

Instruments for assessing professional nursing practice environments: An integrative review



Instrumentos para avaliação dos ambientes da prática profissional de enfermagem: revisão integrativa

Instrumentos para la evaluación de los entornos de la práctica profesional de enfermería: revisión integradora

Olga Maria Pimenta Lopes Ribeiro^{a,b}

Corália Maria Fortuna de Brito Vicente^{b,c}

Maria Manuela Ferreira Pereira da Silva Martins^{a,b}

Lara Vandresen^d

João Miguel Almeida Ventura da Silva^e

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ABSTRACT

Objective: To identify the instruments used to evaluate the professional nursing practice environments in the hospital context.

Method: An integrative review, whose research process was conducted independently by two researchers in the period from July to August 2019 in the CINHALL, PubMed and SciELO databases.

Results: Based on the inclusion and exclusion criteria, 53 studies published between 2009 and 2019 were considered for analysis. Ten instruments and three thematic areas were identified: instruments for the assessment of the nursing professional practice environments; implications of the use of instruments for the assessment of nursing professional practice environments; limitations of the instruments for the assessment of nursing professional practice environments.

Conclusion: Despite the relevance of the instruments identified, this integrative review provides contributions that support the need to use specific tools to assess the nursing practice environments that include the structure, process and outcome components.

Keywords: Work environment. Professional practice. Nursing. Hospitals.

RESUMO

Objetivo: Identificar os instrumentos utilizados para avaliar os ambientes da prática profissional de enfermagem no contexto hospitalar.

Método: Revisão integrativa, cujo processo de pesquisa, foi conduzido de forma independente por dois investigadores, no período de julho e agosto de 2019 nas bases de dados CINHALL, PubMed e SciELO.

Resultados: Com base nos critérios de inclusão e exclusão, consideraram-se para análise 53 estudos, publicados entre 2009 e 2019. Foram identificados dez instrumentos e três áreas temáticas: instrumentos de avaliação dos ambientes da prática profissional de enfermagem; implicações do uso dos instrumentos de avaliação dos ambientes da prática profissional de enfermagem; limitações dos instrumentos de avaliação dos ambientes da prática profissional de enfermagem.

Conclusão: Apesar da relevância dos instrumentos identificados, essa revisão integrativa fornece contribuições que sustentam a necessidade de utilização de ferramentas específicas para avaliação dos ambientes da prática profissional de enfermagem que incluam os componentes estrutura, processo e resultado.

Palavras-chave: Ambiente de trabalho. Prática profissional. Enfermagem. Hospitais.

RESUMEN

Objetivo: Identificar los instrumentos utilizados para evaluar los entornos de la práctica profesional de enfermería en el contexto hospitalario.

Método: Revisión integradora, cuyo proceso de investigación se realizó de manera independiente por dos investigadores en el período de julio a agosto de 2019 en las bases de datos CINHALL, PubMed y SciELO.

Resultados: En función de los criterios de inclusión y exclusión, se consideraron para el análisis 53 estudios publicados entre 2009 y 2019. Se identificaron diez instrumentos y tres áreas temáticas: instrumentos para la evaluación de los entornos de la práctica profesional de enfermería; implicaciones del uso de instrumentos para la evaluación de los entornos de la práctica profesional de enfermería; limitaciones de los instrumentos para la evaluación de los entornos de la práctica profesional de enfermería.

Conclusión: A pesar de la relevancia de los instrumentos identificados, esta revisión integradora ayuda a respaldar la necesidad de utilizar herramientas específicas para evaluar los entornos de la práctica de enfermería que incluyen componentes de estructura, proceso y resultados.

Palabras clave: Ambiente de trabajo. Práctica profesional. Enfermería. Hospitales.

^a Escola Superior de Enfermagem do Porto (ESEP). Porto, Portugal

^b Centro de Investigação em Tecnologias e Serviços de Saúde (CINTESIS). Porto, Portugal

^c Universidade do Porto (UP), Instituto de Ciências Biomédicas Abel Salazar. Porto, Portugal

^d Universidade Federal de Santa Catarina (UFSC), Programa de Pós-Graduação em Enfermagem. Florianópolis, Santa Catarina, Brasil

^e Centro Hospitalar Universitário de São João (CHUSJ), Departamento de Enfermagem. Porto, Portugal

INTRODUCTION

The work environment and its implications for the patient, the professionals and the institutions have been widely studied. And the truth is that, in recent years, in the scope of the quality of care provided, the contributions of the nursing practice environments are increasingly revealed. When investigating the literature, it is possible to understand that, despite the complexity inherent to the concept of the nursing practice environment, Lake⁽¹⁾ defined it as the set of characteristics of the work context that facilitate or constrain the professional nursing practice. In 2007, the International Council of Nurses (ICN) chose "Favorable Environments for Practice: Working Conditions = Quality Care" as theme of the International Nurse Day, alerting to a pressing reality since, in environments of quality professional practice, the nurses' objectives are met and the patients are assisted in meeting their needs and their individual health goals⁽²⁾.

In this segment, environments favorable to the practice are characterized by: innovative political contexts, centered on recruitment and retention; strategies for continued training and promotion; adequate compensation for the professionals; recognition programs; sufficient material resources; and a safe work environment⁽²⁾. Although health research has already focused on the professional practice environments^(1,3) for more than a decade, the appeal launched by the ICN on May 12th, 2007, had a positive impact, culminating in the establishment of "favorable environments for the practice" as a priority program. Since in some countries there are different levels of training in Nursing, nurses, technicians and nursing assistants have been considered for the assessment of the professional practice environments⁽⁴⁾.

What is certain is that, in the last decade, several studies have reinforced that favorable environments for the nursing practice bring advantages for professionals, patients, and institutions⁽⁵⁾. In a systematic review of the literature, it was found that, in relation to the nursing professionals, favorable environments for the practice contribute to greater professional satisfaction and to a lower level of burnout. With regard to the patients, mortality rates decrease and satisfaction with the care provided increases. And, as far as institutions are concerned, absenteeism and turnover rates decrease⁽⁵⁾. The *Magnet Hospitals* have been mentioned as an example, since they show a set of characteristics that promote favorable environments for the practice, of which the following are but examples: strong nursing leadership, recognition for the autonomy and responsibility of nurses, as well as a decentralization policy⁽⁵⁾.

The problem is that, although in the last decade the promotion of favorable environments for the nursing practice

has been a concern, in the contexts the nursing professionals do not always see a positive change. Given the above, it is a priority to implement measures that guarantee professional practice environments that promote quality of care, because the improvement of the work environment in the hospital can be a relatively low-cost strategy to improve care and, consequently, the results for patients and nursing professionals⁽⁵⁻⁷⁾.

Being aware that to improve the environments of the nursing practice, specifically in the hospital context, it is essential to assess them using an integrative literature review, we intend to identify the instruments used to evaluate the environments of the professional nursing practice in the hospital context.

METHOD

This integrative review followed the methodological process based on a research protocol previously prepared by the authors, based on six phases: identification of the theme and definition of the research question; establishment of inclusion and exclusion criteria for the studies; categorization of the studies; evaluation of the included studies; interpretation of the results; and presentation of the knowledge synthesis⁽⁸⁾. In view of the previously described objective, we defined the following research question: "What instruments have been used to assess the environments of the professional nursing practice in the hospital context?"

The research was carried out independently by two researchers (double blind modality), between the months of July and August 2019, in the CINAHL, PubMed and SciELO databases. The research strategies applied by database were the following, in the case of CINAHL: ("Work Environment") AND ("Professional Practice" OR "Professional Practices") AND ("Nursing" OR "Nursings" OR "Nurses" OR "Nurse") AND ("Hospitals" OR "Hospital"); in PubMed: ("Work Environment") AND ("Professional Practice" OR "Professional Practices") AND ("Nursing" OR "Nursings" OR "Nurses" OR "Nurse") AND ("Hospitals" OR "Hospital") and in SciELO: ("Work Environment" OR "Ambiente de Trabalho" OR "Ambiente de Trabajo") AND ("Professional Practice" OR "Professional Practices" OR "Prática Profissional" OR "Exercício Profissional" OR "Práctica Profesional" OR "Ejercicio Profesional") AND ("Nursing" OR "Nursings" OR "Nurses" OR "Nurse" OR "Enfermagem" OR enfermeir* OR "enfermeria" OR enfermer*) AND ("Hospitals" OR "Hospital" OR "Hospitais" OR "Centro Hospitalar" OR "Centros Hospitalares" OR "Nosocômio" OR "Nosocômios" OR "Hospitales").

The inclusion criteria were defined as follows: studies available in full text, published from January 2009 to June 2019, in the English, Spanish and Portuguese languages, and

that addressed the instruments to assess the environments of the professional nursing practice in the hospital context. Since the objective is to identify these instruments, the assessment of the adequacy of the study methodology was not used as an inclusion criterion⁽⁸⁾.

It is referred that research studies that presented instruments to assess in isolation some of the characteristics of the environments of the professional nursing practice, and not all of its components, were excluded.

The article selection process involved a number of stages. The first consisted of reading the titles, in order to reject those that did not meet the inclusion criteria. In the second stage, by reading the abstracts, the studies that met the inclusion criteria were selected. Finally, in order to select the articles to be included in the review, they were read in full. Although in some of the studies the instrument used was the same, often validated in different cultures, it was decided to include all the research studies, a fact that allowed knowing the most used instruments.

■ RESULTS

Initially, a total of 729 articles were identified. After removing duplicate studies and reading the titles, the sample consisted of 274 articles. Of these, 136 studies were excluded by reading the abstracts, and 138 were proposed for full reading. Given the previously defined criteria, after a consensus meeting between the two researchers, 53 studies were included in the final sample, as explained in Figure 1.

In Chart 1, we summarize the 53 studies included in this review, referring to the authors, year of publication, and designation of the instrument for assessing the environments of the professional nursing practice.

Regarding the year, we verified that the highest incidence of publication of studies was in 2014, with eight articles, followed by 2015, 2017 and 2018 with seven articles, 2013 with six articles, 2010 with five articles, 2016 with four articles, 2019 with three articles and, finally, 2009, 2011 and 2012 with two articles each year. With regard to the location of the studies, there was great geographical dispersion: fifteen studies in Brazil, eight studies in the United States of America (USA), six studies in China, five studies in Australia, three studies in Cyprus, three studies in Portugal, two studies in Spain, two studies in the Netherlands, and one study in each one of the following locations: Belgium, England, Turkey, Colombia, Japan, South Korea, and Finland. It is important to mention that two of the selected studies were carried out in more than one country^(34,52).

Three thematic areas were identified after analyzing the included studies: instruments for assessing the professional nursing practice environments; implications of the use of instruments for assessing the environments of professional nursing practice, and limitations of the instruments for assessing the environments of professional nursing practice.

Instruments for assessing the professional nursing practice environments

The Revised Nursing Work Index (NWI-R), built by Aiken and Patricia in 2000⁽³⁾, derives from the Nursing Work Index (NWI), which was developed in 1989 to measure nursing professional satisfaction and the perception of quality of care⁽⁴⁵⁾. Although the NWI-R is composed of 57 items, 15 of these items were distributed in three dimensions: autonomy (5 items); control over the practice environment (7 items), and relationship between nurses and physicians (3 items).

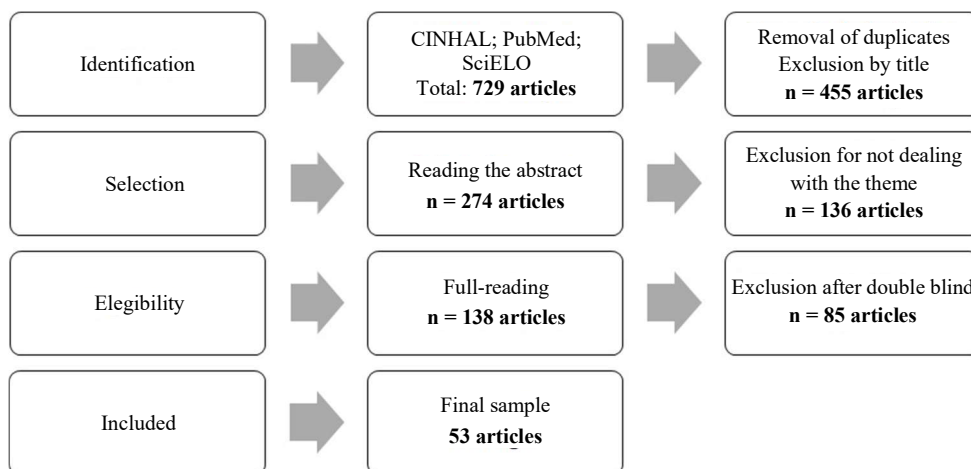


Figure 1 – Flowchart of the selection and exclusion process of the studies in the period between 2009 and 2019
Source: Authors

Author and year	Place	Instrument
Lee H et al., 2019 ⁽⁹⁾	China	<i>Nursing Practice Environment Scale: Chinese Version</i>
Ulrich B et al., 2019 ⁽¹⁰⁾	USA	<i>Healthy Work Environment Scale</i>
Zangaro G and Jones K, 2019 ⁽¹¹⁾	USA	<i>Practice Environment Scale of the Nursing Work Index</i>
Azevedo Filho F et al., 2018 ⁽¹²⁾	Brazil	<i>Practice Environment Scale of the Nursing Work Index</i>
Costa N et al., 2018 ⁽¹³⁾	Brazil	<i>Nursing Work Index – Revised: Brazilian Version</i>
Dorigan G and Guirardello E, 2018 ⁽¹⁴⁾	Brazil	<i>Nursing Work Index – Revised</i>
Efstathiou G et al., 2018 ⁽¹⁵⁾	Cyprus	<i>Practice Environment Scale of the Nursing Work Index: Greek Version</i>
Lahuerta-Valls L et al., 2018 ⁽¹⁶⁾	Spain	<i>Practice Environment Scale of the Nursing Work Index</i>
Neves T et al., 2018 ⁽¹⁷⁾	Portugal	<i>Practice Environment Scale of the Nursing Work Index: Portuguese Version</i>
Pires B et al., 2018 ⁽¹⁸⁾	Brazil	<i>Nursing Work Index – Revised: Brazilian Version</i>
Alves D et al., 2017 ⁽¹⁹⁾	Brazil	<i>Nursing Work Index – Revised</i>
De Brouwer B et al., 2017 ⁽²⁰⁾	Netherlands	<i>Essentials of Magnetism II: Dutch Version</i>
Erickson J et al., 2017 ⁽²¹⁾	USA	<i>Professional Practice Work Environment Inventory</i>
Gasparino R and Guirardello E, 2017 ⁽²²⁾	Brazil	<i>Practice Environment Scale of the Nursing Work Index: Brazilian Version</i>
Maurício L et al., 2017 ⁽²³⁾	Brazil	<i>Nursing Work Index – Revised: Brazilian Version</i>
Oliveira E et al., 2017 ⁽²⁴⁾	Brazil	<i>Nursing Work Index – Revised: Brazilian Version</i>
Oshodi T et al., 2017 ⁽²⁵⁾	England	<i>Essentials of Magnetism II</i>
Alves D and Guirardello E, 2016 ⁽²⁶⁾	Brazil	<i>Nursing Work Index – Revised</i>
Boaretto F et al., 2016 ⁽²⁷⁾	Brazil	<i>Nursing Work Index – Revised</i>
Teng C et al., 2016 ⁽²⁸⁾	China	<i>Professional Practice Environment: Chinese Version</i>
Topçu I et al., 2016 ⁽²⁹⁾	Turkey	<i>Practice Environment Scale of the Nursing Work Index: Turkish Version</i>
Gasparino R and Guirardello E, 2015 ⁽³⁰⁾	Brazil	<i>Nursing Work Index – Revised: Brazilian Version</i>
Hayes B et al., 2015 ⁽³¹⁾	Australia	<i>Brisbane Practice Environment Measure</i>
Leone C et al., 2015 ⁽³²⁾	Portugal	<i>Practice Environment Scale of the Nursing Work Index: Adapted version included in RN4CAST</i>
Papastavrou E et al., 2015 ⁽³³⁾	Cyprus	<i>Revised Professional Practice Environment</i>
Papastavrou E et al., 2015 ⁽³⁴⁾	Cyprus, USA, Finland, Greece, Sweden, Portugal, Turkey	<i>Revised Professional Practice Environment</i>
Wang S and Liu Y, 2015 ⁽³⁵⁾	China	<i>Practice Environment Scale of the Nursing Work Index</i>

Chart 1 – Scientific production according to the databases in the years 2009 to 2019

Author and year	Place	Instrument
Wang S et al., 2015 ⁽³⁶⁾	China	<i>Practice Environment Scale of the Nursing Work Index</i>
Alzate L et al., 2014 ⁽³⁷⁾	Colombia	<i>Practice Environment Scale of the Nursing Work Index: Spanish Version</i>
Choi J and Boyle D, 2014 ⁽³⁸⁾	USA	<i>Practice Environment Scale of the Nursing Work Index</i>
De Brouwer B et al., 2014 ⁽³⁹⁾	Netherlands	<i>Essentials of Magnetism II</i>
Farmakas A et al., 2014 ⁽⁴⁰⁾	Cyprus	<i>Revised Professional Practice Environment</i>
Ferreira M and Amendoeira J, 2014 ⁽⁴¹⁾	Portugal	<i>Practice Environment Scale of the Nursing Work Index: Portuguese Version</i>
Ishihara I et al., 2014 ⁽⁴²⁾	Japan	<i>Nursing Work Index – Revised: Japanese Version</i>
Kramer M et al., 2014 ⁽⁴³⁾	USA	<i>Essentials of Magnetism II</i>
Marcelino C et al., 2014 ⁽⁴⁴⁾	Brazil	<i>Nursing Work Index – Revised: Brazilian Version</i>
Balsanelli A and Cunha I, 2013 ⁽⁴⁵⁾	Brazil	<i>Nursing Work Index – Revised: Brazilian Version</i>
Havens D et al., 2013 ⁽⁴⁶⁾	USA	<i>Practice Environment Scale of the Nursing Work Index</i>
Kim C et al., 2013 ⁽⁴⁷⁾	South Korea	<i>Korean General Unit – Nursing Work Index</i>
Panunto M and Guirardello E, 2013 ⁽⁴⁸⁾	Brazil	<i>Nursing Work Index – Revised: Brazilian Version</i>
Shang J et al., 2013 ⁽⁴⁹⁾	USA	<i>Practice Environment Scale of the Nursing Work Index</i>
Yang J et al., 2013 ⁽⁵⁰⁾	China	<i>Practice Environment Scale of the Nursing Work Index</i>
De Pedro-Gómez J et al., 2012 ⁽⁵¹⁾	Spain	<i>Practice Environment Scale of the Nursing Work Index</i>
Hinno S et al., 2012 ⁽⁵²⁾	Finland Netherlands	<i>Nursing Work Index – Revised</i>
Aitken L et al., 2011 ⁽⁵³⁾	Australia	<i>Practice Environment Scale of the Nursing Work Index</i>
Gasparino R et al., 2011 ⁽⁵⁴⁾	Brazil	<i>Nursing Work Index – Revised: Brazilian Version</i>
Charalambous A et al., 2010 ⁽⁵⁵⁾	Finland	<i>Revised Professional Practice Environment</i>
Cortelyou-Ward K et al., 2010 ⁽⁵⁶⁾	USA	<i>Nursing Work Index – Revised</i>
Flint A et al., 2010 ⁽⁵⁷⁾	Australia	<i>Brisbane Practice Environment Measure</i>
Halcomb E et al., 2010 ⁽⁵⁸⁾	Australia	<i>Professional Practice Environment</i>
Walker K et al., 2010 ⁽⁵⁹⁾	Australia	<i>Practice Environment Scale of the Nursing Work Index: Australian Version</i>
Chiang H and Lin S, 2009 ⁽⁶⁰⁾	China	<i>Nursing Practice Environment Scale: Chinese Version</i>
Van Bogaert P et al., 2009 ⁽⁶¹⁾	Belgium	<i>Nursing Work Index – Revised</i>

Chart 1 – Cont.

Source: Research data, 2019.

The organizational support dimension is composed of 10 items derived from the 15 previously mentioned⁽²³⁾. The responses, on a *Likert* type scale, can take 4 options (strongly agree, partially agree, partially disagree and strongly disagree). Values below 2.5 represent favorable environments for the professional nursing practice and, above 2.5, unfavorable environments. In this instrument, the lower the score, the greater the presence of attributes favorable for the professional practice^(18,23). At the international level, the NWI-R, already adapted and validated in several countries, has been applied in several contexts^(19,23).

The Practice Environment Scale of the Nursing Work Index (PES-NWI) was built by Lake in 2002⁽¹⁾, based on the NWI, as well as on the characteristics of the *Magnet Hospitals*. Consisting of 31 items, it is organized into five dimensions: nurse participation in hospital affairs (9 items); nursing foundations for quality of care (10 items); leadership and support of nurses (5 items); staffing and resource adequacy (4 items), and collegial nurse-physician relations (3 items)⁽¹²⁾. The answers, on a *Likert* type scale, can take 4 options (strongly disagree, disagree, agree and strongly agree). In this instrument, scores over 2.5 are favorable for the nursing practice. Given its robustness, the use of PES-NWI has been widely disseminated, including several validation studies for different cultures^(15,22,37,41,60). Following a meta-analysis, the authors⁽¹¹⁾ concluded that the PES-NWI is a reliable instrument for assessing the nursing practice environments in the USA, as well as in other countries.

The Nursing Practice Environment Scale (C-NPES) refers to the Chinese version of a tool derived from PES-NWI and the perceptions of nurses in Taiwan hospitals about the nursing practice environments⁽⁶⁰⁾. Consisting of 30 items, it is organized into five dimensions: management and leadership (10 items); professional nursing development (6 items); quality in nursing (7 items); staffing and resources adequacy (4 items), and participation in hospital affairs (3 items)⁽⁹⁾. In each item of the C-NPES, the answers vary between 1, which corresponds to "not relevant", and 4, "very relevant"⁽⁶⁰⁾.

The Professional Practice Environment (PPE), validated in 2004 by Erickson et. al., is an instrument with 38 items and eight dimensions: leadership and autonomy in the clinical practice; team's relationship with the physicians; control over the practice; communication about patients; teamwork; dealing with disagreements and conflicts; internal motivation for work, and cultural sensitivity^(21,58). The responses, on a *Likert* scale, can take 4 options (strongly disagree, disagree, agree and strongly agree)⁽⁵⁸⁾. Due to the validation of the instrument in Australia, the final proposal has 30 items, distributed over the eight dimensions: leadership and autonomy in the clinical

practice (3 items); team's relationship with the physicians (2 items); control over the practice (4 items); communication about patients (2 items); teamwork (3 items); dealing with disagreements and conflicts (8 items); internal motivation for work (5 items), and cultural sensitivity (3 items)⁽⁵⁸⁾.

The Revised Professional Practice Environment (RPPE) appears in 2009, in continuity with the work done by Erickson et. al.⁽²¹⁾. It is an instrument with 39 items and eight dimensions: leadership and autonomy in the clinical practice (5 items); team's relationship with the physicians (2 items); control over the practice (5 items); communication about patients (3 items); teamwork (4 items); dealing with disagreements and conflicts (9 items); internal motivation for work (8 items), and cultural sensitivity (3 items)^(34,55). The responses, on a *Likert* type scale, can take 4 options (strongly disagree, disagree, agree and strongly agree). The higher the score, the more positive the characteristic of the professional practice environment⁽⁴⁰⁾.

The Essentials of Magnetism II (EOMII) is a 58-item instrument that was developed to assess eight attributes of the nursing practice environments: collaborative relationship between nurse and physician (6 items); control of the nursing practice (8 items); support from the nursing manager (10 items); staffing adequacy (6 items); clinically competent pairs (4 items); education support (4 items); patient-centered culture (11 items), and clinical autonomy (9 items)⁽²⁰⁾. The responses, on a *Likert* type scale, can take 4 options (strongly disagree, disagree, agree and strongly agree). It should be noted that, in 2001, the first version of Essentials of Magnetism (EOM) was developed to measure the components of the work processes identified as essential by the nurses who worked at the *Magnet Hospitals*⁽³⁹⁾.

The Professional Practice Work Environment Inventory (PPWEI), derived from PPE and RPPE and with 72 items, was designed to measure nine dimensions: autonomy and control over the practice; communication about patients; cultural sensitivity; dealing with disagreements and conflicts; relationship with physicians, staff and hospital groups; sufficient staff, time and resources for quality patient care; supportive leadership and autonomy; teamwork; and motivation at work⁽²¹⁾. Each of the 72 items can be classified, on a *Likert* type scale, from 1 to 6 points (strongly disagree, moderately disagree, disagree, agree, moderately agree and strongly agree). In the review proposed by the authors⁽²¹⁾, the PPWEI contains 61 items spread over eight dimensions: support leadership, autonomy and control over the practice (18 items); communication about patients (5 items); cultural sensitivity (7 items); dealing with disagreements and conflicts (7 items); relationship with physicians, staff and hospital

groups (6 items); sufficient staff, time and resources for quality patient care (4 items); teamwork (8 items); and motivation at work (6 items).

The Korean General Unit – Nursing Work Index (KGU-NWI) is an instrument based on the NWI-R, and was built to measure the professional nursing practice environments in inpatient units of South Korean Hospitals⁽⁴⁷⁾. It has 26 items, distributed over six dimensions: participation in decision-making processes (7 items); nursing process (5 items); adequate nursing team (3 items); education to improve the quality of care (4 items); organizational support and hospital management (4 items), and physician-nurse relationship (3 items)⁽⁴⁷⁾.

The Healthy Work Environment (HWE) is a scale based on the standards defined by the American Association of Critical-Care Nurses, consisting of 32 items, distributed over six dimensions: qualified communication; true collaboration; effective decision-making; appropriate staff; meaningful recognition; and authentic leadership⁽¹⁰⁾. The responses, on a *Likert* scale, can take 4 options (strongly disagree, disagree, agree and strongly agree)⁽¹⁰⁾.

The Brisbane Practice Environment Measure (B-PEM) is a 26-item, four-dimensional instrument, the initial version of which was developed in 2006 by Flint and Courtney, based on the reality and on work experiences of the nurses⁽⁵⁷⁾. Although the original model had 33 items and five thematic constructs, currently, the instrument has 26 items, distributed in four dimensions: doing things (9 items); flexibility of management support (5 items); feeling valued/not valued (7 items); and professional development (5 items). According to the authors, it is a robust instrument, relevant to the contemporary nature of the nurses' experiences, which allows for a periodic and continuous assessment of the work environment. The responses, on a *Likert* type scale, can take 5 options (never, rarely, sometimes, often and always)⁽³¹⁾.

Implication of the use of instruments to assess the environments of the professional nursing practice

The results obtained with the use of the instruments for assessing the environments of the professional nursing practice, in addition to having implications for the practice, point out to factors that deserve special attention from the nursing managers⁽²⁶⁾ in the environment of hospital institutions. The situational diagnosis is essential for the improvement actions to be implemented, in the sense of a more favorable environment for the professional nursing practice⁽²³⁾. In this context, through the analysis of the articles, it was verified that the use of instruments whose items are distributed

over several dimensions/subscales allows informing, with more precision, the different levels of management, about the components in which it is necessary and a priority to intervene. The aforementioned favors the modification of the institutional culture in the face of factors that need improvement, which can contribute to enhance the satisfaction of the nursing professionals with the work environment and, consequently, improve the quality of care that is provided⁽²³⁾.

Inspired by the American experience, some researchers have focused their study on the attributes of the *Magnet Hospitals*, of which the following stand out: decentralization in decision-making, professional recognition, autonomy, responsibility for the quality of care, effective, participative and visible management and leadership, and a strong relationship between nurse and physician⁽³⁶⁾. The evidence that these aspects are characteristics of a good environment for the professional nursing practice has determined their inclusion in some of the instruments identified in this review. Because in the same institution it is possible to identify the variations between units^(21,38), it becomes possible to plan improvement strategies which are adequate to the specificities of each context. Effectively, the variations existing in the practice environments in the different units of the same institution are not always consistent with the same improvement strategies.

Following the included studies, it was also verified that, internationally, NWI-R and PES-NWI are the most used instruments. In the perspective of the authors, the evaluation of the characteristics of the practice environment, using NWI-R and PES-NWI, provides support for the development of a set of relationships between essential components of the professional nursing practice, whose objective is to create better working conditions⁽²³⁾, allowing, simultaneously, identifying which environments are favorable or unfavorable for safety and quality of care⁽¹⁷⁾, as well as the satisfaction and retention of nurses⁽¹¹⁾.

Limitations of the instruments for assessing the environments of the professional nursing practice

Although different instruments have been identified, even when the same instrument is used, it is not always fully used⁽⁴⁵⁾. Although the most used instruments are NWI-R and PES-NWI, in many studies changes/modifications have been made that generate alternative structures. What has been described results, for example, from the validation processes of the instruments in different cultures, which culminates in final versions with variation in the number of items, as well as their distribution within the respective

dimensions/sub-scales⁽²²⁾. Although with the aforementioned there is an improvement in the psychometric properties of the instruments and also reflects the cultural and professional differences between the different countries, it is an aspect that hinders a comparative analysis of the results. In fact, as mentioned by some authors, it is difficult to make comparisons with other studies, since the researchers do not always consider all the variables of the instruments^(45,48). The truth is that health cultures and environments have unique characteristics that differ between countries⁽³⁹⁾, reasons why one cannot fail to evaluate the psychometric properties of the instruments in cultures other than the original one.

Despite linguistic and cultural differences and discussions about its factorial structure^(52,56), NWI-R continues to be one of the most validated instruments and one of the most used in research on the nursing practice environments in the international context^(52,56). The problem is that NWI-R and all its derivatives measure structural characteristics of units, but not the work processes or the nursing practices⁽³⁹⁾. In addition to NWI-R, PES-NWI, according to some authors^(11,41), is another of the most used instruments to measure the environments of the nursing practice, and its use in several languages and in different cultural contexts has led to several methodological studies^(15,22,37,41,60). Following the comparison between the different versions of the original PES-NWI, it was verified that the factor analysis of the instrument varied between different countries due to differences in the organization of the health systems and in the infrastructures⁽³⁷⁾. Although in some situations the number of items and factors remains the same as the original instrument, the organization of the items within the factors/dimensions is different⁽¹⁵⁾. Overall, this evidence suggests that, although the instrument is very useful in different contexts, its structure may differ significantly in different health systems⁽²⁵⁾.

Despite the widespread use of PES-NWI, and the existence of a revised version, there is shortage of publications that address the need for modifications of the instrument⁽¹⁵⁾. As mentioned by some authors, although it is reliable to measure the environments of the nursing practice, the instrument could benefit from being updated, in order to accurately reflect the current environment of the professional nursing practice, with regard, for example, to using the technology and to providing an increasingly complex care⁽¹¹⁾. In addition, according to some authors, the measures most frequently used to assess work environments were developed more than 20 years ago and, in addition to the lack of robust psychometric tests, there is a limited theoretical component that boosted their development⁽⁵⁷⁾. Consequently, the validity of these instruments can be questioned in terms of their

relevance to the current environment of the professional nursing practice^(18,57).

In addition, most of the existing instruments measure the structure and the outcome, without evaluating the process. Of the three, the process is the most important and should not be excluded⁽³⁹⁾. The tools to measure the process are more difficult and take longer to build than those that measure the structure or the outcome⁽⁴³⁾. Moreover, they become more quickly out of date because the work environment in health is constantly changing and growing in complexity⁽⁴³⁾.

In an attempt to overcome some of the limitations mentioned, other instruments have been developed and improved, such as the case of PPE, RPPE, PPWEI, EOMII, HWE and B-PEM. Given that PPE, RPPE and PPWEI are based on PES-NWI and HWE is based on NWI-R, with the use of these instruments, the structural dimension of the practice environments continues to be focused on. On the other hand, EOMII allows measuring the process⁽³⁹⁾ and B-PEM, taking into account the nurses' work experiences, is seen by the authors as relevant to assess the current environment of the professional nursing practice^(31,57). Regarding the lesser used instruments, the authors have pointed out the lack of translated versions⁽³⁴⁾. It is noted that, despite the various instruments in use, the authors continue to dedicate themselves to the improvement and development of others⁽⁴³⁾.

DISCUSSION

The environment of the professional nursing practice has aroused growing interest because, during the last decade, there was an evident consensus that the identification of opportunities to improve the working conditions in hospitals is essential to maintain adequate professionals and ensure excellence⁽⁵²⁾. From the perspective of the authors⁽⁵²⁾, although the health systems in different countries are influenced by economic changes driven by the recession and substantial pressures on the hospitals, investment in the professional nursing practice environments can make a difference, as it can be an effective way to improve outcomes and quality of care^(17,34,49).

According to the authors, the environment of the professional nursing practice is fundamental for the well-being of the professionals, for patient safety, and also for the quality of care^(19,26,34,37,40). From the analysis to the studies, it was clear that unfavorable environments are associated with worse outcomes for patients and professionals^(29-30,36,42). On the other hand, favorable environments for the nursing practice guarantee better results for professionals, patients and institutions^(10,27,34). Diverse authors have identified greater

professional satisfaction^(14,19,22,24,31,54), higher involvement and commitment in the professionals^(35,46,50), lower levels of burn-out^(9,14,19,22,54), lower intent to leave the work^(9-10,19,22,54,56), and better perception on the quality of care^(22,54). In relation to the patients, greater satisfaction with care and lower mortality rates^(22,38-39) were verified. And for the institution, lower rate of turnover and absenteeism^(22,54).

In this context, it appears that a possible answer to the existing concerns with quality of care may be the creation of productive and healthy professional practice environments⁽²⁰⁾. The environments characterized as most favorable have been identified in the *Magnet Hospitals*⁽³⁸⁾. As the authors claim⁽³⁸⁾, hospital-level initiatives to meet the *Magnet* designation criteria contribute to improving the nursing practice environment in the units. An aspect highlighted in several studies refers to the impact of management and leadership in the environments of the professional nursing practice and, consequently, in the outcomes of the professionals and of the patients^(9,25-26,31,34,38,50-51). Despite the downward trend in the economy in recent years, there are relatively low-cost interventions that nursing managers can mobilize to improve workforce governance, with consequent gains for the nurses, the profession, the health organizations, and the health system as a whole⁽³²⁾.

The important thing is that, in the context of the continuous improvement of the practice environments, focus is given to the components of structure (referring to relatively stable characteristics of the institutions), process (relative to activities developed for the production of goods and services) and outcome (characterized by obtaining desirable changes of the products or services)⁽⁶²⁾. The problem is that most of the studies carried out have concentrated on structure-outcome relationships, ignoring the process dimension⁽⁴³⁾. And, to understand how the structure affects the patient and the nursing results, there are tools designed to assess the presence of environmental characteristics that promote an adequate professional practice⁽⁵⁴⁾. Following the review, we found ten of these instruments.

The first attempt to measure the nursing work environment based on the characteristics of the *Magnet Hospitals* was accomplished by Kramer and Hafner in 1989⁽²⁵⁾; they built a scale composed of 65 items, referred to as the Nursing Work Index. Four additional scales have been derived from the NWI⁽²⁵⁾: In 2000, Aiken and Patrician⁽³⁾ built the Revised Nursing Work Index, with 57 items, and Lake⁽¹⁾ built the Practice Environment Scale of the Nursing Work Index, with 31 items. Also in 2002, Estabrooks et. al. built the Practice Environment Index (PEI), using 49 items from the NWI-R and adding two items to reflect the Canadian

context. Later on, in 2004 and still from NWI-R, Choi et al. built the Perceived Nursing Work Environment (PNWE)⁽²⁵⁾. Although we did not find the PEI and PNWE in the review, it is important that both were derived from NWI-R. Given that NWI measures the structural characteristics of hospital units, and not the nursing work processes, other instruments have emerged, such as the EOM, developed in 2004 by Kramer and Schmalenberg⁽²⁵⁾. After substantial changes to this tool, in 2008, the authors renamed it as Essentials of Magnetism II. The EOMII is a tool designed to measure healthy and productive work environments and can facilitate research on the impact of the work environment on the provision of quality care⁽²⁵⁾.

Following the investigations using the aforementioned instruments, it was clear that, although there are several factors that influence quality of care, the studies developed have been focusing on the attributes that can be evaluated with the two most used instruments: NWI-R and PES-NWI. Although, in the international context these two instruments are the most used, there are authors who highlight the relevance of EOMII. Although PES-NWI and EOMII have a common ancestor, the Nursing Work Index, the focus of both instruments differs to some extent. While PES-NWI focuses on structures that facilitate a good environment, EOMII focuses on processes inherent to the work environments⁽²⁰⁾. So the following question arises: Is it correct to use the instruments with a focus on different components to assess the environments of the nursing practice?

In a study that aimed to determine the construct validity of the Dutch version of EOMII (D-EOMII), although D-EOMII and PES-NWI focus on the nursing practice environment and have important correlations between them, the use of both is not advised. As the authors refer⁽²⁰⁾, the important thing is to select the instrument that best suits the organization and/or the unit. In deciding on the selection of the instruments to be used, their advantages and disadvantages can also be a criterion. For example, in the case described, EOMII encompasses elements that are not present in PES-NWI, giving a more in-depth view on areas for improving the environments of the nursing practice. However, the fact that PES-NWI is shorter can guarantee a more significant adherence⁽²⁰⁾. The growing evidence of the relationship between work environments and patient outcomes intensifies the need to prioritize the improvement of the professional nursing practice environments⁽¹⁰⁾. For this, and as the authors advice, in addition to investing in improving the practice environments, it is essential to measure the progression of this improvement, by regularly using the instruments that best suit the contexts.

CONCLUSION

With this study it was possible to identify ten of the instruments used to assess the environments of the professional nursing practice in the hospital context. Even assuming as a limitation the fact that the research was carried out only in three databases, the applicability of the results became evident.

Although using different instruments, in all studies the need to invest in the professional practice environments was highlighted, in order to guarantee adequate working conditions, as well as quality and safety of care, aspects that should be highlighted early on within the scope of teaching.

On the other hand, it was evident that, in the area of management, monitoring the environments of the professional nursing practice in the hospital and by units constitutes an opportunity to improve their quality, with significant repercussions on the quality of care provided by the nursing professionals. In view that, to guarantee and evaluate quality of care, the attributes of the structure, process and outcome components must be considered within the scope of the research, the development of instruments that enable the evaluation of the three components becomes relevant, which, consequently, will allow knowing the strengths and weaknesses of the different contexts in the hospital practice.

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■ **Corresponding author:**

Olga Maria Pimenta Lopes Ribeiro
E-mail: olgaribeiro@esenf.pt

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Maria da Graça Oliveira Crossetti