

A review of the role of nurse leadership in promoting and sustaining evidence-based practice

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Aim: This integrative review aims to explore how nursing leadership influences evidence-based practice in contemporary health care settings.

Background: Although managers and environmental ward culture have long been identified as being among the main barriers to evidence-based practice, there is little overall conceptualization and understanding of the specific role of nurse leaders in directly influencing and supporting this.

Evaluation: The team carried out an integrative literature review ($n = 28$) utilizing PubMed, CINAHL and the Cochrane Library (2006–2016).

Key Issues: The key role of leadership, the methodology used, and understanding and addressing barriers to or facilitators of the implementation of evidence-based practice emerged as key issues.

Conclusion: Nurse managers have a particular influential role on the implementation of evidence-based practice in terms of providing a supportive culture and environment. For this they need to have an underlying knowledge but also to be aware of and address barriers to implementation, and understand the key role of nurse managers in creating and supporting the optimum environment.

Implications for Nursing Management: Nurse managers need to facilitate and enhance nurses' use of evidence-based practice. Both managers and nurses need to have the necessary academic preparation, support and resources required for practising using an evidence base.

KEYWORDS

barriers, environmental ward culture, evidence based practice, integrative review, leadership, nurses managers

1 | INTRODUCTION

The 1990s heralded great interest in, and an impetus towards, increased nursing research and the use of evidence based practice (EBP) within the discipline of nursing (Caine & Kenrick, 1997). During this period, EBP was conceptualized as “the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients” (Sackett, Rosenberg, Gray, Haynes, & Richardson, 1996, p. 7). Subsequent decades have evidenced increased interest at both local and international level, demonstrating the continued importance of the need for a scientific basis for health care interventions (Barría, 2014). Nursing research contributes directly to EBP by informing, along with other types of evidence, quality care, patient safety, and cost effectiveness (Barría, 2014). There is evidence that both the volume and scope of nursing research is developing exponentially internationally, with increased emphasis on health-promotion strategies, technological health care interventions and addressing modern health care problems such as preventable diseases and the effects of an aging population. This research is also increasingly interdisciplinary (McKenna, 2012). In this context it is helpful to know that nurses are committed to using this ongoing research and to practising using an evidence base. Indeed, EBP is a core competency requirement for nursing practice internationally (Fleiszer, Semenic, Ritchie, Richer, & Denis, 2016).

However, there are also concerns that while commitment to EBP continues, there are also shortfalls in practice (Innis & Berta, 2016). Lack of resources, lack of English-language skills, and lack of professional nursing infrastructure in some countries are some of the reasons why EBP does not translate uniformly into practice by nurses (Bressan et al., 2017; Giusti & Piergentili, 2013; Linton & Prasun, 2013). For example there are deficits internationally in nurses' access to computerized databases (Linton & Prasun, 2013). At the same time, although managers and environmental ward culture have long been identified as one of the main barriers to nurses' utilization of EBP, there is little overall conceptualization and understanding of the role of nurse leadership in directly influencing the initiation and use of EBP. In particular there is concern that while short-term initiatives are likely to be successful, there is little evidence that identifies how nurse managers sustain the necessary environment that facilitates EBP (Fleiszer et al., 2016). There is also little direction for nurse managers in under-resourced counties who already struggle with achieving quality nursing care. Recent studies have confirmed that nurse-to-patient ratios across Europe vary tremendously, with areas such as Poland, Spain, Greece, Germany, and Belgium particularly under-resourced (Aiken et al., 2012). In these countries, the nurse-to-patient ratio is up to half of that experienced in countries such as the United States and the United Kingdom (Aiken et al., 2012). Many of these areas are also affected by nursing shortages and continued austerity measures (European Federation of Nurses Associations, 2012).

The prevalence of EBP in under-resourced health care environments has not been explicitly examined; however, it is known that, in the context of competing demands, nurses prioritize the essential

tasks (Kalisch, Landstrom, & Hinshaw, 2009) leaving out more subtle elements of care (such as patient communication and education) (Aiken et al., 2012; Sermeus et al., 2011). Care that is omitted differs across environments for a complex interplay of reasons, including pressure to prioritize, the team's practices, and the nurse's own internal value system (Kalisch et al., 2009). Anecdotally, use of EBP is also affected (Bressan et al., 2017). However, while international empirical exploration of future nursing requirements for quality patient care (the RN4Cast) include several measures of quality, EBP does not feature as one of the predictive variables (Ball et al., 2016). Certainly, patients are known to have unmet educational and emotional needs in many areas internationally (Jones, Hamilton, & Murray, 2015), and on this basis alone the extent of consistent use of EBP is questionable. A recent Italian study, for example, showed that as much as 41% of care that nurses were expected to perform was left undone (Sasso et al., 2016a, 2016b). It is likely, therefore, that nurse managers face increasing challenges to enforce EBP in such contexts. However, at the same time there is some evidence for the potential of both research activity and EBP even in the context of limited resources, if strong leadership is present (Wallace, Johnson, Mathe, & Paul, 2011).

Recent evidence suggests that key leadership skills such as creating a clear vision and consistently communicating that vision, use of good interpersonal skills and communication, and ongoing education to support nurses are key essential components of sustaining a commitment to EBP at local clinical level (Fleiszer et al., 2016). Resourcing EBP is key but leadership is also needed by nurse managers to sustain and improve EBP in terms of becoming aware of areas that need improvement, collaborative selection of areas for intervention, and use of reflection to evaluate performance (Innis & Berta, 2016). For example, where there are deficits in nurses' access to computerized databases, nurse managers are charged with the responsibility to improve this (Linton & Prasun, 2013).

There is consistent and conclusive evidence that the ward culture and environment are critical in creating a situation that facilitates EBP (Engström, Westerberg Jacobson, & Martensson, 2015). Where the environment is not conducive, either by lack of managerial support, lack of resources, lack of education, or lack of the necessary information (or a combination of these), EBP by nurses cannot become a sustained reality (Engström et al., 2015). However, there is little overall conceptualization and understanding of the role of nurse leadership in directly influencing the initiation and use of EBP. An in-depth understanding of key leadership skills is necessary for nurse managers to understand strategies that sustain and develop EBP initiatives. This information and understanding is also important to provide guidance to nurse managers working in countries that are under-resourced or that lack key infrastructure.

Nurse managers clearly have a role in the implementation of new practices, processes, and activities in clinical settings and, as such, are the primary gatekeepers of EBP for the profession (Bleich & Kist, 2015; Fleiszer et al., 2016; Innis & Berta, 2016; Kueny, Titler, Mackin, & Shever, 2015; Stetler, Ritchie, Rycroft-Malone, & Charns, 2014). They are often responsible for implementing new practices, processes,

and activities in their organisations (Bleich & Kist, 2015; Fleiszer et al., 2016; Innis & Berta, 2016; Kueny et al., 2015; Stetler et al., 2014). To promote EBP, both leadership and facilitation interventions are needed (Dogherty, Harrison, & Graham, 2010; Fleiszer et al., 2016; Sandström, Borglin, Nilsson, & Willman, 2011). However, some studies identify that nurse managers are badly equipped to lead this change, as some of them lack the formal preparation and the development of the necessary skills for the role (Enterkin, Robb, & McLaren, 2013; Hølge-Hazelton, Kjerholt, Berthelsen, & Thomsen, 2016; Phillips & Byrne, 2013). Skill mastery is important for leadership to be effective (Moser, DeLuca, Bond, & Rollins, 2004) and some managers are unfamiliar and uncomfortable with EBP (Hølge-Hazelton et al., 2016). Lack of competence around EBP is a formidable barrier that can compound resource issues (Asadoorian, Hearson, Satyanarayana, & Ursel, 2010; Brown, Wickline, Ecoff, & Glaser, 2009; Hwang & Park, 2015; Majid et al., 2011; Melnyk, Fineout-Overholt, Gallagher-Ford, & Kaplan, 2012).

Nurse managers have a strategic role in the implementation of EBP (Melnyk, 2014); however, the exact nature of this, and how to provide guidance on it is not clear. To address these deficits, this review aims to explore how nursing leadership specifically influences the implementation and continuation of EBP, in order to provide clear direction for nurse managers, particularly those in under-resourced countries who may also lack the educational preparation required for such a task.

1.1 | Aim

This review aims to explore how nursing leadership specifically influences the use of research and evidence-based practice in contemporary clinical health care settings.

2 | METHOD

The integrative review methodology was adopted because it is the most comprehensive methodological approach (Souza, Silva, & Carvalho, 2010), and this combination has the potential to play an important role in exploring this topic as it permits the assessment of multiple research methodologies (Whittemore & Knafel, 2005). Moreover, it allows the inclusion of studies that used varying methodologies, and combines data from differing theoretical and empirical viewpoints (Whittemore, 2005; Whittemore & Knafel, 2005). This kind of review allows global comprehension and a holistic understanding of the topic studied by presenting a comprehensive overview of the state of knowledge in a particular field (Hopia, Latvala, & Liimatainen, 2016). In accordance with Whittemore and Knafel's (2005) recommended approach, this integrative review included the following stages: identification of the problem, literature search, data evaluation, data analysis, and the presentation of conclusions.

2.1 | Literature search

A systematic search was carried out using the PubMed, CINAHL, and Cochrane Library databases. These searches were limited to

research articles published in the years 2006–2016. This time period was chosen to reflect a contemporary approach to the topic, but also to reflect more accurately a period of rapid professional growth in terms of graduate professions and specialist and advanced practice, which would not be clearly reflected in earlier literature. Both MeSH terms and text words were adapted in accordance with the different databases used. Examples of search words used are as follows: leadership, nursing leader, nurse manager, evidence based practice/evidence based management health care professional practice, practice guideline, best practice, research utilization, diffusion of innovation.

2.2 | Search outcome

Before starting the search, the reviewers agreed on the following criteria for inclusion of papers for the review. First, only research studies that explored the role of nursing leaders and evidence-based practice, published in English were included. Second, articles were only included if the study dealt primarily with the relationship between nursing leadership and dissemination of innovation, the influence of nursing leadership on evidence-based practice, or the impact of nursing leaders on the exercise of research. In the first search, we selected 280 papers and after removing duplicates 273 remained. In the next phase, we excluded studies that were not related to nursing leadership and EBP. The researchers conducted this exclusion process independently by reading the title and the abstract of the studies. At the end of this selection, 39 were retained for a more comprehensive evaluation. The full text of these papers was then read. A total of 28 papers were included in the final sample review as these papers fully complied with the inclusion/exclusion criteria (Figure 1).

2.3 | Data analysis

The data analysis process started when the final 28 studies for inclusion were determined and verified by all the authors. A data extraction sheet was created to report information for each study, such as the aim, the research question/hypothesis, the study design/methodology, data collection details, sample description, results, and conclusion/comment. Two researchers initially analysed studies individually and a consensus on selecting pertinent and significant data was reached. In the second phase, any differences or disagreement among the reviews were resolved throughout the data-analysis process and with the involvement of a third researcher. In the final step, conclusions were drawn and verified by all the authors.

2.4 | Quality appraisal

The Mixed-Methods Appraisal Tool (M-MAT) (Pluye et al., 2011) was used as an assessment tool because it is capable of comparing and evaluating methodologically heterogeneous studies (Pluye, Gagnon, Griffiths, & Johnson-Lafleur, 2009). Two screening questions and four methodologic quality criteria comprised the appraisal tool, and for each question, three answers were possible: "yes," "no" or "can't

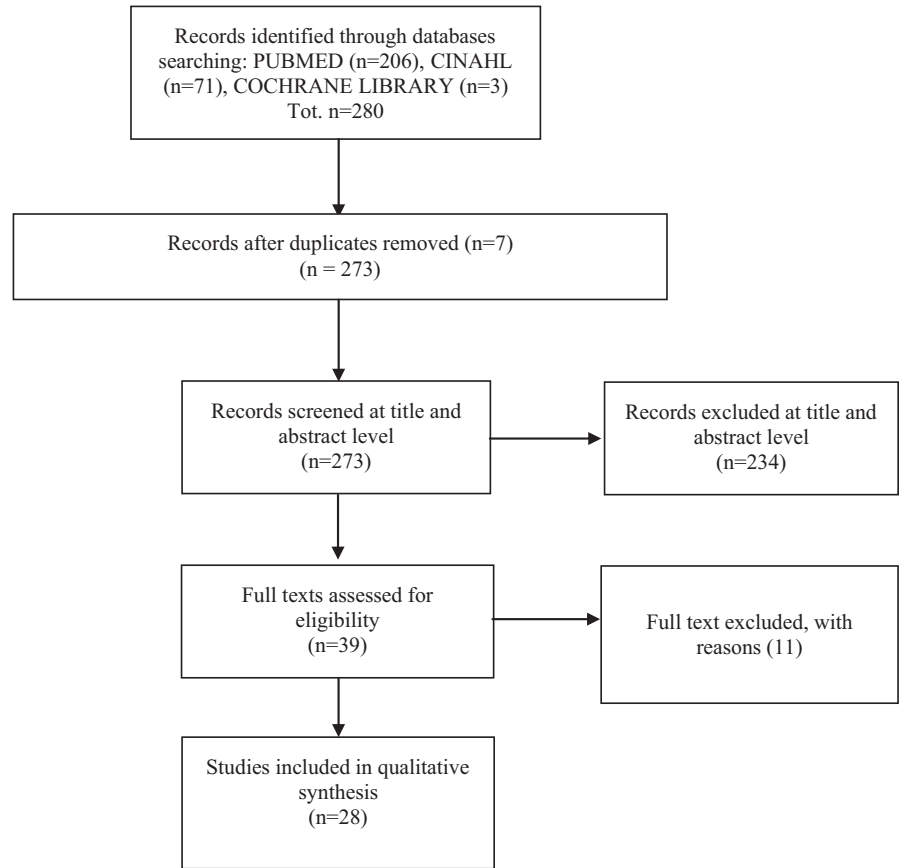


FIGURE 1 Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) flow diagram

tell." For each "yes" response, it was assigned a star (the maximum possible score was four stars), and these could be converted into percentages (from 25% score one star to 100% score four stars) (Pluye et al., 2009). The researchers appraised the quality of the articles included independently and a general consensus was reached.

3 | RESULTS

A total of 28 articles were included, permitting a reasonable quality evaluation. The characteristics of selected studies are reported in Table 1. Most studies received an M-MAT score of between 75% and 100%. Eleven studies were of good quality (score of 100%); 16 were fair (score of 75%), and one was poor (score of 50%) (Table 1). Twenty studies were conducted using a quantitative methodology, six used qualitative methods and two used a case-study approach.

Convergent synthesis design permitted the determination of underlying themes from across the 28 studies (Pluye & Hong, 2014). After reading, analysing and synthesizing the articles. Three major themes emerged: the role of leadership, methodologies adopted to promote EBP, and barriers to or elements facilitating EBP.

3.1 | Role of leadership

An important emerging theme is the importance of the role of leadership in developing and supporting EBP. Graduate-level education,

years of experience as a leader, and leadership course completion are significant factors that positively influence EBP leadership effectiveness. All of these factors influence the leader to be proactive and successful in the roll-out and continuation of EBP (Clement-O'Brien, Polit, & Fitzpatrick, 2011). Education and knowledge about research is also very important for nurse managers, as Warren et al.'s (2016) study found that, although nurses' beliefs and readiness for EBP improved, this was less so for managers. An important point raised in this study is that nurse leaders must be both facilitators of EBP and also active participants practising EBP themselves (Warren et al., 2016).

However the style of leadership is also important. Davies, Wong, and Laschinger (2011) found that nurse managers have a pivotal role in creating an empowering environment that, in turn, fosters EBP. Indeed transformational nursing leadership is a model of leadership that is found to empower nurses to use EBP (Hauck, Winsett, & Kuric, 2013). Factors within this transformational style include passionate frontline managers, multifaceted strategies and processes at organisational, leadership, individual, and social levels to help to develop and transform nurses to believe in and use EBP (Lavoie-Tremblay et al., 2012). As part of this transformation, collaboration and joint working between nurse managers and nurses support an effective journey towards empowerment and shared ownership with regard to EBP (Ott & Ross, 2014).

Leadership and support from the university are also important (Cadmus et al., 2008). Nurses often lack skills in computerized

literature database use, for example—an important facilitator of EBP—and as educators were found to have greater competency and awareness in this field, it is suggested that faculty can partner with nurses, or facilitate training sessions, to increase nurses' skills and provide leadership in this way (Cadmus et al., 2008). Indeed one study reported an increase in the impact of EBP due to collaboration between nurse researchers in academia and nurse clinicians in clinical practice (Oh, 2008). Globally, nurse managers can also promote free and accessible EBP through the sharing of open online research courses and the sharing of best practices to lead, educate, and mentor nurses (Warren et al., 2016). The promotion and sharing of open online research courses is especially important where resources are in short supply and in countries where there are low numbers of graduate nurses or nurses with the specific skills in understanding and applying research and other evidence. In addition to leadership style, it is also important for the manager to select a framework that can inform and guide the initiation or continuation of EBP. The literature revealed several methodologies that nurse managers used to promote EBP.

3.2 | Methodologies adopted to promote EBP

Boltz et al. (2013) and Capezuti et al. (2013) highlighted the importance of using particular programmes, such as Nurses Improving Care of Health System Elders (NICHE), to generate knowledge about EBP and to disseminate research findings in clinical practice. The findings of the Aiken and Poghosyan (2009) showed improvements in the nurse practice environment consistent with an evolving professional nurse practice model using the Magnet Journey. In two other studies the implementation of the "Nursing Rounds" model (Aiken, Burmeister, Clayton, Dalais, & Gardner, 2011) and Advancing Research and Clinical practice through close Collaboration (ARCC) model (Lewin, Massini, & Peeters, 2011) were considered effective strategies for changing patient care and increase nurses' beliefs about and implementation of EBP. The importance of these findings is that using a framework for implementation and support of EBP is an important factor in leading and sustaining change. Leader motivation and skills are not enough to bring about the necessary changes in knowledge and attitudes required. Use of a particular methodology also allows for a systematic approach to leading and developing the innovation and permits methodical evaluation of the system. Again these methodologies are useful for providing guidance to nurse managers in countries like Italy where nursing has not had a strong leadership role in EBP. The guidance in the published literature therefore provides useful templates for managers in practice. However, even with the use or adoption of a transformational leadership style and the use of a successfully tested implementation and evaluation methodology, the nurse manager may find sustaining EBP challenging due to a range of barriers to the facilitation of EBP in the clinical area.

3.3 | Barriers to or elements facilitating EBP

Clearly the support of the nurse manager is important to prepare the environment, educate the staff, involve staff in the change process, and communicate the value of the innovation. A supportive organisational structure with enabling leadership is key (Boström, Ehrenberg, Gustavsson, & Wallin, 2009). Without the manager's support, the use of EBP and research findings in clinical practice is very difficult (Clement-O'Brien et al., 2011). In the professional practice environment, nurses appreciate their manager's support to enable them to handle conflict and relationships with physicians, and also in relation to issues related to work motivation, control over practice, leadership and autonomy, and cultural sensitivity associated with implementing EBP on an ongoing basis (Charalambous, Katajisto, Välimäk, Leino-Kilpi, & Suhonen, 2010). Related to the organisation, Cummings, Estabrooks, Midodzi, Wallin, and Hayduk (2007) identified elements that influenced nurses' use of EBP such as responsive managers, positive culture, and effective leadership. At the same time significant barriers and/or elements in clinical practice that are related to circulation and spreading of research and EBP exist. Yava et al. (2009) identified three important barriers to developing EBP: inadequate authority, lack of time, and insufficient facilities, although nurses perceived the organisational management support as the single most important supportive factor. Similarly time, skills, resources and support from peers/management to undertake research were identified as significant barriers by Bonner and Sando (2008). Others facilitating factors linked to EBP are access to evidence and adequate training in the use of information sources were identified by Boström et al. (2009). Access to personal digital assistants (PDAs) and tablet personal computers were also highlighted as facilitative (Doran et al., 2012).

Another feature that can be either a barrier or a facilitator to EBP is linked to the attitude towards research associated with the completion of university subjects on nursing research and with seniority. An understanding of research design, journal articles, grant applications, and ethical review processes is linked with seniority. Dissatisfaction about support for nurses that participate in research and without an academic degree and unclear objectives from the organisation are also factors that increased the perception of barriers to the use of research findings in clinical practice (Kajermo et al., 2008). Two other key points identified are that published research articles ought to be written more clearly so that they can be more easily understood by nurses, and that there is a need for support for research through the development of specific research centres at the hospital sites, which host consultation and liaison services for nurses.

4 | DISCUSSION

Although EBP is imbedded in health care practice internationally, research on EBP implementation continues, revealing an ongoing commitment to and interest in the topic. Recent research focuses

TABLE 1 Overview of the characteristics of selected studies

Study/Quality Score	Aim	Design	Data collection method	Sample	Findings
Aiken and Poghosyan (2009), Russia and Armenia/100	To provide an outcomes-evaluation of an intervention to strengthen professional nursing practice in Russian and Armenian hospitals	Pre-post study design	Nursing Work Index Revised questionnaire, Nursing Work Index questionnaire, Emotional Exhaustion subscale of the Maslach Burnout Inventory questionnaire, ad hoc questionnaire	460 Russian nurses: (F = 99.1%, M = 0.1%), mean age 36.3 years (SD 12.0); time of professional experience 15.2 years (SD 11.4) 399 Armenian nurses: (F = 99.0%, M = 1.0%), mean age 34.0 years (SD 9.0), time of professional experience 12.8 (SD 8.6)	Improved nurse practice environment and improved patient care outcomes with professional nurse practice model usage
Aiken et al. (2011), Australia/100	To determine the effect of implementing nursing rounds in the intensive care environment on patient care planning and nurses' perceptions of the practice environment and work satisfaction	Pre-test post-test comparative study	Practice environment scale of the Nursing Work Index, nursing work life satisfaction scale	244 RN (F = 81%, M = 12%), median time of professional experience 8 years (range 2-14 years), 175 (71%) BSN as their initial nursing qualification, 122 (49%) BSN as their highest nursing qualification, 90 (37%) had a graduate certificate or diploma, 18 (7%) MSN	Implementation of nursing rounds in intensive care appears a feasible and an effective strategy to change patient care
Yava et al. (2009), Turkey/100	To determine nurses' perceptions of the barriers to and facilitators of research utilization in Turkey	Survey	Barriers scale	631 RN: mean age 31.65 years (SD 5.86), age range 22-52 years, median time of professional experience 11.62 years (SD 6.17) (range 2-34 years), 135 (21.4%) high-school level, 385 (61.0%) ASN, 111 (17.6%) BSN	Three main barriers identified were: inadequate authority, lack of time, and insufficient facilities. Nurses perceived organizational management support as the most important facilitator
Bahtsevani, Willman, Stoltz, and Ostman (2010), Sweden/100	To elucidate experiences and factors of importance for the implementation of clinical practice guidelines in hospital care	Qualitative study	Audiotaped interviews	20 RN (F = 18, M = 2) mean age 48 years, range age 25-58 years, mean time in present professional position 12 years, years in position range 1-30	Overall CPG use was viewed as positive although having too many CPGs was perceived as potentially reducing critical thinking. Having CPGs available served to consistent use of best practice and provided a good explanation of the way that things ought to be done. Managerial support was deemed essential for CPG success
Boltz et al. (2013), United States/100	To describe Nurses' Improving Care of Health system Elders Site Self-evaluation instrument (NICHE) and report the inaugural self-evaluation data of 180 North American hospitals	Retrospective, descriptive study	Nurses' Improving Care of Health system Elders Site Self-evaluation instrument (NICHE)	180 hospital participants	Most facilities surveyed were at an early stage with regard to initiating improvements. The presence of units with designated responsibility at the sites to use and implement evidence-based protocols and those that reported to have a comprehensive geriatric assessment programs were found to be predictors of advanced implementation across the sites
Bonner and Sando (2008), Australia/75	To determine the knowledge, attitudes and use of research by nurses	Descriptive study	Edmonton Research Orientation Survey	347 participants (F = 313, M = 29), range age: 49 (14.1%) 21-30 years; 81 (23.3%) 31-40 years; 127 (36.6%) 41-50 years; 78 (22.5%) 51-60 years, 7 (2%) 61-70 years; years of experience: 18.3 (SD 10.6); position: 273 (78.7%) RN and CNs, 43 (12.4%) NM and CN Consultants, 26 ENs (7.5%); 5 Senior NMs (4.5%); education level: 173 (50.1%) hospital certificate; 147 (42.6%) BSN, 15 (4.3%) MSN, 10 (2.9%) tertiary and further education centre certificate	Nurses require specific research education, clinical leadership and adequate work environments to ensure practice is evidenced based
Bostrom et al. (2009), Sweden/100	To describe registered nurses' reported use of research in the care of older people and examine associations between research use and factors related to communication channels, the adopter and the social system	Cross-sectional survey	The Research Utilization Questionnaire	140 RN: (F = 93, M = 6, not reported = 34) mean age 45 years. Education level: 25 (18%) graduated from a foreign institution, 61 graduated from a nursing programme; years of working: 16 (SD 10)	Supporting organisational structures, such as communication channels and the characteristics of the adopter increases RNs' use of research findings in the care of older people

(Continues)

TABLE 1 (Continued)

Study/Quality Score	Aim	Design	Data collection method	Sample	Findings
Cadmus et al. (2008), United States/50	To discuss a state-wide study that assessed the skill level of nurses in obtaining evidence for their nursing practice, using computers and databases, and evaluating the perceived availability of resources in their hospitals to access evidence	Descriptive exploratory survey	Information Literacy for Evidence-Based Nursing Practice Instrument	3411 participants: (F = 2512, M = 125; not reported = 774) 177 (5.2%) age <30 years; range age: 426 (12.5%) 30–39 years; 940 (27.6%) 40–49 years; 953 (27.9%) 50–59 years; 150 (4.4%) >60 years. Education level: 402 (11.8%) diploma; 696 (20.4%) ASN; 1,183 (34.7%) BSN; 364 (10.7%) MSN; 16 (0.5%) doctorate	Educators have a higher perceived competency in computer and database usage. Nurse executives can partner with nurse educators to educate older nurses. Younger nurses can help their older colleagues, given the right framework for education. Nurse leaders should ensure that access to the databases is most beneficial when RNs seeking evidence-based resources
Capezuti et al. (2013), United States/100	To explain how secondary analyses of this aggregate database can inform effective geriatric programming in hospitals	Descriptive secondary data analysis		14,081 NICHE-Geriatric Institutional Assessment Profile: (F = 8743%), mean age 40.3 years (SD 11.6); position: 100% RN; education level: 48.09% BSN 33,549 National Sample Survey: (F = 92.9) mean age 45.5 years; position: 66.3 RN; education level: 50.3% BSN	Age and experience influence perceptions of organisational alignment to NICHE guiding principles. These perceptions improve NICHE implementation
Clement-O'Brien et al. (2011), United States/75	To describe the innovativeness and the rate of adoption of change among CNOs of acute care hospitals, and explore the difference in the innovativeness of CNOs of Magnet hospitals vs. non-Magnet hospitals	Survey	Scale for the Measurement of Innovativeness	106 participants (F = 99, M = 7), range age: 5 (4.7%) 31–39 years; 13 (12.3%) 40–49 years; 67 (63.2%) 50–59 years; 21 (19.8%) 60–65 years. Education level: 12 (11.3%) BSN or less; 82 (77.4%) MSN; 12 (11.3%) PhD	Graduate education, years of CNO experience and leadership courses significantly influenced innovativeness of CNOs. Innovativeness supports organisations to continuously improve the quality of patient care
Cummings et al. (2007), Canada/75	To develop and test a theoretical model of organizational influences that predict nurses' research utilization and assess the influence of varying degrees of context, based on the <i>Promoting Action on Research Implementation in Health Services</i> framework, on research utilization, and other variables	Cross-sectional census survey	Ad hoc questionnaire	6,526 participants: (F = 97.6%) mean age 39.85 years (SD 9.09); mean years of nursing experience: 15.2 (SD 8.92); education level: 24.2% BSN	The context dimensions of culture, leadership, and evaluation, defined by the <i>Promoting Action on Research Implementation in Health Services</i> framework, influence research utilization and its predictors. Some predictors of research utilization, such as emotional exhaustion, were not found in the <i>Promoting Action on Research Implementation in Health Services</i> framework
Davies et al. (2011), Canada/100	To test Kanter's theory by examining relationships among structural empowerment, leader-member exchange quality and nurses' participation in personal knowledge transfer activities	Survey	Conditions of Work Effectiveness Questionnaire-II, Job Activities Scale-II, Organizational Relationships Scale-II	234 participants: (F = 227, M = 7), mean age 41.6 years; education level: 161 (70%) Diploma; 69 (30%) BSN	Higher levels of empowerment and leader-member exchange quality increased participation in personal knowledge transfer in practice
Doran et al. (2012), Canada/100	To investigate the role of organizational contexts and nurse characteristics in explaining variation in nurses' use of personal digital assistants (PDAs) and mobile Tablet PCs for accessing evidence-based information	Pre-post survey study	Alberta Context Tool, Maslach Burnout inventory short version, ad hoc questionnaire	469 participants: mean age 44.7 years (SD 10.2); professional experience: 350 (74.6%) RNs; 15 (3.2%) nurse practitioners; 99 (21.1%) registered practical nurses. Years of experience: 14.9 (11.4) in nursing. Educational level: 59.1% diploma; 29.9% BSN; 9.4% with a MSN or PhD	Access to PDAs and Tablet PCs supported nurses' self-reported use of information resources. Several of the organizational context variables and one individual nurse variable explained variation in the frequency of information resource use
Drury, McInnes, Hardy, Dale, and Middleton (2016), Australia/75	To investigate NM of New South Wales stroke units views of: self-leadership ability; organizational learning; attitudes and beliefs towards EBP; readiness for change	Survey	Self-Leadership Practices Inventory, Organizational Learning Survey, ad hoc questionnaire	19 NM: (F = 16, M = 3); range age: 3 (16%) 30–39 years; 8 (42%) 40–49 years; 5 (26%) 50–59 years; 3 (16%) 60–69 years. Education level: 1 (5.3%) Hospital certificate; 3 (16%) Diploma; 10 (53%) BSN; 1 (5.3%) Graduate certificate; 1 (5.3%) Graduate diploma; 3 (16%) MSN	Barriers to evidence uptake included insufficient resources and time constraints

(Continues)

TABLE 1 (Continued)

Study/Quality Score	Aim	Design	Data collection method	Sample	Findings
Hauck et al. (2013), United States/75	1. To assess nurses' beliefs of the importance of EBP, frequency of using EBP in daily practice and perception of organizational readiness for EBP after implementation of an EBP strategic plan 2. To assess beliefs, frequency and readiness by three levels of nurses: direct care nurses, indirect care nurses and director/leaders	Prospective descriptive comparative study	Evidence-Based Practice Beliefs scale, Evidence-Based Practice Implementation scale, Organizational Culture & Readiness for System-wide Implementation of EBP scale	427 Baseline sample: (F = 401, M = 26) mean age 43.3 years (SD 11.7). Position: direct care RN 336 (80); indirect care/advanced practice RN 40 (9.5%); director/leader RN 43 (10%). Education level: diploma 38 (9%); ASN 193 (45%); BSN 169 (40%); MSN 25 (6%); 475 final sample; (F = 444, M = 31) mean age 43.1 years (SD 11.9). Position: direct care RN 385 (82%); indirect care/advanced practice RN 52 (11%); director/leader RN 32 (7%). Education level: diploma 36 (8%), ASN 202 (42%); BSN 209 (44%); MSN 27 (6%)	Leadership facilitated infrastructure development in three major areas: incorporating EBP outcomes in the strategic plan; supporting mentors; and advocating for resources for education and outcome dissemination. With the interventions, total group scores for beliefs and organizational readiness improved significantly. Scores of direct care nurses improved most of all. Successful key strategies were EBP education and establishing internal opportunities to disseminate findings
Hommel, Gunningberg, Idvall, and Bååth (2017), Sweden/75	To explore successful factors to prevent pressure ulcers in hospital settings	A qualitative descriptive study	Semi-structured interviews, focus groups	39 participants: managers, physicians, RN, enrolled nurses	Three main categories successfully prevented pressure ulcers in hospitals: creating a good organisation, maintaining persistent awareness and benefits for patients. Small hospitals better develop and sustain prevention. NMs' attitude and engagement enable staff to work actively with pressure ulcer prevention
Joseph (2015), United States/100	To explore the experiences of nurse leaders and nurses in a hospital whose patient care mission was stated as innovation	Qualitative study	Semi-structured interviews, focus group	Interviews: 12 nurses (6 staff nurse, 6 nurse leaders); range age experience: 1–25 years. Focus group: 8 participants	Nursing innovation requires organizational commitment to allow employees to inquire and question organizational practices and issues about the mission, patient care, and nursing practice
Kajermo et al. (2008), Sweden/100	To identify predictors of nurses self-reported barriers to using research findings in clinical practice	Survey	Barriers scale, Quality Work Competence questionnaire, Huddinge University Hospital Model Questionnaire	833 participants: (F = 769, M = 52), mean age 39.6 years (SD 9.8); range age 20–65 years. Education level: 100 (12%) BSN; 6 (0.7%) MSN; 2 (0.2%) higher licentiate degree	Disatisfaction with support from immediate superiors for participating in research and/or development projects, having no academic degree and unclear and unrealistic workplace goals were identified as factors increasing the risk of perceiving barriers to the use of research findings in clinical practice
Lavoie-Tremblay et al. (2012), Canada/75	To understand how a PMO facilitates successful implementation of EBP in care delivery	Case study	Interviews, internal documents, administrative data	38 participants: PMO group: 12 (F = 1, M = 11) 23.1% (n = 6); mean age 43.2 years. Education level: 2 BSN (16.7%), 7 MSN (58.3%); 2 (16.7%) doctorate. Position: 1 (8.3%) director; 4 (33.3%) manager; 6 (50%) consultant/adviser. Mean years in post: 1.5. Project team: (F = 20, M = 6); mean age 48.3 years. Education level: 2 (7.7%) technical; 6 BSN (23.1%); 11 MSN; (42.3%); 7 doctorate (26.9%). Position: 6 director (23.1%); 7 manager (26.9%); 5 consultant/adviser (19.2%). Mean years in this post: 8.4	Project Management Office experts help improve practices, and patients receive safer and better quality care. Several participants reported that they could not make the changes without the PMO's support. They succeeded in changing their practices based on evidence and acquired knowledge of change management with the PMO members that can be transferred to their practice
Lewin et al. (2011), United States/75	To evaluate the preliminary effects of implementing a specific Advancing Research and Clinical practice through close Collaboration model on nurse and cost outcomes in a community health setting	Randomized controlled pilot trial	Evidence-based practice implementation scale, Group Cohesion Scale, Index of Work Satisfaction	46 participants. Group at Baseline: 22 Experimental Group (F = 22); education level: 4 ASN, 10 BSN, 7 master's degree. 24 participants, control group (F = 24), education level: 1 diploma, 4 ASN, 10 BSN, 5 MSN	The Advancing Research and Clinical Practice through Close Collaboration model, which includes an EBP mentor, is feasible in home health care settings and provides preliminary efficacy for the positive benefits of the mentor in enhancing nurses' beliefs about the implementation of EBP

(Continues)

TABLE 1 (Continued)

Study/Quality Score	Aim	Design	Data collection method	Sample	Findings
Matthew-Maich, Ploeg, Dobbins, and Jack (2013), Canada/75	To better understand the guideline uptake complex, multifaceted, contextual processes using an approach designed to illuminate them and to generate a grounded theory of the processes that support the implementation and uptake of BPGs in nursing practice to inform future implementation efforts	Grounded theory	In-depth, semi-structured, audio-taped interviews, document reviews, demographic questionnaires, field notes	112 Participants: 54 mothers; 58 health professionals (32 RN, 7 administrators and manager; 5 lactation consultants; 5 educators; 3 physicians; 3 midwives; 3 public health nurses)	A conceptual framework, Supporting the Uptake of Nursing Guidelines, was developed that reveals essential processes used to facilitate BPG uptake into nursing practice
McCloskey (2008), United States/75	To determine whether nurses in a corporate hospital system differed in their perceptions of research utilization (availability of research resources, attitude toward research, support, and research use) based upon selected demographic characteristics (educational level, years of nursing experience and organizational position)	Descriptive, quantitative design with survey methods	The Research Utilization Questionnaire	270 participants: (F = 257, M = 13); Education level: MSN 54 (20%); BSN 131 (48.5%); ASN/diploma 85 (31.5%); Years of experience: 55 (20%) 0–5 years; 75 (28%) 6–15 years; 64 (24%) 16–25 years; 75 (28%) >26 years; Position: 30 (11%) management; 22 (8%) advanced practice; 218 (81%) staff nurse	Perceptions based upon educational levels and hospital positions can be integrated and used at all levels of nursing practice to promote research utilization and evidence-based practice initiatives
Oh (2008), Republic of Korea/75	(1) To describe the research activities; (2) to identify barriers to research utilization for practice; (3) to examine variables related to barriers of research utilization among critical care nurses in Korea	Secondary data analysis from a national mail survey	Ad hoc questionnaire	63 Participants: mean age 32.3 years (SD 6.36), age range 25–49 years. Education level: 22 (34.9%) ASN; 30 (47.6%) BSN; 10 (15.9%) MSN; no response 1 (1.6%). Years of experience: 42 (66.7%) <10 years; 21 (33.3%) ≥10 years; position: 36 (57.1%) staff nurse, charge nurse 10 (15.9%), 17 (27.0%) head nurse/supervisor/director	Organizational support that promotes a research-friendly work environment is crucial for critical care nurses to achieve EBP. A collaborative effort between nurse researchers and nurse clinicians in clinical practice would make evidence-based practice more efficient
Ott & Ross (2014), United States/75	(1) To describe experience since the implementation of shared governance, (2) to describe perception of their roles, (3) to examine the effect that the shared governance model has on the delivery of patient care	Qualitative study	Semi-structured interviews	11 participants: position: 5 NMs (F = 5), mean age 56.3 years. Years in position: mean 21. Years working in shared governance: mean 2.3. 6 staff nurses (F = 6); mean age 46 years; years in position 18 years; average number of years working in shared governance 1.83 years)	Collaboration between NMs and staff nurses develops a journey toward shared governance. Nursing management can use findings to empower nurses to collaborate with nurse managers toward best practice
Warren et al. (2016), United States (11)/75	1. To assess RNs' beliefs about using EBP, perceptions about organizational readiness for EBP, and frequency of implementing EBP following implementation of multifaceted interventions to achieve and maintain Magnet designation 2. To examine differences in clinical RNs' and nurse leaders' perceptions toward EBP and organizational readiness, and their frequency of implementing EBP	Retrospective descriptive study	Evidence-based practice beliefs scale, evidence-based practice implementation scale, organizational culture and readiness for system-wide implementation of EBP scale	337 participants, survey year 2008. Mean age 45.94 years; age range 23–68 years. Position: 213 (77.5%) CN; years in position range 0–3; years in position mean 7.50 (SD 0.45), 62 NMs; mean age 49.54 (SD 1.10) years; years in position mean 5.29 (SD 0.80), 342 participants survey, year 2012: range age 22–70 years; mean age 44.58 years; position: 250 (73.1%) CN, years in position mean 10.50 (0.55); years in position range 0–40; 89 NMs; mean age 50.16 (SD 0.98) years; years in position mean 7.07 (SD 0.82)	Multifaceted interventions did not have a positive impact on nurse leaders' beliefs and readiness for EBP

(Continues)

TABLE 1 (Continued)

Study/Quality Score	Aim	Design	Data collection method	Sample	Findings
Warren et al. (2016), United States/75	To evaluate the strength of and the opportunities for implementing evidence-based nursing practice across a diverse nine-hospital system located in the mid-Atlantic region	Cross-sectional survey	Evidence-based practice beliefs scale, evidence-based practice implementation scale, organizational culture and readiness for system-wide implementation of EBP scale	1,608 participants; (F = 1,485, M = 123); mean age 44 (SD 12.2) years. Education level: 825 (52%) BSN; 245 (15.4%) graduate degree; 573 (36%) professionally certified. Position: RNs for 17 years (SD 12.6)	Respondents' attitudes to evidence-based practice overall were positive. However their ability to implement EBP was extremely low. Respondents at Magnet RNs reported more resources and held more positive beliefs about their hospital's organizational readiness for EBP. Positive attitudes were also associated with having advanced nursing degrees, and having a leadership role. Additionally less experienced RNs were more likely to have positive beliefs toward EBP and embedding it into the organizational culture
Waters, Crisp, Rychetnik, and Barratt (2009), Australia/75	To examine the contribution opinion leaders might make towards formulating nurses' and midwives' attitudes towards EBP	Qualitative phenomenographic approach	Semi-structured in-depth interviews	23 nursing and midwifery opinion leaders	While there was support overall for EBP in health care, leaders expressed scepticism about it being a panacea for all. Descriptions and understandings of EBP varied and were at a very simplistic level, mostly associated with research. Attitudes and understandings related to EBP were understood as highly contextualized and variable
Wilkinson, Nutley, and Davies (2011), United Kingdom/75	To explore and explain the Evidence-Based Practice Implementation scale role of NMs working in acute health care settings in Scottish health boards	Case study	Documentary data, interview data, observational data of organizational context in the form of field notes	Case A: interviews with 17 staff (nurse director, 5 NM; 4 practice development nurses; 3 charge nurses; 2 clinical educators; 2 NM/CN specialists (joint roles). Case B: interviews with 12 staff (1 nurse director; 3 NM; 4 practice development nurses; 2 charge nurses; 2 senior members of staff in clinical governance roles). Case C: interviews with 14 staff (1 nurse director; 1 assistant nurse director; 2 principal nurses; 5 NM; 2 practice development nurses; 2 CN specialists; 1 clinical educator) Case D: interviews with 8 staff (2 assistant nurse director; 2 assistant nurse directors; 1 NM/CN specialist joint role; 2 CN specialists; 1 nurse with local guideline development role; 1 former midwifery manager with a practice development focus	NMs were only involved in EBP implementation in a passive role, despite full engagement is described in the literature as necessary. This study adds previously lacking detail of the roles of NMs. It elucidates why exhortations to NMs to become more involved in evidence-based practice implementation are ineffective without action to address the problems identified

ASN, associate science in nursing; BPGs, Best practice guidelines; BSN, Bachelor of Science in nursing; CN, Clinical Nurse; CNO, chief nursing officers; CPGs, clinical practice guidelines; EBP, Evidence-based Practice; MSN, master science in nursing; F, female; M, male; NM, nurse manager; PDA, personal digital assistants; PMO, project management office; RG, registered nurses; SD, standard deviation.

primarily on implementing and sustaining EBP initiatives and the leader's role in this. Barriers to EBP were well articulated in earlier decades but this review indicates that interest in these barriers persisted within the last decade, although research questions in this particular domain are now less common. It is clear, however, that barriers persist despite international organisational commitment to EBP, and deficits in this regard may go unnoticed. Indeed, studies have identified large gaps in quality nursing care internationally, with many nurses setting aside tasks in order to prioritize others (Aiken et al., 2012), and it is very likely that EBP suffers as a result, particularly in less-resourced health care settings such as Poland, Spain, Greece, Germany, and Belgium. A striking omission from the literature is research in this field arising from under resourced countries. While EBP is an international imperative, there is an explicit bias in the reported literature that predominantly emerges from more affluent countries. Indeed, more than half of the selected papers emerged from the United States and Sweden, both of which have the lowest reported nurse/patient ratios across the USA and Europe (Aiken et al., 2012). It is therefore likely that the views and research presented on EBP largely arise from countries with a high level of support structures for EBP. Little is known about the extent of EBP in under resourced countries regarding barriers or facilitators of EBP and/or the nurse leader's role in implementing and sustaining EBP. It is likely, as these under resourced countries also exhibit higher levels of missed care (Aiken et al., 2012), that EBP by nurses is inconsistent. Moreover, in some of these countries, where the profession of nursing is less well developed in terms of career progression and specialist/advanced practice, nurses are often not empowered to drive EBP as medical doctors are often the main source of EBP information and standards (Barisone, Bagnasco, Timmins, Aleo, & Sasso, 2017; Giusti & Piergentili, 2013).

Regardless of the resource implications it is important for nurse managers internationally to be gatekeepers for EBP and to be watchful in practice. As such they need to focus their attention on what happens in clinical practice and look out for common barriers that may interfere with EBP. The results of this review do reinforce the existing literature about the fundamental role of leadership to support the whole process of implementing and sustaining EBP in health care settings (Dogherty et al., 2010; Fleiszer et al., 2016; Sandström et al., 2011). This role can be seen at different levels: locally, within each hospital, and in transformational nurse leadership, that can share the vision for implementing EBP locally, nationally and globally. Using these leadership skills, at a local level, the nurse manager can support research by allocating resources to create an online EBP education system, including tool kits to increase nurses' exposure to EBP and standardize clinical practice, and by providing time for nurses to learn. A new finding is that even where essential resources are in short supply there is the potential for the nurse manager to encourage sharing of open-access resources to promote learning about research (Warren et al., 2016). There are also many informal situations where the transformational role of the nurse manager can encourage EBP, such as during interpersonal exchanges, communication/discussion, and the assumption of a mentoring role during

team discussions and shift handover, where nurse managers can share their expertise, teach, and help and support problem-solving using EBP (Fleiszer et al., 2016).

Another important role of the nurse manager as an EBP leader is to stimulate communication processes among organisational members about EBP. In fact the implementation and use of social networks is becoming increasingly important for creating and sharing new knowledge about practice, research, and new evidence (Berta, Ginsburg, Gilbert, Lemieux-Charles, & Davis, 2013; Innis & Berta, 2016; Lewin et al., 2011). This increase in social-network usage and open online resources offers opportunities for nurses to learn from and share with colleagues on a global basis. The ever expanding repository of the Internet is a rich resource for nurse managers and nurses to learn about new health care research, international trends, and also the rudiments of research and EBP. There are now even greater possibilities for nurses to listen to research seminars, hear international conference presentations, read open-access research, and participate in many global nursing networks. Transformational nurse managers are needed, perhaps supported by faculty staff, to have a vision to lead on this by providing signposts to relevant resources for hospital nurses. Facilitating this type of staff education means that nurses need to have access to information technology resources, a factor not always consistently in place (Berta et al., 2013; Ellen et al., 2013; Innis & Berta, 2016).

For this reason it is important that the nurse manager is educated not only about EBP and research methods but also about methods of overcoming barriers and appropriate models of implementation. It is only through developing an awareness of difficulties and barriers to the sustained use of EBP that managers can try to bridge the gap between the ideals of EBP and practice. After identifying the barriers, the nurse manager can evaluate the best strategies to address these. The availability of this information is essential in a context where nurse managers often have to be reactive on a daily basis and are driven by urgent demand arriving from practice, administration, and financial departments.

The nurse manager also needs higher level management support to create the structural conditions and access to opportunities and resources for the implementation of EBP (Engström et al., 2015). Structural conditions (location within practice hierarchy and resources, time, and organisational culture, workload and resources) are essential for EBP as well as education and access to information (to resources for research evidence and the possibility to obtain help from a librarian in literature searching, for example) (Engström et al., 2015). There also need to be more collaborative efforts between nurse managers, nursing administration, researchers, educators, and clinical nurses to improve research use and dissemination in these contexts (Olade, 2004).

The importance of collaboration between nurse researchers in academia and nurse clinicians in clinical practice cannot be over-emphasized. This includes collaboration between nurse managers in clinical practice and the university to share research and obtain the support to design and develop research protocols, for example (Oh, 2008). This collaboration can help to define a research protocol

starting from questions and research problems identified in clinical practice. Another useful outcome from improved links between nursing departments in universities and nurse managers in clinical practice is the possibility for staff training on EBP and implementation methodologies (D'Ippolito et al., 2015). This is especially important in countries like Italy where the academic profession of nursing, led by key university staff, is only beginning to develop (Bressan et al., 2017). Indeed where staff identified having access to expert knowledge, training content, and methods of training, and were inspired by this, EBP was more likely (D'Ippolito et al., 2015).

Evidence-based practice requires the knowledge, commitment and confidence of nurses but also the support of nurse managers. Our interest in this topic stems from the understanding that nurse managers have a fundamental role in the implementation of EBP. There is a longstanding awareness of the key barriers to the implementation of EBP in nursing, but a supportive managerial environment is considered facilitative. Despite this, review findings show how common barriers such as lack of authority, time, and resources persist across countries and in different clinical practices environments. Indeed many of the barriers to using research that have been elucidated and confirmed across international literature are pertinent to under-resourced countries on those where the nursing profession is much less developed. Inadequate authority to use research or evidence is a particular barrier for nurses in these countries, especially for those who are reliant on medical practitioners as gatekeepers for EBP. As such neither the nurses, nor their managers have direct authority in developing or implementing evidence-based initiatives (Giusti & Piergentili, 2013). This issue is further compounded by the predominance of English as the language of science, understood by few nurses, who are often reliant on medical doctors to translate new evidence for practice (Barisone et al., 2017). Quite aside from countries such as these, this review highlights that nurse managers need to be mindful of barriers and seek to address them.

5 | CONCLUSION

Evidence-based practice is a modern imperative that is synonymous with quality health care. Gaps in nursing care are becoming evident across Europe, and particular resource issues are being highlighted (Aiken et al., 2012). As nursing and health care for the future need to meet the needs of an increasing aging population, increasing and multiple comorbidities across all ages, and increasing technology, gaps in EBP and resources issues need to be addressed urgently. Although not readily identified as an issue within quality nursing care internationally, the likelihood is, given the information available on international care deficits, that the extent of EBP is both inconsistent and suboptimal. Managers and environmental ward culture have long been identified as the main barriers to practising using an evidence base but there is little overall conceptualization and understanding of the specific role of nurse leaders in directly influencing and supporting the initiation and use of evidence-based practice. It is imperative at this time that nurse

managers develop and harness skills to confront personal, interpersonal, and organisational factors that discourage EBP (Gerrish et al., 2012).

This exploration thus provides a useful synthesis for nurses in this context. It highlights that nurse managers need to be aware that they have a particularly influential role on the implementation of EBP in terms of providing a supportive culture and environment, even where resources and/or interest appear lacking. This review highlights that, to provide effective and necessary support, managers need to have an underlying knowledge of EBP but also to be aware of and address barriers to implementation, and understand their key role in creating and supporting the optimum environment. This review also highlights that various methodologies can be adopted to increase EBP and managers need support from the international nursing community, particularly in relation to sharing open-access and online resources to support EBP. Nurse managers with different levels of experience and competency could therefore begin to understand their own potential for influencing the implementation of EBP. This review provides some practical methods for all nursing leaders to move forward, regardless of their current status, with respect to facilitating (or creating barriers) to EBP. Overall, we highlight that nurse leaders and managers need to be better prepared for leading the translation of evidence into practice (White, Dudley-Brown, & Terhaar, 2016) and also that they should start gaining a better understanding of evidence-based management (Walshe & Rundall, 2001) to redesign nursing care and actively support EBP. Further research is therefore needed to explore the extent of EBP in European countries with high nurse/patient ratios and high levels of missed care to determine the potential barriers to EBP and ways of empowering nurses and nurse managers to spearhead and develop EBP initiatives, even in the context of existing barriers.

6 | LIMITATIONS

This review only examined those papers published in English. It is possible that some studies have been missed as a result. Another potential weakness of this study is the inclusion of mixed methodologies that produce an overall thematic narrative in the field but not substantive quantitative or qualitative data. However, this does enable a rich dialogue about patterns and trends that could both inform and support the emerging discussion.

7 | IMPLICATIONS FOR NURSING MANAGEMENT

This review serves to remind nurse managers of their positive and influential position in sustaining EBP. Both the choice of leadership style and implementation methodology can positively influence an ongoing commitment to EBP by nurses. Where gaps in EBP or knowledge exist it is essential that nurse managers begin to assess these deficits and begin to support nurses to develop their competencies

for research and EBP by organising education programs, creating contact with the local nursing faculty within the university and the international nursing community. Resources, including education for nurses, are essential, as is access to information technology (Berta et al., 2013; Ellen et al., 2013; Inns & Berta, 2016). Nurse managers need to lobby administrators at local and national level to ensure the provision of basic resources for EBP.

ETHICAL APPROVAL

Ethical approval was not required for this paper.

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