evidence Based Practice among nursing leaders in a public teaching hospital.

METHOD

This was a pilot, nearly experimental, before and after type of study, conducted to analyze the impact of intervention to develop evidence-based nursing practice in the hospital scenario.

The study site was a large general public and teaching hospital (332 beds), a macro-regional reference for specialized care in the region known as the Southern Triangle pole of the state of Minas Gerais, Brazil. The intervention focused on the development of workshops mediated by a focus group, a modality defined as a shared learning proposal, through motivational group activity guided by hermeneutic-dialectical interventions[13-14]. Five meetings were held once a week from August 9 to September 16, 2016. Each meeting lasted 120 minutes. The workshops were divided into: warm-up; use of strategies to facilitate expression; problem-solving around issues; exchange process; articulation with the general theme; and evaluation of the meeting[13]. Its general purpose was an approach to the theme of EBP, problematization about EBP at this hospital, and collective construction of viabilities to implement EBP in the scenario. The intention was to create a vision and motivation among the participants for changing practices in view of EBP. The theoretical

concept underlying the structure of the workshops was based on the model of "Evidence Based Nursing Practice in Health Care Scenarios"[5].

The choice of focus group participants was established by an intentional sample. Nursing department heads and care unit manager nurses of the hospitalization sector—who are leaders in the hospital organization chart—were included. Those managers who worked in outpatient units, those who were on vacation, and the ones who could not be absent from their sector during the workshops due to managerial-assistance issues were excluded. The nurses who attended all of the workshops and participated in all of the five meetings were those considered for this analysis, totaling a final sample of 10 nurses.

For the assessment, the questionnaires were translated and culturally validated for Brazil. They were used in the first and final workshop (fifth meeting). The Evidence-Based Practice Questionnaire (EBPQ)[15] and The Barriers to Research Utilization Scale (BRUS)[16] were utilized. The first questionnaire has 24 items structured according to a seven-point Likert scale on practice, attitudes, knowledge, and skills. The higher the score, the more favorable to EBP. The second questionnaire included 29 items structured according to a five-point Likert scale. The higher the score, the higher the barrier. As the last item of this scale referred to the dimension "no opinion," this study assigned the score of zero to it. The authors prepared a questionnaire for participants' sociodemographic characterization and previous experience in the production and incorporation of research results, which followed the previous instruments, with exclusive numbering for each participant to facilitate sample matching.

An Excel® database was organized to analyze the date via double typing and correction of inconsistencies. The items of each scale and the total sum of results were presented through central trend and dispersion measures (mean, median=md, and standard deviation=sd). Categorical variables were presented through absolute and relative frequencies. To assess the impact of workshops, paired groups were defined as initial group (To) and final group (Tf). Mean differences were analyzed by Student's t-test for paired samples or by Wilcoxon test for non-parametric data (both $p \leq 0.10$) in the event that the sample did not meet normality by the Shapiro-Wilk test ($p \leq 0.05$). The Statistical Package for the Social Sciences (SPSS) software, version 21.0, was used. Regarding the ethical aspect, Resolution CNS 466/2012 was respected, and this study was approved by the Research Ethics Committee of the Triângulo Mineiro Federal University in 2016, under opinion No. 1,1618,872.

RESULTS

The hospital studied has 18 manager nurses in the hospitalization sectors of the care units. The average participation of these managers was 16.2 participants per workshop (sd=±2.7). However, there were 10 nursing leaders who participated in all of the proposed workshops. Regarding the 10 participants, most were female (90%), white self-declared skin color (60%), and had a relationship partner (90%). Their mean age was 35.3 years (sd=±3.9), a 12.2-year mean since they had finished their undergraduate studies (sd=±3.8), mean time of profession of 11.6 years (sd=±3.7), and mean time of working at that hospital of 5.8 years (sd=±4.5).

All of the leaders had completed a course of graduate studies, but they had not participated in EBP-specific training (Table 1).

Table 1: Characterization focus group participants—nursing leaders of the public teaching hospital—regarding their previous experience in the production and incorporation of research results. Uberaba, Minas Gerais, Brazil, 2016.

Aspects	n	%
Highest degree completed		
Residency/Specialization	6	60
Master's degree	4	40
Participated in guided research project as an undergraduate student	5	50
Within the last 12 months		
Participated in research or technological innovation project	5	50
Presented paper at scientific events	1	10
Published article in scientific journals	4	40
Participated in CNPq research group	1	10
Participated in EBP training	0	0
Did search on scientific databases at work	9	90
Total	10	100

Regarding competencies on EBP, the EBPQ results show moderate competence of the investigated group, that is, the attitude-related aspects being the ones with the highest means before the intervention. Being open to questioning (To mean=5.8, sd=±1.4) and believing the EBP (To mean=6.5, sd=±0.8) were the highest mean value aspects, respectively. However, the attitude of defining time at work for the incorporation of evidence had the lowest mean value among all other aspects (To mean=3, sd=±1.2) (Table 2).

Table 2: Analysis of the aspects related to the Evidence-Based Practice Questionnaire according to the evaluation of the nursing leaders of the public teaching hospital, before and after the workshops. Uberaba, Minas Gerais, Brazil, 2016.

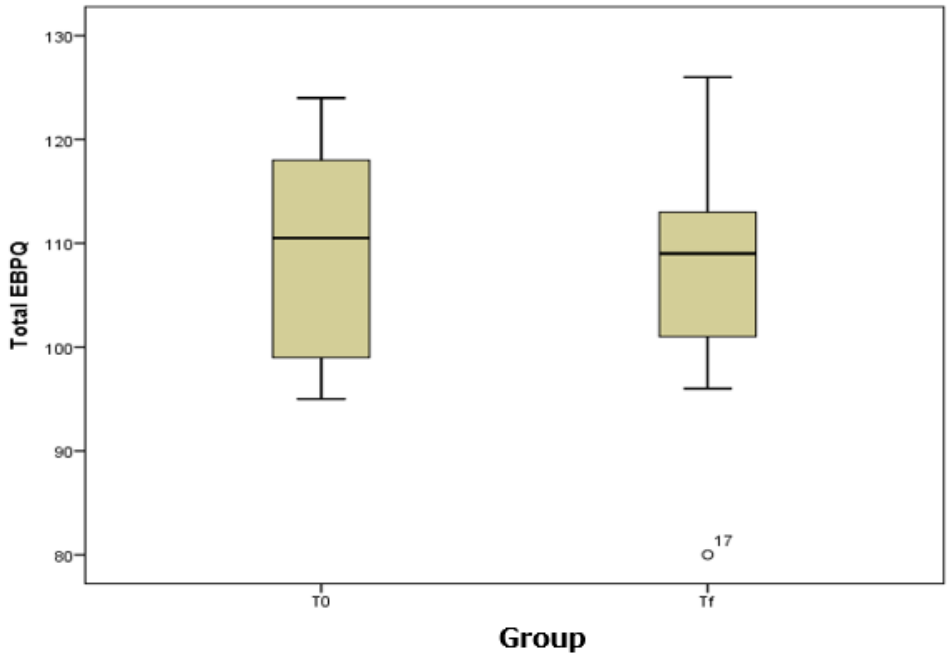
Aspects[a]	Initial (*To*)			Final (*Tf*)			*p*
	Mean	Md	Sd	Mean	Md	Sd	
Practice							
Formulates questions	5.3	5	1.2	5.4	6	1.3	0.85
Seeks relevant evidence	5.2	5	0.8	4.6	4.5	1.4	0.16
Assesses evidence in a critical way	4.2	4.5	1.2	4	3.5	1.4	0.61
Integrates evidences	4.7	4	1.2	4.7	5	1.2	1.00*
Evaluates the results.	4.4	4.5	1.2	4.2	4	1.4	0.67
Shares knowledge	4.6	4	1.2	4.6	4	1.5	0.86
Total	**28.4**	**27**	**5.2**	**27.6**	**26**	**6.8**	**0.55***
Attitudes							
Define time at work	3	3.5	1.2	3.2	3.5	1.3	0.68
Open to inquiries	5.8	6	1.4	5.4	5.5	1.3	0.33
Believes in EBP	6.5	7	0.8	6.4	7	0.8	0.70
Changes his/her practice	5.3	6	1.4	5.5	5.5	1.3	0.66
Total	**20.6**	**20**	**1.8**	**20.5**	**20.5**	**2.5**	**0.91**
Knowledge							
Research skills	3.6	3.5	1.5	3.2	3	0.9	0.34*
IT skills	4.3	4	0.9	4	4	1	0.49*
Monitoring skills	4	4	0.9	3.5	3	0.7	0.24
Can formulate questions	3.9	4	0.8	3.9	4	1.2	1.00
Knows sources for research	4.3	4	0.8	3.8	4	0.9	0.16
Identifies gaps in his/her practice	5	5	0.8	4.8	5	0.9	0.74
Can collect evidence	3.7	3	1.1	4	4	0.6	0.21

Can analyze evidence critically	4.5	4.5	0.8	4	4	1	0.13
Can determine validity	4.6	5	0.5	4.5	5	0.9	0.74
Can define applicability	4.7	4.5	0.9	4.3	5	1.2	0.27
Capable of applying knowledge	4.6	5	0.8	4.3	4.5	1.1	0.46
Shares knowledge	4.3	4.5	0.8	4.9	5	1.1	0.23
Spreads new ideas	4.4	4.5	0.9	4.6	4.5	1.5	0.45
Reviews his/her own practice	4.9	5	0.7	5.2	5	1.1	0.76
Total	**60.8**	**61**	**7.7**	**59**	**58**	**10.3**	**0.67***
Total	**109.8**	**110**	**11.1**	**107**	**109**	**13.2**	**0.58***

[a] Sentences presented in summarized way, adapted from the original questionnaire. * Student t-test.

Additionally, knowledge-related aspects had the lowest mean values. Research skills (To mean=3.6; sd=±1.5), knowing how to collect evidence (To mean=3.7; sd=±1.2), and knowing how to formulate practical questions in research questions (To mean=3.9; sd=±0.8) the lowest means (Table 2).

Despite the fact that they increased the range of results achieved by the EBPQ, the proposed workshops did not significantly impact the overall results in terms of the differentiation of the initial and final skills by nursing leaders participating in the focus groups for the EBP (*p=0.58*) (Figure 1).



Shapiro-Wilk To=0.25; Tf=0.81. Student's t-test p=0.58

Figure 1: Boxplot of the Evidence-Based Practice Questionnaire (EBPQ) total result among nursing leaders before and after the development of motivational workshops. Uberaba, Minas Gerais, Brazil, 2016.

Regarding barriers, the main ones identified among nursing leaders were: insufficient time during their work period to search for and incorporate evidence (To mean=3; sd=±0.5); believing that doctors would not cooperate to change practices (To mean=3; sd=±0.7); being unfamiliar with current research (To mean=3; sd=±0.8); believing that he/she has no authority to change practices (To mean= 3.1; sd=±0.5); and the fact that the study was not replicated (To mean=3.1; sd=±1) (Table 3).

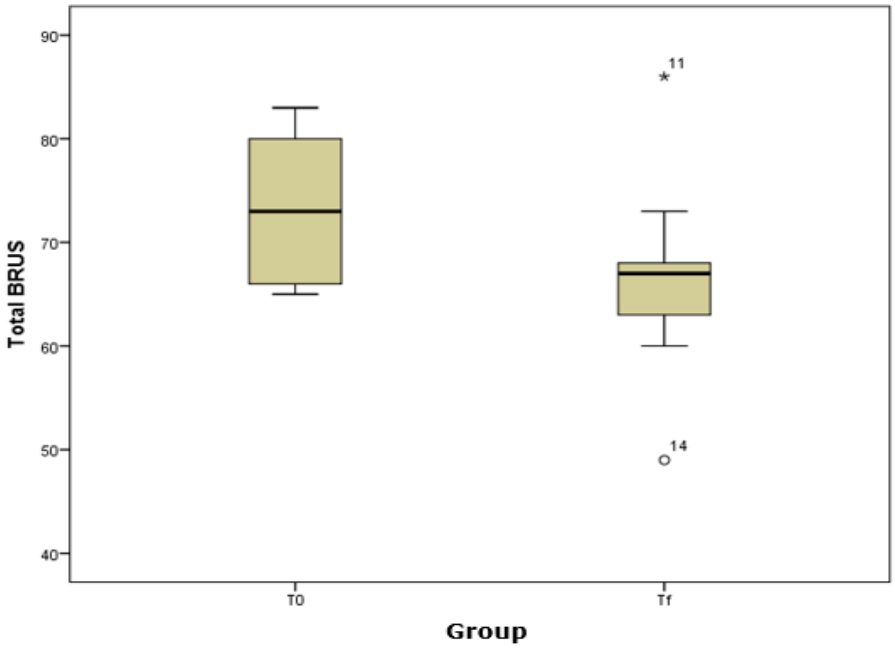
Table 3: Analysis of the aspects related to The Barriers to Research Utilization Scale (BRUS), as evaluated by the nursing leaders of the public teaching hospital, before and after the workshops. Uberaba, Minas Gerais, Brazil, 2016.

Aspects[a]	Initial (*To*)			Final (*Tf*)			*p*
	Mean	Md	Sd	Mean	Md	Sd	
Research reports are not available	1.7	1.5	0.8	2.3	2.5	0.8	**0.06**
Practical implications are unclear	2.2	2	0.8	2.4	2	0.8	0.70
Statistical analyses are not understandable	1.7	2	0.7	2.3	2.5	0.8	0.16
Research is not relevant for practice	1.9	1.5	1.1	1.8	1.5	0.9	0.77
Does not know about research	3	3	0.8	2.2	2	1	0.05
Facility is not adequate	2.3	2	0.9	2.1	2	0.6	0.56
Has no time to read research	2.8	3	0.4	2.7	3	0.5	0.65
Research was not replicated	3.1	3	1	2.5	2.5	0.8	0.18
Changing the practice will not bring about benefit	2.7	3	0.9	2.1	2	1.1	0.16
Unsure whether he/she should believe in the results	2.8	3	0.8	2.1	2	1.1	0.17
Research has mismatches	2.2	2	0.6	1.8	2	0.6	0.23
Relevant literature cannot be found	2.7	3	1.2	2.7	2.5	1.1	1.00*
Has no authority for change	3.1	3	0.5	2.7	3	0.9	0.35
Results cannot be generalized	3	3	0.6	2.3	2	0.9	0.13
Does not find colleagues to discuss the research with	2.7	3	0.7	2.4	2.5	0.7	0.53
Sees little benefit to oneself	2.9	3	0.7	2.3	2	0.9	0.13
Research is not quickly published	2.2	2	1.1	2.5	2.5	0.8	0.57*
Doctors will not cooperate	3	3	0.7	2.6	2.5	1	0.38
Administration will not allow implementation	2.6	3	0.8	1.8	2	0.8	0.13
Does not see value in research for his/her practice	2.5	2.5	0.8	2.3	2	0.9	0.55*
Absence of document on change	2.2	2.5	1.2	2.2	2	0.9	1.00*
Research conclusions were not justified	2.1	2	0.8	1.6	1.5	0.7	0.21
Literature presents contradictory results	2.5	2	0.7	2.2	2	0.4	0.25
Research is not presented in a clear fashion	2.1	2	0.7	2.3	2	0.7	0.32
Employees do not support implementation	2.5	3	0.7	2.8	3	0.6	0.41
Does not try new ideas	2.8	3	0.6	2.3	2	0.8	0.16
Research amount is overwhelming	2.1	2	0.6	2	2	0.6	0.70
Does not feel capable of assessing quality	2.8	3	0.4	2.6	3	0.5	0.32
Does not have enough time at work	3	3	0.5	2.7	3	0.9	0.43
Total	73.20	73	6.9	66.6	67	9.3	**0.09***

[a] Sentences presented in summarized way, adapted from the original questionnaire.* Student's t-test

The unavailability of research reports was perceived as an important barrier after the intervention (To mean=1.7; sd=±0.8; mean Tf mean=2.3; sd=±0.8, *p=0.06*). Not knowing about the study was an aspect whose mean value was reduced after the intervention (To mean=3; sd=±0.8; Tf mean=2.2; sd=±1; *p=0.05*) (Table 3).

The proposed workshops had a significant impact on reducing the identification of barriers to EBP among the nursing leaders participating in the focus groups, according to the general BRUS result (*p=0.09*) (Figure 2).



Shapiro-Wilk *To=0.15; Tf=0.37. Student's t-test p=0.09.*

Figure 2: Boxplot of the total Barriers to Research Utilization Scale (BRUS) result among nursing leaders before and after the development of motivational workshops. Uberaba, Minas Gerais, Brazil, 2016.

DISCUSSION

Although hospital nurses have favorable attitudes toward EBP and believe that research contributes to the advancement of nursing, being guided by evidence from scientific research was a challenge. The reality portrayed by the results achieved in this study refers to hospital nurses worldwide.

A U.S. study conducted with 1,977 nurses identified that having a history of participation in research projects and a frequent need to obtain information to update one's practice were facilitating aspects regarding EBP. The main difficulties had to do with not understanding the research methods and critically analyzing scientific articles[17]. In Norway, a survey of 407 nurses showed a lack of authority to propose changes, and not knowing how to conduct appropriate scientific evidence searches, as difficulties to the EBP[18]. Among 314 nurses from Spain and Latin America, the mean was 5.02 for EBPQ. Managing nurses presented the second-best performance in terms of EBP skills (professional practice, mean=5.04; attitudes, mean=5.42; knowledge, mean=5.17)[19].

A survey with six managing nurses in Taiwan identified favorable attitudes toward EBP, but little experience with their implementation. The difficulties related to the absence of incentive policies for developing EBP. Even when they had managerial positions, nurses felt they had little authority to change their work, in addition to having difficulty in accessing scientific productions at work[20].

The work overload among nurses has been debated worldwide not only as a barrier to EBP, but also for implying dissatisfaction and burnout[17,21]. Hospital administrators need to be aware of this reality and implement local strategies to mediate this situation. Efforts should also focus on guiding these professionals in terms of their priorities for action to reduce the overlap of tasks[17,21].

International experiences regarding interventions for EBP implementation have shown satisfactory results to broaden EBP skills and reduce barriers to its implementation among managing nurses. The important characteristics to achieve these results have to do with its format, which includes teaching methodologies, specific content worked on, and intervention duration[11,22-23]. An intervention with managing nurses in the operating theater included some hours in their usual workload for search and critical analysis of scientific articles[23]. Another study conducted in the hospital setting showed that an eight month professional improvement educational program attended by 142 nurses in management positions was efficient, with a significant reduction in the perception of barriers and an increase in these nurses' EBP skills. This educational program was developed in partnership with university professors, where classes and monitoring were offered[22]. A survey of 270 hospital nurses, including managers, concluded that the engagement by leaders substantially helped changing the organizational culture, impacting change in belief and creating viability to incorporate evidence into their daily work[11]. These changes were achieved after an educational intervention and appropriate expert advice for two years. This strategy enabled the implementation of institutional guidelines that would support nurses' performance according to EBP[11].

According to the experiences reported, a partnership between the hospital and universities is highlighted as a key aspect for enabling the implementation of EBP among nurses. Another aspect related to these educational experiences includes the structure of the interventions that lasted longer, discussion of specific content, and expert advice for guidance on how to implement EBP in the face of demands identified in the clinical practice of hospital nurses[11,22-23].

On the national level, the interventions are restricted to developing educational interventions to teach nurses about the stages of EBP, established in partnership between an undergraduate nursing course connected with universities that use the teaching hospital. The main results achieved focused on developing research projects to respond to health care demands[8,10]. These findings showed that studies published in Brazil have not been dealing with articulating the creation of a motivational environment to incorporate EBP among nursing leaders in the hospital scenario.

It is worth mentioning that the success of EBP implementation is related to the characteristics of the leadership profile undertaken by the managing nurse[4,11]. However, the nursing team itself has difficulties in understanding the role of managerial nurses at hospital admission units. For a long time, nurses' management practice has been characterized as being bureaucratic and predominantly distant from care[24]. Another study[25] pointed out that, from the team's perspective, propositional values by nursing leaders such as dialogue and periodic meetings were presented as the main tools for conflict resolution and team motivation. Humanistic values such as respect and humility were also highlighted as factors that guarantee a positive influence by managing nurses on the nursing team in terms of interpersonal relationships[25].

Regarding the limitations of this study, it is important to discuss its sample size. The purpose of this study was not to represent the population of managing nurses, but was intended to present results of a pilot project with nursing leaders. Although a previous agreement had been made with the head of the nursing

division, being absent from the care sector in the face of the hospital environment's work dynamics was something that allowed for the constant presence of focus group participants at the workshops.

Another aspect, related to the broadening of skills, as discussed, requires another intervention structure to be implemented, including a longer duration and a format such as the presentation of EBP-specific contents in terms of sources of evidence, research outlining, and assessment and synthesis of investigations. Generally, in the face of the intention of workshops to disseminate a vision and motivation to change the practices for EBP, the perception of barriers to EBP was reduced even with participants' exposure to a small number of sessions, that is, five focus groups. Reducing barriers implies a sense of potential for changing the hospital reality.

To achieve changes in nursing professionals and hospital institutions in favor of EBP implementation, it is of strategic importance to establish a motivating environment for its incorporation, and this change in vision is facilitated by the engagement of leaders and the development of non-traditional approaches such as motivational approaches to organizational culture change[4,5,11]. This was the main contribution of this pilot study. The absence of national initiatives to address this aspect—the creation of a vision and motivation to implement EBP—is believed to be related to the greater difficulty in developing countries.

CONCLUSION

The results of this study are similar to those of international studies regarding the skills and main barriers to EBP among nurses in the hospital setting. It is worth highlighting, especially in the findings of the present study, nurses' favorable attitudes toward the importance of EBP.

The main barriers that deserve attention are related to the lack of understanding about research design, work overload that led to lack of time for search and critical analysis of scientific evidence, and the perception of the lack of authority to propose changes in nurses' work scenario.

The intervention, comprised of workshops with focus groups, sought to create a vision and motivation for the change of practices regarding EBP, and seemed to be little effective in increasing EBP skills. Nonetheless, this pilot study was effective in reducing the perception of barriers to the implementation of EBP among nursing leaders, even considering the participants' exposure to a small number of sessions (five focus groups).

Focus group participants were employees of the public teaching hospital, with a prior history of relationships between them. Because they belonged to the same professional category, on the same hierarchical level at the hospital, they had experienced common dilemmas and corresponding experiences. They were not strangers to one another. Meetings among them were recurrent, particularly administrative meetings. These characteristics and other factors, such as the small variation in participants' ages [35.3 years (sd=±3.9)], were identified as aspects that ensured greater viability of group identity and group task. In general, implicit factors to participants' subjective and personal characteristics were also inductive aspects of the scope of the group task proposed in the workshops. However, the evaluation of these aspects was not

the object of this study.

On the national level, there are gaps in the experiences of implementation of EBP in hospital settings among managing nurses. Researchers highlight that the engagement of these leaders caused substantial changes of the organizational culture, especially regarding the leadership profile used. Researchers also suggest that this intervention should be used in similar scenarios to promote the implementation of EBP among nursing leaders, and that new studies are conducted to follow the changes at the hospital admission units headed by the participants who are favorable to EBP, in addition to identifying which factors interfere in the maintenance of the effect desired by the intervention.

REFERENCES

1. Parker JM. Knowledge production and reproduction: what are the implications for nursing practice? Nurse Educ Pract [Internet]. 2009 [cited 2017 dez 31];9(2):149-54. Available from: http://doi.org/10.1016/j.nepr.2008.08.004.
2. Lim F. Why Florence Nightingale still matters. Nursing [Internet]. 2010 [cited 2017 dez 31];40(11):46-7. Available from: http://doi.org/10.1097/01.NURSE.0000389025.10889.c3.
3. Carvalho V. Linhas de pesquisa em enfermagem: destaques filosóficos e epistemológicos. Rev. Bras. Enferm. [Internet]. 2015 [cited 2017 dez 31];68(4):723-9. Available from: http://doi.org/10.1590/0034-7167.2015680421p.
4. Galvão CM, Sawada NO. A liderança como estratég. Rev Gaucha Enferm [Internet]. 2005 [cited 2017 dez 31];26(3):293-301. Available from: http://seer.ufrgs.br/RevistaGauchadeEnfermagem/article/view/4559.
5. Melnyk BM, Gallagher-Ford L, Long LE, Fineout-Overholt E. The establishment of evidence-based practice competencies for practicing registered nurses and advanced practice nurses in real-world clinical settings: proficiencies to improve healthcare quality, reliability, patient outcomes, and costs. Worldviews Evid Based Nurs [Internet]. 2014 [cited 2017 dez 31];11(1):5-15. Available from: http://doi.org/10.1111/wvn.12021.
6. Marziale MHP. El conocimiento científico modificando la práctica de la Enfermería. Metas de Enfermeria [Internet]. 2016 [cited 2017 dez 31];19(4):3. Available from: http://www.enfermeria21.com/revistas/metas/articulo/80903/.
7. Zanetti ML. Teaching and Research in the preparation of future professionals. Rev Lat Am Enfermagem [Internet]. 2013 [cited 2017 dez 31];21(3):653-4. Available from: http://doi.org/10.1590/S0104-11692013000300001.
8. Carvalho EC, Laus AM, Caliri MHL, Rossi LG. Da produção à utilização de resultados de pesquisa na prática assistencial: uma experiência em consolidação. Rev. bras. enferm. [Internet]. 2010 [cited 2017 dez 31];63(5):853-8. Available from:: http://doi.org/10.1590/S0034-71672010000500027.
9. Camargo FC, Garcia LAA, Santos ÁDS, Iwamoto HH. Prática baseada em evidências: revisão bibliométrica das publicações nacionais em periódicos de enfermagem. Revista Família, Ciclos de Vida e Saúde no Contexto Social [Internet]. 2017 [cited 2017 dez 31];5(3):429-39. Available from: http://doi.org/10.18554/refacs.v5i3.2137.
10. Dyniewicz AM, Rivero de Gutiérrez MG. Metodologia da pesquisa para enfermeiras de um hospital universitário. Rev Lat Am Enfermagem [Internet]. 2005 [cited 2017 dez 31];13(3):354-63. Available from: http://doi.org/10.1590/S0104-11692005000300010.
11. Hauck S, Winsett RP, Kuric J. Leadership facilitation strategies to establish evidence-based practice in an acute care hospital. J Adv Nurs [Internet]. 2013 [cited 2017 dez 31];69(3):664-74. Available from: http://doi.org/10.1111/j.1365-2648.2012.06053.x.
12. Hunker DF, Gazza EA, Shellenbarger T. Evidence-Based Knowledge, Skills, and Attitudes for Scholarly Writing Development Across all Levels of Nursing Education. J Prof Nurs [Internet]. 2014 [cited 2017 dez 31];30(4):341-6. Available from: http://doi.org/10.1016/j.profnurs.2013.11.003.
13. Chiesa AM, Westphal MF. A sistematização de oficinas educativas problematizadoras no contexto dos serviços de saúde. Saúde debate [Internet]. 1995 [cited 2017 dez 31];(46):19-22. Available from: http://docvirt.com/asp/acervo_cebes.asp?Bib=SAUDEDEBATE&PASTA=N.46+-+mar.+1995&pesq=&x=65&y=16.

14. Fortuna CM, Mishima SM, Matumoto S, Pereira MJB. O trabalho de equipe no programa de saúde da família: reflexões a partir de conceitos do processo grupal e de grupos operativos. Rev Lat Am Enfermagem [Internet]. 2005 [cited 2017 dez 31];13(2):262-8. Available from: http://doi.org/10.1590/S0104-11692005000200020.
15. Rospendowiski K, Alexandre NMC, Cornélio ME. Cultural adaptation to Brazil and psychometric performance of the "Evidence-Based Practice Questionnaire." Acta Paul Enferm [Internet]. 2014 [cited 2017 dez 31];27(5):405-11. Available from: http://doi.org/10.1590/1982-0194201400068.
16. Ferreira MBG. Adaptação cultural e validação do instrumento The Barriers to Research Utilization Scale: versão para o português brasileiro [Tese na Internet]. [São Paulo]: Escola de Enfermagem de Ribeirão Preto/Universidade de São Paulo; 2015 [cited 2017 dez 31]. Available from: http://www.teses.usp.br/teses/disponiveis/22/22132/tde-24022016-190316/pt-br.php.
17. Wilson M, Sleutel M, Newcomb P, Behan D, Walsh J, Wells JN, Baldwin KM. Empowering nurses with evidence-based practice environments: surveying Magnet®, Pathway to Excellence®, and non-magnet facilities in one healthcare system. Worldviews Evid Based Nurs [Internet]. 2015 [cited 2017 dez 31];12(1):12-21. Available from: http://doi.org/10.1111/wvn.12077.
18. Dalheim A, Harthug S, Nilsen RM, Nortvedt MW. Factors influencing the development of evidence-based practice among nurses: a self-report survey. BMC Health Serv Res [Internet]. 2012 [cited 2017 dez 31];12(1):367. Available from: http://doi.org/10.1186/1472-6963-12-367.
19. Pérez-Campos MA, Sánchez-García I, Pancorbo-Hidalgo PL. Knowledge, attitude and use of evidence-based practice among nurses active on the internet. Investig y Educ en Enfermería [Internet]. 2014 [cited 2017 dez 31];32(3):451-60. Available from: http://www.scielo.org.co/scielo.php?script=sci_arttext&pid=S0120-53072014000300010&lng=en&nrm=iso&tlng=en.
20. Chang HC, Jones MK, Russell C. Exploring attitudes and barriers toward the use of evidence-based nursing among nurse managers in taiwanese residential aged care facilities. J Gerontol Nurs [Internet]. 2013 [cited 2017 dez 31];39(2):36-42. Available from: http://doi.org/10.3928/00989134-20130110-02.
21. You L, Aiken LH, Sloane DM, Liu K, He G, Hu Y, et al. Hospital nursing, care quality, and patient satisfaction: Cross-sectional surveys of nurses and patients in hospitals in China and Europe. Int J Nurs Stud [Internet]. 2013 [cited 2017 dez 31];50(2):154-61. Available from: http://doi.org/10.1016/j.ijnurstu.2012.05.003.
22. Kim SC, Brown CE, Ecoff L, Davidson JE, Gallo AM, Klimpel K, et al. Regional evidence-based practice fellowship program: impact on evidence-based practice implementation and barriers. Clin Nurs Res [Internet]. 2013 [cited 2017 dez 31];22(1):51-69. Available from: http://doi.org/10.1177/1054773812446063.
23. White S, Spruce L. Perioperative Nursing Leaders Implement Clinical Practice Guidelines Using the Iowa Model of Evidence-Based Practice. AORN J [Internet]. 2015 [cited 2017 dez 31];102(1):50-9. Available from: http://doi.org/10.1016/j.aorn.2015.04.001.
24. Lima RS, Lourenço EB, Rosado SR, Fava SMCL, Sanches RS, Dázio EMR. Representação da prática gerencial do enfermeiro na unidade de internação: perspectiva da equipe de enfermagem. Rev Gaucha Enferm [Internet]. 2016 [cited 2017 dez 31];37(1): e54422. Available from: http://doi.org/10.1590/1983-1447.2016.01.54422.
25. Paula GF, Figueiredo ML, Camargo FC, Iwamoto HH, Caixeta CRCB. Concepções de liderança entre enfermeiros assistenciais de um hospital do Norte de Minas Gerais. Rev Eletr Enf [Internet]. 2012 [cited 2017 dez 31];14(4):821-30. Available from: http://doi.org/10.5216/ree.v14i4.15102.