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REVIEW ARTICLE

Barriers to the application of the nursing methodology in the Intensive Care Unit

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KEYWORDS
Nursing care process;
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Abstract
Introduction: The Nursing Process is the scientific method specific to the nursing discipline. However, although in recent years it has rapidly expanded in certain areas, this has not been the case in special units such as the intensive care unit.
Objective: To determine the reasons nurses show little awareness of incorporating nursing methodology in intensive care units.
Method: Literature review conducted between November and December 2020 in the databases Pubmed, Cinahl, Cuiden, Lilacs, Cochrane, Sicelo, Web of Science, in addition to a search of grey literature and electronic journals. Boolean operators AND and OR were used and the temporal limiter of the last 10 years (2010—2020) was applied.
Results: A total of 20 articles were selected. Intensive Care Units nurses perceived a lack of knowledge on how to use nursing methodology. This problem begins in university education and continues in the institutions with little continuing education. Nurses' work overload takes time from being able to use this tool, which is among the lowest of their priorities.
Conclusions: Research studies are required on solutions that, in the nurses' words, could be useful in tackling this problem, and on the impact that training programmes in methodology have on its application in practice.

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PALABRAS CLAVE
Proceso de atención de enfermería;
Diagnósticos enfermeros;
Plan de cuidados de enfermería;
Lenguaje enfermero estandarizado;
Conocimientos;
Barreras;
Unidad de cuidados intensivos

Barreras para la aplicación de la metodología enfermera en la unidad de cuidados intensivos

Resumen
Introducción: El Proceso Enfermero constituye el método científico propio de la Disciplina Enfermera. Y, aunque en los últimos años ha experimentado una rápida expansión en determinados espacios, no ha ocurrido así en Unidades especiales como la Unidad de Cuidados Intensivos.
Objetivo: Determinar los motivos por los que las enfermeras muestran poca sensibilización hacia la incorporación de la metodología enfermera en las Unidades de Cuidados Intensivos.
Método: Revisión bibliográfica realizada entre noviembre y diciembre de 2020 en las bases de datos Pubmed, Cinahl, Cuiden, Lilacs, Cochrane, Sicelo, Web of Science, además de una búsqueda en literatura gris y en revistas electrónicas. Se emplearon los operadores booleanos AND y OR y se aplicó el limitador temporal de los últimos 10 años (2010—2020).
Resultados: Se seleccionaron un total de 20 artículos. Las enfermeras de UCI percibieron una falta de conocimientos sobre el uso de la metodología enfermera cuyo problema comienza desde la formación Universitaria y se prolonga dentro de las Instituciones con la escasa formación continuada. Mientras que la sobrecarga de trabajo restó tiempo para poder emplear esta herramienta que se encuentra entre las últimas prioridades de las enfermeras.
Conclusiones: Se hace necesario realizar estudios de investigación sobre las soluciones que, en palabras de los/as enfermeros/as podrían ser útiles para abordar este problema, así como el impacto que los programas de formación en metodología tienen sobre su aplicación en la práctica.

Nursing methodology improves patient care, although few studies have addressed the reasons why it is not implemented in intensive care units (ICU). This work promotes a better understanding of the barriers to its implementation.

Study implications

It encourages nurses to apply for training programmes to improve their knowledge of methodology, promotes awareness of the reasons why nurses are demotivated to implement it, and enables health care institutions and universities to develop strategies to improve its teaching.

Introduction

The scientific method specific to the nursing discipline incorporates a series of steps that include the search for information; the detection of problems; the proposal of the results found; the intervention or implementation of the appropriate actions, and the evaluation of the results obtained. These steps are integrated in the nursing process (NP) which, when applied to nursing practice, aims to provide care in a rational and systematic manner.[1,2]

For years, one of the aims of nursing science has been the establishment of a common terminology to designate the care and diagnoses that are specific to our profession. Today it is known that the NP uses its own language, the standardised nursing language (SNL), made up of a series of terms that allow us to name diagnoses, results and interventions. The fact of having a common language within the nursing team contributes to improving patient safety and the application of quality care by avoiding the repetition of activities, promoting the codification of knowledge, communication between professionals and avoiding the great variability that occurs when using a non-standardised language.[3–5]

Although it can be applied in any health service, there are units where the use of nursing methodology is crucial due to the multitude of information that is handled and the number of activities that can be carried out in short periods of time. This is why ICUs are particularly relevant. Unfortunately, in these spaces, certain resistance factors are perceived among nurses to the use of the methodology.[4,6] And, on other occasions, when it is applied, certain phases of the NP are omitted, creating a break with subsequent phases.[7]

The complexity of these spaces derives from the use of diverse technologies, the variety of interventions performed and the high-risk medication handled. In addition to this, the simultaneous interactions between different professionals in charge of the same patient leads to the ICU being the department where most adverse events (AE) occur in a hospital.[8]

The results of the study ''Incidents and adverse events in intensive care medicine: safety and risk in the critically ill'' (SARCI), based on the participation of 79 Spanish ICUs, show that the median risk of suffering an AE in these units is 40% and determine that the third most frequent cause is related to nursing care.[9] However, in other countries in the international context, care-related AE's are the first cause,

with a percentage of 30.7%.[8] As a consequence, it is essential to work with a universal methodological instrument that favours the unification of information on the data referring to the state of health of patients and improves the quality and safety of care.[10]

There is evidence to support the fact that the application of nursing methodology in the ICU improves the detection of errors with the updating of working methods guaranteeing the continuity of information and making it possible to modify interventions. Furthermore, its use has been shown to increase the performance of certain activities, such as pain monitoring, the completion of nursing records or the positioning of the bedside table at 30°, especially in patients with a low level of consciousness. Moreover, in the case of diagnostic labels, they provide a measure of patient complexity that allows prediction of the average length of stay in the ICU and mortality, as well as the impact of nursing on patient outcomes.[2,4,10,11]

The care plans have been designed by nurses and their application in different units has been demonstrated through the available evidence. Let us not forget that there is a professional and legal responsibility following the entry into force of Royal Decree (RD) 1093/2010 approving the minimum set of data for clinical reports in the National Health System. Based on this, nurses must include in the nursing care report, among others, active and resolved nursing diagnoses, information on nursing assessment, interventions and nursing outcomes.[12]

Quality care that ensures patient safety, shortens hospitalisation times, facilitates information exchange and is based on the best scientific evidence is not possible if nurses do not also incorporate NP into their practice as a methodology.[2,4,10,11,13]

This situation leads us to reflect on the factors that cause them not to incorporate care into their daily work routine according to the nursing methodology proper to our profession.

Objective

The general objective of this study is to determine the reasons why nurses show little awareness of the incorporation of nursing methodology in ICU care practice. The specific objectives are as follows:

- To identify nurses' knowledge of nursing methodology.
- To determine the influence of the ''time'' factor on care activities.
- To point out the responsibility that health institutions have in the performance of the nursing methodology.
- To determine the place of nursing methodology among care activities.
- To determine the influence of undergraduate nursing methodology teaching on its subsequent application in practice.

Methodology

A bibliographic review carried out between November and December 2020, and was conducted by the author through the design of search strategies in the databases ''Pubmed'', ''Cinahl'', ''Cuiden'', ''Lilacs'' and ''Cochrane Library'', in the electronic library ''Scielo'' and in the platform ''Web ofScience''. In addition, the search was extended to the website of the Spanish Association of Nomenclature,

Table 1 Search strategy.

Source consulted	Search sequence
Pubmed	(''Nursing Process'') OR (''Nursing Diagnosis'') OR (''Patient care planning'') OR (''standardized nursing language'') AND (barriers) OR (facilitators) OR (Attitude) OR (Knowledge) AND (''Intensive Care Units'')
Cinahl	(''Nursing Process'') OR (''Nursing Diagnosis'') OR (''Patient care planning'') OR (''standardized nursing language'') AND (barriers) OR (facilitators) OR (Attitude) OR (Knowledge) AND (''Intensive Care Units'')
Cuiden	(''Proceso de atención de enfermería'') AND (''Unidad de Cuidados Intensivos'')
Cochrane Library	(''Nursing Process'') OR (''Nursing Diagnosis'') OR (''Patient care planning'') OR (''standardized nursing language'') AND (barriers) OR (facilitators) OR (Attitude) OR (Knowledge) AND (''Intensive Care Units'')
Lilacs	(''Nursing Process'') AND (''Intensive Care Units'')
Scielo	(''Nursing Process'') AND (''Intensive Care Units'') AND (barriers) OR (facilitators) OR (Attitude) OR (Knowledge)
Web of Science	(''Nursing Process'') OR (''Nursing Diagnosis'') OR (''Patient care planning'') OR (''standardized nursing language'') AND (barriers) OR (facilitators) OR (Attitude) OR (Knowledge) AND (''Intensive Care Units'')
AENTDE	Manual search of the documentary collection of symposia and conferences between 2010–2020
TESEO	''Proceso de atención de enfermería UCI''
EnfermeríaIntensiva	Manual search for articles in the volumes published between 2010–2020
Intensive and Critical Care Nursing	Manual search for articles in the volumes published between 2010–2020

Source: own creation.

Table 2 Article selection.

Pubmed	Cinahl	Cuiden	Scielo	Chochrane	Lilacs	Web of Science	AENTDE	TESEO	Enfermería Intensiva	Intensive and Critical Care Nursing	Total
615	322	183	72	13	132	68	265	32	304	688	2694
						Time limit					1999
						Selection by title					101
						Selection by abstract					29
						Selection by content					20
1	7	1	4	0	3	3	0	0	1	0	20

Source: own creation.

Taxonomy and Nursing Diagnoses (AENTDE), the ''Teseo'' database and a manual search of the journal ''Enfermería Intensiva'' and the journal ''Intensive and Critical Care Nursing''. The search strategy was carried out using controlled language descriptors from the thesaurus ''Medical SubjectHeadings'' (MeSH) and Descriptors in Health Sciences (DeCS) with their corresponding in Spanish: ''Nursing process'', ''Nursing diagnosis'', ''Nursing care plans'', ''Patient care planning'', ''Attitude'', ''Knowledge'', ''Intensive care units'', which were combined with free language terms given the scarce existing bibliography when using only controlled language: ''Standardised nursing language'', ''Barriers'', ''Facilitators''. These were combined using the Boolean operators ''AND'' and ''OR'' to refine the results as shown in Table 1 and the time limit ''last 10 years'' (2010—2020) was applied, in addition to the inclusion criteria: articles published in Spanish, English and Portuguese, which included the figure of nurses and adult patients > 18 years old admitted to ICU. Articles which did not focus on the study objectives, regardless of whether thy met with inclusion criteria, were excluded.

A total of 1999 articles were obtained after applying the time limiter, of which 101 articles were selected by title and reduced to 29 after reading the abstract/abstract. The bibliographic manager ''Refworks'' was used to eliminate duplicate articles. After a complete reading of these and after applying the critical reading criteria ''Critical Appraisal Skills Programme in Spanish'' (CASPe),[14] ''Strengthening the Reporting of Observational Studies in Epidemiology'' (STROBE)[15] and the inclusion and exclusion criteria, a total of 20 articles were selected (3 cross-sectional descriptive, 11 qualitative, 6 bibliographic reviews), which form the body of this review.

The sequence of steps followed to make the final selection of articles for this work is shown in Table 2. A summary of the selected articles can be found in Table 3.

Results

Of the 20 articles selected, 70% were original articles and 30% were literature reviews. 45% of the articles were published in English, 45% in Portuguese and 10% in Spanish. The results show that 20% are publications corresponding to the year 2015, 15% corresponding to the year 2018 and another 15% to the year 2015.

Regarding the origin of the articles, 85% of the articles were published in Brazil, while the remaining 15% were published in Colombia, Iran and Spain in the same percentage (5% respectively). Five categories of analysis were selected to form the narrative body of this work: knowledge about nursing methodology; influence of the ''time'' factor on care activities; responsibility of health institutions in the performance of nursing methodology; influence of undergraduate nursing methodology teaching on its subsequent application in practice, and place of nursing methodology among care activities.

Knowledge regarding nursing methodology

Authors such as Silva-de Jesus et al.,[16] Costa-Albuquerque et al.[17] and Masaroli et al.,[18] concluded that the lack of knowledge and practical training in the use of the nursing process constituted an obstacle to its implementation and, as a consequence, nurses needed more time to apply it, delaying the performance of other care activities. This barrier linked to a shortage of knowledge in nursing methodology was a consequence of insufficient training in 79.4% as concluded by Akbari et al.[19] while lack of knowledge about the use of nursing taxonomy was also one of the barriers described by Silva-Dutra et al.[20] and Mendes-Nunes et al.[21]

Likewise, the results of the study by de Viana et al.[22] revealed the limited knowledge of ICU nurses about the stages of the NP, where the absence of some of these stages in the nursing records was observed, while on other occasions more than the actual number of stages appeared, according to the results of Massaroli et al.[23] Furthermore, only one professional out of the 21 in the sample of the study by Lima-da Silva et al.,[24] was able to mention the five stages of the NP. In the study by Barreto-Morais et al.,[25] 71% of a sample of 17 nurses were able to cite all of them correctly. However, in the research work by Moser et al.[26] nurses had difficulty naming any diagnostic labels when asked to do so.

Guillermo-Rojas et al.[27] concluded that 78.5% of a total of 65 nurses claimed to apply NP and 21% refused to carry out this activity due to lack of knowledge as the main impediment. More than half of the sample showed a very low to low level of knowledge of NP, and only one in 10 had a good to excellent rating. This problem was also mentioned in

Table 3 List of selcted articles.

Authors	Title	Objective	Origin and year	Design and sample	Source	Results
Silva-de Jesus I, Magalhães-da Silva J.	Systematization of nursing care implementation in ICU of a public hospital	Describe the process of implementing the systematisation of ICU care.	Brazil 2015	Qualitative N = 9	Cinahl	Seven categories of analysis emerged from the analysis of the interviews: knowledge about systematisation, implementation strategies, training of professionals and satisfaction with the training, changes in work routine, facilities, difficulties, benefits, and the like.
Costa-Albuquerque O, Souza-Evangelista R, de Carvalho-Oliveira S, Souza-Moinhos A, Souza-Santos L.	Percepção do enfermeirodiante da implementação do diagnóstico e prescrição de enfermagem	Identify the advantages and disadvantages of the implementation of nursing diagnostics.	Brazil 2012	Qualitative N = 10	Cinahl	The nurses believe that the advantages outweigh the problems of the nursing process, as it provides autonomy and agility and security in the actions, supporting the nurses' care.
Massaroli R, Gue-Martini J, Massaroli A, Delacanal-Lazzari D, Nunes-de Oliveira S, Pedroso-Canever B.	Nursing work in the Intensive Care Unit and its interface with care systematization	Understand the experiences of nurses in the ICU in the development of the systematisation of ICU nursing.	Brazil 2015	Qualitative N = 9	Web of Science	The nurses acknowledged the limitation of knowledge about the patient's clinic and about the systematisation of care and still value the development of technical procedures and the manipulation of technological apparatuses due to feeling acknowledged by the health team.
Akbari M, Shamsi A.	A Survey on Nursing Process Barriers from the nurses' view of Intensive Care Units	Identify barriers related to EP employment from the nurses' perspective.	Spain 2011	Cross-sectional descriptive N = 63	Cinahl	The main barrier was poor knowledge of NP and little or inadequate learning within the ICU. In addition, time constraints were perceived as a consequence of the excessive number of patients, as well as lack of institutional support and bureaucratic activities.

Table 3 (*Continued*)

Authors	Title	Objective	Origin and year	Design and sample	Source	Results
Silva-Dutra H, Pinto-de Jesus MC, Campos-Pinto LM, Francisco-Farah B.	Utilização do processo de enfermagem em Unidade de Terapia Intensiva: Revisão integrativa da literatura	Identify the facilities and difficulties in using EP in ICUs, as well as the strategies used for its improvement.	Brazil 2016	Bibliographic review.	Lilacs	The use of NP was described as a positive point by the nursing team. Difficulties included lack of preparation of professionals, work overload and lack of institutional support.
Mendes-Nunes R, Rodrigues-Nunes M, Amorim-de Assunção I, de Souza-Lages L.	Sistematização da assistência de enfermagem e os desafios para suaimplementaçãonaUnidade de Terapia Intensiva: Umarevisão de literatura	Identify barriers to implementing the systematisation of care in ICUs	Brazil 2019	Bibliographic review.	Lilacs	100% of the articles showed facilitators and challenges in the use of systematisation of nursing care in the organisation and in care, but as challenging points, they described difficulties experienced by professionals and institutional barriers.
Viana MR, Barros-Silva IM, Silva-Ferreira TR, Miranda-Amorim FC, de Oliveira-Soares E.	The Operation of the Nursing care Process in the Intensive care Unit Maternal	Describe the functioning of NP in the ICU	Brazil 2018	Qualitative N = 10	Cinahl	Two categories were developed from the interviews: knowledge of NP and barriers encountered in NP.
Massaroli R, Gue-Martini J, Massaroli A	Sistematização da assistência de enfermagem em Terapia Intensiva Adulto: Produção Brazileira sobre o tema	Analyse the scientific production related to the systematisation of nursing care in the ICU.	Brazil 2014	Bibliographic review.	Cuiden	Among the most debated topics are nursing diagnoses, which are also considered the most complex step and for this reason often end up being forgotten.
Lima-da Silva FM, Moais-de Carvalho JJ, Carvalho-Piedade L	Dificultades em la implementación de la Sistematización de la Assistência de Enfermeira em la Unidad de Terapia Intensiva Adulto	Identify the difficulties in the implementation of the systematisation of nursing care in the ICU.	Brazil 2019	Qualitative N = 21	Scielo	The results showed an overload of work on the part of the nurses and a superficial knowledge of the nursing team regarding the systematisation of care.

Table 3 (*Continued*)

Authors	Title	Objective	Origin and year	Design and sample	Source	Results
Barreto-Morais L, Santos-Cezário M, Siquiera-de Azevedo A, Sardinha-Peixoto L	Implicações para o processo de enfermagemna Unidades de Terapia Intensiva	Describe the performance of ICU nurses in relation to the systematisation of nursing care.	Brazil 2015	Qualitative N = 17	Lilacs	The systematisation of care is carried out in a fragmented way, which points to the need for reorganisation of the work methodology.
Moser DC, Aguiar-da Silva G, Rodrigues-de Oliveira S, Costa-Barbosa L, Gaffuri-da Silva T	Nursing care systematization: the nurses' perception	Identify how nurses perceive the systematisation of nursing care	Brazil 2018	Qualitative N = 4	Web of Science	Weaknesses were evident in relation to the nurses' perception of the systematisation of care and its feasibility.
Guillermo-Rojas J, Pastor-Durango P	Aplicación del proceso de atención de enfermería en Cuidados Intensivos	Describe the factors related to the application of NP and nursing taxonomies in the ICU.	Colombia 2010	Cross-sectional descriptive N = 65	Scielo	The professionals were young women with little experience who cared by carrying out the assessment, planned based on the medical diagnosis and followed the protocols established in the ICU. They stated that they did not apply the N0P. However, they assessed, planned and intervened and to a lesser extent formulated diagnoses and evaluated, although they presented a low clinical aptitude.
Moura-Tomé E, Sverzut C, Bordin-Pelazza B, Alessandra-Evangelista R, Assis-Bueno A	Fatores de Resistênciana-Implementação do Processo de Sistematização da Assistência de Enfermagem em Unidades de Terapia Intensiva	Describe and analyse the feasibility of implementing the systematisation of care in the ICU, as well as the difficulties and knowledge of nurses in this area.	Brazil 2014	Qualitative N = 4	Scielo	Among the results, resistance to change, the complexity of the steps, lack of interest on the part of the institution and the lack of theoretical preparation of the nurses were highlighted.

Table 3 (*Continued*)

Authors	Title	Objective	Origin and year	Design and sample	Source	Results
Gomes-de Sousa PH, da Silva-Dantas FV, Leite-Rangel EM, Barros-Araújo MH, Rocha-Carvalho NA	Diagnósticos de enfermagem em Unidade de Terapia Intensiva: revisão integrativa	Analyse the literature on the use of nursing diagnoses in the ICU.	Brazil 2018	Bibliographic review	Scielo	The studies showed the difficulty of some services in using the NANDA-I taxonomy, the importance of using clinical reasoning and the lack of preparation of professionals in its use.
Tavares-Ribeiro AC, Tsouroutsoglou-de Oliveira K, Silva-de Almeida R, Silva-de Souza F, França-de Menezes H	Reflecting on the practice of nursing care systematization in the Intensive Care Unit	Identify nurses' experiences in the practice of systematisation of care. en la UCI	Brazil 2013	Qualitative N = 10	Cinahl	The categories of analysis that emerged were: factors affecting the implementation of the systematisation of ICU care and nurses' lack of knowledge of this process.
Alves-de Oliveira MA, Ferreira-da Silva F, de Oliveira A, Andrade-dos Santos CA, Freire-de Carvalho J, de Areújo R	Nursing Care in the Immediate Postoperative Period: A Cross-sectional Study	Identify the care provided by nurses, as well as the difficulties encountered when using the NP	Brazil 2015	Cross-sectional descriptive N = 13	Cinahl	A relationship was established between the increase in the number of patients and the scarce use of NP.
Lopes-Figueiredo J, Bezerra-Oliveira CD, Xavier-de França IS	Systematization of nursing care in Intensive Care Unit	Evaluate the systematisation of nursing care in the ICU.	Brazil 2018	Bibliographic review	Web of Science	Five articles were selected, where it was possible to observe that the lack of application of systematisation of care in ICUs is a reality. However, when carried out, this process provided an organised record of information and an evaluation of nursing care.
Inácio-Soares M, de Souza-Terra F, Silva-Oliveira L, Rodrigues-Resck ZM, da Silva-Duarte AM, de Castro-Moura C	Nursing Process and its application in intensive care units: integrative review	Identify the application of the SP in the ICU and the contributions and limitations of its implementation.	Brazil 2013	Bibliographic review	Pubmed	Two categories were identified: NPs and their use in the ICU, NPs and their contributions/limitations in the ICU

Table 3 (*Continued*)

Authors	Title	Objective	Origin and year	Design and sample	Source	Results
Cachón-Pérez JM, Álvarez-López C, Palacios-Ceña D.	El significado del lenguaje estandarizado NANDA-NIC-NOC en las enfermeras de Cuidados Intensivos madrileñas: abordaje fenomenológico	Describe the meaning of SNL for nurses working in ICUs in Madrid	Spain	Qualitative	RevistaEnfermeríaIntensiva	Three themes constitute the meaning of ICU nurses: experience integration; experience a conceptual imposition and experience an opportunity for professional development and autonomy.
Cogo E, Helena-Gehlen M, Ilha S, Zamberlan C, Barbosa-de Freitas HM, Stein-Backes D	Sistematização da assistencia de enfermagem no cenáriohospitalar: Percepção dos enfermeiros	Find out what ICU nurses know about the systematisation of care.	2012 Brazil	N = 12 Qualitative	Cinahl	Although nurses are aware of the need for systematisation of nursing care, they do not yet implement it, which suggests that some professionals still base their actions on the biomedical method.
			2012	N = 8		

Source: own creation.

the articles published by Moura-Tomé et al.[28] and Gomes-de Sousa et al.[29]

Influence of the ''time'' factor on care activities

Lack of time is often perceived as one of the factors hindering the implementation of NP in ICUs, as reflected in studies by Silva-de Jesus et al.,[16] Massaroli et al.[23] and Moura-Tomé et al.[28] This barrier was also identified by Costa-Albuquerque et al.,[17] where the majority of nurses pointed out the lack of time due to the increase in care activities and bureaucratic activities unrelated to care work, which involved them occupying part of their shift on other tasks. Furthermore, the recording of procedures and care scales, and the clinical instability in which patients often found themselves, were described as tasks that took time away from the application of the methodology as reflected in the work of Tavares-Ribeiro et al.[30]

The low nurse-patient ratio was also described in several studies as an important conditioning factor for its implementation as reported by Massaroli et al.,[18] Akbari et al.[19] and Viana et al.[22] Similarly, Mendes-Nunes et al.,[21] Lima-da Silva et al.[24] and Alves-de Oliveira et al.[31] concluded that the workload derived from a high number of patients was the main difficulty reported by 85.8% of the staff, which was significantly associated with the lack of application of our nursing methodology with a $P = .01$ value. And, in parallel, in the work of Guillermo-Rojas et al.,[27] 50% of nurses who reported not applying this care tool had a total of 13 patients or more. While Lopes-Figueiredo et al.[32] showed that nurses spent a total of 25 min and 58 s per patient to perform all stages of the NP, which is one of the reasons why its applicability was low.

Responsibility of health institutions in the undertaking of the methodology

In the work carried out by Silva-de Jesus et al.,[16] Moser et al.[26] and Inácio-Soares et al.,[33] the non-existence in the health institution of a work service dedicated to the continuous training of these professionals was identified, which could be behind the lack of training in methodology and hinder its implementation. Furthermore, according to Akbari et al.,[19] 76.2% of a total of 63 nurses perceived a lack of institutional support in promoting the application of the nursing method in their work environment. This problem was also described by Silva-Dutra et al.[20] and by Cachón-Pérez et al.[34] who concluded that nurses in ICUs in Madrid reported trying to apply the SNL within the dynamics of the unit. However, this work was frustrated by the lack of support from figures such as supervision or management in their healthcare institutions. More than half of the participants (60%) out of a sample of 17 nurses reported not having received training courses on nursing methodology within their institution according to Barreto-Morais et al.[25] In addition, having an institution that did not encourage methodology learning among nurses, they reported feeling that the NP was not of interest to the institution, according to Moura-Tomé et al.[28]

Where nursing methodology stands among care activities

Another factor described by the nurses included in the study by Silva-de Jesus et al.[16] and Silva-Dutra et al.[20] was the lack of interest in its application. In addition, Viana et al.[22] identified a strong resistance to recognising the relevance of NP. This way of thinking was frequent among nurses, who stated that they were more interested in studying other areas of knowledge that they associated with greater professional autonomy, such as the application of therapeutic technologies or the management of perfusion pumps, according to Cachón-Pérez et al.[34]

However, in the studies by Mendes-Nunes et al.[21] and Moura-Tomé et al.,[28] the participants showed their interest in the NP, referring to it as a useful tool for providing the best care and improving the quality of care. In parallel, in the work of Barreto-Morais et al.[25] a sample of 17 ICU nurses were asked about the importance given to the nursing methodology, where 70% considered it extremely useful in reducing the risk of errors, while 23.5% classified it as very important and 6% gave it medium importance.

Influence of the teaching of nursing methodology in the universities

According to the results obtained by Moura-Tomé et al.,[28] problems related to the teaching of NP during nursing studies are behind one of the possible difficulties in its application in practice. For their part, Inácio-Soares et al.[33] pointed out that the origin of these difficulties would come from the teachers' lack of knowledge in the use of this tool and Massaroli et al.[23] associated it with a lack of mastery in nursing methodology, while Moser et al.[26] alluded to the absence of a specific subject on methodology that would make it difficult to achieve the necessary knowledge to be able to apply it once the nursing students enter the world of work. While Cogo et al.[35] concluded that this aspect should have been more highly valued within university education.

Furthermore, the publications by Silva-de Jesus et al.[16] and Cachón-Pérez et al.[34] pointed out the differences between the application of NP during university training, in which work was generally carried out on a specific case of one patient, while in reality it had to be applied to several patients with the instability that characterises ICU patients.

Discussion

The limited knowledge of nursing methodology is a major barrier to its application in ICUs.[16–29] However, in a study carried out in Saudi Arabia, 94.6% of the nurses have adequate knowledge of NP.[36] Furthermore, the results of this study show how ICU nurses report the non-existence of continuing education courses in methodology within their work centre,[16,22,25,26,33] compared to others who perceive a lack of institutional support.[19,28,34] Meanwhile, another part of the nursing community reports a lack of knowledge on the part of some university professors,[16,23,26,28,33–35] thus conditioning their use once they enter the world of work.[37] In this sense, the literature shows that, among the factors that make the application of the NP possible is the obligatory nature of the institution and the support it provides to the units.[33] As long as the development of the nursing methodology is not part of the institution's mission and is one of its operational objectives, it will not be fully implemented in the units where care is provided.[38]

However, even when sufficient knowledge is available, lack of time is a barrier to implementation.[16,21–24,27,28,30–32] This obstacle is also described by other authors in two studies carried out in a hospital in Medellín (Colombia) and in Argentina, where it is evident that the time dedicated to patient care is the predominant factor for not carrying out the nursing methodology, as well as the large number of patients assigned per nurse and the excessive workload.[39,40] In this sense, if the nursing process is not carried out, information is lost and care is fragmented.[6,11]

Nursing methodology is also positioned among the last priorities of ICU nurses, who show little interest in its use as they perceive other direct care activities to be more important, given the clinical instability in which patients find themselves in these units.[16,20–22,25,28,34] However, we found different results in the literature, where 100% of nurses in a study conducted in Medellín (Colombia) consider it important because it supports care planning, prioritisation and improved patient safety.[39,40]

Conclusions

The lack of theoretical knowledge of nursing methodology is the main obstacle to nurses not implementing it in the ICU. This lack of knowledge is partly due to a lack of commitment on the part of health institutions to continuing education in nursing methodology and to a lack of preparation that begins at university level.

In addition to this, the time that should be devoted to the application of the methodology is consumed by care and bureaucratic activities and by high workloads due to the low nurse-patient ratio. As a consequence, nurses are forced to devote as little time as possible to the application of their own scientific method and to limit themselves to the execution of care focused on the basic needs of the patients they care for in the ICU, which they consider more important given the clinical instability in which these patients find themselves. In this way, nursing methodology is positioned among the last priorities of nurses.

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Moreover, university training in methodology is not sufficient to subsequently incorporate this tool in the work environment. The factors responsible include the lack of knowledge and a low level of mastery of this subject by nurses.

Among the limitations of this study, we highlight the fact that, being a literature review of a subject scarcely studied by nurses, few works published in Spain by these professionals have been found. However, this review promotes greater knowledge of the barriers that currently hinder its application and could be the starting point for studying the solutions proposed by nurses to address this problem that is widespread in the ICUs of several countries.

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Conflict of interests

The authors have no conflict of interests to declare.

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