

Factors Affecting Nurses' Adoption of Evidence-Based Practice

Subjects: Nursing

Contributor: Luís Furtado, Fábio Coelho, Natália Mendonça, Hélia Soares, Luís Gomes, Joana Pereira Sousa, Hugo Duarte, Cristina Costeira, Cátia Santos, Beatriz Araújo

The concept of evidence-based medicine (EBM), a precursor to the concept of evidence-based practice (EBP), refers to the conscious, explicit, and judicious use of the best evidence in the decision-making process concerning care for a person, considering their values and circumstances. EBP, in turn, is understood as a fundamental resource for professional practice in the health sector which is orientated towards solving problems originating in clinical practice, using the best external evidence and combining it with the preferences and values of the person being cared for, the expertise of a clinical professional, and information from patient data, also known as internal evidence.

Keywords: evidence-based practice ; nursing ; nursing care ; nursing administration research ; implementation science ; nurse administrators

1. Introduction

Healthcare professionals should base their interventions on current and robust scientific evidence to achieve better health outcomes, higher quality of care ^[1], and increases in the cost-effectiveness of healthcare and to enhance the efficiency and sustainability of healthcare systems ^[2]. Failure to translate the best available evidence into professional practice translates into inconsistency, variability in care, and suboptimal results ^{[1][3]}. And even with its undisputable decisive importance, the literature has shown that evidence-based medicine (EBM) is not a widely used approach in the practice of health professionals, which naturally include nurses. This condition represents a considerable challenge for health systems ^[4], as it is estimated that 30–40% of health service users do not receive care based on the best available evidence ^[5].

The need to incorporate EBP into clinical practice is well-established and well-founded; however, its application is still hampered by the perceptions that many nurses have about EBP, which translate into barriers to the use of research in their care activity ^[6], resulting in a worrying situation considering that EBP is related to a better-informed professional decision-making process, as well as a more remarkable ability to plan and provide efficient, individualised, and person-centred nursing care ^[7].

Successive studies that have focused on how nurses view EBP indicate that this professional group values the approach but suffers from inconsistent implementation subject to various constraints and shortcomings, including the inadequacy of the facilities of healthcare organisations for the development of EBP and a lack of time, resources, institutional support, individual knowledge, and specific competences in EBP, but also autonomy and funding or even limitations in access to sources of evidence ^{[8][9][10]}, a circumstance that intensifies the gap between theory and practice ^[11].

The contexts in which care is provided are nonlinear, diverse, dynamic, complex, and adaptive, characterised by networking, with interactions at various levels and in different locations, influenced by multiple values and the different behaviours of the various players but also by organisational limits, external pressure, and environmental factors, which is why it is now assumed worldwide that the organisational context is a determining factor for the implementation and adoption of EBP and thus also for mitigating the gap between theory and practice ^{[12][13]}.

Implementing EBP, duly supported by the healthcare organisation and its managers (at different hierarchical levels), allows nurses to assume their role as agents of change, facilitating their professional autonomy, with the positive impact it has on the health outcomes of those who receive their care ^{[14][15]}. Establishing EBP as a nursing priority is a commitment that must be made in all respects ^[16]. Therefore, it is necessary to determine which factors currently inhibit the adoption of EBP.

2. Factors Affecting Nurses' Adoption of Evidence-Based Practice

2.1. Contextual Factors Relating to Organisational Dynamics

2.1.1 Health Organisation Orientation towards EBP

The adoption of a specific EBP implementation model which cuts across the entire organisation is a facilitating factor in the adoption process, acting as an objective guide that is recognised and understood by everyone and which clarifies the healthcare organisation's position in this area ^{[17][18][19][20][21][22][23]}. In addition, healthcare institutions should ensure that EBP implementation processes are carried out by nurses directly involved in providing care ^[24] as they are better acquainted with any obstacles and are thus better prepared to overcome them, even if they are accompanied by EBP mentors who are not directly linked to the clinical practice context in which the implementation is taking place ^{[19][21]}, thus promoting the transfer of knowledge and sharing of experiences in terms of EBP adoption ^{[23][25]}.

Furthermore, health institutions with quality accreditation projects show higher rates of support for the adoption of EBP because they base their orientation and activity on the search for better responses and results in terms of care and management ^{[24][26]} and are characterised by environments in which research and innovation are encouraged, with robust clinical governance structures and actual quality policies, thus facilitating the development and implementation of EBP ^[27].

2.1.2. Organisational Support

Aligning EBP with a health institution's strategy is fundamental for the organisation's formal recognition ^{[26][28][29]}, defining the principles that facilitate change and focusing on the importance of leaders encouraging multi-professional, evidence-based approaches ^[30]. This dimension of organisational support legitimises the formal authority of clinical services ^{[31][32]} ^{[33][34][35][36]} in leading and affirming the processes of changing practices based on EBP ^{[19][25][37]}.

Similarly, health institutions that set up expert groups or multi-professional technical working groups ^[18], with members with EBP skills, to monitor EBP projects developed in clinical services promote the success of EBP compared to health institutions that do not have this organisational unit ^{[17][32][38][39]}. In addition, the job description sheets of nurses' functional content should reflect, in terms of expected competence and desired action, the use of research results in planning activities and the provision of nursing care, giving them the institutional and formal authority to promote the implementation of EBP in clinical practice contexts ^[29]. In the opposite direction, restructuring processes in organisations and health services which, when they occur, consume considerable energy, resources, and the attention of professionals, in addition to changing the composition of teams, have a profoundly negative impact on ongoing EBP projects and the development of future projects ^[25].

2.1.3. Organisational Culture

Organisations with a dominant culture geared towards the quality and safety of nursing care, with adequately established internal control and result evaluation systems, tend to favour the implementation of EBP ^[40], showing less resistance to change and encouraging nurses to challenge professional practices and established behaviours by actively looking for better alternatives ^{[17][22][25][41]}. In this respect, an organisational culture that values research and research results to improve care will facilitate the implementation and dissemination of the processes inherent in EBP ^{[27][42]}.

Organisational culture and its orientation towards EBP cannot be dissociated from the size of healthcare organisations, considering that in large hospitals that serve very diverse audiences, barriers of a cultural nature can emerge, such as those arising from the socialisation process within teams. In contrast, in smaller hospitals with a propensity to create dynamics of greater proximity and affinity, conditions can be made that facilitate the adoption of EBP precisely because of the fluidity and ease of transferring and sharing knowledge and experiences ^[43].

2.1.4. Training and Professional Development

Nurses believe that healthcare organisations should promote access to specific training in EBP—postgraduate or short-term ^{[44][45]}—including incentives for training ^[29] or internal training promoted by the healthcare institutions themselves ^[24]. Continuous training aimed at EBP should be taken on as a central dimension in the organisation with a view to professional development, which is seen as a determining factor in the emergence of environments that facilitate EBP ^[40]. In cases in which local EBP training initiatives are chosen, they should be promoted in stages, gradually introducing nurses to the concepts, methods, and processes inherent in adopting EBP ^[21]. The creation of favourable conditions for disseminating the results of EBP implementation through participation in congresses, conferences, communications, and scientific meetings, with the publication of articles and the presentation of posters and oral communications, is also associated with consolidating this approach ^[40].

2.1.5. Articulation with External Organisations

The support of external organisations in providing the resources (material, human, and technical) needed to implement EBP when health institutions cannot do so on their own emerges as a facilitating aspect of the process [19][44]. It is worth highlighting the establishment of partnerships with higher-education institutions to promote the sharing of experience and knowledge and thus prepare nursing teams for their progressive autonomy in implementing scientific evidence [18][28][29][32][40]. In this area, it is also essential to consider the need for health policymakers to prioritise EBP in the sector and to improve the quality, safety, and cost-effectiveness of care by legislating, regulating, and issuing strategic and technical guidelines to encourage the adoption of EBP [44].

2.2. Contextual Factors Relating to Management and Leadership

Nurse Managers and Nursing Leadership

The role of nurse managers is crucial in promoting EBP in healthcare institutions [23][31][40][41][43][46][47], defining, at each management level or department, the policy and orientation of the respective services in terms of the quality and safety of nursing care [30][48], mainly through a collective team vision of the importance of adopting EBP [22][26][28].

Nursing managers must take on the adoption of EBP as a central dimension in defining their priorities and in the strategic orientation of the nursing service at the institutional level [17][21], considering that the less leadership and orientation there is, the more obstacles nurses will encounter in adopting EBP [43] since it is known that the formal authority of the nurse manager legitimises the implementation of EBP [30][49]. Nurse managers also act as role models and mentors [26]. They can set an example when it comes to using evidence [50][51], empowering teams [26], sharing experiences and knowledge, supervising processes [24][51], promoting spaces for wide-ranging discussion [18], and recognising merit whenever it arises [24][40]. They mediate interprofessional conflicts [50] and facilitate communication and teamwork [30][40][51][52].

2.3. Contextual Factors Relating to Teamwork and Communication

Communication and Peer Relations

Resistance to change on the part of nurses in teams and other professional groups, including doctors, is a solid inhibitor to the implementation of EBP [7][31][32][34][35][36][37][38][49][53][54]. Professional practices based on old habits and traditions that are not questioned or challenged severely hamper initiatives that seek to promote the integration of the best scientific evidence into care practice [18].

Nurses who promote EBP initiatives commonly do not effectively communicate the relevance of their actions within their teams, showing insufficient and inadequate communication [31][42]. This difficulty in communicating and making EBP relevant and the need for change prevail is also felt in the relationship established with nurse managers, resulting in damage [24][30][48].

2.4. Context Factors Relating to Resources and Infrastructure

2.4.1. Human Resources

Staffing is a vital resource for implementing EBP, i.e., with enough nurses, it is possible to conciliate the provision of nursing care with the processes inherent in implementing EBP [7][29][45]. This impossibility stems from the work overload that nurses are already subjected to [20][45][54] and high internal turnover [49], which generates professional dissatisfaction and accentuates the unwillingness to implement EBP, which translates into a lack of commitment and motivation [40][44][50].

2.4.2. Time

Nurses point out that they do not have enough time to carry out the processes of researching, locating, reading and analysing scientific literature, primarily as a result of understaffing, prioritising the provision of care to the detriment of EBP [7][18][19][23][25][28][29][31][32][33][34][35][36][38][46][49][53][55][56][57], resulting in the fact that if they want to develop EBP projects, they have to carry them out outside of working hours, i.e., at home, compromising their personal rest time [46].

2.4.3. Adequacy and Availability of Infrastructure

The number of computers available to accommodate the administrative demands associated with the provision of care as well as the activities inherent to EBP, but also the type and speed of internet access, are identified as determining factors for the success of EBP [28][29][37][41][46][54]. The existence of suitable physical conditions for the development of EBP, such as meeting rooms, desks and chairs in spaces exclusively dedicated to this activity [31][44], and even libraries [40][53], are also aspects that directly impact the implementation of EBP. Finally, the physical conditions of clinical practice settings,

which make it impossible to implement the changes that emerge from applying scientific evidence [29][34][36][40], are also signalled as factors that inhibit EBP due to their insufficiency or inadequacy.

2.4.4. Material and Other Resources

Factors associated with the adoption of EBP in this subdomain include the need to provide nurses with up-to-date documentary collections that are appropriate to the nature and specificity of clinical practice contexts, as well as access to relevant scientific databases to locate current, high-quality research results [7][29][40][44][54]. On the other hand, access to modern materials and equipment, including clinical consumables and diagnostic and therapeutic aids, is a highly relevant factor in implementing guidelines and recent evidence in specific care contexts [40][43][45].

2.5. Specificities Inherent to the Context of Clinical Practice

There were no noteworthy differences in the factors associated with implementing EBP in the different types of clinical services covered by the studies. Notwithstanding the above, some aspects are worth mentioning due to the specificity of the contexts in which they were identified. For example, there is a more significant reference to the limitations of time and the availability of human resources in integrated long-term care, palliative care, and primary health care, with an impact on the adoption of EBP by nurses, resulting in the impossibility of ensuring a capable response in terms of nursing care at the same time as the development of EBP implementation processes [38][49]. Furthermore, the day-to-day management of existing material resources in long-term care (which are often insufficient) is a challenge, which is why, in the opinion of nurses, the use of EBP only intensifies this difficulty because it forces them to fulfil quality standards that are impossible to achieve in a context of scarcity [49]. Also, in this area, and in conclusion, nurses draw attention to staff turnover and the impact this has on team stability, a fundamental condition for the solid development of EBP implementation projects which does not affect all services with equal intensity and coverage, mainly services with a higher level of criticality (e.g., operating theatres, emergency services, or intensive care units), which seem to be more protected from turnover due to the high specialisation of nurses [25][49].

2.6 Specificities Inherent to Geographical or Geopolitical Contexts

In line with the specificities arising from the context of clinical practice, no significant differences were identified in the factors associated with different countries, depending on their income group. Nevertheless, it is important to emphasise certain factors that significantly impact the adoption of EBP by nurses in lower-income countries.

Although the broad recognition of limitations of a material and infrastructural nature, including the availability of computer equipment, internet access and speed, access to and availability of sources of information, particularly electronic databases, but also the existence of infrastructure and material resources to implement EBP processes and evidence itself, were transversal to all the studies included, these limitations are substantially more emphasised in low- and lower-middle-income countries [19][28][29][31][37][41][42][54], with all that this represents in terms of EBP adoption. The same is true of nurses' formal authority to adopt EBP and change professional practices, both among peers and especially in the face of a lack of recognition from doctors [29][31][37][41][42][54]. Finally, and acknowledging various shortcomings in terms of knowledge and experience in implementing EBP which stem from its specificity and the context in which it is located, studies from these countries highlight the need for non-governmental organisations, as well as organisations and higher-education institutions located in countries with a greater availability of resources, to provide support of various kinds, including the sharing of know-how, to develop, strengthen, and consolidate EBP as a central approach to the design and provision of nursing care [19].

2.7. Instruments Used to Identify the Contextual Factors Influencing the Adoption of EBP

Although it was not so much an objective as a research question, during the data analysis, extraction, and synthesis work, it seemed pertinent to the team of reviewers to identify the data collection instruments, whenever possible, used to determine the factors associated with the professional practice context and the organisational context involved in implementing EBP. Thus, of the 25 primary studies included in the literature synthesis, 23 referred to the instruments used in them. Of these, due to the nature of their methodological design, six were semi-structured interviews (some of which included non-participant observation), three were instruments authored by the authors (with no name given to the instrument), and another three were partial adaptations of instruments already validated for different contexts and populations but not subject to new validation within the scope of the studies for which the adaptation was intended.

The most used instrument was the "Barriers Research Utilisation Scale", present in six included primary studies [31][33][34][35][36][47], followed by the "Implementation Climate Scale" [51], the "Alberta Context Tool" [52], and the "Facilitators to Research Utilisation Scale" [47] with only one use, the "Nursing Evidence-Based Practice Survey" [18], the "Organisational

Culture and Readiness for System-Wide Integration of Evidence-Based Practice Scale” [22], the “Evidence-Based Practice Nursing Leadership Scale” [24], the “Evidence-Based Practice Work Environment Scale” [24], and the “Developing Evidence-Based Practice Questionnaire” [48].

3. Summary

Generally speaking, the factors associated with professional practice contexts and organisational dynamics, as far as the conditions for adopting EBP are concerned, have remained relatively unchanged over the last few years [36], a circumstance that is surprising; given that the situations and problems have been well identified, and that EBP remains an apparent priority for healthcare organisations, this scenario should already have been, if not wholly, at least partially modified [58][59].

The factors that stem intrinsically from organisations have emerged as the most significant in terms of their impact on the adoption of EBP by nurses [60][61]. From its strategic orientation, it is up to an organisation to define its commitment to implementing EBP as a structuring approach for its quality, safety, and cost-effectiveness policy [10][13]. Suppose a particular measure is a priority for an organisation. In that case, if it is established by the board of directors or the nursing department, and if this option is also clearly communicated, the employees must align themselves with it, integrating the directive and acting accordingly [62][63].

In the specific case of EBP, the existence of an institutionally established implementation model that is easy for clinical professionals to assimilate, in which the associated processes and procedures have been presented, discussed, and reviewed through training initiatives, is a way of institutionally assuming EBP as a strategic priority and laying the foundations for its adoption [13][64][65]. This level of definition and clarity is generally better established in organisations involved in accreditation and certification programmes (e.g., Magnet Recognition Program, CHKS, or Joint Commission), insofar as the implementation of EBP is already monitored by external bodies that verify and validate internal quality processes or, in some way, the quality criteria they establish oblige healthcare organisations to resort to procedures that essentially involve using EBP to update internal procedures, algorithms, standards of clinical practice, and manuals of good practice [66][67][68].

Aside from an organisation's willingness and readiness to promote EBP, it is also essential that the necessary resources are made available, starting with the provision of spaces and equipment exclusively for this purpose: spaces in which the implementation teams can meet, discuss, and assess the relevance and priority of different projects [34][36][44]. In healthcare organisations where EBP is still in its infancy and is not particularly well structured, it may make sense to establish teams and groups of experts with expertise in EBP, including members of the organisation itself (where these exist) but also from external partners, such as universities, professional associations, or scientific societies [69]. This option could lead to the progressive expansion and consolidation of EBP in clinical practice contexts as it promotes the development of competence through the supervision and mentoring of the professionals involved in the processes at the local level [70].

Another crucial aspect, but on which is challenging to address and resolve, is the need for more receptiveness of teams to change [71]. Healthcare organisations may be willing to promote EBP in clinical practice contexts. However, professionals, particularly nurses, may not be willing to do so and may not feel the need to question and challenge their practices. Healthcare organisations need to take a different approach, focusing on raising awareness among teams [44][72]. This awareness raising must necessarily involve nurse managers, who are responsible for local coordination of services and teams but also for implementing, at an operational level, using the strategies they consider most appropriate and adapted to each context, the determinations that result from the strategic orientation of the boards of directors of health institutions [73]. An essential part of this awareness raising must focus on the quality and safety of the nursing care provided, not only from the perspective of the person, group, or community being cared for but also from that of the health professional, creating the conditions for safer and more responsible care practice [74][75].

As far as the role of nurse managers is concerned, particularly in promoting EBP, it continues after carrying out senior management's directives [71][76]. Their role in motivating teams, encouraging and recognising merit, facilitating communication, and resolving conflicts, particularly those with other professional groups, is essential [77][78][79]. Capable leadership from nurse managers gives the nurses on these teams the formal authority to lead their projects to implement evidence and change professional practices [80][81]. Nurse managers also play a fundamental role in monitoring and mentoring the implementation of evidence, providing support for the process [71][82][83].

In organisations and professional practice contexts in which EBP is still in its infancy, it is necessary to be aware of the possible need to make a very considerable initial investment at various levels even before any results are achieved [28][84]. This investment involves investing in the teams' size and suitability, training, and preparation for EBP and adapting the physical infrastructure and information systems to implement EBP [39][85]. Modern healthcare organisations are also centres of knowledge, so the modernisation of libraries and access to scientific databases, even through protocols and cooperation agreements with partner higher education institutions, needs to be considered if the intention is to consider implementing EBP [6][86] seriously.

In conclusion, and with relative certainty, it can be assumed that it does not make much sense to demand that nurses base their care practice on the best scientific evidence available when the minimum conditions necessary for this are not met by health institutions and clinical services, especially those related to the existence of a sufficient number of nurses to reconcile, without conflict and harm to either party, the provision of nursing care with the activities that result from the implementation and development of EBP. Nor does it make sense to transfer the responsibility for implementing EBP to the dimension of nurses' professional responsibility, requiring them to acquire and consolidate EBP competencies, since for these to be expressed in context, to be consolidated and to result in real and objective gains, both for health systems and services and for the recipients of health care, healthcare organisations must take on EH&S and create the necessary conditions (those that depend on them) for its implementation, recognising their decisive role in facilitating the implementation of EH&S from the outset, orienting their strategy towards the continuous improvement of quality of care and making this orientation unequivocal for the entire organisation.

References

1. Cheng, Q.; Gibb, M.; Graves, N.; Finlayson, K.; Pacella, R.E. Cost-effectiveness analysis of guideline-based optimal care for venous leg ulcers in Australia. *BMC Health Serv. Res.* 2018, 18, 421.
2. Ritchie, K.C.; Snelgrove-Clarke, E.; Murphy, A.L. The 23-item Evidence Based Practice-Knowledge Attitudes and Practices (23-item EBP-KAP) survey: Initial validation among health professional students. *Health Prof. Educ.* 2019, 5, 152–162.
3. Macias, C.G.; Loveless, J.N.; Jackson, A.N.; Suresh, S. Delivering Value Through Evidence-Based Practice. *Clin. Pediatr. Emerg. Med.* 2017, 18, 89–97.
4. Malik, G.; McKenna, L.; Plummer, V. Perceived knowledge, skills, attitude and contextual factors affecting evidence-based practice among nurse educators, clinical coaches and nurse specialists. *Int. J. Nurs. Pract.* 2015, 21 (Suppl. S2), 46–57.
5. Mahmoud, M.H.; Abdelrasol, Z.F.M. Obstacles in employing evidence-based practice by nurses in their clinical settings: A descriptive study. *Front. Nurs.* 2019, 6, 123–133.
6. Malik, G.; McKenna, L.; Plummer, V. Facilitators and barriers to evidence-based practice: Perceptions of nurse educators, clinical coaches and nurse specialists from a descriptive study. *Contemp. Nurse* 2016, 52, 544–554.
7. Alqahtani, N.; Oh, K.M.; Kitsantas, P.; Rodan, M. Nurses' evidence-based practice knowledge, attitudes and implementation: A cross-sectional study. *J. Clin. Nurs.* 2020, 29, 274–283.
8. Sidani, S.; Manojlovich, M.; Doran, D.; Fox, M.; Covell, C.L.; Kelly, H.; Jeffs, L.; McAllister, M. Nurses' Perceptions of Interventions for the Management of Patient-Oriented Outcomes: A Key Factor for Evidence-Based Practice. *Worldviews Evid.-Based Nurs.* 2016, 13, 66–74.
9. Youssef, N.F.A.; Alshraifeen, A.; Alnuaimi, K.; Upton, P. Egyptian and Jordanian nurse educators' perception of barriers preventing the implementation of evidence-based practice: A cross-sectional study. *Nurse Educ. Today* 2018, 64, 33–41.
10. Hamaideh, S.H. Sources of Knowledge and Barriers of Implementing Evidence-Based Practice Among Mental Health Nurses in Saudi Arabia. *Perspect. Psychiatr. Care* 2017, 53, 190–198.
11. Benton, D.C.; Watkins, M.J.; Beasley, C.J.; Ferguson, S.L.; Holloway, A. Evidence-based policy: Nursing now and the importance of research synthesis. *Int. Nurs. Rev.* 2020, 67, 52–60.
12. Cassidy, C.E.; Flynn, R.; Shuman, C.J. Preparing Nursing Contexts for Evidence-Based Practice Implementation: Where Should We Go From Here? *Worldviews Evid.-Based Nurs.* 2021, 18, 102–110.
13. Melnyk, B.M.; Tan, A.; Hsieh, A.P.; Gallagher-Ford, L. Evidence-Based Practice Culture and Mentorship Predict EBP Implementation, Nurse Job Satisfaction, and Intent to Stay: Support for the ARCC© Model. *Worldviews Evid.-Based Nurs.* 2021, 18, 272–281.

14. Cleary-Holdforth, J.; Fineout-Overholt, E.; O'Mathúna, D. How nursing stakeholders in the Republic of Ireland define evidence-based practice and why it matters. *Worldviews Evid.-Based Nurs.* 2022, 19, 396–404.
15. Melnyk, B.; Gallagher-Ford, L.; Long, L.; Fineout-Overholt, E. The Establishment of Evidence-Based Practice Competencies for Practicing Registered Nurses and Advanced Practice Nurses in Real-World Clinical Settings: Proficiencies to Improve Healthcare Quality, Reliability, Patient Outcomes, and Costs. *Worldviews Evid.-Based Nurs.* 2014, 11, 5–15.
16. Speroni, K.G.; McLaughlin, M.K.; Friesen, M.A. Use of Evidence-based Practice Models and Research Findings in Magnet-Designated Hospitals Across the United States: National Survey Results. *Worldviews Evid.-Based Nurs.* 2020, 17, 98–107.
17. Ost, K.; Blalock, C.; Fagan, M.; Sweeney, K.M.; Miller-Hoover, S.R. Aligning Organizational Culture and Infrastructure to Support Evidence-Based Practice. *Crit. Care Nurse* 2020, 40, 59–63.
18. Crawford, C.L.; Rondinelli, J.; Zuniga, S.; Valdez, R.M.; Tze-Polo, L.; Titler, M.G. Barriers and facilitators influencing EBP readiness: Building organizational and nurse capacity. *Worldviews Evid.-Based Nurs.* 2022, 20, 27–36.
19. Dagne, A.H.; Beshah, M.H. Implementation of evidence-based practice: The experience of nurses and midwives. *PLoS ONE* 2021, 16, e0256600.
20. Renolen, Å.; Hjälmhult, E.; Høye, S.; Danbolt, L.J.; Kirkevold, M. Creating room for evidence-based practice: Leader behavior in hospital wards. *Res. Nurs. Health* 2020, 43, 90–102.
21. Duff, J.; Cullen, L.; Hanrahan, K.; Steelman, V. Determinants of an evidence-based practice environment: An interpretive description. *Implement. Sci. Commun.* 2020, 1, 85.
22. Chen, L.L.; Wu, Y.N.; Zhou, C.L.; Li, X.X.; Zhao, H.H. Value, knowledge and implementation on evidence-based practice among nurse managers in china: A regional cross-sectional survey. *J. Nurs. Manag.* 2020, 28, 139–147.
23. Zhao, J.; Bai, W.; Zhang, Q.; Su, Y.; Wang, J.; Du, X.; Zhou, Y.; Kong, C.; Qing, Y.; Gong, S.; et al. Evidence-based practice implementation in healthcare in China: A living scoping review. *Lancet Reg. Health West. Pac.* 2022, 20, 100355.
24. Alqahtani, N.; Oh, K.M.; Kitsantas, P.; Rodan, M.; Innab, A.; Asiri, S.; Kerari, A.; Bin Hayyan, F.; Alharbi, M.; Bahari, G. Organizational Factors Associated with Evidence-Based Practice Knowledge, Attitudes, and Implementation among Nurses in Saudi Arabia. *Int. J. Environ. Res. Public. Health* 2022, 19, 8407.
25. Mathieson, A.; Grande, G.; Luker, K. Strategies, facilitators and barriers to implementation of evidence-based practice in community nursing: A systematic mixed-studies review and qualitative synthesis. *Prim. Health Care Res. Dev.* 2018, 20, e6.
26. Teixeira, A.C.; Nogueira, A.; Barbieri-Figueiredo, M.D. Professional empowerment and evidence-based nursing: A mixed-method systematic review. *J. Clin. Nurs.* 2022.
27. Nelson-Brantley, H.V.; Beckman, D.; Parchment, J.; Smith-Miller, C.A.; Weaver, S.H. Magnet(R) and Pathway to Excellence(R) Focusing on Research and Evidence-Based Practice. *J. Nurs. Adm.* 2020, 50, 245–247.
28. Ayoubian, A.; Nasiripour, A.A.; Tabibi, S.J.; Bahadori, M. Evaluation of Facilitators and Barriers to Implementing Evidence-Based Practice in the Health Services: A Systematic Review. *Galen. Med. J.* 2020, 9, e1645.
29. Shayan, S.J.; Kiwanuka, F.; Nakaye, Z. Barriers Associated With Evidence-Based Practice Among Nurses in Low- and Middle-Income Countries: A Systematic Review. *Worldviews Evid.-Based Nurs.* 2019, 16, 12–20.
30. Clavijo-Chamorro, M.Z.; Romero-Zarallo, G.; Gómez-Luque, A.; López-Espuela, F.; Sanz-Martos, S.; López-Medina, I.M. Leadership as a Facilitator of Evidence Implementation by Nurse Managers: A Metasynthesis. *West. J. Nurs. Res.* 2022, 44, 567–581.
31. Azmoude, E.; Aradmehr, M.; Dehghani, F. Midwives' Attitude and Barriers of Evidence Based Practice in Maternity Care. *Malays. J. Med. Sci.* 2018, 25, 120–128.
32. Younas, A. Identifying international barriers and facilitators to research utilization. *Nursing* 2020, 50, 63–67.
33. Alshammari, M.S.; Alshurtan, R.; Alsuliman, G.; Alshammari, M.; Alhamazani, H.; Alshammry, S.; Dayrit, R.D.; Alkwiese, M. Factors Affecting the Implementation and Barriers to Evidence-Based Practice among Nurse Practitioners in Hail Region, Saudi Arabia. *Nurse Media J. Nurs.* 2021, 11, 187–196.
34. Alqahtani, J.M.; Carsula, R.P.; Alharbi, H.A.; Alyousef, S.M.; Baker, O.G.; Tumala, R.B. Barriers to Implementing Evidence-Based Practice among Primary Healthcare Nurses in Saudi Arabia: A Cross-Sectional Study. *Nurs. Rep.* 2022, 12, 313–323.
35. van der Goot, W.E.; Keers, J.C.; Kuipers, R.; Nieweg, R.M.B.; de Groot, M. The effect of a multifaceted evidence-based practice programme for nurses on knowledge, skills, attitudes, and perceived barriers: A cohort study. *Nurse Educ.*

36. Berthelsen, C.; Hølge-Hazelton, B. The Importance of Context and Organization Culture in the Understanding of Nurses' Barriers Against Research Utilization: A Systematic Review. *Worldviews Evid.-Based Nurs.* 2021, 18, 111–117.
37. Nkrumah, I.; Atuhaire, C.; Priebe, G.; Cumber, S.N. Barriers for nurses' participation in and utilisation of clinical research in three hospitals within the Kumasi Metropolis, Ghana. *Pan Afr. Med. J.* 2018, 30, 1–11.
38. Dakka, F.J. Nurses Barriers to Evidence-Based Practice in Palliative Care: A Systematic Review. *SAGE Open Nurs.* 2022, 8, 23779608221142957.
39. Gallagher-Ford, L.; Koshy Thomas, B.; Connor, L.; Sinnott, L.T.; Melnyk, B.M. The Effects of an Intensive Evidence-Based Practice Educational and Skills Building Program on EBP Competency and Attributes. *Worldviews Evid.-Based Nurs.* 2020, 17, 71–81.
40. Clavijo-Chamorro, M.Z.; Sanz-Martos, S.; Gómez-Luque, A.; Romero-Zarallo, G.; López-Medina, I.M. Context as a Facilitator of the Implementation of Evidence-based Nursing: A Meta-synthesis. *West. J. Nurs. Res.* 2020, 43, 60–72.
41. Dessie, G.; Jara, D.; Alem, G.; Mulugeta, H.; Zewdu, T.; Wagnew, F.; Bigley, R.; Burrowes, S. Evidence-Based Practice and Associated Factors Among Health Care Providers Working in Public Hospitals in Northwest Ethiopia During 2017. *Curr. Ther. Res. Clin. Exp.* 2020, 93, 100613.
42. Shifaza, F.; Hamiduzzaman, M. System Factors Influencing the Australian Nurses' Evidence-based Clinical Decision Making: A Systematic Review of Recent Studies. *J. Evid.-Based Care* 2019, 9, 16–30.
43. Fu, Y.F.; Wang, C.Q.; Hu, Y.; Muir-Cochrane, E. The barriers to evidence-based nursing implementation in mainland China: A qualitative content analysis. *Nurs. Health Sci.* 2020, 22, 1038–1046.
44. Gifford, W.; Zhang, Q.; Chen, S.; Davies, B.; Xie, R.; Wen, S.-W.; Harvey, G. When east meets west: A qualitative study of barriers and facilitators to evidence-based practice in Hunan China. *BMC Nurs.* 2018, 17, 26.
45. Lizarondo, L.; Lockwood, C.; McArthur, A. Barriers and Facilitators to Implementing Evidence in African Health Care: A Content Analysis With Implications for Action. *Worldviews Evid.-Based Nurs.* 2019, 16, 131–141.
46. Fry, M.; Attawet, J. Nursing and midwifery use, perceptions and barriers to evidence-based practice: A cross-sectional survey. *Int. J. Evid.-Based Healthc.* 2018, 16, 47–54.
47. Li, C.; Li, L.; Wang, Z. Knowledge, attitude and behaviour to evidence-based practice among psychiatric nurses: A cross-sectional survey. *Int. J. Nurs. Sci.* 2022, 9, 343–349.
48. Al-Maskari, M.A.; Patterson, B.J. Attitudes Towards and Perceptions Regarding the Implementation of Evidence-Based Practice Among Omani Nurses. *Sultan Qaboos Univ. Med. J.* 2018, 18, e344–e349.
49. McArthur, C.; Bai, Y.; Hewston, P.; Giangregorio, L.; Straus, S.; Papaioannou, A. Barriers and facilitators to implementing evidence-based guidelines in long-term care: A qualitative evidence synthesis. *Implement. Sci.* 2021, 16, 70.
50. Bianchi, M.; Bagnasco, A.; Bressan, V.; Barisone, M.; Timmins, F.; Rossi, S.; Pellegrini, R.; Aleo, G.; Sasso, L. A review of the role of nurse leadership in promoting and sustaining evidence-based practice. *J. Nurs. Manag.* 2018, 26, 918–932.
51. Shuman, C.J.; Liu, X.; Aebbersold, M.L.; Tschannen, D.; Banaszak-Holl, J.; Titler, M.G. Associations among unit leadership and unit climates for implementation in acute care: A cross-sectional study. *Implement. Sci.* 2018, 13, 62.
52. Pittman, J.; Cohee, A.; Storey, S.; LaMothe, J.; Gilbert, J.; Bakoyannis, G.; Ofner, S.; Newhouse, R. A Multisite Health System Survey to Assess Organizational Context to Support Evidence-Based Practice. *Worldviews Evid.-Based Nurs.* 2019, 16, 271–280.
53. Lanssens, D.; Goemaes, R.; Vrielinck, C.; Tency, I. Knowledge, attitudes and use of evidence-based practice among midwives in Belgium: A cross-sectional survey. *Eur. J. Midwifery* 2022, 6, 36.
54. Yiridomoh, G.Y.; Dayour, F.; Bonye, S.Z. Evidence-based practice and rural health service delivery: Knowledge and barriers to adoption among clinical nurses in Ghana. *Rural. Soc.* 2020, 29, 134–149.
55. Dagne, A.H.; Beshah, M.H.; Kassa, B.G.; Dagnaw, E.H. Implementation of evidence-based practice and associated factors among nurses and midwives working in Amhara Region government hospitals: A cross-sectional study. *Reprod. Health* 2021, 18, 1–10.
56. Lafuente-Lafuente, C.; Leita, C.; Kilani, I.; Kacher, Z.; Engels, C.; Canoui-Poitine, F.; Belmin, J. Knowledge and use of evidence-based medicine in daily practice by health professionals: A cross-sectional survey. *BMJ Open* 2019, 9, e025224.
57. Pitsillidou, M.; Roupas, Z.; Farmakas, A.; Noulas, M. Barriers to the adoption of evidence-based practice among nurses. *Kontakt-J. Nurs. Soc. Sci. Relat. Health Illn.* 2020, 22, 85–91.

58. WHO. Delivering Quality Health Services: A Global Imperative for Universal Health Coverage; World Health Organization: Geneva, Switzerland, 2018.
59. Melnyk, B.M.; Fineout-Overholt, E.; Gallagher-Ford, L.; Kaplan, L. The state of evidence-based practice in US nurses: Critical implications for nurse leaders and educators. *J. Nurs. Adm.* 2012, 42, 410–417.
60. González-Torrente, S.; Pericas-Beltrán, J.; Bennasar-Veny, M.; Adrover-Barceló, R.; Morales-Asencio, J.M.; De Pedro-Gómez, J. Perception of evidence-based practice and the professional environment of Primary Health Care nurses in the Spanish context: A cross-sectional study. *BMC Health Serv. Res.* 2012, 12, 227.
61. Thorsteinsson, H.S.; Sveinsdóttir, H. Readiness for and predictors of evidence-based practice of acute-care nurses: A cross-sectional postal survey. *Scand. J. Caring Sci.* 2014, 28, 572–581.
62. Warren, J.I.; McLaughlin, M.; Bardsley, J.; Eich, J.; Esche, C.A.; Kropkowski, L.; Risch, S. The Strengths and Challenges of Implementing EBP in Healthcare Systems. *Worldviews Evid.-Based Nurs.* 2016, 13, 15–24.
63. Cleary-Holdforth, J.; Leufer, T.; Baghdadi, N.A.; Almegewly, W. Organizational culture and readiness for evidence-based practice in the Kingdom of Saudi Arabia: A pre-experimental study. *J. Nurs. Manag.* 2022, 30, 4560–4568.
64. Kim, S.C.; Ecoff, L.; Brown, C.E.; Gallo, A.-M.; Stichler, J.F.; Davidson, J.E. Benefits of a Regional Evidence-Based Practice Fellowship Program: A Test of the ARCC Model. *Worldviews Evid.-Based Nurs.* 2017, 14, 90–98.
65. Gorsuch, C.; Gallagher Ford, L.; Koshy Thomas, B.; Melnyk, B.M.; Connor, L. Impact of a Formal Educational Skill-Building Program Based on the ARCC Model to Enhance Evidence-Based Practice Competency in Nurse Teams. *Worldviews Evid.-Based Nurs.* 2020, 17, 258–268.
66. Warren, J.I.; Montgomery, K.L.; Friedmann, E. Three-Year Pre-Post Analysis of EBP Integration in a Magnet-Designated Community Hospital. *Worldviews Evid.-Based Nurs.* 2016, 13, 50–58.
67. Melnyk, B.M.; Zellefrow, C.; Tan, A.; Hsieh, A.P. Differences Between Magnet and Non-Magnet-Designated Hospitals in Nurses' Evidence-Based Practice Knowledge, Competencies, Mentoring, and Culture. *Worldviews Evid.-Based Nurs.* 2020, 17, 337–347.
68. Wilson, M.; Sleutel, M.; Newcomb, P.; Behan, D.; Walsh, J.; Wells, J.N.; Baldwin, K.M. Empowering nurses with evidence-based practice environments: Surveying Magnet®, Pathway to Excellence®, and non-magnet facilities in one healthcare system. *Worldviews Evid.-Based Nurs.* 2015, 12, 12–21.
69. Schaffer, M.A.; Sandau, K.E.; Diedrick, L. Evidence-based practice models for organizational change: Overview and practical applications. *J. Adv. Nurs.* 2013, 69, 1197–1209.
70. Yoo, J.Y.; Kim, J.H.; Kim, J.S.; Kim, H.L.; Ki, J.S. Clinical nurses' beliefs, knowledge, organizational readiness and level of implementation of evidence-based practice: The first step to creating an evidence-based practice culture. *PLoS ONE* 2019, 14, e0226742.
71. Gallagher-Ford, L. Implementing and sustaining EBP in real world healthcare settings: A leader's role in creating a strong context for EBP. *Worldviews Evid.-Based Nurs.* 2014, 11, 72–74.
72. Renolen, Å.; Hjälmhult, E.; Høye, S.; Danbolt, L.J.; Kirkevold, M. Evidence-based practice integration in hospital wards- The complexities and challenges in achieving evidence-based practice in clinical nursing. *Nurs. Open* 2019, 6, 815–823.
73. Guerrero, E.G.; Padwa, H.; Fenwick, K.; Harris, L.M.; Aarons, G.A. Identifying and ranking implicit leadership strategies to promote evidence-based practice implementation in addiction health services. *Implement. Sci.* 2016, 11, 69.
74. Renolen, Å.; Høye, S.; Hjälmhult, E.; Danbolt, L.J.; Kirkevold, M. "Keeping on track"-Hospital nurses' struggles with maintaining workflow while seeking to integrate evidence-based practice into their daily work: A grounded theory study. *Int. J. Nurs. Stud.* 2018, 77, 179–188.
75. Chou, A.F.; Vaughn, T.E.; McCoy, K.D.; Doebbeling, B.N. Implementation of evidence-based practices: Applying a goal commitment framework. *Health Care Manag. Rev.* 2011, 36, 4–17.
76. Trus, M.; Martinkenas, A.; Suominen, T. International Nursing: How Much Power Do Nurse Managers Have? *Nurs. Adm. Q.* 2017, 41, 337–345.
77. Sredl, D.; Melnyk, B.M.; Hsueh, K.-H.; Jenkins, R.; Ding, C.; Durham, J. Health care in crisis! Can nurse executives' beliefs about and implementation of evidence-based practice be key solutions in health care reform? *Teach. Learn. Nurs.* 2011, 6, 73–79.
78. Moran, V.; Israel, H.; Sebelski, C. Leadership development of nursing professionals: Education and influences of self-efficacy. *Nurs. Outlook* 2021, 69, 589–597.
79. Martins, M.M.; Trindade, L.L.; Vandresen, L.; Amestoy, S.C.; Prata, A.P.; Vilela, C. Conflict management strategies used by Portuguese nurse managers. *Rev. Bras. Enferm.* 2020, 73, e20190336.

80. Chang, H.C.; Jones, M.K.; Russell, C. Exploring attitudes and barriers toward the use of evidence-based nursing among nurse managers in Taiwanese residential aged care facilities. *J. Gerontol. Nurs.* 2013, 39, 36–42.
81. Aarons, G.A.; Sommerfeld, D.H. Leadership, innovation climate, and attitudes toward evidence-based practice during a statewide implementation. *J. Am. Acad. Child. Adolesc. Psychiatry* 2012, 51, 423–431.
82. Spiva, L.; Hart, P.L.; Patrick, S.; Waggoner, J.; Jackson, C.; Threatt, J.L. Effectiveness of an Evidence-Based Practice Nurse Mentor Training Program. *Worldviews Evid.-Based Nurs.* 2017, 14, 183–191.
83. Saunders, H.; Vehviläinen-Julkunen, K. Nurses' Evidence-Based Practice Beliefs and the Role of Evidence-Based Practice Mentors at University Hospitals in Finland. *Worldviews Evid.-Based Nurs.* 2017, 14, 35–45.
84. Sarabia-Cobo, C.M.; Sarabia-Cobo, A.B.; Pérez, V.; Hermosilla, C.; Nuñez, M.J.; de Lorena, P. Barriers in implementing research among registered nurses working in the care of the elderly: A multicenter study in Spain. *Appl. Nurs. Res.* 2015, 28, 352–355.
85. Duncombe, D.C. A multi-institutional study of the perceived barriers and facilitators to implementing evidence-based practice. *J. Clin. Nurs.* 2018, 27, 1216–1226.
86. Hellier, S.; Cline, T. Factors that affect nurse practitioners' implementation of evidence-based practice. *J. Am. Assoc. Nurse Pract.* 2016, 28, 612–621.

Retrieved from <https://encyclopedia.pub/entry/history/show/124824>