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RESEARCH

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NURSING EDUCATION PROCESS: WHAT THE SCIENTIFIC PRODUCTIONS PROVIDE

Ensino do processo de enfermagem: o que as produções científicas oferecem

Enseñanza del proceso de enfermería: qué las producciones científicas prefieren

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ABSTRACT

Objective: To analyze the scientific productions that approach the teaching of the Nursing Process in Brazil. **Method:** The search for articles was carried out in the Virtual Health Library, including works published between 2002-2016. 33 publications were selected, meeting the inclusion and exclusion criteria. **Results:** The results are presented in two Thematic Dimensions: Thematic Dimension/1 Methodologies of Teaching of the Nursing Process, with the category of diversity methodological diversity employed in teaching the Nursing Process and teaching of the Nursing Process permeated by praxis; Thematic Dimension/2 - Applicability of the Nursing Process, approach to service teaching integration as a strategy of applicability of the Nursing Process and recognize the steps of the Nursing Process to understand its application. **Conclusion:** Despite the few publications related to the subject, it was possible to perceive that the fusion between theoretical and practical knowledge implies (re)organization of the Nursing Process from the reality of the service.

Descriptors: Nursing Process, Teaching, Staff Development, Education Continuing.

RESUMO

Objetivo: Analisar as produções científicas que abordam o ensino do Processo de Enfermagem no Brasil. **Método:** A busca de produções científicas foi realizada na Biblioteca Virtual em Saúde, incluindo-se artigos publicados entre 2002-2016. Foram selecionadas 33 publicações, atendendo aos critérios de inclusão e exclusão. **Resultados:** Os resultados são apresentados em duas Dimensões Temáticas: Dimensão Temática/1- Metodologias de Ensino do Processo de Enfermagem: trata da diversidade metodológica empregada no ensino do Processo de Enfermagem e do ensino do Processo de Enfermagem permeado pela práxis; Dimensão Temática/2- Aplicabilidade

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do Processo de Enfermagem: aborda a integração ensino serviço como estratégia de aplicabilidade do Processo de Enfermagem e reconhece as etapas do Processo de Enfermagem para compreender sua aplicação.

Conclusão: Apesar das poucas publicações relacionadas à temática, foi possível perceber que a fusão entre os conhecimentos teórico e prático implica na (re)organização do Processo de Enfermagem a partir da realidade do serviço.

Descritores: Processos de Enfermagem, Ensino, Formação de Recursos Humanos, Educação Continuada.

RESUMÉN

Objetivo: Analizar las producciones científicas que abordan la enseñanza del Proceso de Enfermería en Brasil. **Método:** La búsqueda de artículos fue realizada en la Biblioteca Virtual en Salud, incluyendo trabajos publicados entre 2002-2016. Se seleccionaron 33 publicaciones, atendiendo a los criterios de inclusión y exclusión. **Resultados:** Los resultados se presentan en dos dimensiones temáticas: Dimensión Temática/1- Metodologías de Enseñanza del Proceso de Enfermería, trata de la diversidad metodológica empleada en la enseñanza del proceso de enfermería y de la enseñanza del proceso de enfermería permeada por la praxis; Dimensión Temática/2- Aplicabilidad del proceso de enfermería: aborda la integración enseñanza servicio como estrategia de aplicabilidad del proceso de enfermería y reconoce las etapas del proceso de enfermería para comprender su aplicación. **Conclusión:** A pesar de las pocas publicaciones relacionadas con el tema, fue posible percibir que la fusión entre los conocimientos teórico y práctico implica la (re)organización del proceso de enfermería a partir de la realidad del servicio.

Descriptores: Proceso de Enfermería, Enseñanza, Desarrollo de Personal, Educación Continua

INTRODUCTION

The skills and abilities involved in the clinical reasoning of nurses are determining factors in the actions and decisions during the Nursing Process (NP) stages. NP, as a fundamental dynamic work tool, organizes health care workers' actions and gives them visibility by promoting humanized care that qualifies nursing care.^{1,2}

In Brazil, the Conselho Federal de Enfermagem (COFEN) [Federal Nursing Council], through Resolution 358/2009, established that NP should take place in all institutions where nursing services are provided.³ In this sense, the training of professionals who implement the NP needs to be thought out in order to comply with legislation and satisfy service needs.

The nurses' training begins during undergraduate education and remains present in their lives through graduation courses or continuing education. The latter is regarded as an in-service training tool for the development of knowledge, skills, and attitudes capable of qualifying nursing care.⁴ In addition, continuing education enables changes and improvements in the management of care for patients, families, and communities. Given this framework, the need for constant training in NP emerges in various scenarios in which nursing students and professionals participate.

At the national level, occupational legislation requires that nursing services adopt the *Sistematização da Assistência de Enfermagem (SAE)* [Nursing Care Systematization] as a

strategy to organize nursing work so that the NP becomes operational. In this perspective, NP provides professional guidance and documents nursing practice. However, it is not yet fully implemented because of difficulties stemming from the nurses' feelings about and perceptions of this process.^{3,5-6} The NP's contributions to visibility and appreciation in professional development become unquestionable, but this practice requires alignment with institutional and nursing philosophies supported by actions that meet the *Política Nacional de Educação Permanente em Saúde (PNEPS)* [National Policy on Continuing Health Education] and allow conceptual reflection, correlating them with the care process.⁷

Because of this scenario, fostering the training of professionals to organize nursing care systematically, and implementing the NP in a critical, humanistic way with a view to excellence, safety and quality of care is a challenge for training institutions, as well as for health services within the context of continuing health education.

Bearing in mind the aforesaid, this study aimed at analyzing the Brazilian scientific publications addressing the teaching of the NP in order to generate discussion and critical reflection on the new paradigms and knowledge guiding SAE education/nursing care.

METHODS

It is an integrative literature review, which contributes to the process of synthesizing and analyzing the results of studies to create an understandable body of literature.⁸

This study was based on a research protocol with the following steps: formulation of the problem, data collection or literature search definitions, data evaluation and analysis, and presentation and interpretation of results.⁸ The research question was "what are the thematic dimensions found in scientific productions on the teaching of NP in Brazil in the period from 2002 to 2016?"

The literature search took place in July 2016. Only the *Biblioteca Virtual em Saúde (BVS/BIREME)* [Virtual Health Library] database was searched because the NP legislation is restricted to Brazil.

The controlled descriptors used to construct the search queries were: *ensino, formação continuada, formação de recursos humanos, educação permanente, and educação continuada*. They were combined by means of the Boolean operator "AND" with the descriptor *processos de enfermagem*. Because only the articles dealing with the study objective were needed, a new search was conducted using the term *sistematização da assistência de enfermagem* as a substitute for the descriptor *processos de enfermagem*. The use of this term should be highlighted as it is mentioned in Resolution No. 358/2009.

Inclusion criteria were articles published in Portuguese, English, and Spanish between August 2002 and July 2016. Exclusion criteria were reviews, editorials, theses, dissertations, articles not available for free, and duplicates.

The initially selected papers were evaluated by analyzing their titles, descriptors, and abstracts. In case of insufficient information, the article was read in full. After the application of the exclusion criteria, the studies were used to build a matrix for data organization and analysis. The matrix featured the following items: production characterization data (year, country, journal, authors), objectives, methodological characteristics, results, conclusions, and study gaps.

RESULTS

A total of 777 articles were initially found, whose titles and abstracts were read. Of these, 46 articles were read in full reading and peer-reviewed in order to verify adherence to the study objective. Conclusively, 33 articles were selected for the final analysis.

The primary search for studies followed the process illustrated in **Figures 1 and 2**.

Figure 1 - Flowchart illustrating how articles were selected using the descriptor *Processos de enfermagem*.

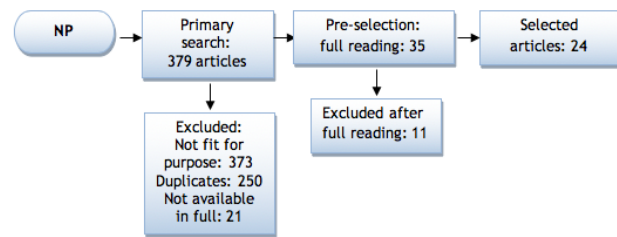


Figure 2 - Flowchart illustrating how articles were selected using the descriptor *Sistematização da Assistência de Enfermagem*.

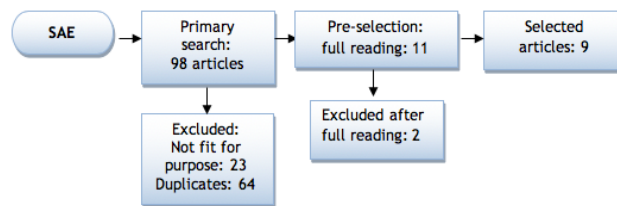


Table 1 - Selected articles according to year of publication, journal, study type, and database.

Article	Year of publication	Journal	Study type	Database
A1 ⁹	2002	<i>Rev.latioam.enferm.</i>	Experience report	MEDLINE
A2 ¹⁰	2002	<i>Rev.bras.enferm.</i>	Experience report	LILACS
A3 ¹¹	2002	<i>Rev.bras.enferm.</i>	Experience report	LILACS
A4 ¹²	2007	<i>Rev. cuid. Bucaramanga</i>	Epidemiological research	BDENF
A5 ¹³	2007	<i>Rev. gaúch.enferm.</i>	Case study	LILACS
A6 ¹⁴	2007	<i>Rev. HCPA&Fac. Med. Univ.Fed.RioGd.doSul.</i>	Experience report	LILACS
A7 ¹⁵	2007	<i>Acta paul.enferm.</i>	Data-based theory	LILACS
A8 ¹⁶	2008	<i>Rev. eletrônica enferm.</i>	Documental study	LILACS
A9 ¹⁷	2009	<i>Online braz.j nurs.</i>	Convergent-care study	BDENF
A10 ¹⁸	2009	<i>Online braz.j.nurs.</i>	Reflective study	BDENF
A11 ¹⁹	2009	<i>Ciênc. cuid.saúde.</i>	Experience report	BDENF
A12 ²⁰	2009	<i>Texto&contexto enferm.</i>	Bibliographical study	LILACS
A13 ²¹	2009	<i>REME rev.min.enferm.</i>	Descriptive-exploratory study	LILACS
A14 ²²	2009	<i>REME rev.min.enferm.</i>	Descriptive, cross-sectional study	LILACS
A15 ²³	2010	<i>Rev.RENE.</i>	Descriptive-exploratory study	BDENF
A16 ²⁴	2010	<i>Rev. Esc. Enferm.USP.</i>	Descriptive-exploratory study	MEDLINE
A17 ²⁵	2010	<i>Rev. Esc. Enferm.USP.</i>	Descriptive-exploratory study	BDENF
A18 ²⁶	2011	<i>Rev. eletrônica enferm.</i>	Descriptive study	LILACS
A19 ²⁷	2011	<i>Rev. bras. enferm.</i>	Experience report	BDENF
A20 ²⁸	2012	<i>Rev.RENE.</i>	Descriptive-exploratory study	BDENF
A21 ²⁹	2012	<i>Acta paul. enferm.</i>	Descriptive, exploratory, cross-sectional study	LILACS
A22 ³⁰	2012	<i>Esc. Anna Nery Rev. Enferm.</i>	Convergent-care study	LILACS
A23 ³¹	2012	<i>Rev. pesqui. cuid. fundam.</i>	Descriptive-exploratory study	BDENF
A24 ³²	2012	<i>Rev. gaúch. enferm.</i>	Descriptive-exploratory study	MEDLINE
A25 ³³	2012	<i>Rev. Esc. Enferm. USP.</i>	Experience report	MEDLINE

Article	Year of publication	Journal	Study type	Database
A26 ³⁴	2012	<i>J. health inform.</i>	Experience report	LILACS
A27 ³⁵	2013	<i>Invest. educ. enferm.</i>	Descriptive-exploratory study	LILACS
A28 ³⁶	2014	<i>Rev. gaúch. enferm.</i>	Documental study	LILACS
A29 ³⁷	2015	<i>Rev. latinoam. enferm.</i>	Comprehensive qualitative study	LILACS
A30 ³⁸	2015	<i>Esc. Anna Nery Rev. Enferm.</i>	Phenomenological study	BDENF
A31 ³⁹	2015	<i>Enferm. univ.</i>	Cross-sectional study	MEDLINE
A32 ⁴⁰	2015	<i>Rev. bras. enferm.</i>	Discourse analysis	MEDLINE
A33 ⁴¹	2016	<i>Rev. RENE.</i>	Descriptive-exploratory study	LILACS

The results showed that although the great importance of the study subject for nursing education is evident, few publications addressing it were found.

Regarding the scientific publications' profile, six articles were published in 2009 and seven in 2012. Studies with a qualitative approach (29) predominated, followed by descriptive-exploratory studies (13), and experience reports (7).

The articles were published in 19 different journals, with the predominance of the Online Brazilian Journal of Nursing, *Revista Brasileira de Enfermagem*, *Revista da Escola de Enfermagem da Universidade de São Paulo* and *Revista Gaúcha de Enfermagem*, which are classified as B1, A2, A2, and B1 respectively according to the *Qualis* system of the *Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES)* [Coordination for the Improvement of Higher Education Personnel]. These journals cover research on nursing evaluation. As for the databases, it is worth mentioning that 17 articles were available in the *Literatura Latino-Americana e do Caribe em Ciências da Saúde* (LILACS) [Latin American and Caribbean Literature on Health Sciences], 10 in the *Base de Dados Nacionais da Enfermagem* (BDENF) [National Nursing Database] and six in the Medical Literature Analysis and Retrieval System Online (MEDLINE). This aspect allows us to infer that these journals acknowledge the importance of studies on the subject and, therefore, include NP in their scopes.

As for the year, there was a growing number of studies published predominantly in journals covering nursing research. Besides having good classification according to the *Qualis* system, these journals are available online and have a national and international impact. This demonstrates the evolution of knowledge of and interest in the subject. The predominance of qualitative studies resulted from the researchers' concern about understanding the singularity of the subject/object in depth, while the quantitative studies demonstrate the impact of NP in nursing care.

Next, the study findings will be presented and discussed in light of following two thematic dimensions (TD) that express the studies' analytical categories: *Methodologies for the teaching of NP* (TD/1), which addresses the methodological diversity in the teaching of NP permeated by the praxis, and *NP's Applicability* (TD/2), which

considers the integration of the teaching service a strategy for applying the NP and acknowledge their steps in order to understand its application.

DISCUSSION

TD/1: Methodologies for the teaching of NP

There are many NP teaching methodologies. Teaching-learning strategies contemplate methodologies aimed at an innovative, contemporary education, which are seen as teaching technologies that enable learners to be protagonists of their learning process and enable teachers to be facilitators of the understanding of common objectives. Methodological diversity instigates critical and reflective thinking about praxis, thus problematizing nursing education.

The analysis of the 15 articles constituting this dimension makes it possible to visualize the application of different NP teaching methodologies in a general context or with a focus on its different stages. The use of active methodologies is considered a facilitator aspect that gives meaning to the learning process, seeking constant association between NP and nurse's performance throughout the nursing education.³⁶

The so-called "active" methodologies are presented as possible didactic resources for critical teaching, an innovative pedagogical practice that promotes democratic participation as a fundamental requirement for meaningful learning. The objective of these methodologies is to provide education for people so that they can establish relationships and appropriate human reality through reflection and knowledge sharing.⁴² From this perspective, it is highlighted the importance of adopting effective pedagogical practices that can overcome the traditional teaching model, include students in the learning process, and seek a new academic-assistance practice.^{19,21,27,35,41}

Articles A13 and A33 demonstrate the synergy of traditional, cognitivist, and constructivist approaches, which positively contribute to a teaching of NP based on the development of skills. Thus, the adoption of pedagogical methodologies capable of stimulating the construction of critical, reflexive, interpretative, and dynamic subjects

allows the nursing professionals' knowledge not to be restricted to the contents studied during undergraduate education. As a result, they can survive the constant transformation of the nursing practice and act so that the ways of providing care in its entirety and amplitude could be expressed.^{21,41} In article A9, the authors consider that leaving the traditional teaching model enables integrating theory and practice in health services through science so as to overcome technical aspects and the mechanistic paradigm of care.¹⁷ It is highlighted the adoption of teaching-learning practices and strategies that consider not only technical aspects but also behavioral, personal, aesthetic, and ethical ones. A more liberating, creative, reflective, constructive and questioning approach to content can encourage new nurses to instrumentalize knowledge, skills, and attitudes that meet the demands of society and are consistent with scientific advances in the field.^{21,23,35}

In this sense, the *Diretrizes Curriculares Nacionais para os Cursos de Graduação em Enfermagem* [National Curricular Guidelines for Nursing Undergraduate Courses] recommend pedagogical strategies that associate abstract, practical, and social knowledge, which are seen as indispensable attributes of nursing education. The purpose of these strategies is to develop the skill of learning to learn, learning to be, learning to do, learning to live together and learning to know, which allow tailored training to provide health professionals with occupational skills and knowledge.⁴³

According to the analyzed studies, NP teaching is permeated by praxis. Praxis can be understood as a concrete activity through which people assert themselves in the world, modifying themselves and the objective reality in a reflexive way, integrating theory and practice. It is thus a decisive attitude for the emancipatory vision of education considering dialogical interaction and the mediations established with the other and society in a theoretical, formative context. In this perspective, the context of pure doing is replaced by the context of praxis, that is, the context of practice and theory.⁴⁴ In proposing to move beyond the sphere of apprehension of reality to a critical sphere of awareness, the author contextualizes how theory and practice become more integrated: "Awareness cannot exist outside of praxis, or rather, without the act of action-reflection. This dialectical unit permanently constitutes the way of being or transforming the world that characterizes men."⁴⁵

Accordingly, the need for offering training based on reflective practice arises, which allows nursing students and professionals to view the real world as a space for critical action. Reflective practice enables dealing critically with the conditioning and determinants of the health-disease process and carrying out autonomous actions in an integral way. Consequently, subjects' protagonism and co-responsibility are stimulated as they need to receive training based on collective participation in health practices.⁴⁶

The 12 articles that make up this category highlighted a gap among what is taught, what the law prescribes, and

what is experienced in practice. Moreover, their findings indicated that the SAE is still a recommended instrument for qualifying nursing and health care.^{15-16,20,26}

The article A15 emphasized that higher education should overcome reformisms so that practical experience could be gained through strategies that integrate theory and practice.²³ For the authors of the article A8, promoting dialogue about the process of knowing, doing and legislating strategically contributes to the perception of the SAE as a form of care management, which has been widely regarded in the nursing field. Nevertheless, it needs to be adapted to the institutional philosophy and thought out according to the complexity of its interrelationships.¹⁵

The studies that addressed the facilitators and difficulties of NP teaching pointed out the permanent need for the training of educators and education methodologies that integrate theory and practice, although the practical field is associated with the education process, especially when considering teaching hospitals. Teaching and learning processes are complex and require continuous investment. All of the students' experiences in environments where the care is delivered by following the NP stages are understood as facilitating factors in teaching. In addition, the educators trained in NP adds knowledge and skills, acting as facilitators of the teaching-learning process.^{26,28,40}

In this context, it is necessary to link nursing practice to care planning, praising positive experiences so that other courses and services could offer the teaching of NP. The need for greater preparation and standardization of teaching activities and the development of strategies to integrate the theoretical bases and the world of practice emerged.^{24,26,28} It is highlighted the importance of learning at work and the need to share, discuss and publicize the health care system among nursing professionals so that they recognize themselves as protagonists of their methodology and become aware that their practice determines the results of care.²⁵

Within the context of care, the nurse technicians represent the largest workforce of the nursing staff. Nevertheless, the analyzed studies revealed that they received education without a focus on the NP. However, evidence of its application in some isolated disciplines was found. The gaps appear during the training of nurse technicians and throughout their professional careers as they focus only on care management. Therefore, these deficits reflect directly on the care process and nursing practice considering that non-systematized care has repercussions on the quality of care.^{16,25,38}

TD/2: NP's applicability

In the education scenario, teaching-service integration is presented as a strategy that promotes changes in care practice. Moreover, it provides moments of pause and shared discussions, dialogue, reflexive practice, and exchange of knowledge, which allows rethinking the conceptions of health, care, and work. As a consequence, the study process, professional update, and contact with

new tools and forms of work are favored in a symbiosis movement.⁴⁷

Seven articles addressed the teaching of NP in practice scenarios, whose results highlighted practical education and care through teaching-service integration movements.^{10,13-15,20,30,32} In an analytical approach, teaching-service integration was demonstrated as a strategy for implementing the NP.

Considering that, sometimes, the dichotomy between theory and practice presents itself as an obstacle to higher education. Strengthening the link between higher education and services enables the service to be re(signified) and viewed as a space of care and education. The changes and (re)structuring of education models indicate that the service should be included in the process of changing higher education and vice-versa, seeking to transform health practices into anchors according to the principles and guidelines of the Unified Health System and PNEPS.^{10,20,30}

The PNEPS proposes strategies and actions, such as teaching-service integration, to constantly improve the training of workers and future professionals considering the care practice, which strengthens the link between teaching and health care. The degree of involvement of the actors that represent the education segments⁴⁹ (managers, teachers, students, service, social control) should be considered a tool for transforming health practices since graduation.

Training professionals who are aware of their care and educational responsibilities provides them with the tools to act as multipliers of better health and nursing practices.³² In-service training helps professionals to improve their work methodology, fostering the construction, dissemination, and consumption of their knowledge and incorporating theory and practice.¹⁴

In this sense, the coordination between teaching and services presents itself as a contributing factor in the quality of nursing care, improvement of assistance, and professional training.³⁰ To consolidate the SAE as an instrument for improving nursing and health care, the actors applying the SAE must commit themselves to carry out practices based on the institutional philosophy, rethinking the process of health care and, above all, nursing care.¹⁵ Thus, in-service training in NP can be understood as a methodological strategy that enables the development of problematizing thinking and culminates in the construction of knowledge from the reality experienced.³²

The coordination between teaching and services can be understood as a systematized strategy to implement in-service training. The results of this integrative review indicate that that actions characterized by such coordination have been rarely carried out. There were initiatives for hospital health services associated with universities, but no article portraying the experiences with health services in light of continuing health education was found. Training is still linked to undergraduate education and offered by Higher Education institutions, obscuring the (co)responsibility of health services

in nursing education, considering the continuity of qualification and professional training based on the PNEPS.

Conclusively, the analyzed studies showed the need to recognize the NP steps to understand their application. Regarding the teaching of these stages, most of the analyzed studies approached specifically one of the stages utilizing data collection, nursing history, or nursing diagnoses. Nonetheless, according to the Resolution of the *Conselho Federal de Enfermagem* (COFEN) [Federal Nursing Council] No. 358/2009,³ the NP is grouped into five interrelated, interdependent, and recurrent stages, aiming at providing integral care for patients, families or communities.

In this sense, only the article A31 addressed all NP stages. Its objective was to identify the students' knowledge level in each stage and evaluate whether nursing professionals were trained in leadership, scientific, and technical research skills. The results suggest that identifying nursing education problems makes it possible to correct them so that students can enter the labor market with better NP skills that were already refined during undergraduate education.³⁹

Concerning the data collection stage, the construction of an instrument adapted to the people's reality allows a closer approach, communication, and interpersonal relationship among nurses, patients, and family members, with individualized care focused on patients' priority needs. The structuring of such stage aids the implementation of the others mainly through the development of critical thinking, clinical reasoning, decision making, and skills.^{32,35}

Articles A10 and A23 focused on the nursing diagnosis stage and pointed out that its teaching-learning process should be guided by teaching strategies that stimulate cognitive skills (critical, logical, and clinical reasoning), motivating students to improve and update their knowledge to build a critical view of practice from the perspective of an integrative approach.^{18,31} Therefore, it can be perceived that little research on the teaching of all NP stages by demonstrating its effectiveness for holistic care tailored to meet peoples', families' or communities' health needs.

CONCLUSION

There is a lack of scientific publications addressing the NP, especially on its interface with continuing health education and in-service training. Similarly, few studies cover the teaching of NP stages integrally. It is essential to more accurately evaluate the teaching of NP, considering that the implementation of its stages (because they are interrelated and recurrent) makes it possible to improve the quality of the nursing care based on scientific evidence.

No studies addressing specifically the steps of intervention and expected outcomes were found, which may be associated with the recent development of research on intervention and nursing evaluation. The need for conducting future research on all of the NP stages and aimed at peoples' integrality arises considering that they are interdependent.

Most of the analyzed articles highlighted the need for continuing health education but did not propose a methodology for teaching the NP in health services. Therefore, publishing such a training model could serve as a reference that can be replicated in other health units.

The interrelation between theoretical with practical knowledge (reflective practice) enhances the (re)organization of care through the NP stages. By being provoked into expanding their ability to analyze and intervene, considering the reality of work, scientific evidence, and the use of standardized language, students create conditions to improve care and ensure patient safety. In this direction, the teaching of NP, whether in undergraduate courses or at work, qualifies the nursing work process. The reason is that the actors' involvement instigates reflection to generate practical changes through a teaching-service partnership, which is considered a movement of mutualism that requires the use of active methodologies to arouse the interest of students and professionals alike.

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