Original Research

Leadership as a Facilitator of Evidence Implementation by Nurse Managers: A Metasynthesis

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Abstract

Evidence-based practice is often not implemented in nursing for reasons relating to leadership. This article aims to cast light on the factors that facilitate nursing evidence implementation perceived by nurse managers in their practical experiences of this implementation. It is a qualitative, narrative metasynthesis of primary studies on nurse managers' leadership-related facilitation experiences, following the Joanna Briggs Institute meta-aggregative approach and the Promoting Action on Research Implementation in Health Services (PARiHS) model. Eleven primary studies were included and three general categories were identified as leadership-related factors facilitating evidence implementation: teamwork (communication between managers and staff nurses), organizational structures (strategic governance), and transformational leadership (influence on evidence application and readiness for change among leaders). Nurse managers act as facilitators of evidence-based practices by transforming contexts to motivate their staff and move toward a shared vision of change. Always providing support as managers and colleagues, sharing their experience in the clinic environment.

Keywords

evidence-based practice, facilitation, implementation science, leadership models, nursing, nurse managers

Although the amount of scientific evidence is growing considerably, only a small proportion of it is finally transferred to evidence-based nursing practice, to implement the best results of the best scientific evidence wherein the nursing professional performs his or her practical roles (Bianchi et al., 2018; Squires et al., 2012). For this reason, numerous studies have attempted to identify the causes for these challenges with implementation and the barriers faced by staff nurses and nurse managers (Barends et al., 2017; Bianchi et al., 2018; Drury et al., 2016; Hasanpoor et al., 2019; Magluta et al., 2011; Nkrumah et al., 2018; Weng et al., 2016).

Nurse managers, as head nurses with nurses in charge, who manage and/or supervise the activities of their service/unit, have a leadership role, defined as the organizational environment of positive attitudes and influences to improve patient care outcomes and the organization itself. The role, as a staff manager, is critical to the success or failure of the evidence-based nursing practice implementation (Gifford et al., 2017). For greater leadership compression, Shuman et al. (2019) tried to describe the nursing manager's leadership competencies for evidence-based practice, through nurse manager's scale of evidence-based practice competency, implementation leadership scale and implementation climate scale; to measure what they know and what they do in relation to the evidence-based nursing practice. Shuman et al. (2018) developed an instrument to measure the nurse manager's competencies with regard to the evidence-based nursing practice, to help understand how competition affects the nurse manager in the implementation, which in turn is influenced by leadership, and thus be able to develop interventions that address areas of low competition in nurse managers.

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They have significant influence over evidence implementation and can use this influence to tackle barriers, provide support, and create optimal environments (Bianchi et al., 2018). In one narrative systematic review (Reichenpfader et al., 2015), the term "leadership" was conceptualized by primary articles on the subject as a criterion modifying the use of research through direct or indirect positive behaviors that result in effective evidence-based nursing practice implementation. For this reason, it is of the utmost importance that nurse managers are prepared and take over from your leadership position. For this way, to identify the purpose of each facilitation factor, and select the strategies that are most useful and/or necessary, all this, acquired through the learning offered by the experience of implementing evidence-based nursing practice. Thus, creating a culture/context of implementing evidence in clinical practice (Harvey et al., 2002; Kitson et al., 2008; McCormack et al., 2002; Squires et al., 2012). A number of research studies attempt to study leadership without considering other influential elements, but the results of one literature review suggest that leadership should not be detached from the work environment, as there are interacting factors between the two (Sandström et al., 2011).

The Promoting Action on Research Implementation in Health Services (PARiHS) framework is widely used in evidence implementation research in health systems (Shuman et al., 2018), by establishing connections between different determinants and results from studies on evidence implementation measures and interventions (Helfrich et al., 2010; Kitson et al., 1998; Reichenpfader et al., 2015; Rycroft-Malone et al., 2002). This metasynthesis is based on the domains of PARiHS, and its determinants to achieve a successful implementation: context, facilitation, and evidence (Shuman et al., 2018). Specifically, this research focuses on leadership, as an element of context. The PARiHS theoretical framework shows that a context is receptive to the application of evidence when strong leadership is present and that expert facilitation is the final element guiding and triggering change by enabling frontline staff to accomplish a specific task (Harvey et al., 2002; Kitson et al., 1998; Rycroft-Malone, 2004).

However, the results of Reichenpfader's systematic review in 2015 show that leadership is poorly conceptualized, affecting their implementation of evidence, and there is a need for theoretical advancement within implementation science to establish a more mature concept (Reichenpfader et al., 2015). Over the years, the specific elements and subelements of the PARiHS model have had to be revised for greater conceptual discrimination, so that the scientific community can work together to create guidelines for using model and improving its outcomes (Helfrich et al., 2010; Reavy & Tavernier, 2008; Stetler et al., 2011).

This study aims to compare the results of primary studies on the facilitation factors for evidence-based nursing practice implementation in order to unravel the links between the subelements of the PARiHS model that relate to leadership and its facilitation, enabling nurse managers to put this model into practice more effectively and efficiently. In line with a previous qualitative metasynthesis, but with the difference, that metasynthesis studied the vision of clinical nurses on the influence of the working context on the application of evidence (Clavijo-Chamorro et al., 2020), this article aims to explore the factors facilitating leadership from the perspective of nurse managers.

Other researchers have explored the factors influencing nurse managers' own practice, but have focused on barriers and/or attitudes toward evidence implementation (Barends et al., 2017; Magluta et al., 2011; Nkrumah et al., 2018) or have taken a purely quantitative approach (Drury et al., 2016; Hasanpoor et al., 2019). However, qualitative research designs can complement data by explaining and describing phenomena, turning these phenomena into evidence-based nursing practice (Sandelowski et al., 2006). A variety of literature reviews examine leaders' influence and behavior in relation to the application of evidence-based nursing practice, but through systematic reviews (Gifford et al., 2018), there being few qualitative reviews such as the case of the integrative review of Bianchi et al. (2018). Although Reichenpfader et al. (2015) conducted a narrative synthesis, nurse managers were not exclusively represented in their sample. therefore, it is necessary to use qualitative research methodological designs to a greater extent, that complement quantitative studies, to specifically identify facilitating factors from the perspective of nurse managers. Finally, none of these studies use the PARiHS model to relate the subdimensions of the model to the outcomes obtained, although, interestingly, most of the primary articles in the study by Reichenpfader et al. (2015) used this model to guide their implementation processes. Therefore, we believe that this study is necessary in order to collate experiences and perceptions of evidence-based nursing practice implementation among nurse managers from different countries and health care contexts, and to ascertain the factors facilitating evidence-based nursing practice.

Purpose

The aim of this study is to explore nurse managers 'perceptions on the factors that allow them to support the implementation of research evidence through leadership in their experiences in implementing evidence-based nursing practice.

Methods

Design

A qualitative systematic review design was used following the Joanna Briggs Institute meta-aggregative approach to the synthesis of qualitative evidence (The Joanna Briggs Institute, 2014).

Table 1. Literary Search for Primary Articles in Major Databases.

Databases	Search Strategy
Medline	Implementation and (evidence-based practice) and nursing managers and (qualitative studies) and facilitators
CINAHL	Implementation and evidence-based practice and nursing managers and qualitative studies
Scopus	Facilitators AND implementation AND evidence-based practice AND nursing managers AND qualitative studies
PubMed	((((((Health Plan Implementation) OR "Health Plan Implementation"[Mesh]) OR implementation)) AND ((((evidence-based practice) OR "Evidence-Based Practice"[Mesh]) OR Evidence-Based Nursing) OR "Evidence-Based Nursing"[Mesh])) AND ((nursing managers) OR "Nurse Administrators"[Mesh])) AND (("Qualitative Research"[Mesh]) OR qualitative research)
Global Health	Implementation and evidence and nursing managers and qualitative
DOAJ	Implementation and evidence and nursing managers and qualitative and facilitators
BioMed Central Nursing	(Perceptions and experiences and opinions and descriptions and nurses and factors and facilitators) and (implementation and evidence-based practice and nursing and qualitative studies)
ScienceDirect	(Perceptions and experiences and opinions and descriptions and nursing managers and factors and facilitators) and (implementation and evidence-based practice and nursing managers and qualitative studies)

Search Methods

The literature search was carried out in the following resources: bibliographic databases, including PubMed, Medline, CINAHL, Scopus, LILACS, Global Health, CSIC, CUIDEN Plus, ENFISPO, and Cuidatge; publication archives, such as ProQuest, ScienceDirect, DOAJ, PLOS, and BioMed Central Nursing; and evidence centers, such as the Cochrane Library and the Joanna Briggs Institute.

The keywords or descriptors used by each database in its own thesaurus were used. Only the articles containing one or more keywords or descriptors in their titles and/or abstracts were included in the full text review. The terms are the following: *clinical practice guidelines, descriptions, evidence-based, evidence, evidence-based nursing, evidence-based practice, evidence used, experience, experiences, facilitators, health plan implementation, implementation, nurse administrators, nursing, nursing managers, opinions, perceptions, practice, qualitative, qualitative research, and qualitative studies* (Table 1). A reverse reference search was also performed using the bibliographic references of the articles found in the primary search. In the search, neither the language of publication nor the time frame was defined, which allowed us to find all studies available until February 2020.

Criteria for Inclusion of the Studies

The inclusion criteria for this metasynthesis are based on the type of participants, the subject of study, and the types of research: studies whose participants are nurse managers working at the primary and inpatient care levels; studies whose focus are the nurse managers' experiences that facilitate the implementation of evidence-based guidelines, including decisions, factors, or different implementation strategies of evidence-based nursing practice related to leadership after experiencing the application of scientific evidence in their clinical contexts; original research using qualitative methodological designs that use a descriptive and / or case approach, that includes the study of these experiences of nurse managers. And finally, the primary articles, which acquire a minimum agreed score between two of the authors of this research of the quality assessment criteria that it proposes by the Joanna Briggs Institute (2014).

Methodological Quality Assessment

In order to determine whether a particular piece of research was of sufficient quality to be included in this metasynthesis, we followed the assessment criteria proposed by the Joanna Briggs Institute (2014). The consistency between the research methodology and its various constituent parts was assessed on the basis of 10 criteria for review and qualitative evaluation, to checking for consistency throughout the study process and for the presence of external factors, that can influence the study, such as some form of funding. The entire assessment procedure was carried out with each study with the support of the Qualitative Appraisal and Review Instrument (QARI) software. Critical appraisal was performed by two authors of this study independently (MZ & IM) to determine the eligibility of each study and to ensure methodological validity. Subsequently, they compared the assessments and eventually decided which studies should be included. Disagreement was resolved by discussion, and a third author (G) who intervened in the arbitration.

Data Extraction and Synthesis

A total of 409 studies were identified for screening in the present study. Only articles that addressed factors facilitating the application of evidence in clinical practice related to leadership and articles involving only nurse managers who had previous experience in implementing evidence-based nursing practice in their clinical contexts were included. Finally, 11 studies were included in the metasynthesis (Figure 1).

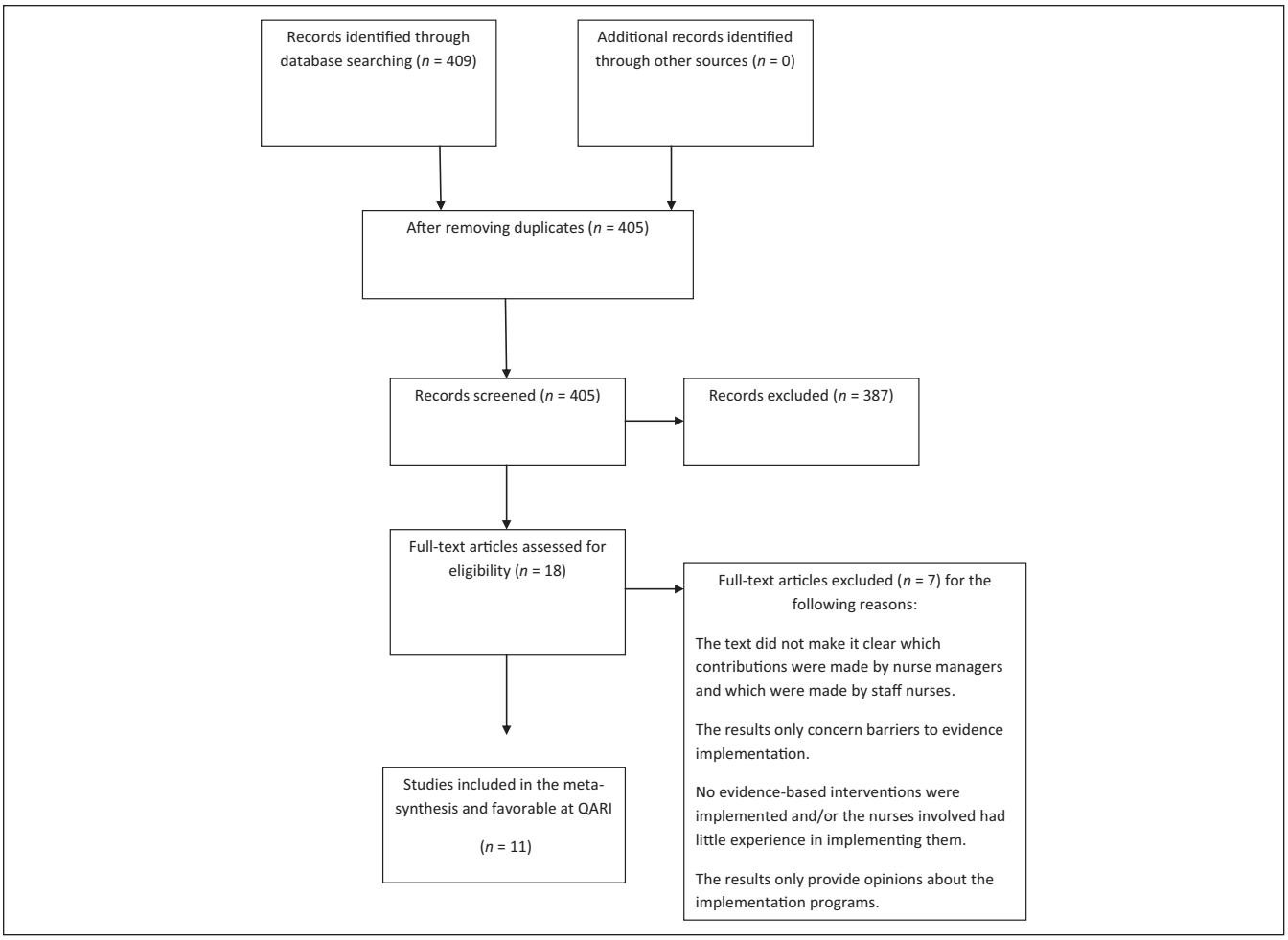

Figure 1. Flowchart of the search and screening process.

The meta-aggregative methodological approach proposed by The Joanna Briggs Institute for qualitative metasynthesis was followed. The results of primary studies were identified and grouped by topics and similarities. The frequency and intensity of each topic was then analyzed to group them into categories. The metasynthesis was systematized and recorded using the QARI software. The metasynthesis was carried out by two reviewers in order to obtain a shared understanding, which would facilitate an effective progression of the synthesis.

Relevant data (i.e., country, number of participants, subject matter, type of study, and methodology) were extracted from the articles. The findings of each of the articles included (themes, metaphors, categories, and subcategories) were also extracted for analysis. The results were synthesized by identifying and comparing differences and similarities between the different findings. The research team had previously established leadership-related categories (effective teamwork, effective organizational structures, and transformational leadership) on the basis of the PARiHS framework, performing a directed content analysis (Hsieh & Shannon, 2005), which combines the establishment of previous categories with emerging categorization, framework-type analysis (Smith & Firth, 2011), which means that new categories may emerge. We develop codes and categories by considering each line, phrase, or paragraph of the transcript in an attempt to summarize what nurse managers describe. For the creation of the categories, the meta-aggregative approach was used for each category, assigning the results to these categories, and developing new categories from the synthesized conclusions, which resulted in a grouping of qualitative data from primary studies (The Joanna Briggs Institute, 2014).

Results

Methodological Quality of the Studies Included

Eleven studies were selected and assessed by two reviewers for methodological quality. Studies that met 8–10 of the QARI criteria (Table 2) were included, in accordance with the relevant phases for the successful completion of a metasynthesis. Eleven articles exceeded the quality criteria and

Table 2. Overview of the Primary Articles.

	Author	Objective	Design/Method						Characteristics	
	Author (Year)	Research Objectives	Methodology	Data Collection Method	Setting	Region	QARI Evaluation	Type of Evidence-Based Practice Implementation	Number of Participants and Gender	Years of Experience as a Nurse Manager
1	Cheng et al. (2018)	To explore leadership of Chinese nurse managers in evidence-based nursing implementation.	Grounded theory	Interviews	General clinical setting	China	9	General	15	10
2	Darker et al. (2018)	To determine the enablers and barriers to implementation of a series of National Clinical Programmes.	Descriptive	Semistructured interviews	Health care service, hospitals	Ireland	8	National Clinical Programmes	1 woman	–
3	Happell et al. (2003)	To examine the experiences of participants in completing the Clinical Research Fellowship program and implementing changes within the clinical setting.	Descriptive	Semistructured interviews	Hospital (mental health unit)	Australia	9	Clinical Research Fellowship Program	3 –	–
4	Harvey et al. (2019a)	To enhance understanding of the mechanisms by which key nursing roles lead the implementation of evidence-based practice across different care settings and countries and the contextual factors that influence them.	Descriptive	Individual semistructured interviews	Acute care and primary/ community health care settings	Australia, Canada, England, and Sweden	9	General	55 –	–
5	Harvey et al. (2019b)	To explore how different nursing and midwifery leadership roles enact responsibility for implementing evidence-based practice.	Descriptive (case study)	Semistructured interviews	Midwifery, two metropolitan hospitals, along with associated community health-based services	Australia	10	General	14 –	–
6	Jeffs et al. (2014)	To explore the perceptions and experiences of front-line nurses and managers associated with the implementation of a unit-level dashboard.	Descriptive	Interviews	Six units of an urban teaching hospital	Toronto, Canada	9	Implementation of unit-specific dashboards (the care utilizing evidence dashboard)	5 4 women 1 man	

(continued)

Table 2. (continued)

	Author	Objective	Design/Method						Characteristics	
	Author (Year)	Research Objectives	Methodology	Data Collection Method	Setting	Region	QARI Evaluation	Type of Evidence-Based Practice Implementation	Number of Participants and Gender	Years of Experience as a Nurse Manager
7	Kirk et al. (2016)	To identify the factors that were perceived as most important as facilitators or barriers to the introduction and intended use of a new tool in the emergency department among nurses and a geriatric team.	Descriptive	Semistructured interviews and focus groups	Nurses and a geriatric team in the emergency department of a university hospital	Denmark	10	Implementation of a screening tool aiming to identify patients at particularly high risk of functional decline and readmission	7 women 1 man	–
8	Kolltveit et al. (2017)	To identify perceptions of health care professionals in different working settings with respect to facilitators to engagement and participation in the application of telemedicine.	Interpretative description	Focus groups	Primary care and hospital outpatient settings	Norway	10	Telemedicine in diabetes foot care	4 women 1 man	–
9	Kueny et al. (2015)	To identify contextual factors described by nurse managers to drive change and facilitate evidence-based practice at the unit level, comparing and contrasting these perspectives across nursing units.	Descriptive	Semistructured interviews	Nursing units from several hospitals	United States of America	10	General	9 women	6,5
10	Nilsen et al. (2018)	To identify barriers and facilitators to implementing evidence-based palliative care in nursing homes.	Descriptive	Semistructured interviews	Nursing homes	Sweden	10	Implementation of evidence-based palliative care using the theory of organizational readiness for change	5 women	23.7
11	Sving et al. (2017)	To describe registered nurses', assistant nurses', and first-line managers' experiences and perceptions of a multifaceted hospital setting intervention focused on implementing evidence-based pressure ulcer prevention.	Descriptive	Interviews and focus groups	Hospital (5 units)	Sweden	8	Pressure ulcer prevention: implementation process	5 women	4.7

were therefore included, bringing the total number of nurse managers participating in the studies to 125.

Description of the Studies Included

The studies had been published between 2003 and 2019, all in developed countries: Australia, Canada, China, Denmark, Ireland, Norway, Sweden, and the United States. The studies took place in hospitals and community-based services (primary care and nursing homes). The participants were mostly women (122 women and only 3 men). Many of them had previous clinical experience as frontline staff nurses, as well as a number of years of managerial experience. The specific workplaces where these studies were conducted were: mental health, midwifery, and geriatric units.

Some of the studies focused on implementing evidence-based nursing practice across the board (Cheng et al., 2018; Harvey et al., 2019a, 2019b; Kueny et al., 2015), and while a minority of studies addressed the implementation of evidence-based clinical programs (Darker et al., 2018; Happell et al., 2003). The vast majority explored more specific nursing practices, such as pressure ulcer prevention, diabetes foot care, palliative care, and functional decline (Jeffs et al., 2014; Kirk et al., 2016; Kolltveit et al., 2017; Nilsen et al., 2018; Sving et al., 2017). Table 2 provides an overview of the primary articles.

The main facilitating factors related to leadership, perceived by nurse managers to incorporate evidence-based nursing practice into their everyday practice, were grouped into three general metasyntheses (Figure 2): facilitators related to effective teamwork, facilitators related to effective organizational structures, and facilitators related to transformational leadership. Each of these categories includes other subcategories that add more depth to the descriptions and meanings described by the participants in the primary studies.

Metasynthesis 1: Facilitators Related to Effective Teamwork

Composed of categories effective communication between nurse managers and staff nurses, and foster collaborations.

Effective communication between nurse managers and staff nurses. Increased communication between nurse managers and the rest of the health care team helped them to overcome some of the problems they encountered. A good relationship between nurse managers and staff nurses tended to result in feedback on ongoing developments from all members of the team, allowing obstacles to be addressed:

> . . . maybe a discussion with some senior clinicians or the medical director. . .. From my memory it was something [name of CRF participant] felt was a good topic and drove it right from the very start. There may [need to] be some feedback regularly throughout the Fellowship as to how she was going, what she was finding, the problems she was experiencing. (Happell et al., 2003)

Foster collaborations. Nurse managers mentioned "fostering collaborations" as a behavior creating an atmosphere of trust and teamwork:

> I asked nurses to present their ideas (about chemotherapy procedure care) in front of all the professionals to seek cooperative opportunities. . .. (Cheng et al., 2018)

Metasynthesis 2: Facilitators Related to Effective Organizational Structures

Composed of the strategic governance category and its subcategories (leadership combining management and clinical experience, and awareness of the impact of improved outcomes, which contains another subitem: quality assessment of evidence implementation interventions).

Strategic and high-level perceptual and observational leadership helped nurse managers to establish evidence-based nursing practice by supporting infrastructures and processes and collaborating with other agencies, organizations, and institutions at the local, regional, and/or national level. Nurse managers reported that their role within their clinical units focused on the following: recruiting participants/stakeholders; collating evidence to create policies, procedures, and protocols; disseminating information to staff; conducting audits; receiving feedback to ensure that standards were being followed; and maintaining and supporting staff professional development. These actions all facilitated evidence-based nursing practice implementation:

> I think from a nursing and midwifery point of view . . . the concept of research and evidence based practice, . . . is vitally important, one for the patients but also for the promotion and the organisation or stature within the broader health community. For me, I would think it was quite strategic. . .. I knew I wanted an increased research profile. . .. So I think that in trying to raise the profile of research what you then do is you get people thinking about evidence based practice. (Harvey et al., 2019a)

Strategic governance. Most participants mentioned the role played by effective leaders as the greatest facilitator of change and the importance of leadership in encouraging "multidisciplinary interventions" supported by good resource management. Organizational change and quality improvement were widely recognized as facilitating factors supported by the high status of the nurse leader as a respected representative and as a credible source of information and subject-matter expertise:

> To be honest, it works well because all of the stakeholders are together, we all have a place at the table. We have everyone there—the senior Consultants, nurses, management, and we also have a patient too. We are planning, designing, making decisions,

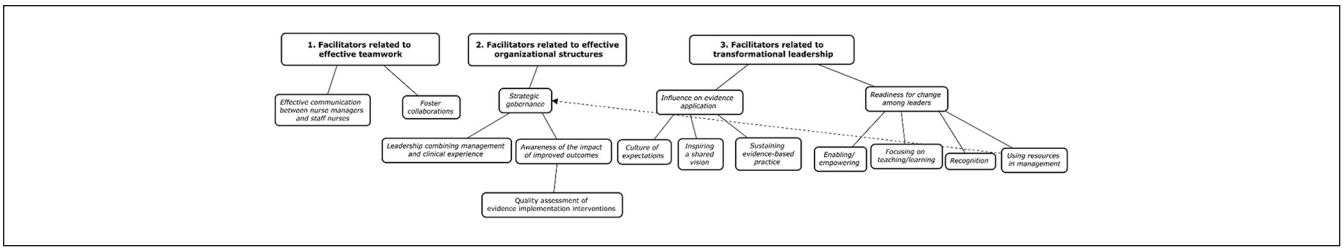

Figure 2. Concept map of the categories and subcategories of the three metasyntheses.

> all together. That is very rare. And I can't help but feel that is why it works so well. Everyone is "inside the tent." (Darker et al., 2018).

Leadership combining management and clinical experience. Nurse managers emphasized their role in supporting clinical practice through their experiences. It was also important for them to remain vigilant at all times while managing the clinical area, combining facilitation in clinical practice with its own support and managerial leadership:

> . . . the [middle] level role is that perfect balance between the management side and still really being on a practical level and being able to be engaged with my staff and encouraging them to do it as well. (Harvey et al., 2019a)

Awareness of the impact of improved outcomes. Showing nurses the outcomes they had achieved by providing the best possible care and maintaining standards of practice was noted as encouraging by participants. Awareness of their performance evoked a sense of pride in doing a good job and impacting on patient care and patient outcomes, encouraging them to continue to provide good quality nursing care. They experienced a sense of satisfaction when they were informed of positive outcomes, whereas negative outcomes motivated them to improve (Jeffs et al., 2014; Sving et al., 2017):

> The staff likes to see how their work is being implemented and the results of their work and I thought what a great idea to get their work highlighted and embedded on the unit that they can have rich discussions about it. Nurses on a whole are competitive and like to see their numbers look great and so it gives us a visual cue how well we're actually doing with some of our measurement and so I think it's rewarding. (Jeffs et al., 2014)

In fact, providing nurses with direct access to the outcomes once they had been measured led to an improved understanding of these outcomes (Sving et al., 2017). Nurses also reported that the data were useful in identifying areas for improvement, as they provided guidance and reminded them where to focus their efforts:

> . . . this shows us we're really doing a good job. If I've done something poorly I accept it and think—okay—we need to work harder here or take more measures or change our tactics, you know? Then you have it in black and white. That's what we get from these measurements. (Sving et al., 2017)

Quality assessment of evidence implementation interventions. Quality checks go hand in hand with intervention, providing positive reinforcement and serving as a reminder for nurses. Feedback was necessary, with a period of time allocated to discussing it. Nurse managers stated that results should be discussed immediately with everyone the leaders, the nursing team, and the contact nurse as this facilitated dialogue between all members of staff. These discussions were held in formal and informal staff meetings, allowing nurses to reflect on their work and motivating them to continue to improve (Sving et al., 2017):

> My eyes have been opened to it in a new way now, that we also suggest measures while making the quality measurements. We discuss the patients with the nurse in charge, "what can we do for this patient?" then you think in different ways. (Sving et al., 2017)

For nurse managers, certain managerial arrangements were fundamental as formalized strategies for evidence-based nursing practice implementation, all of which focused on linkages and fulfillment of expected performance standards. They stressed that evidence-based nursing practice should be applied in national guidelines and standards, with compliance monitored through audits and clinical governance. Enacting these strategies was the responsibility of the nurse and midwife unit manager: the task was perceived as organizational "enforcement" and quality checks were carried out to ensure that evidence-based nursing practice were used by frontline staff (Harvey et al., 2019b):

> The organisation does have some [forcing] mechanisms, so if you thought that you couldn't provide evidence based care to your clients around a particular area I think the organisation would pick that up very, very quickly and it would be benchmarked and it would be made very clear within your division or your unit that that's not what you're achieving and if it's not what you're achieving why that happens (Harvey et al., 2019b)

Metasynthesis 3: Facilitators Related to Transformational Leadership

Composed of these categories and their subcategories: influence on evidence application (culture of expectations, inspiring a shared vision, and sustaining evidence-based practice),

and readiness for change among leaders (enabling/empowering, focusing on teaching/learning, recognition and using resources in management).

Nurse managers believed that they could play a more active role in evidence-based nursing practice implementation interventions by being more visible and available to other health care professionals whenever they were needed. They strongly felt that they were responsible for encouraging health care professionals to carry out interventions and were satisfied with this situation. Leaders offered health care professionals responsibility for implementing interventions, and in turn, the latter reacted positively due to the impact on care (Kolltveit et al., 2017):

> I help in organizing on a daily basis so everything works out fine. I try to be there if they need me. They are skillful, and it is nice to be a part of this. (Kolltveit et al., 2017)

Nurse managers explained that the search for innovative, evidence-based resources enabled change to happen (Cheng et al., 2018). They placed importance on sharing their personal values and views on the implementation of evidence-based nursing practice to set an example and pave the way for others. Both nurse and midwife managers felt that their presence as role models in care units was crucial, and that their most important task was to work with the staff they led from their position in the managerial hierarchy (Cheng et al., 2018; Harvey et al., 2019b):

> If the [Unit Manager] doesn't believe . . . "you're giving me too much work and we're too busy doing something," it doesn't happen (NME). I think a lot of it has to do with the [Unit Manager] . . . I think they're actually the most important people in the organisation. . .. They're the gatekeepers of the clinical care, the culture and how people conduct themselves . . . sometimes the block's with the [Unit Manager], not necessarily with the staff underneath. (Harvey et al., 2019b)

Influence on evidence application. Nurse managers explained that there were various factors that directly and/or indirectly influenced the application of evidence-based nursing practice. These factors include the following:

Culture of expectations. Another important facilitator was previous experience in promoting evidence-based nursing practice in other departments or units. Nurse managers also considered themselves to be experts in implementing evidence-based nursing practice, setting an example of how other nurses could improve care in their specific clinical areas (Cheng et al., 2018; Harvey et al., 2019a):

> I demonstrated how to restrain the patients in an appropriate way after a comprehensive assessment (the project's topic) . . . I showed them how to connect the evidence with real-world cases. I heard they were saying "well, I need to practice like my manager does." (Cheng et al., 2018)

Inspiring a shared vision. Nurse managers talked about "envisioning the future" by sharing how they viewed exciting implementation outcomes in care:

> I always encouraged nurses, "you will be more capable in the stroke care team once you could independently assess (stroke patients' risk of dysphagia) according to the evidence and share the result with physicians." (Cheng et al., 2018)

Sustaining evidence-based practice. Nurse managers expressed their willingness to "keep the evidence-based nursing practice" as a practical leadership approach, and emphasized the importance of "keep using the methods of evidence-based nursing practice" (Cheng et al., 2018):

> I decided to incorporate the assessment of dysphagia as one of the unit's nursing quality control indicators so the evidence will become a routine and keep going. (Cheng et al., 2018)

Readiness for change among leaders. Managers' attitudes toward research and their relationship with participants in their clinical units were important variables in evidence-based nursing practice implementation. For managers, on-paper guidelines were valuable, but it was also important to display an interest to fellow staff nurses by participating in the project, include other staff members from the beginning of the project, build a good relationship with participants, show respect for their skills, and support them:

> . . . I really can't even recall now how the topic was formed but possibly the ownership could have been instilled at the very [beginning] . . . maybe a discussion with some senior clinicians or the medical director, saying "there's the topics I think would be relevant to our workplace" and getting them to assist in the selection of the topic which would create the ownership right from the start. From my memory it was something [name of CRF participant] felt was a good topic and drove it right from the very start. There may [need to] be some feedback regularly throughout the Fellowship as to how she was going, what she was finding, the problems she was experiencing. (Happell et al., 2003)

Enabling/empowering. Nurse managers explained that they had a significant influence in shaping the working environment by creating leadership strategies, ensuring opportunities for active participation, and training staff nurses to implement evidence-based nursing practice. This was achieved, for instance, by allowing them to participate in committees and hospital-wide initiatives, by encouraging them to share innovative ideas for unit-related education and decision-making, and even by creating new charge nurse positions (unit coordinators). Nurse managers acknowledged that they cannot be present on every shift, so it is important to appoint a supervisor for implementing evidence-based nursing practice. Managers felt motivated, set high expectations for their staff, and transferred their motivation to staff nurses to drive

change and improve current practice by adopting an enabling management approach and submitting their initiatives to senior managers (Harvey et al., 2019b; Kueny et al., 2015):

> I think my role is about facilitating [EBP], encouraging it really . . . one of my staff members is a younger staff member and she is very innovative and she'll come to me often with ideas, "let's do this" or "let's do that." (Harvey et al., 2019b)

> . . . I'm just now starting to really reap the benefits of having very active committees, my staff experts [. . .] they drive their own work environment [. . .] I can't be in the committees–if they want me to go and answer some questions I will. But I pretty much have said, I trust you [. . .]. I know what your capabilities are, you don't need a unit coordinator to be sitting in these committees because you all are the experts. (Kueny et al., 2015)

Focusing on teaching/learning. Laying the foundations for successful implementation of evidence-based nursing practice through knowledge building and implementation methods was identified by all nurse managers as crucial for leadership credibility, which is important when incorporating evidence into practice (Cheng et al., 2018). Offering educational opportunities to staff nurses was seen as a strategy to support participation of junior staff (Harvey et al., 2019a, 2019b):

> . . . facilitators tended to describe their role as supporting implementation through providing education and coaching, increasing staff awareness of evidence and EBP, enabling skills and capacity development amongst the nursing staff, addressing barriers to implementation and acting as a coordinator . . . working alongside staff, having conversations and building communication networks. (Harvey et al., 2019a)

> The education and the support absolutely I think is what is fundamental. If it's not on the agenda of the organisation, it ain't going to happen, because if people don't have that buy-in. . .. You need it from the bottom up and from the top down because if senior staff and exec are not on deck, they're not going to support then having their staff released to go to the training. . .. (Harvey et al., 2019b)

Recognition. Many nurse managers commented on the importance of "recognizing the contributions of others" by reminding them of their strengths and accomplishments (Cheng et al., 2018). Nurse managers understood that their role as communicators of administrative expectations for consistent implementation of evidence-based nursing practice and necessary change was facilitated by creating an atmosphere where fulfillment of these expectations was met with rewards (e.g., salary adjustments) and a merit scale proportionate to participation. This tangible stimulus encouraged nurse managers to hold unit-level nurses responsible for carrying out evidence-based nursing practice strategies reflecting administrative expectations, and provided impetus for evidence-based nursing practice implementation to be prioritized in these units (Kueny et al., 2015):

> We gave public acknowledgement for the inputs provided by the team members, such as putting their names on the education materials or implementation reports. . ..

Using resources in management. Implementation was a priority for nurse managers because it often resulted in time savings for staff nurses, who were then able to focus on other tasks. Time was thus viewed as a support resource (Kirk et al., 2016). Managers recognized the importance of providing competent leadership by setting priorities, protecting resources, trusting others, and supporting them to achieve the desired outcomes (Harvey et al., 2019a; Nilsen et al., 2018):

> It's a lot about management. It's a lot about cooperation between manager and nurse, and how you work with the staff. (Nilsen et al., 2018)

Managers believed that they had considerable autonomy to make decisions to adopt activities and goals for implementing evidence-based nursing practice, but needed more support to work toward effective implementation. They also thought it was important to receive external support, that is, for the nursing team to have access to an external expert. Another key figure was that of the appointed "contact nurse," who should acquire specific knowledge and experience to support other nurses to improve patient care on an ongoing basis. Managers described their evidence-based nursing practice implementation work as a day-to-day task that required their presence and continual effort (Nilsen et al., 2018; Sving et al., 2017):

> . . . and an external expert is coming, she's an expert, expert or whatever you call it in the area. Then it's nice to have somebody else to exchange ideas with. It's more formal too when somebody comes from the outside. (Sving et al., 2017)

Discussion

Leadership is a subelement of context, one of the three dimensions of the PARiHS model. It acts as a facilitator of evidence-based nursing practice implementation, the intensity of which ranges from weak to strong depending on the characteristics of said leadership (Rycroft-Malone, 2004). Facilitation is another of the main elements of the PARiHS model, but it acts across the board, influencing both evidence and context (Kitson et al., 2008; Rycroft-Malone & Bucknall, 2010). Therefore, facilitation and leadership are closely linked. This means that nurse managers need to identify the purpose of facilitation and encourage the necessary skills for implementing evidence-based nursing practice via strong leadership (Squires et al., 2012).

Leaders have the ability to create a receptive culture by challenging and inspiring their teams to adopt evidence-based

nursing practice (Rycroft-Malone & Bucknall, 2010). A literature review on the role of leadership (Sandström et al., 2011) viewed it in terms of "strategies" and "motivators," who would provide support, be accessible and visible, and ensure adequate training and communication.

In evidence-based nursing practice implementation, the PARiHS model is used as an organizational framework for coding, mapping secondary elements, and linking them in order to provide recommendations (Helfrich et al., 2010). While some authors attempt to illustrate and clarify the concept and role of leadership (Stetler et al., 2011), other researchers have sought to update and improve the PARiHS model since it was first developed by Kitson (Helfrich et al., 2010). According to the PARiHS model, the subelements of strong leadership are: transformational leadership, role clarity, effective teamwork, effective organizational structures, democratic inclusive decision-making processes, enabling/empowering approach to teaching/learning/managing (Rycroft-Malone, 2004; Rycroft-Malone & Bucknall, 2010; Stetler et al., 2011), and evaluation/feedback (Rycroft-Malone et al., 2004).

In an effort to understand leadership and clarify it conceptually, Squires et al. (2012) found two context-related elements that are not part of the PARiHS model: resource availability and provision of specific staffing and information systems. These elements appear in this metasynthesis as "using resources in management" and as "focusing on teaching/learning" through management. Squires et al. (2012) also described the role of leadership as an "empowering," "shared role," which echoes our own findings regarding "enabling/training" (Squires et al., 2012).

The purpose of this metasynthesis, which is similar to that of its context-related predecessor (Clavijo-Chamorro et al., 2020), is exactly as Squires et al. (2012) described, i.e., to find characteristics, relationships, groupings, and dimensions of the facilitating subelements of leadership within the PARiHS framework in primary studies in order to reshape and improve the model, make it more effective in the current context, and compare our results with those of other studies on conceptualizations of leadership among nurse managers.

Once we had collected and summarized nurse managers' experiences, we established that "effective teamwork" matched the subdimensions described in the PARiHS model. Nurse managers understand effective teamwork as good communication between them and the staff nurses in their charge, and as a favorable cultural environment leading to greater collaboration (Cheng et al., 2018; Happell et al., 2003). Other studies provide a common vision, describing effective teamwork as a form of relationship-oriented leadership facilitating interaction among team members (Reichenpfader et al., 2015) to encourage and support staff (Gifford et al., 2018) through the joint work of managers and nurses (Bianchi et al., 2018).

According to the PARiHS model, "effective organizational structures" alludes to the introduction of appropriate elements of science into care (Rycroft-Malone, 2004). This was reported by the primary studies included in this metasynthesis as a form of strategic governance represented by the nurse leader (Darker et al., 2018), a figure with sufficient power to make such action possible, who combines a commanding role with a practical role, serving simultaneously as a guide and a peer (Harvey et al., 2019a) through task-oriented leadership and strategic insight (Reichenpfader et al., 2015). Experience as a leader is an added value according to the current literature (Bianchi et al., 2018), but years of experience in using research and conveying knowledge to others makes a more significant difference (Barends et al., 2017; Hasanpoor et al., 2019).

In this study, motivating others by ascertaining impact is another element of organizational value (Jeffs et al., 2014; Sving et al., 2017). To this end, interventions should be measured, evaluated, and monitored, before being analyzed through discussions and feedback (Harvey et al., 2019b; Sving et al., 2017). Other authors support the idea of a specific methodology involving thorough evaluation of the entire system (Bianchi et al., 2018) by monitoring performance and results (Gifford et al., 2018) and using assessment instruments (validated leadership scales, questionnaires, and context tools) (Reichenpfader et al., 2015).

The evaluation/feedback subelement is crucial for the PARiHS model (Rycroft-Malone, 2004). However, the model does not consider this subelement as part of organizational structures, as this study, Reichenpfader et al. (2015), and other studies do, considering it instead under leadership methodologies or change-related behaviors in general (Bianchi et al., 2018; Gifford et al., 2018).

The last section of this metasynthesis is "transformational leadership," a characteristic of leadership also proposed by the PARiHS model. For the nurses who participated in this research, this subelement includes influencing the application of evidence-based nursing practice by playing a more active role and being accessible and visible leaders, and remaining open to change as leaders by seeking resources and delegating responsibilities (Cheng et al., 2018; Harvey et al., 2019b; Kolltveit et al., 2017).

Among the influencing factors are establishing an experience-based culture, sharing exciting implementation outcomes, and maintaining interventions that have achieved evidence-based nursing practice (Cheng et al., 2018; Harvey et al., 2019a). As expressed in the PARiHS model (Rycroft-Malone, 2004), these facilitating elements play a transformational role in contexts conducive to the integration of evidence into clinical practice by inspiring a shared vision, teamwork, role clarity, and effective organizational structures. However, the participants in this metasynthesis did not comment on the clarity of their roles as an influencing factor. Echoing the findings of this study, other research confirms the importance of an empowering environment, which promotes a climate of awareness of research and a commitment to a broader vision through a leadership style

that shows interest and willingness, guides and informs the principles of scientific management, and builds coalitions that support this visionary thinking (Barends et al., 2017; Bianchi et al., 2018; Gifford et al., 2018; Hasanpoor et al., 2019; Reichenpfader et al., 2015). However, targeted behaviors are necessary to operationalize this vision (Gifford et al., 2018).

According to this study, readiness for change among leaders involves nurse managers displaying their interest in research to fellow nurses in their contexts (Happell et al., 2003). Including them in their projects from the beginning and enabling them to participate; placing them in decision-making positions where they can share new ideas; creating specific coordination positions for this purpose among staff nurses; supporting and respecting them; and even submitting their initiatives to senior managers (Harvey et al., 2019b; Kueny et al., 2015).

Under the PARiHS model (Rycroft-Malone, 2004), democratic-inclusive decision-making processes as a way of valuing personnel are an independent element, rather than a subelement of a characteristic. However, in this metasynthesis, these processes are treated as a subelement of transformational leadership. Promoting the use of evidence-based nursing practice as part of the decision-making process was one way to address barriers to participation in an original study by Barends in 2017.

Nurse managers try to provide nurses with as many resources as possible for implementing evidence-based nursing practice, such as training (Cheng et al., 2018; Harvey et al., 2019a, 2019b). This is consistent with the results of other studies, which show that educational institutions can improve skills for evidence-based nursing practice in the following ways: making an effort to summarize relevant research; facilitating evidence-based nursing practice implementation among nursing professionals through specific programs to generate knowledge and disseminate evidence-based nursing practice results; obtaining support from universities; offering free, accessible training sessions and courses (Barends et al., 2017; Bianchi et al., 2018); and continuously promoting knowledge of management principles among leaders (Hasanpoor et al., 2019).

The enabling/empowering approach to teaching/learning/managing described in the PARiHS model (Rycroft-Malone, 2004) reflects the reliance on multiple sources for assessing performance in the application of science explained in this metasynthesis. However, this subelement is also treated as an independent characteristic. Recognition, acknowledging the contributions of others, and celebrating outcomes by rewarding nursing staff is another leadership strategy related to readiness for change acknowledged by the nurse managers in this study (Cheng et al., 2018; Kueny et al., 2015).

The final characteristic of transformational leadership suggested by the participants in this metasynthesis is "using resources in management." Implementation can be sustained over time by setting time-saving priorities and providing the necessary assistance to obtain the desired results (Harvey et al., 2019a; Kirk et al., 2016; Nilsen et al., 2018). Support and assistance for the nursing team from qualified external personnel, as well as the permanent presence of the nurse manager throughout the implementation process, were seen as very important resources (Kirk et al., 2016; Sving et al., 2017). A number of investigations mention other support resources, such as using a professional model (Bianchi et al., 2018) and more robust research designs to ensure that policies reflect research-based practices (Gifford et al., 2018), financing priority projects, and setting social norms (Hasanpoor et al., 2019). In this metasynthesis, resource provision is also understood as a form of strategic governance by a competent leader with autonomy to make decisions on the allocation of these resources (Harvey et al., 2019a; Kirk et al., 2016; Sving et al., 2017).

The PARiHS model (Rycroft-Malone, 2004) considers resources such as human and financial resources as a subelement of context rather than of leadership. However, this metasynthesis corroborates the conclusion reached by Squires et al. (2012) regarding the need for other resources provided by nurse managers to help implement evidence-based nursing practice.

This study may benefit nursing professionals by identifying the facilitating factors perceived by nurse managers, which can then be put into practice and developed to produce a leadership approach that transfers evidence into practice. Similarly, Kitson et al. (2008) used the PARiHS framework to experiment with learning styles and leadership approaches to enable and enhance evidence-based nursing practice (Kitson et al., 2008). Nurse managers may look for strategies in each context, check the resources available, and compile those that can be used to create better working environments that are conducive to evidence-based nursing practice change and capable of confronting barriers.

The results of this study suggest that leaders should focus on training their staff by providing them with new responsibilities involving specific tasks, offering them feedback on the outcomes obtained, and recognizing their major achievements and contributions through incentives. The organization should provide research resources in the form of guidelines and accessible, free, targeted teaching supervised by senior educators. All implementation interventions must be feasible and compatible with nurses' work schedules, allowing them to save time once the new tasks have been incorporated.

Most importantly, staff nurses must have the support of their nurse managers. Nurse managers are at the service of their staff nurses as both managers and peers, cooperating with expert external staff and designating staff nurses to guide the implementation of evidence-based nursing practice through well-funded projects. Teamworking is enabled by effective communication between staff nurses and nurse managers, leading to improved cooperation when addressing potential obstacles.

Empowering nurses should be an active part of change-oriented strategies to improve interventions and make evidence-based nursing practice more sustainable. The following measures may be used: placing nurses in decision-making positions where they can share new ideas; motivating them to learn and participate on an ongoing basis; appointing them as leaders of their peers; inspiring a shared, supportive vision; and sharing positive care-related outcomes to motivate them.

To verify the effectiveness of new evidence-based nursing practice, nurse managers must assess their staff and themselves using specific and, if possible, validated measurement instruments. Studies such as this are essential to ensure that the community benefits from high-quality nursing care by enabling the implementation of appropriate, feasible scientific practices. Further studies are needed to identify new factors and systems that facilitate the application of evidence-based nursing practice.

The limitations of this study relate to the inclusion criteria, as only the experiences of nurse managers who had applied evidence in their clinical settings were included. Also, the number of years of management experience was not an inclusion criterion. This could have provided more in-depth knowledge on the subject, as other studies consider it as a relevant element. To help understand and agree on a single reality, this study has been triangulated by cross-checking the quality and inclusion criteria of the primary studies using the QARI software developed by the Joanna Briggs Institute and by researcher consensus on a particular cutoff score (eight criteria) for minimum methodological quality.

Moreover, the two sexes are not equally represented in this study, with males in the minority. This is because most studies do not include this variable, so this is only an approximation of what is stated in three of the primary studies.

The total number of nurse managers participating in the primary studies is also estimated. For instance, in one of the primary articles, the total number of participating nurse managers remains unclear because it includes participants from other disciplines and fails to specify the exact number of participants from each discipline.

All the studies analyzed were conducted in industrialized countries, which means that not all social classes are well represented. Their data do not suggest that gender, income, or social status were significant factors. The health care system in some of these countries is publicly funded and/or tax-financed, based on the principle that all residents have equal access to health care, regardless of their socioeconomic status and place of residence. As a result, further studies are needed to explore possible gender, geographical, and cultural differences.

Another limitation could lie in the biases of each primary study, as they combine different disciplines to reach conclusions that may not be equally applicable to everyone. Evidence implementation tasks may also be heterogeneous depending on each professional group.

In conclusion, the factors that nurse managers perceive as facilitators of the implementation of the evidence-based nursing practice are those oriented toward good communication and collaboration in the team, highlighting also the support of institutional organization and resource management. The involvement of nurse managers in management and clinical practice, directly assisting in the field of work, their influence and availability to their nurses are important facilitators. On the other hand, the motivation of nursing professionals through the verification of the results obtained after the evidence-based nursing practice, formal and informal measurement, and discussion of improvement in clinical practice create a significant motivational impact.

It is necessary to have a culture that has already experienced the implementation of evidence-based nursing practice, and to promote continuity in that direction. Training nursing professionals to possess the training and skills needed to carry it out is necessary, and to enable them to participate in research and evidence implementation activities. Recognizing their achievements is also a flattering incentive. In short, nurse managers should see the implementation of evidence-based nursing practice as a necessary and priority resource to achieve the highest quality in clinical practice nurse.

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