

# Barriers and facilitators to Evidence-Based Nursing in Colombia: Perspectives of nurse educators, nurse researchers and graduate students

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## Barriers and facilitators to Evidence-Based Nursing in Colombia: perspectives of nurse educators, nurse researchers and graduate students

**Objective.** To identify and describe the perceptions of nursing researchers, educators, and graduate students regarding the barriers to, and facilitators for, EBN in Medellín, Colombia. **Methodology.** Using a qualitative descriptive design, in-depth semi-structured interviews were conducted with 12 participants associated with a large university faculty of nursing in Medellín, and one member of the National Association of Nurses. Qualitative content analysis was used to analyze the interview transcripts. **Results.** Several barriers to EBN were reported, including: lack of recognition of nursing as an autonomous profession; a lack of incentives for nurses to pursue advanced education or engage in research; limited availability and utility of nursing evidence; and a lack of communication between academic and clinical practice environments. Perceived facilitators included an increase in nurses pursuing advanced education opportunities; the current healthcare accreditation process; access to international research and research collaborations; and clinical and research partnerships between universities and clinical institutions. **Conclusion.** Effective implementation of evidence-based nursing practices is a necessity to translate the vast amount of health-related research, knowledge, and experience into positive changes in healthcare quality.

**Key words:** evidence-based nursing; education, nursing; research, nursing; information dissemination.

## Barreras y facilitadores en la práctica de la Enfermería Basada en la Evidencia en Medellín, Colombia

**Objetivo.** Identificar y describir las percepciones de los enfermeros investigadores, educadores y estudiantes de postgrado sobre las barreras y elementos facilitadores para la práctica de la Enfermería Basada en la Evidencia (EBE), en Medellín, Colombia. **Metodología.** En 2012, se realizó un estudio descriptivo cualitativo en el que se realizaron entrevistas semiestructuradas a 12 participantes de una Facultad de Enfermería de una universidad pública de

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Medellín, y de un miembro de la Asociación Nacional de Enfermeras. Se utilizó el análisis de contenido cualitativo para estudiar las transcripciones de las entrevistas. **Resultados.** Se informaron algunas barreras para la práctica de la EBE, entre ellas: la falta de reconocimiento de la enfermería como una profesión autónoma, la falta de incentivos para cursar estudios avanzados o dedicarse a la investigación, la limitada disponibilidad y baja utilización de la evidencia en enfermería, y la falta de comunicación entre la academia y los entornos de práctica clínica. Los facilitadores incluyeron, entre otros, el aumento de enfermeras quienes buscan oportunidades de educación avanzada, el actual proceso de acreditación en salud, el acceso a la investigación internacional y a las redes de colaboración en investigación, y a la unión de esfuerzos para la investigación entre las instituciones clínicas y las universitarias. **Conclusión.** La aplicación efectiva de la práctica de la enfermería basada en la evidencia es la necesidad de traducir la gran cantidad de investigación relacionada con la salud, el conocimiento y la experiencia en el mejoramiento de la calidad asistencial.

**Palabras clave:** enfermería basada en la evidencia; educación en enfermería; investigación en enfermería; diseminación de información.

### Barreiras e facilitadores na prática da Enfermagem Baseada na Evidência em Medellín, Colômbia

**Objetivo.** Identificar e descrever as percepções dos enfermeiros investigadores, educadores e estudantes de pós-graduação sobre as barreiras e elementos facilitadores para a prática da Enfermagem Baseada na Evidência (EBE), em Medellín, Colômbia. **Metodologia.** Em 2012 se realizou um estudo descritivo qualitativo no que se realizaram entrevistas semiestruturadas a 12 participantes de uma Faculdade de Enfermagem de uma universidade pública de Medellín, e de um membro da Associação Nacional de Enfermeiras. Utilizou-se a análise de conteúdo qualitativo para estudar as transcrições das entrevistas. **Resultados.** Informaram-se algumas barreiras para a prática da EBE, entre elas: a falta de reconhecimento da enfermagem como uma profissão autónoma, a falta de incentivos para cursar estudos avançados ou dedicar-se à investigação, a limitada disponibilidade e baixa utilização da evidência em enfermagem, e a falta de comunicação entre a academia e os meios de prática clínica. Os facilitadores percebidos incluem o aumento de enfermeiras que estão procurando oportunidades de educação avançada, o atual processo de credenciamento em saúde, o acesso à investigação internacional e às redes de colaboração em investigação, e à união de esforços para a investigação entre as instituições clínicas e as universitárias. **Conclusão.** A aplicação efetiva da prática da enfermagem baseada na evidência é a necessidade de traduzir a grande quantidade de investigação relacionada com a saúde, o conhecimento e a experiência no melhoramento da qualidade assistencial.

**Palavras chave:** enfermagem baseada em evidências; educação em enfermagem; pesquisa em enfermagem; disseminação de informação.

## Introduction

The development and implementation of nursing care practices based on rigorous research evidence is the key to the provision of safe, effective, quality care to patients. However, despite an international wealth of scientific information, it can take up to three decades for health research findings to be translated into routine clinical practice.<sup>1</sup> This persistent gap between research evidence and clinical practice contributes to shortfalls in healthcare equity and quality around

the world.<sup>2,3</sup> In Colombia, nurse-researchers have declared evidence-based nursing (EBN) to be a professional obligation to society<sup>4</sup> and an imperative act by which the future of the nursing profession can be strengthened,<sup>5</sup> and have called for empirical evaluations of the local challenges to EBN experienced by the nursing profession.<sup>6</sup>

The World Health Organization (WHO) defines knowledge translation (KT) as “the synthesis,

exchange and application of knowledge by relevant stakeholders to accelerate the benefits of global and local innovation in strengthening health systems and improving people's health".<sup>7</sup> The integration of various forms of evidence into healthcare practice has been recognized as a complex, slow, and often haphazard process involving many different factors and stakeholders, from researchers to clinicians.<sup>8,9</sup> Early KT research in nursing focused on the influence of individual factors on research utilization by nurses and identified several determinants including personal attitudes, involvement in research activities, professional characteristics, and level of education.<sup>9</sup> The uptake of research evidence into nursing practice is also influenced by the nature of the evidence itself, including its availability, simplicity, clarity, and perceived relevance.<sup>1</sup> More recently, features of the organizational context are being examined as primary determinants of evidence use in nursing.<sup>10-13</sup> These contextual factors include the amount of time nurses have to read research or implement new ideas; organizational culture, including support for nurses' use of evidence from colleagues, management, and physicians; the level of autonomy nurses have in their role; the availability of educational opportunities related to nursing research; adequacy of staffing and other resources; the availability of "champions" or "facilitators" for EBN; and communication between research and clinical fields.<sup>10-13</sup>

The combined contribution of individual characteristics, the nature of the evidence, and the organizational context to evidence-based practice is reflected in a number of KT frameworks, including the Ottawa Model for Research Use (OMRU).<sup>14</sup> The OMRU has been identified as a useful framework for enhancing KT in healthcare in a variety of cultural contexts.<sup>15</sup> The central tenet of the OMRU is that interventions tailored to the unique barriers and supports to KT identified in a healthcare setting are more successful, an idea supported by a recent Cochrane review.<sup>16</sup> Although numerous barriers and facilitators to EBN have been identified in industrialized countries, literature related to EBN in lower- and middle-income countries (LMICs) is scant.

Some additional contextual barriers that may influence EBN in LMICs include poor access to research findings; lack of training or skills for using research; and a lack of research perceived as relevant for the local context.<sup>7</sup> Whereas no studies were found that directly examined factors influencing EBN in Colombia, local researchers have proposed some additional challenges that may contribute to under-utilization of evidence within nursing practice in Colombia, such as lack of motivation, limited comprehension of research findings, the "labour crunch", lack of resources, and routinized work activities.<sup>4-6</sup> However, these hypothesized factors are based on studies of EBN conducted in other countries, and have yet to be validated in Colombian healthcare settings.

In view of the numerous challenges to evidence use in nursing practice, the important role of nursing education in promoting EBN has been highlighted. Building research capacity in the nursing curricula has been discussed as a way of developing a culture of EBN and strengthening future nursing generations.<sup>4,17</sup> Also highlighted is the key role that nurse educators play in fostering an attitude towards evidence-based practice, and developing the skills necessary to find, evaluate, and use research findings.<sup>4,5,17</sup> To date, most studies examining barriers and facilitators to EBN have surveyed only practicing clinicians. The perspectives of nursing faculty and graduate students who engage in multiple roles of research, education, and clinical practice may thus offer unique insights to the processes of generating, disseminating, and implementing EBN practices.

Guided by the OMRU, the purpose of this study was to investigate the salient barriers and facilitators related to the implementation of EBN in Colombia, from the perspectives of nurse researchers, educators, and graduate students.

## Methodology

A qualitative descriptive design<sup>18</sup> was used to develop a rich description of barriers and

facilitators to EBN. A convenience sample of 12 faculty members and graduate students was recruited from a university-based nursing program in Medellín, Colombia. Participants were eligible for study inclusion if they were a professional nurse, had at least one year of clinical nursing experience, and held a position as a nursing educator and/or were enrolled in a graduate nursing program at the participating university. To provide an additional perspective one key informant was purposely recruited from the Colombian National Association of Nurses, for a total of 13 participants.

Data collection took place between September and November 2012. The first author conducted one in-depth semi-structured interview, ranging from 30-90 minutes, with each participant. The interview questions were informed by the OMRU and extant literature on factors influencing EBN, and addressed: 1) general perceptions of potential barriers and facilitators for EBN in Colombia; 2) barriers and facilitators related more specifically to the characteristics of nurses, evidence, and practice environments; and 3) how these barriers and facilitators are currently being addressed in nursing education, research, and practice. Each interview was tape-recorded and transcribed verbatim. Transcribed interview data were analyzed using qualitative content analysis.<sup>19</sup> Inductive coding was used to create data-driven codes for meaningful ideas within the individual transcripts. Related codes were organized into broader categories from which the significant recurring themes were identified. During data analysis these codes, categories, and themes evolved using constant comparison.<sup>19</sup> Supporting quotes were professionally translated after data analysis for the purposes of publication in English.

Ethical approval for the study was obtained from the McGill University Faculty of Medicine Institutional Review Board as well as the research ethics committee at the participating university in Colombia.

## Results

### Participant Characteristics

A total of 13 key informants, who varied in level of education, professional occupation, clinical speciality, and research experience were interviewed. Participants included seven educators, three full-time graduate students, two educators concurrently completing graduate degrees, and one member of the National Association of Nurses. All participants had completed their nursing education in Colombia and had at least 5 years of clinical nursing experience in Colombia. Years of research experience ranged from one to 10 years. At the time of data collection, nine of the participants were working in a clinical setting (providing primary care or clinical teaching) and 12 of the participants were actively engaged in nursing research.

### Barriers and Facilitators to EBN

Participants revealed that the idea of EBN was relatively new in both clinical and academic settings; words such *incipiente* (emerging), *nuevos* (new), *un paso a seguir* (a step to take), and *un sueño* (a dream) were used to describe the state of EBN in Colombia. As well as addressing factors influencing the implementation of EBN practices, participants spoke about specific challenges to conducting nursing research. Participants identified many more barriers than facilitators related to EBN. Four main challenges emerged relating to both the production and implementation of nursing evidence in Medellín, Colombia: 1) lack of recognition of nursing as an autonomous profession, 2) a lack of incentives for EBN, 3) the limited availability and usefulness of nursing evidence, and 4) the separate worlds of academia and clinical practice.

**Recognition of nursing as an autonomous profession.** A central challenge to EBN raised repeatedly by participants was that nursing continues to be viewed not as an academic profession which warrants research, but rather as a practice discipline based on traditions and

routines: *There are still people who think that nursing is just what you learn as you go ... they don't see the true importance of having evidence-based knowledge or that it's a profession that really has ... a lot of value in hospitals.* The participants described how nurses' own lack of value for their profession contributed to low recognition for nursing throughout the healthcare system: *That's the first thing, if nurses don't believe in nursing, then nobody does: not the bosses, not the leaders, not the administrators, not the doctors, nobody.* It was also noted that even if nurses did have a desire to implement new practices, they often lacked the autonomy or professional respect to pursue practice change.

Several historical and political factors that have influenced current perceptions of the nursing profession were identified. For example, participants described how recent healthcare reforms in Colombia (i.e., Law 100) promoted a focus on costs over quality of care and thus acted as an ongoing barrier to the advancement of the nursing profession. Moreover, reliance within the healthcare system on less-costly auxiliary nurses to provide bedside care, coupled with the perception of nursing as a "doing" rather than "thinking" profession, was seen as an important barrier: *The hospital systems don't facilitate the development of nursing. In the hospital they think nurses are an expensive burden, that we don't do much, that it's the same care with or without a nurse, that an auxiliary nurse can do it better ... They don't want to have nurses with doctorates, the hospital wants nurses who provide care... a nurse who thinks a lot? A nurse who thinks is dangerous for an institution!*

Nursing's lack of professional autonomy was further linked to the historical and ongoing power-struggle of women in Colombian society: *History carries a lot weight in nursing, because the majority of nurses are women... up until 50 years ago, what's the woman's role? To be at home, to look after the man, to take care of the home, to obey ... so nurses saw themselves as the doctor's helpers... in other words, [in Colombia] being a professional woman who's autonomous in her*

*decision-making is a bit difficult.* Another barrier to EBN highlighted by participants was the lack of visible leaders within the nursing profession. This was perceived as contributing to the low recognition of nursing, leading in turn to a lack of support for EBN from hospital administrators: *[The head of the nursing department] is an important person who could take part in or make decisions [for EBN] ... But there are already many hospitals that don't have this kind of leader, have cut her out, so it's someone general, global. For example, the human resources director, they're for everything, they're just one boss to coordinate everybody: nurses, physicians, nutritionists, bacteriologists, everyone, everyone.*

In face of these identified barriers, participants acknowledged that the growing presence of Colombian graduate nursing programs is a facilitator, helping to advance the image of nursing as an academic profession. Graduate-level nursing programs are training the next generation of nurses to conduct research and adopt a research-minded, evidence-based approach to their practice: *They've started to see how research is fundamental to nursing... Before we were just technicians – now we've started to develop research, publish journal articles, graduate with advanced degrees, and that's all impacting clinical practice.* Although still facing institutional barriers to EBN, this new generation of nurses was perceived as having a desire to "do things better." The increasing number of nurses with advanced education entering the workplace was also viewed by participants as enhancing recognition of the nursing profession, as they take on more leadership roles in research and policy related to enhancing quality of care: *Before, almost nobody saw the importance of our work, but recently everyone sees that it's really important ... nurses are given the chance to lead research groups, ethics committees, infection control committees... because there have been nurses who have wanted to study and wanted to show that yes, we are capable of researching and generating evidence; we can have the same [level of importance] as a physician or any other professional in any given group in the institution.*

**Incentives for EBN.** Another obstacle discussed by participants was a lack of institutional incentives for developing research skills, conducting nursing research or implementing evidence-based practices. Participants felt that healthcare institutions did not recognize the value of nurses with advanced academic degrees, and therefore did not provide practicing nurses with time off nor financial compensation for pursuing graduate studies: *So here's the problem: if I do a doctorate, how much are they going to pay me in the hospital? The same. Will the hospital give me permission to study for a doctorate? No.*

Participants also discussed the labour context, noting that many nurses working in Colombian hospitals are hired on contracts with intermediary companies that pay nurses only for their 'bedside' hours. These contracts mean a lack of protected time for nurses to acquire education or research skills, or engage in research activities: *[Nurses] don't have time to conduct research because now in Colombia they are under a type of contract that doesn't give them a minute to do anything that isn't clinical practice. This type of contract is terrible.* In contrast, physicians are rewarded for their role as researchers – *what happens is that physicians are given time and are paid well to conduct research, but not nurses.*

Heavy workloads were identified as an additional barrier to EBN in both academic and clinical practice settings. For example, some of the faculty members identified that their work schedules were so full with other activities that it was difficult to find time to dedicate to research. Participants also acknowledged how long shifts and heavy patient-nurse ratios impede clinical nurses from engaging in any activity other than direct patient care. The word *agotada* (exhausted) was used frequently when describing the work structure of practicing nurses. Participants described how once the exhausting workday is finished, nurses still have to fulfill their social duties as wives and mothers: *It's a triple load ... female nurses are nurses, they take care of the home, and raise the children... when are they supposed to conduct research?* These competing priorities were also

frequently mentioned as a barrier to self-directed learning outside of work hours, as this one participant stated: *Shifts are twelve hours long ... you leave tired and don't want to do anything else, so you get home and it's time to do other things: eat, relax, watch television, some go to sleep, or talk with their family and be with their children... they're not going to say 'Let's see ... I had a patient today with these characteristics, I'm going to research about what I can do'. No.*

Despite the lack of institutional incentives for engaging in research-related activities, the healthcare accreditation process currently underway in Colombia was identified as a potentially important facilitator of EBN: *[It] encourages quality patient care ... the administrative health policies in Colombia promote that care is better and that practices are based on scientific evidence, not on routine or beliefs, but actually because there is scientific proof.* Participants felt that EBN was further bolstered because the accreditation process is a multidisciplinary approach that includes nursing perspectives which, *breaks down barriers and obviously promotes the possibility of adherence to and acceptance of [EBN].*

**The availability and usefulness of nursing evidence.** A lack of easily acquired and applicable nursing research was identified as a key factor that has shaped the current state of EBN in Colombia. While participants noted that nurses and researchers have the means to access international literature via online databases, language was repeatedly emphasized as a primary barrier, as the majority of nursing research is published in English. Even when nursing research was available in an accessible language, participants described a lack of skills required to understand the information as an additional barrier, particularly the interpretation of statistical analyses: *That's one of the difficulties, that we don't have the tools to do critical analysis of the scientific documentation.* Participants also noted that among the limited number of nursing studies that have been conducted in Colombia to date, there is a paucity of clinically focused

nursing research: *What are nurses researching? Or better yet, which nurses are researching? As nursing teachers we research questions of teaching, training, and administrative nurses analyze questions of care management, workload. But what about clinical research? Who is conducting it?*

According to participants, EBN research is still an “emerging idea” in Colombia and they are “only beginners.” Concerns were raised about the quality of the nursing research, as it continues to be predominately qualitative in nature, with little focus on “hard evidence.” It was also suggested that Spanish-language nursing literature is perceived to be of worse quality than that published in English: *[Nurses] reject it when there’s a study in nursing because they don’t believe in nurses’ research. And if it comes out in Spanish they respect it even less, and if it’s in English, they [can’t] read it.*

Participants highlighted that nursing clinical practice guidelines could be an important facilitator for EBN, but that in Colombia they were widely viewed as out-dated, and thus a barrier to EBN: *About 15 years ago ... [the government] put out some EBN guides with support from the nursing faculties of almost the whole country ... it was a good-quality product, but it stopped there.* Participants noted that *sometimes institutions have guidelines and protocols that have been around a long time, nobody thinks to revise them, make sure they’re current or if they are practices that are no longer done.*

Despite these identified barriers, participants also spoke of potential facilitators related to the availability of nursing evidence and expressed a distinct spirit of enthusiasm when discussing the future of nursing research in Colombia: *Well we see that as nurses we’re researching more and more, that in universities a very research-based way of thinking is forming, so this could have a big impact in research ... and then in the field.* It was highlighted that because nursing educators are now required to have graduate degrees, Colombian nurses are building their research capacity and improving both the quality and quantity of local

nursing research. Moreover the recent formation of specialized research groups in academia was identified as not only expanding the pool of nursing research, but also increasing recognition for the nursing profession: *we are becoming experts in [our] domain and this is getting the attention of the policy-makers.* Further, despite the linguistic difficulties Colombian nurses may have with reading international literature, the accessibility of online databases and foreign journals and the presence of international research collaborations were identified as additional facilitators of EBN because they increase awareness of and accountability for EBN: *This access allows us to visualize what other nurses are doing around the world ... it’s the demand of globalization.*

### **The separate worlds of academia and practice.**

Another significant challenge to EBN in Colombia described by participants was the gap between the worlds of academia and clinical practice: *So here we are, the hospital nurses on one side and the professors doing research on the other.* Some described the relationship as “broken”, “a divorce”, lacking both “communication” and “coherence.” Participants noted that a communication gap exists in both directions; whereas clinical nurses are not taking advantage of available research and training opportunities, the nursing research being conducted by universities is not seen as relevant or useful for clinical practice.

Although multiple participants highlighted the fact that their university has *puertas abiertas* (open doors) for nurses to participate in research projects or training activities, *the [up-take] is not very good.* Some participants attributed this to nurses’ attitudes towards nursing research or practice changes: *They don’t like research, they are focused on their practice and for like 20 years they’ve done things the same way, and they’ll keep doing them that way. They’re not worried about why they do it that way.*

Participant also suggested that many nurses were simply not aware of the supports available to them for research: *We don’t realize what’s available ... the things that promote research and motivate nurses... that could be providing support.”* These

unused resources also manifest at the institutional level: *Hospitals don't ... directly connect with academia or take advantage of all the resources, so it takes a long time ... for a hospital to adopt EBN care, or to research its own practices ... it can take years and years.* The other side of this communication gap between academic and clinical settings is that *there can be extremely good and well-conducted research from a technical point of view, and on an interesting topic, but it brings very little specifically to [improving] clinical practice.*

Participants highlighted several obstacles to the research process itself that impede clinically relevant research and cause nurses to *think twice before saying 'we're going to carry out a study.* Examples of barriers to the implementation of research projects included: obtaining approval from the hospital ethics board takes significant effort and time; the research review committees often request authorship on the studies; procedures regarding patient participation and consent moves very slowly; and to move a project through the lengthy process expediently a researcher must often have "connections on the inside".

Participants also raised the issue that whereas undergraduate nursing students in their university had good exposure to research and research methods, *graduates still don't leave very convinced of how they will put into practice that experience.* In the current nursing curriculum *there's no clarity in how to go about creating EBN when they are professionals.*

Participants spoke of several potential facilitators which could help bridge the identified gap between academic and clinical environments. For example, many participants spoke of the value that teaching agreements brought to the nursing community – these agreements exist between some, but not all, hospitals and universities. The presence of clinical teachers in the hospitals was seen as an entry route for bringing evidence-based practices to clinical nurses, for example through the initiation of research projects: *There've been small victories and models [derived] from people in academia, how they're working with their*

*students in clinical settings and [how they are] able to join with other [professionals] ... they have done some very important work in that direction.* As an additional benefit, it was noted that it is often easier to pass a research proposal through an institution when there is already a teaching agreement in place. Excitement was also expressed about new inter-agency collaborations, such as a project between the participants' university and three local healthcare institutions: *How do we offer support? We go to the institutions ... they define the problem they want to solve and we give them assignments, they consult, read, and we reach agreements about what to do ... I think we're doing good work, not very fast, but it's getting done.*

Another potential facilitator for EBN identified by participants was the clinical knowledge base of practicing nurses. Their vast amount of experiential knowledge was recognized as valuable information but *is unfortunately not being taken advantage of.* It was suggested that it is the responsibility of nursing teachers and researchers to "motivate and support" clinical nurses to engage in research and help translate this information and knowledge into recommendations for improving nursing practice. *Not surprisingly, this means "there needs to be much more of a link between academia and practice.*

## Discussion

This study sought to identify current barriers as well as facilitators to the implementation of EBN in Colombia, from the perspectives of university-based nurse educators and researchers. Whereas many of the factors influencing EBN described by participants were similar to those identified in the international literature on research utilization in nursing, this study highlights some unique challenges and supports to the implementation of EBN in Colombia. Study findings have underscored the important interplay between nursing education, nursing research, and nursing practice for creating an environment supportive of EBN



implementation. The information gained from this study may help inform how nursing organizations, nurse leaders, teachers, and practicing nurses can work together to strengthen the implementation of EBN in Colombia.

Consistent with several other studies examining nurses' perceptions of factors that influence evidence use in nursing,<sup>9,20-23</sup> one of the primary barriers to EBN that emerged from this study is the lack of professional autonomy in nursing. Research findings have suggested that autonomy is one of the strongest predictors of nurses' job satisfaction, which in turn influences the quality of care they provide.<sup>24</sup> In a systematic review examining determinants of EBN,<sup>9</sup> it was determined that the right 'climate' is necessary for the individual factors which promote EBN to be realized. The present findings suggest that a certain level of professional autonomy is a critical component of an EBN-supporting climate in Colombia.

Our study participants identified that the limited number of nurses in leadership roles in healthcare institutions perpetuates the perception of nursing as lacking professional autonomy. Previous studies have found significant correlations between the activities of nurse managers and autonomy of practicing nurses, and supported the notion that leadership is vital to the process of implementing EBN. For example, Mrayyan<sup>24</sup> found that practicing nurses reported an enhanced sense of autonomy as the result of certain managerial actions, including: encouraging nurses to communicate openly with other members of the healthcare team; supporting nurses to resolve conflicts with physicians, patients, and colleagues; and encouraging leadership among nurses. Melnyk and colleagues<sup>25</sup> found that nurses who had access to an EBN 'mentor' (such as a clinical nurse specialist, nurse practitioner, nurse manager, clinical expert, or faculty members) reported higher levels of EBN knowledge, and were more likely to be involved in research projects. By highlighting that research is valued for nursing practice and showing that implementation of evidence-based nursing practice is a common goal, nursing leaders can

combat the frequently held belief of nursing as simply a "doing" profession.<sup>13,26</sup> Consistent with the present findings, these studies suggest that effective leadership could positively alter the prevailing organizational culture and perceptions of the nursing profession and enhance EBN.

The role of advanced education is important for both the enhancement of nursing autonomy and the development of nursing leaders. Significant relationships between an advanced level of education and nurse autonomy in clinical practice have been found,<sup>27</sup> and advanced education has been shown to mitigate the 'lack of power' of nurses and increase professional respect.<sup>28</sup> Our participants echoed this sentiment, highlighting that the increasing presence of nurses with advanced education is improving the image of nursing in Colombia. A recent literature review identified several EBN-enhancing leadership qualities that "can be further developed by training and education", including: communication skills, managerial skills, and an ability to provide information about the evidence being used.<sup>29</sup> Further, it has been suggested that a lack of effective support for EBN from nursing leaders could be related to low rates of advanced academic degrees among nurses.<sup>30</sup> With increased professional respect and a broader understanding of EBN and research in general, highly-educated nursing leaders will surely play a larger role in healthcare organization and decision-making processes. Increasing the number of nurses pursuing advanced degrees would also enhance nursing research capacity, and increase the volume of nursing research conducted in Colombian contexts.

Consistent with previously identified barriers to EBN, participants also highlighted organizational factors such as lack of time to read research, heavy workloads, and high patient-to-nurse ratios as hindering the implementation of EBN practices. Participants associated these organizational constraints with Law 100, which initiated neoliberal healthcare reform in Colombia in 1993. A recent study examining the effects of this reform concluded that introduction of competition into

the Colombian healthcare system has “triggered significant change in public hospitals, as they prioritize economic profit over patients’ health needs”.<sup>31</sup> A study published in 2002 comparing the effects of health reform on nursing practice in the Americas reported that the impacts of Colombia’s healthcare reform on nursing practice included increased workloads, fragmented services that decreased healthcare continuity, insufficient numbers of nurses, poorer work conditions, lower salaries, job insecurity coupled with increased inter-institutional migration, as well as an increased use of auxiliary nurses that reduced direct nurse-patient contact and consequentially increased job dissatisfaction.<sup>32</sup> Whereas working conditions may have changed over the past decade, strategies to enhance the implementation of evidence-based nursing care in Colombia must address the realities of the work environment and target both individual and organizational barriers to EBN.

Another prominent theme in this study was the lack of communication between academic and clinical environments. One of the detrimental outcomes of this gap identified was the lack of locally-produced, clinically relevant nursing research. Similarly, a multi-center study in Australia found that less than a quarter of nurses believed that the research currently available to them provided information useful for patient care.<sup>23</sup> The authors argue that the questions which nursing research is trying to address are not directed towards clinical problems but instead reflect a current preoccupation for the advancement of nursing as an academic discipline, a finding that was replicated by the participants of the present study. Participants in our study also suggested that the daily experiential knowledge of practicing nurses represents valuable clinical data, but it is not being translated into information that could inform practice changes. In her recent editorial in *Worldviews on Evidence-Based Nursing*<sup>33</sup> Rycroft-Malone made a call to her fellow researchers: “We should be developing strong collaborative partnerships with clinicians and services – in this way the practice environment becomes part of the process, not a backdrop to a project.”

A second manifestation of this gap between the worlds of academia and clinical identified by participants is the lack of EBN preparation in the undergraduate curriculum. Effectively developing an EBN practice requires more than just research-utilization skills; educators should facilitate students’ learning by teaching students to ask compelling questions, critically appraise the evidence, and apply research findings within the context of other forms of evidence such as clinical expertise.<sup>34</sup> Interventions to promote EBN should target strengthening beliefs about the value of evidence-based practices in nursing, such as in improving clinical care and patient outcomes, which could instill a deeper motivation to engage in EBN.<sup>35</sup> As was recognized by our interview participants, integrating concepts related to EBN in the nursing curriculum – focusing not just on the *process* of nursing research, but also on the *why* of EBN – would benefit nursing students. Estabrooks<sup>8</sup> argues that the majority of nurses practice according to how they were trained during nursing school, therefore a key step to the adoption of EBN in clinical settings lies in instilling a commitment to evidence-based practice in future nurses while they are still in nursing school.

A focus on EBN should be “fully embedded throughout nursing curricula beyond the confines of ‘research classes’” and should integrate learning in academic and practice-based settings, which requires the synergistic support of nurse educators, researchers, and clinical practitioners.<sup>35</sup> In a study examining healthcare professionals’ behaviours (including adherence to clinical guidelines) from a social cognitive theory perspective, behaviours were consistently linked to capability beliefs.<sup>36</sup> In a study that followed nurses for two years after graduation, Wallin and colleagues<sup>37</sup> found that nurses’ capability beliefs regarding evidence-based practices were positively correlated with use of research findings in their practice. They argue that well-developed capability beliefs could protect against the ‘clinical reality’ that tends to have less of a focus on EBN than the world of nursing education. This avenue for developing an EBN culture is relatively new and a deeper understanding of how nursing education can

support the development of capability beliefs is an important area for future research related to the implementation of evidence-based nursing care. Finally, contrary to the belief that research evidence produced in other countries may not be seen as relevant for local use,<sup>7</sup> participants generally viewed access to international literature as a facilitator to the EBN agenda in Colombia. Facilitated by modern information technologies, the development of global communities in which knowledge exchange can occur has allowed for the sharing of healthcare information around the globe. One such community is the Global Alliance for Nursing & Midwifery,<sup>38</sup> which serves as an open knowledge exchange 'community of practice' with a current membership of 1500 from approximately 123 different countries. As was recognized by our study participants, beyond simply increasing the quantity of information to which nurses have access, these international knowledge flows increase awareness of and accountability for EBN in countries where it is still an emerging concept.

## Implications

The findings from this research study point to various potential strategies for strengthening the implementation of EBN in Colombia. For example, despite the cost-cutting focus of the healthcare system, Colombia's current healthcare accreditation process is now motivating institutions to focus on outcomes related to quality of patient care. This offers a timely opportunity for Colombian nurses to advocate for work contracts conducive to providing quality evidence-based care. To enhance EBN, improvements to work contracts could include reduced patient-nurse ratios, paid continuing education hours, and protected time for conducting research.

Additionally, sufficient incentives are necessary for nurses to pursue advanced academic degrees. Colombian nurses need to advocate for the importance of advanced education to help improve their professional autonomy and the quality of

nursing care, and to lobby for increased salaries for nurses with advanced degrees. Nursing leaders in both academic and clinical settings could also advocate for training opportunities which aim to develop leadership qualities among nurses and enhance recognition of nurses as change-makers in the healthcare system. Similarly, nurse educators need to develop educational strategies that deliberately aim to inculcate in students a greater respect and value for their profession and for nursing scholarship. Such educational initiatives would have influence on the attitudes of nursing students as well as the practicing nurses who work with students in clinical assignments.

The development of collaborative, inter-institutional EBN teams involving researchers, educators, administrators and clinical nurses could produce effective communication channels between the separate worlds of academia and clinical practice. These partnerships would contribute to the development of EBN by increasing awareness of training opportunities, encouraging clinical nurses to engage in the research process, enhancing the production of nursing literature relevant for clinical practice, and facilitating the knowledge translation process. If we are to gain full advantage of the vast investment that has been made in health-related research, we must bring research and practice resources into alignment.

## Conclusions

Numerous barriers and facilitators to EBN within a Colombian healthcare context were identified in this study. A lack of recognition of nursing as an autonomous profession, a lack of incentives for nurses to pursue advanced education or engage in research, limited availability and utility of nursing evidence, and a lack of communication between academic and clinical practice environments were primary barriers. Perceived facilitators included an increase in nurses pursuing advanced education opportunities; the current healthcare accreditation process; access to international research and research collaborations; and clinical

and research partnerships between universities and clinical institutions.

A limitation of this study is that the data were collected from professionals affiliated with one academic institution in Medellín; care should therefore be taken when generalizing the findings to other professional groups and settings. Further research with a larger sample from multiple settings and regions and that includes practicing nurses may reveal other salient themes not reported in this study. Although we aimed to mitigate any miscommunication between researcher and participant with the use of an interpreter during the interviews, this language barrier represents another possible limitation to the trustworthiness of the study findings.

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