

RESEARCH ARTICLE (ORIGINAL) 

## Formal nurse leaders' perception of evidence-based practice

*A percepção de líderes formais de enfermagem sobre a prática baseada na evidência*  
*La percepción de los líderes formales de enfermería sobre la práctica basada en la evidencia*

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**Abstract**

**Background:** The implementation of Evidence-Based Practice (EBP) is critical to the quality of nursing care. Formal leaders play a crucial role in developing interventions to implement EBP, so it is important to understand their perceptions.

**Objective:** To examine formal nurse leaders' perceptions of EBP.

**Methodology:** Descriptive exploratory study with a qualitative approach. Semi-structured interviews were conducted with 17 leaders from three Portuguese hospitals. Data were analyzed using content analysis and MAXQDA Analytics Pro 2022 software. All ethical principles were observed.

**Results:** Two themes and their categories emerged – Knowledge of EBP (Concept of EBP, Impact of EBP on health outcomes, and Self-perception of the knowledge about EBP) and Role in EBP implementation (behaviors and characteristics).

**Conclusion:** The leaders described their perception of the concept of EBP and the association between the impact of EBP and health outcomes, the need for knowledge, and the investment in training, as well as their role in this process. Future training programs should be implemented in this area.

**Keywords:** nursing; evidence-based practice; leadership; health manager; hospitals; qualitative research

**Resumo**

**Enquadramento:** A implementação da Prática Baseada na Evidência (PBE) é crucial para a qualidade dos cuidados de enfermagem. As ações desenvolvidas pelos líderes formais são essenciais para implementar a PBE, tornando-se determinante conhecer as suas perceções.

**Objetivo:** Conhecer as perceções de líderes formais de enfermagem sobre a PBE.

**Metodologia:** Estudo descritivo exploratório com abordagem qualitativa. Foram realizadas entrevistas semiestruturadas a 17 líderes de três hospitais portugueses. Os dados foram analisados através de análise de conteúdo e do *software* MAXQDA Analytics Pro 2022. Salvaguardados os pressupostos éticos.

**Resultados:** Emergiram dois temas com respetivas categorias – Conhecimento sobre PBE (Conceito de PBE, Impacto da PBE nos resultados em saúde e Autoperceção do conhecimento sobre PBE); Papel na implementação da PBE (comportamentos e características).

**Conclusão:** Os líderes descreveram a sua perceção sobre o Conceito de PBE e a relação do Impacto da PBE com resultados em saúde, a necessidade de conhecimento e o seu investimento formativo, bem como o seu papel neste processo. Futuros programas formativos deverão ser implementados nesta área.

**Palavras-chave:** enfermagem; prática clínica baseada em evidências; liderança; gestor de saúde; hospitais; pesquisa qualitativa

**Resumen**

**Marco contextual:** La implantación de la Práctica Basada en la Evidencia (PBE) es esencial para la calidad de los cuidados de enfermería. Las acciones emprendidas por los líderes formales son esenciales para implantar la PBE, y es fundamental conocer sus percepciones.

**Objetivo:** Conocer las percepciones de los líderes formales de enfermería sobre la PBE.

**Metodología:** Estudio exploratorio descriptivo con enfoque cualitativo. Se realizaron entrevistas semiestructuradas a 17 líderes de tres hospitales portugueses. Los datos se analizaron mediante análisis de contenido y el programa MAXQDA Analytic Pro 2022. Se garantizaron los presupuestos éticos.

**Resultados:** Surgieron dos temas con sus respectivas categorías – Conocimiento sobre la PBE (Concepto de la PBE, Impacto de la PBE en los resultados sanitarios y Autopercepción del conocimiento sobre la PBE); Papel en la aplicación de la PBE (comportamientos y características).

**Conclusión:** Los líderes describieron su percepción del concepto de PBE y la relación del Impacto de la PBE con los resultados sanitarios, la necesidad de conocimientos y su inversión formativa, así como su papel en este proceso. Los futuros programas de formación deberían aplicarse en este ámbito.

**Palabras clave:** enfermería; práctica clínica basada en la evidencia; liderazgo; gestor sanitario; hospitales; investigación cualitativa



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## Introduction

In the 1990s, Evidence-Based Practice (EBP) came to the forefront of health care due to the need for health professionals to consciously, explicitly, and judiciously use the best scientific evidence when making decisions (Melnyk & Newhouse, 2014).

EBP refers to the process of making healthcare decisions based on the best available evidence, the context of care, the patient's preferences, and the clinical judgment of professionals (Pearson et al., 2005). EBP has been shown to have a positive impact on health outcomes, healthcare costs, and patients' experiences (Melnyk & Fineout-Overholt, 2015). In nursing practice, implementing EBP is crucial to bridge the gap between the production of nursing knowledge and its translation into clinical practice (Mackey & Bassendowski, 2017).

Among other aspects, the literature highlights that leadership is fundamental to this process (Aaron et al., 2014; Stetler et al., 2014). Formal leadership behaviors, which are actions implemented by health managers, such as promoting clinicians' awareness of the benefits of EBP, organizational change, and health innovation, are essential to support and implement EBP (Shuman et al., 2018; Stetler et al., 2014).

In Portugal, according to the Portuguese Official Journal, 1<sup>st</sup> series, no. 101, of 27 May 2019, the nursing career is organized into three levels of management: Nurse Managers, Nurse Managers with Management Functions, and Nurse Directors. These nurses have a formal leadership role and are responsible for facilitating the implementation of EBP in health organizations.

However, no studies were found in Portugal that addressed these nurses' perceptions of EBP and their competencies in this process. Therefore, given the crucial role of formal nurse leaders in implementing EBP, it is important to understand their perceptions of EBP.

## Background

EBP in nursing is an approach to problem-solving through decision-making informed by the best evidence, taking into account nurses' critical judgment and experience and patients' preferences (International Council of Nurses, 2012).

This approach is supported by several conceptual models, including the JBI Model of Evidence-Based Healthcare, the Promoting Action on Research Implementation in Health Services (PARIHS) Model, and the Advancing Research and Clinical Practice through Close Collaboration (ARCC©) Model. The JBI Model of Evidence-Based Healthcare defines EBP as health decision-making informed by the best available evidence, while taking into account the patient's preferences, the context in which care is delivered, and the clinical judgment of health professionals. This model also emphasizes that EBP involves providing feasible, appropriate, meaningful, and effective care. Its five main components are global health, evidence generation, evidence synthesis, evidence transfer, and

evidence implementation (Jordan et al., 2019). Studies on the PARIHS model have described it as a framework that posits successful implementation based on the relationship between evidence, context, and facilitation (Bergström et al., 2020). The ARCC© Model focuses on organizational assessment (identification of strengths and barriers) and the involvement of mentors (EBP experts) to achieve organizational change and, consequently, the implementation of EBP (Melnyk et al., 2021).

Implementing EBP in healthcare organizations is a challenge for managers. Leadership plays a crucial role in supporting organizational change and, consequently, the process of implementing EBP (Aarons et al., 2014; Stetler et al., 2014). Leadership can be defined as either formal or informal. Formal leadership is assumed by an individual who holds a managerial position and has inherent responsibilities. Informal leadership, on the other hand, refers to a person's active role in contributing to the organization's goals, regardless of their positions (Lawson et al., 2020; Weaver et al., 2018). Nurse leaders also play a crucial role in encouraging change, aligning efforts, and creating a culture of continuous improvement in their clinical contexts (National Academies of Sciences, Engineering, and Medicine, 2021), which includes the implementation of EBP.

However, the literature highlights gaps in this process. Lunden et al. (2021) emphasized the need for managers to play a more visible role in mentoring nurses for EBP and in identifying the developmental needs of nurses' competencies while highlighting the need for training in this area and organizational strategies. Majers and Warshawsky (2020) argue that leaders require knowledge and competencies in EBP to create a culture to support EBP in their teams/organizations. Thus, it can be concluded that leaders' skills and knowledge of EBP are crucial and influence its implementation and, consequently, the quality of nursing care, which justifies the importance of conducting this qualitative study.

## Research questions

What are the perceptions of formal nurse leaders about EBP and its impact on health outcomes? What are the perceptions of formal nurse leaders about their knowledge of EBP and role in EBP implementation?

## Methodology

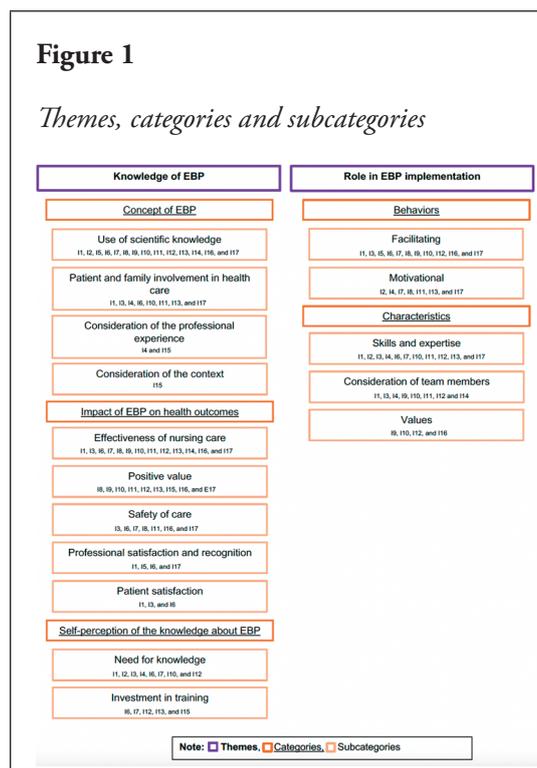
A descriptive exploratory study with a qualitative approach (Brink et al., 2018) was conducted following the guidelines set by the Consolidated criteria for reporting qualitative research (COREQ) checklist. The convenience sample consisted of participants who met the following criterion: i) holding formal leadership positions, that is, Nurse Managers, Nurse Managers with Management Functions, or Nurse Directors, according to the nursing career or the equivalent in the private sector (Decree-Law No. 71/2019), in a health care institution, regardless of their length of experience on the job. The sample size

was determined based on the principle of data saturation (Brink et al., 2018). Data were collected from November 2021 to April 2022 through semi-structured interviews (16 face-to-face and one via Zoom) that lasted an average of 36 minutes. The researcher (D.S.) who conducted the interviews had no previous relationship with the participants. The interview script consisted of guiding questions (e.g., “What does EBP mean to you? What do you think scientific knowledge adds to health care? What is your role as a leader in implementing EBP?”) and questions about the participants’ characteristics. This script was validated by three experts through an expert panel (McPherson et al., 2018): one from the field of management, one from the field of qualitative research, and a formal nurse leader who did not participate in the sample. A pretest was administered to two individuals who met the eligibility criteria to understand the length, comprehensibility, and appropriateness of the questions. The interviews were recorded and transcribed following the recommendations of Azevedo et al. (2017). Information that could compromise anonymity was omitted. Data were analyzed through content analysis following Bardin’s (2020) stages: pre-analysis, exploration of the material, and treatment of the results through inductive reasoning, with the support of MAXQDA Analytics

Pro 2022 software (Version 22.0.1). The rigor criteria of qualitative research (credibility, transferability, dependability, and confirmability) were taken into account in the development of this study (Loureiro, 2006). Members of the research team have experience/training in EBP, management, and qualitative research. All ethical principles were adhered to throughout the study. Confidentiality and anonymity were ensured, and all subjects consented to participate (Ethics Committee approval: P802/08-2021).

## Results

Of the 17 participants, nine were female and eight were male. Their ages ranged from 40 to 63 years, with a mean age of 54.76 years. Twelve formal leaders were Nurse Managers, two Nurse Managers with managerial functions, and three Nurse Directors, from three hospitals in central Portugal (Private Hospital, Public Hospital - Public Business Entity [HP-EPE], and Public Hospital - Administrative Public Sector [HP-SPA]). The mean length of experience on the job was 14.41 years. Two themes emerged from data analysis: knowledge of EBP and Role in EBP implementation, together with their categories and subcategories (Figure 1).



### Knowledge of EBP

The Knowledge of EBP theme refers to leaders’ perceptions of their knowledge of EBP and its impact on health outcomes. This theme encompasses three categories and their subcategories: Concept of EBP (Use of scientific knowledge, Patient and family involvement in health care, Consideration of the professional experience, and Consideration of the context); Impact of EBP on health outcomes (Effectiveness of nursing care, Positive value, Safety of care, Professional satisfaction and recognition, and Patient satisfaction); and Self-perception of the knowledge about EBP (Need for knowledge and Investment in training).

Safety of health care, Professional satisfaction and recognition, and Patient satisfaction); and Self-perception of the knowledge about EBP (Need for knowledge and Investment in training).

### Concept of EBP

For a large proportion of the participants, EBP is predominantly related to the Use of scientific knowledge (subcategory), both scientific results and theoretical

frameworks, in the decision-making process: “It is the systematized practice of implementing in the provision of care, particularly in the field of nursing . . . the evidence of the best clinical practices for the areas of activity in the field of nursing” (I1).

On the other hand, the Patient and family involvement in health care (subcategory) was also addressed. Some participants reported that, in addition to mobilizing scientific knowledge, EBP also takes into account the patient’s preferences in care and the respect for their individuality. Therefore, the involvement of patients and families in the decision-making process is crucial.

Improve the experiences and involve patients in clinical practice, in decision-making . . . always involve the patient, because if we don’t involve the patient, we may think we’re providing them with excellent care, and we’re not. (I10)

In addition to believing that clinical decision-making should be based on people’s preferences, the participants also reported that there is still a long way to go in aligning evidence with people’s preferences.

How do we combine the evidence . . . that is being produced with the individual perspective of each person . . . we have a long way to go, which is this ability to shape ourselves and align the best evidence and, therefore, this sharing of knowledge with each person’s intrinsic characteristics. (I1)

The Consideration of the professional experience subcategory was supported by units of meaning related to the recognition of the professional’s critical judgment underlying their experience of care delivery. However, these units of meaning emerged from two interviews, which may reflect a lower influence of this dimension in the decision-making process. The following excerpt illustrates this subcategory: “It is our own experiences that will allow us to develop the ability to provide better care . . . I think it is also greatly influenced by the ability of each one of us” (I15).

Finally, the Consideration of the context subcategory brings together units of meaning that point to a recognition of the influence of the context on the implementation of EBP.

But also because of the external context . . . building evidence-based practice is not the same as working in the HP-EPE or the HP-SPA (the original names of the hospitals have been replaced) . . . Because we have external influences . . . This construction is influenced by . . . internal and external factors. (I15)

### Impact of EBP on health outcomes

The Impact of EBP on health outcomes category reflects formal leaders’ perceptions of the health outcomes achieved through the implementation of EBP and includes the following subcategories: Effectiveness of nursing care; Positive value; Safety of health care; Professional satisfaction and recognition; and Patient satisfaction.

The Effectiveness of nursing care subcategory brings together units of meaning that reflect the perceptions of many participants that EBP is associated with the effectiveness of

nursing care, namely better health outcomes, quality of care, and cost reduction in healthcare institutions.

It’s going to have an impact on the quality of care per se (I1), we’re going to have lower costs...how much are we going to save on antibiotics? We’ll be able to spend more time on health care. And why is that? Because we can be more efficient in our daily work management. (I3)

A significant number of participants highlighted the Positive value (subcategory) of EBP. Participants believe that EBP promotes changes in practice with real gains for institutions, showing that health outcomes outweigh the costs, as illustrated by the excerpt “A very positive value . . . This is the only way we can change practices that have been implemented in the services for many years and with clear benefits” (I17).

They also believe that EBP has a significant impact on the Safety of care (subcategory). Formal leaders believe that EBP is associated with a reduction in the number of adverse events, “We’re going to reduce the number of patients who will get infected after bladder catheterization” (I3), the promotion of patient safety, “Placing the tube . . . we usually use X-ray or nothing at all . . . it’s more by auscultation . . . pH assessment was added, so one more aspect of safety” (I8), and the prevention of harm:

If good practices tell me that this is the best way to resolve the situation . . . this is the good practice I must adopt, because if I don’t, I could be compromising patient care. (I11)

With regard to Professional satisfaction and recognition (subcategory), the leaders report that EBP promotes a feeling of accomplishment in nurses and the valorization of the profession.

Many results can be achieved . . . the feeling that I think . . . is easy to see in the teams is the feeling of staying up to date . . . that is, the teams know that they are in fact up-to-date . . . as spearheads of the care that they deliver. (I1)

The Patient satisfaction subcategory emerges from units of meaning in which the informants refer to the satisfaction of health users as a result of EBP, as the following excerpts illustrate: “Higher levels of patient satisfaction” (I3) and

. . . outcomes in terms of increased satisfaction . . . and if there is higher satisfaction, higher acceptance, the adherence to the therapeutic regime is also higher and, consequently, more involvement in the health, life, and health projects of the individuals themselves. (I6)

### Self-perception of the knowledge about EBP

The Self-perception of the knowledge about EBP category refers to the informants’ perception of their knowledge, in which they highlight their needs and their investment. This category has two subcategories: Need for knowledge and Investment in training.

On the one hand, formal leaders identify the Need for knowledge (subcategory), stating that they feel the need to update their knowledge in order to respond to the challenges that arise in clinical contexts, as the following excerpts illustrate: “It’s about deepening the knowledge,

consolidating it, mastering it better in use” (I6); “I think it’s very important for leaders and managers to go back to school from time to time, to the academic community” (I7).

On the other hand, the informants reported some training investment initiatives developed either individually or institutionally, such as the participation in working groups within the scope of clinical practice and EBP. Thus, the Investment in training subcategory emerged, as explained in the following excerpts: “The next step is to continue investing in order to consolidate more differentiated knowledge” (I6) and “I want to and I try to make myself available . . . I’m part of a group to improve the conditions for wound care” (I15).

### **Role in EBP implementation**

The Role in EBP implementation theme reflects the leaders’ description of their behaviors related to EBP and the characterization of their role in this process. This theme encompasses two categories and their subcategories: Behaviors (Facilitating and Motivational); and Characteristics (Skills and expertise, Consideration of team members, and Values).

#### **Behaviors**

Most formal leaders believe that their role is to facilitate and provide the teams with the necessary conditions to use EBP: “My role is always a facilitating role . . . to provide people with everything I can and the best tools so that they can provide the best care” (I5).

They also believe that they assume Motivational behaviors, such as leading by example and motivating team members: “I practice leadership by example and motivate people” (I7).

#### **Characteristics**

The Characteristics category reflects the informants’ characterization of their leadership role within EBP. This category includes the following subcategories: Skills and expertise; Consideration of team members; and Values. The Skills and expertise subcategory reflects a set of leadership skills that are decisive for EBP, namely the ability to manage priorities and conflicts, adapt to change, negotiate, motivate, and make decisions: “A real sense of the priorities.” (I1), “. . . one of the skills is . . . first of all, knowing how to manage conflicts well” (I17).

They also mentioned that the Consideration of team members (subcategory) is a key factor. They mentioned the respect and empathy for the nurses in the team/institution, as illustrated by the following excerpt: “it’s important that I put myself in their shoes so that they feel this proximity between . . . between them and the manager . . . to create empathy with the team” (I4).

Finally, in the Values subcategory, the participants characterized their role and identified a set of values that are essential to being a formal leader: “Humility, simplicity, availability, attentive listening . . . I think humility is really important . . . I think it’s one of the main characteristics we can have” (I9).

## **Discussion**

Each formal nurse leader mentioned only one or two dimensions of EBP, with most emphasizing its association with the use of scientific knowledge. The perspective presented on EBP seems to be based on the original definitions of the concept.

The concept of EBP has evolved over the years. In 1996, Sackett et al. (2020) defined EBP as the use of the best current evidence and the critical judgment of health professionals in decision-making. In 2000, this concept was updated to incorporate the importance of considering patients’ values (Sackett et al., 2000). Nowadays, EBP is defined by Jordan et al. (2019) as health decision-making informed by the best available evidence, while taking into account the patient’s preferences, the influence of the care context, and the health professional’s critical judgment. The findings of this study reveal that leaders believe that there is a need for knowledge about the concept of EBP. According to Majers and Warshawsky (2020), leaders need knowledge and skills in EBP to promote a culture that supports EBP within their teams/institutions. Without this knowledge, gaps in the process can occur. However, the informants in this study mention the need to deepen their knowledge. They advocate and report investment in training, thus showing the beginning of a path and their openness to what remains to be done.

As previously stated, the concept currently prioritizes the involvement of patients and families in health decision-making, among other dimensions. This involvement promotes shared decision-making in healthcare, which is defined by the National Institute for Health and Care Excellence (2021) as a process where professionals ensure that patients are aware of the risks and benefits of the different options available for making decisions about their health and take into account their preferences and opinions, allowing users to play an active role in decisions about their health. However, this process is still a challenge, as one informant emphasized. Several factors may contribute to this challenge, such as the professionals’ knowledge and skills, the influence of the context and available resources (Waddell et al. 2021). Therefore, it is necessary to adopt strategies to bridge this gap.

The participants reported that implementing EBP enhances the effectiveness of nursing care, adds value to care, contributes to healthcare safety, increases professional satisfaction and recognition, and improves patient satisfaction. These findings support the JBI Model of Evidence-Based Healthcare, which advocates for decision-making that considers the applicability, appropriateness to the context, meaning for people, and effectiveness of interventions (Jordan et al., 2019).

Formal leaders also believe that they play a role in the implementation of EBP by assuming Facilitating and Motivational Behaviors. Stetler et al. (2014) also highlight the role of leaders as facilitators and motivators in the process of implementing EBP, referring to functional leadership behaviors that enhance the implementation of EBP in healthcare organizations and teams. Shuman

et al. (2018) also support these findings, highlighting the association between managers' behaviors and the implementation of EBP.

Regarding the limitations of this study, it is possible that the use of Zoom for one interview, as opposed to the other methods, may have restricted data collection. Additionally, the credibility of the study may be threatened by the fact that only one researcher conducted the data analysis, although it was confirmed by others.

## Conclusion

This study offers insight into the perceptions of formal nurse leaders regarding EBP, specifically their knowledge and role in the process. The findings indicate that participants have knowledge of one to two components of the concept of EBP and the impact of EBP on health outcomes. They also express the need for further knowledge about EBP and describe their investment in training. The leaders are aware of their role in implementing EBP and adopt facilitating and motivational behaviors.

As implications for practice, training programs should be designed to promote knowledge about EBP and its implementation in clinical contexts, as well as organizational projects that support formal leaders in this journey. Further primary research studies should focus on other topics of interest: leaders' knowledge of EBP, strategies for integrating patients' preferences into health decision-making, and the development and validation of training programs for formal leaders.

## Author contributions

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