

**REFLECTIONS ABOUT THE USE OF ICNP IN PROFESSIONAL PRACTICE:  
INTEGRATIVE REVIEW****REFLEXÕES SOBRE A UTILIZAÇÃO DA CIPE NA PRÁTICA PROFISSIONAL:  
REVISÃO INTEGRATIVA****REFLEXIONES SOBRE LA UTILIZACIÓN DE LA CIPE EN LA PRÁCTICA  
PROFESIONAL: REVISIÓN INTEGRATIVA**

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**ABSTRACT**

**Objective:** to carry out an integrative review to describe the use of ICNP in professional nursing practice in accordance with national and international scientific production. **Methods:** the search for articles was conducted in CINAHL databases, Scopus, Pubmed and Bireme with the delimitation of the last five years. It was used to search the term "CIPE" and "ICNP", were selected 35 articles on the subject. **Results:** after the analysis, the articles were distributed in categories: Integrative Reviews of studies on ICNP; ICNP of application specific care or certain pathologies situations; Application of CIPE system in primary health care; Studies cross-mapping with terms of ICNP and use the computerization and computerized Nursing Process programs. **Conclusion:** we note that the studies seek to qualify the nursing assistance and implement the nursing process with standardized language by ICNP providing better communication between the nursing staff and other professionals.

**Descriptor:** Classifications; Professional practice; Nursing Process; Nursing; Nursing Diagnosis.

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## RESUMO

**Objetivo:** realizar uma revisão integrativa para descrever a utilização da CIPE na prática profissional de enfermagem de acordo com a produção científica nacional e internacional. **Métodos:** A busca dos artigos foi realizada nas bases de dados CINAHL, Scopus, PubMed e Bireme, com a delimitação dos últimos cinco anos. Utilizou-se para a busca os termos “CIPE” e “ICNP”, foram selecionados 35 artigos sobre a temática. **Resultados:** os artigos foram distribuídos em: Estudos de Revisões Integrativas sobre a CIPE; Aplicação da CIPE em situações específicas do cuidado ou em determinadas patologias; Aplicação do sistema CIPE na Atenção Primária em Saúde; Estudos com mapeamento cruzado com termos da CIPE e Uso na informatização e programas de Processo de Enfermagem Informatizado. **Conclusão:** os estudos buscam qualificar a assistência de enfermagem e implementar o Processo de Enfermagem com linguagem padronizada por meio da CIPE propiciando melhor comunicação entre equipe de enfermagem e demais profissionais.

**Descritores:** Classificações; Prática Profissional; Processo de Enfermagem; Enfermagem; Diagnóstico de Enfermagem.

## RESUMEN

**Objetivo:** realizar una revisión integrativa para describir la utilización de la CIPE en la práctica profesional de enfermería de acuerdo con la producción científica nacional e internacional. **Métodos:** La búsqueda de los artículos fue realizada en las bases de datos CINAHL, Scopus, PubMed y Bireme, con la delimitación de los últimos cinco años. Se utilizó para la búsqueda los términos "CIPE" e "ICNP", se seleccionaron 35 artículos sobre la temática. **Resultados:** los artículos fueron distribuidos en: Estudios de Revisiones Integrativas sobre la CIPE; Aplicación de la CIPE en situaciones específicas del cuidado o en determinadas patologías; Aplicación del sistema CIPE en la Atención Primaria en Salud; Estudios con mapeo cruzado con términos de la CIPE y Uso en la informatización y programas de Proceso de Enfermería Informatizado. **Conclusión:** los estudios buscan calificar la asistencia de enfermería e implementar el Proceso de Enfermería con lenguaje estandarizado por medio de la CIPE propiciando mejor comunicación entre equipo de enfermería y demás profesionales.

**Descriptores:** Clasificaciones; Práctica profesional; Proceso de Enfermería; Enfermería; Diagnóstico de Enfermería.

## INTRODUCTION

Nursing is reaffirmed as a science through the formation of a field of specific knowledge. This was made possible by building theories that led to the creation of a scientific work methodology and standardized language.<sup>1</sup> I. Nanda NANDA nursing diagnoses: definitions and

classification-2009-2011. Porto Alegre (RS): Artmed; 2010.<sup>3</sup> Schaurich D Crossetti MDGO. Knowledge production on nursing theories: periodic analysis of the area, from 1998 to 2007. Esc Anna Nery Rev Enferm. 2010; 14 (1): 182-8.

The effort by a vocabulary or language proper of the nursing resulted in

the development of classification systems that has attracted the nurses interest for the use of a specific language of the profession, through the adoption of terms assigned to the phenomena of their clinical practice, ending therefore in unification and standardization of communication and exchange of information among nurses, with a view to strengthening the autonomy and recognition of social practice.<sup>4</sup>

The systematization of nursing assistance is a reflection, evaluation and organization tool of nurses' working process as the method, personnel and instruments, enabling the implementation of the nursing process.<sup>5</sup> Federal Board of Nursing. Resolution No. 358 of October 15, 2009: provides for the systematization of nursing assistance and the implementation of the nursing process environments, public or private, in which occurs the professional nursing care, and other measures. Official Gazette of the Federative Republic of Brazil, Rio de Janeiro: Federal Board of Nursing; 2009.<sup>6</sup> AN Vieira, Fernandes SCDA, Varela GDC, Azevedo VRCD, Queiroz JCD. Systematization of nursing care in the Family Health Strategy: limits and possibilities. *Rev Esc Enferm USP*. 2012; 13 (4): 816-24.

The Nursing Process (NP) is configured as a methodological tool that guides nursing care and registration of professional practice based on the

principles of the scientific method, in which the goal is to identify the needs and support interventions in the health-process disease of the individual.<sup>4</sup> Clares JWB, Freitas MC, Guedes MVC, Nóbrega MML. Construction terminology subsets: contributions to clinical practice of nurses. *Rev Esc Enferm USP*. 2013; 47 (4): 965-70.<sup>7</sup> Lins SMDSB, Santo FHE, Fuly CSDP. Applicability of international classification for nursing practice in Brazil. *Ciênc Health Nursing* 2011; 10 (2):. 359-65. NP is established in five interrelated, interdependent and recursive stages, namely, history of nursing, nursing diagnosis, planning, implementation and evaluation.<sup>4</sup> Clares JWB, Freitas MC, Guedes MVC, Nóbrega MML. Construction terminology subsets: contributions to clinical practice of nurses. *Rev Esc Enferm USP*. 2013; 47 (4): 965-70. In this context, documentation is a beneficial tool for evaluating nursing care managing information.

In nursing there are several classification systems related to the steps of the nursing process, namely, the taxonomy I and II of the Nursing Diagnoses Association (NANDA), the Nursing Interventions Classification (NIC), the Nursing outcomes Classification (NOC), the Omaha System, Clinical Care Classification (CCC) System, among others.<sup>7</sup> Lins SMDSB, Santo FHE, Fuly

CSDP. Applicability of international classification for nursing practice in Brazil. *Ciênc Health Nursing* 2011; 10 (2):. 359-65. However, these systems always showed structural differences among them and the specific steps of the process.

Based on these, the World Health Organization (WHO) recommended to the International Council of Nurses (ICN) to set up a nursing language system that contemplate problems/diagnoses, interventions and nursing outcomes, and for this purpose the International Classification for Nursing practice (ICNP) come up.<sup>4</sup> Clares JWB, Freitas MC, Guedes MVC, Nóbrega MML. Construction terminology subsets: contributions to clinical practice of nurses. *Rev Esc Enferm USP*. 2013; 47 (4): 965-70.<sup>8</sup> Mazoni SR, Rodrigues DC, DS Santos, Rossi LA, Oak ECD. International Classification for Nursing Practice and the Brazilian contribution. *Journal of Nursing*. 2010; 63 (2): 285-289.

In 1989, the Council of National Nursing Association Representatives (CNR) of the ICN adopted a resolution aiming to develop this classification.<sup>9</sup> International Classification for Nursing Practice (ICNP). ICNP® definition. 2015 April. Available from: URL: With its project started in 1991, one of the ICNP objectives is to mix vocabularies with global reach nomenclatures, to improve the

health care of the population. It includes diagnoses (real and risk), with their related factors and evidence, goals, interventions and outcomes. Since 1994, the ICNP began to be thought to encompass extra-hospital terms, also including primary health care.<sup>10</sup>

Based on this context, the following question arose: what is the scientific production using the ICNP in the professional practice of national and international nursing?

From this questioning, it was drawn the following objective: to describe the use of ICNP in professional nursing practice in accordance with national and international scientific production in the last five years.

## METHODS

This is an integrative literature review that aims the achievement, identification, analysis and synthesis of studies directed to the specific theme allowing the most comprehensive critique of the research results related to the leading question.<sup>11</sup> This method is used since 1980, and allows the incorporation of evidence into clinical practice.<sup>12</sup> It aims to gather and synthesize results of research on a defined topic or issue in a systematic and orderly manner, contributing to the deepening of the knowledge of the subject researched.

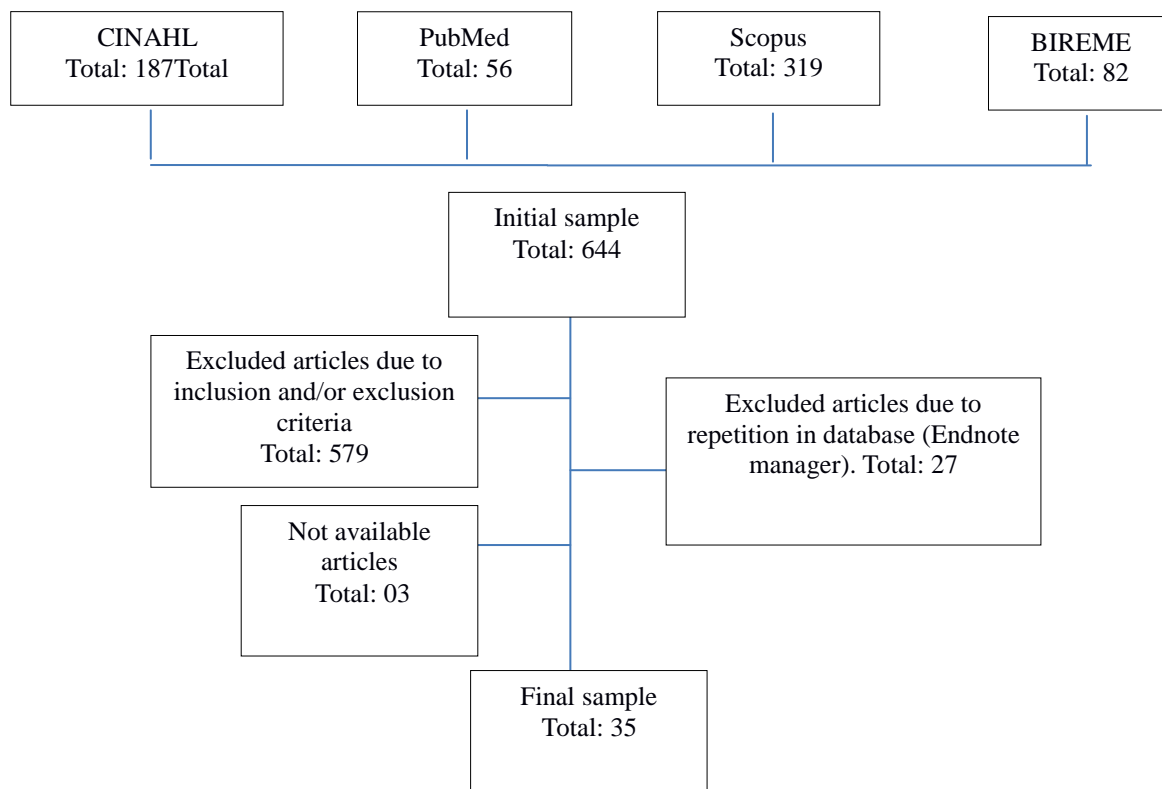
For the research the databases used were: *Cumulative Index to Nursing and*

*Allied Health Literature* (CINAHL), *Public MEDLINE* (PubMed), *SciVerse Scopus* (Scopus) and the Virtual Health Library Portal (BIREME). For search in databases we use the term "CIPE" and "ICNP." The option for the use of this term was due to the initial use of the descriptors of the Medical Subject Headings (MeSH) Terms: "nursing process", "professional practice", and classification, being found only six studies related to CIPE and these were not enough to answer the question of the research.

As inclusion criteria there were: all kinds of studies, in Portuguese, English and Spanish, the determined period of time was from 2011 to 2015, within the objectives proposed. Exclusion criteria were: articles not available in database, out of the period established, in other languages, the term ICNP had another meaning and/or did not fit the objective of the review. The articles were referred to

the reference manager Endnote. A data collection instrument was elaborated on the information considered important for this study, such as title, author, year, journal, country of origin, type of study, the purpose and results.

The steps proposed for the integrative review were used, such as: identification and selection of the theme of the research question for the elaboration of the integrative review; establishment of criteria for inclusion and exclusion of studies, sampling and literature search; definition of the information to be extracted from selected studies and categorization of studies; evaluation of studies included in the integrative review; interpretation of results; presentation of the review and synthesis of knowledge through the theme categories.<sup>12,13</sup> After selection, from the searches on the basis there were found articles 35 for analysis (Figure 1).

**Figure 1.** Flowchart of the search and the sample selection criteria for studies on CIPE

**Source:** Survey data, 2016.

## RESULTS

Of the 35 articles found 18 of these (51%) produce terms or subsets related to nursing care, being developed terms to addition in the classification catalog, as well as diagnoses and interventions. This approach is given both to the hospital area and for public health, although the latter has only seven articles, including one study on the challenges of implementation of the ICNP in public health. It was observed in all these studies a concern related to standardization of the language to facilitate the nursing process and qualify assistance. It is highlighted that in the studies mentioned different nursing

theories were used showing great plasticity of this terminology classification. The publications are predominantly of Brazilian authors (32 publications). There were five articles of literature review within the criteria methodologically established, with years of publication such as 2011, 2012, 2013 and 2014. These focus the applicability of the international classification for the nursing practice in different world scenarios.

About the ICNP in undergraduate teaching only one article was found, showing a gap that occurs in research related to this subject, but also reaffirming

the need for research in this field of nursing practice.

The articles were selected and after reading were grouped into thematic categories:

- Studies on Integrative Reviews on ICNP;
- ICNP application in specific situations of care or certain pathologies;
- Application of ICNP system in primary health care;
- Cross-mapping studies with ICNP terms;
- Use in informatics and computerized Nursing Process programs.

**Table I.** Demonstrative of articles related to the use of ICNP according to the authors, title, journal, year, country, purpose, type of study and results in the period from 2011 to 2015.

Authors	Title of the article	Journal/year/country	Objective	Type of study	Result
Souza DRP, Andrade LT, Napoleão AA, Garcia TR, Chianca, TCM	Termos da Classificação Internacional para a Prática de Enfermagem em reabilitação físico-motora.	Revista da Escola de Enfermagem da USP. 2015; 49(2): 209-215. Brasil	Validate terms for ICNP catalog on physical-motor rehabilitation	Method by documental analysis with a quantitative approach	It demonstrates that it is possible to use the ICNP® in the specialty of physical-motor rehabilitation, being developed to bring together the existing terms, develop new terms by using diagnostics, results and nursing interventions.
Silva RS, Nóbrega M M L, Medeiros A CT, Jesus NVA, Pereira A	Termos da CIPE® empregados pela equipe de enfermagem na assistência à pessoa em cuidados paliativos.	Rev Eletr Enf [Internet]. 2015 [cited 2015 set 15] 17 (2): 269-77. Brasil	Identify the terms used by the ICU nursing staff of a hospital specialized in oncology, in assisting the person in palliative care, mapping them with the Seven Axis Model of ICNP®2011.	Descriptive exploratory study	Knowledge of the terms used by the nursing care focused on the person in the process of dying and death in the ICU, which will enable contributions to the development of terminology in the field of palliative care.
Mazoni SR, Rodrigues CC, Santos DS, Rossi LA, Carvalho ECD	Classificação Internacional para a Prática de Enfermagem e a contribuição brasileira.	Revista Brasileira de Enfermagem.2010; 63(2), 285-289. Brasil	To characterize the profile of pregnant women in prenatal nursing consultation; identify the most frequent nursing diagnoses and devise interventions using the ICNP / version 1.0	Retrospective study; quantitative approach	The use the ICNP can collaborate in the autonomy of nursing care when planning actions with the pregnant woman using a specific language.
Laukvik LB, Mølstad K, Fossum M	The construction of a subset of ICNP® for patients with dementia: a Delphi consensus and a group interview study.	BMC nursing. 2015; 14(1), 1. Norway	To identify and validate observed and described terms by nurses in care for patients with dementia	Delphi Method	Bring terms that enhanced the psychosocial needs of patients who were not properly registered
Diniz IV, de Brito KKG, Oliveira Matos SD, de Melo Lira ACA, Costa MML, Soares MJGO	ICNP® as care strategy in nursing for a patient with multiple pathologies.	Acta Scientiarum. Health Sciences. 2015; 37(2), 161-166. Brasil	Stimulating a care plan for an individual with various diseases employing ICNP®.	Descriptive observational study of a clinical case	Humanized and individualized care; Help in the diagnosis and planning of care and process of communication among nursing professionals.
Clares JWB, Freita M C, Guedes MVC	Percurso metodológico para elaboração de subconjuntos terminológicos CIPE®:	Revista da Escola de Enfermagem da USP. 2014; 48(6), 1119-1126.	Analyze the methodological aspects used in the preparation of terminology	Review article	Demonstrate the lack of uniformity in the conduct of studies, particularly in relation to the steps of content validation.



Authors	Title of the article	Journal/year/country	Objective	Type of study	Result
	revisão integrativa.	Brasil	subsets ICNP® in dissertations and theses of Brazilian Nursing.		
Luciano TS, Nóbrega MML, Saporoli ECL, Barros ALBL	Mapeamento cruzado de diagnósticos de enfermagem em puericultura utilizando a Classificação Internacional de Práticas de Enfermagem.	Revista da Escola de Enfermagem da USP. 2014; 48(2), 250-256. Brasil	Analyze the nursing diagnoses in the 0-36 month children records attended in nursing consultations in childcare.	Descriptive and retrospective study with a quantitative approach.	The use of cross-mapping method allows for the comparison of the information in the records of the children seen in consultation with the nursing diagnoses standardized by ICNP®, which can contribute to the implementation of the classification system in the outpatient clinic.
Castro MCF, Fuly P DSC	ICNP® terminological subset for tumor wounds in palliative care: a methodological study.	Online Brazilian Journal of Nursing. 2014; 13, 408-11. Brasil	Create subsets with ICNP terminology for nurse's performance in palliative care.	Methodological, descriptive study	Create subsets to enable specific care to this type of patient using ICNP terminology.
Silva LDFD, Miranda KCL, Leite ACDS, Monteiro ARM, Coelho MDMF, Guedes MVC	Aplicabilidade da CIPE® fundamentada na teoria da modelagem e modelagem de papel.	Rev Bras Enferm. 2014 May-Jun; 67(3): 438-42. Brasil	Survey of diagnostic and nursing intervention with focus group from the modeling theory	Group case study with qualitative approach	The theory of modeling and role-modeling is in line with the dialogic educational perspective, directing for an educational care.
Tannure MC, Salgado PDO, Chianca TCM	Mapeamento cruzado: títulos diagnósticos formulados segundo a CIPE® versus diagnósticos da NANDA Internacional.	Revista Brasileira de Enfermagem. 2014; 67(6), 972-978. Brasil	Develop nursing diagnoses according to ICNP®, perform cross-mapping between the diagnostic formulations and diagnostic titles of NANDA-I, identify, among the diagnostic titles formulated the constant and non-constant in NANDA-I and perform mapping of the titles formulated with the basic human needs.	A descriptive study using workshops	It was possible to develop nursing diagnoses titles from a database of terms used by nurses working in adult ICUs, conduct the cross-mapping between the diagnoses titles formulated and the constant in NANDA-I, map with the NHB and describe diagnoses titles yet not constant in that classification.
Garcia TR, Nóbrega, MML	A terminologia CIPE® e a participação do Centro CIPE® brasileiro em seu desenvolvimento e disseminação.	Revista Brasileira de Enfermagem. 2013; 66, 142. Brasil	Describe the evolution of ICNP, its structural components, the centers accredited by CIE and the contribution of the Brazilian Center.	Descriptive	The terminology facilitates standardized documentation of patient care and the data and the resulting information can be used for planning and management of care.

Authors	Title of the article	Journal/year/country	Objective	Type of study	Result
Hou IC, Chang P, Chan HY, Dykes PC	A modified Delphi translation strategy and challenges of International Classification for Nursing Practice (ICNP®).	International journal of medical informatics. 2013; 82(5), 418-426. China	Describe the translation strategy used and the challenges faced in translating ICNP® Version 2 for the Chinese	Case report	The modified Delphi strategy has been used for translation and expert consensus being held to facilitate the semantic and cultural translation and validation of ICNP® and to make generalizable process. A total of 1863 preferred terms of version 2 CIPE® were translated from English to Traditional Chinese
Alves KYA, Dantas CN, Salvador PTCDO, Dantas RAN	Vivenciando a classificação internacional de práticas de enfermagem em saúde coletiva: relato de experiência.	Esc. Anna Nery Rev. Enferm. 2013; 17(2), 381-388. Brasil	Perform an experience report on the construction of road maps for Nursing queries using the ICNP.	Experience report	The instrument used is shown to be feasible in practice, but shows deficiency in the training of professionals in the perspective of SAE.
Dal Sasso GTM, Barra DCC, Paese F, Almeida SRWD, Rios GC, Marinho MM, Debétio MG	Processo de enfermagem informatizado: metodologia para associação da avaliação clínica, diagnósticos, intervenções e resultados.	Rev Esc Enferm USP. 2013; 47(1), 242-9. Brasil	Perform the articulation of data and computerized nursing process information according to the ICNP® version 1.0 associating detailed clinical assessment of every human system to their diagnoses, interventions and client outcomes.	methodological study and technological production	Show that the proposed PEI structured from the ICNP® version 1.0 enables nurses apply it in their practice of care in the ICU because it integrates a data logical structure information and clinical assessment, diagnoses and nursing interventions, divided by human systems.
Clares JWB, Freitas MC, Guedes MVC, Nóbrega MML	Construção de subconjuntos terminológicos: contribuições a prática clínica do enfermeiro.	Revista da Escola de Enfermagem da USP. 2013; 47(4), 965-970. Brasil	Perform a theoretical reflection on aspects relevant to the construction of terminology subsets ICNP® and discuss their contributions to clinical nursing practice.	Theoretical study	The development of terminology subsets ICNP® is a relevant technology strategy for the systematization of nursing care, considering the cultural, social, local influences and professional particularities in the use of technical terms.
Furtado LG, Medeiros ACT, Nóbrega MML	Terminological subset of the international classification for nursing practice: an integrative review.	Online Brazilian Journal of Nursing. 2013; 12(1), 178-93. Brasil	Identify, in scientific publications development initiatives and use the terminology of ICNP.	Review article	The development and practical use of terminology subsets of CIPE are still incipient despite promising.
Carvalho MWA, Nobrega MML, Garcia,	Processo e resultados do desenvolvimento de um	Revista da Escola de Enfermagem da USP.	Describe the process and the development results of an	A qualitative study	It is believed that it contributes to nursing practice facilitating the systematization of care

Authors	Title of the article	Journal/year/country	Objective	Type of study	Result
TR	Catálogo CIPE® para dor oncológica.	2013; 47(5), 1060-1067. Brasil	ICNP® catalog for Oncology Pain		making it a facilitator in the implementation of the nursing process, as well as for teaching and research.
Bordallo FR, Teixeira ER, Andrade M, Couto IRR, Souza FBA, Sanches ICP	Client underwent to radical mastectomy and application of CIPE in a surgical oncology unit: A case study.	Revista de Pesquisa: Cuidado é Fundamental Online. 2013; 5(5), 182-189. Brasil	A case study that focuses on patient care with full mastectomy for breast cancer based on the CIPE terminology and Orem's Theory	Case study	It was possible to use the Orem theory linking the ICNP terminology, adapting the planning for nursing care, focusing on patients with mastectomy.
Lins TH, Lima AX BC, Veríssimo RCSS, Oliveira JMD	Diagnósticos e intervenções de enfermagem em vítimas de trauma durante atendimento pré-hospitalar utilizando a CIPE®.	Rev. Eletr. Enf. [Internet]. 2013; 15(1), 34-43. Brasil	Perform a survey of nursing diagnoses, according to ICNP terminology, more prevalent in the pre-hospital care for trauma victims.	Cross-sectional study of documental analysis	The gathering of the most prevalent diagnoses in trauma victims during pre-hospital care can contribute to more targeted and systematic care.
Lins SMDSB, Espírito Santo FH, Fuly PDSC, Garcia TR	Subconjunto de conceitos diagnósticos da CIPE® para portadores de doença renal crônica.	Revista Brasileira de Enfermagem. 2013; 66(2), 180. Brasil	Create a catalog with ICNP terminology for nursing actions in care for patients with chronic kidney disease	Descriptive with quantitative approach	The subset of nursing diagnosis is quite comprehensive, believing in its potential to support a more comprehensive nursing care for chronic renal patients.
Araújo AA, Nóbrega MML, Garcia TR	Diagnósticos e intervenções de enfermagem para pacientes portadores de insuficiência cardíaca congestiva utilizando a CIPE®.	Revista da Escola de Enfermagem da USP. 2013; 47(2), 385-392. Brasil	Building affirmative nursing diagnoses and interventions for patients with congestive heart failure.	Exploratory descriptive	It is expected that the affirmatives of nursing diagnoses and interventions elaborated may facilitate the evaluation of patients with ICC.
Leite MCA, Medeiros AL, Nóbrega MML, Fernandes MGM	Assistência de Enfermagem a uma puérpera utilizando a Teoria de Horta e a CIPE	Rev Rene. 2013; 14(1):199-208. Brasil	A case study in pregnant women with iron deficiency anemia for survey of diagnoses and interventions based on the ICNP terminology and theory of Horta NHB	Case study	It offered subsidies for the provision of a qualified and individual assistance, providing evidence of the real needs of postpartum women and carry out specific interventions for each affected need and get expected results.
Cubas MR, Brondani AM, Malucelli A	Diagnósticos e resultados de enfermagem relacionados aos termos do sistema circulatório-CIPE®	Revista da Escola de Enfermagem da USP. 2013; 47(5), 1068-1075.	Develop titles of Nursing Diagnoses and Outcomes (ND/NO) through the relationship between the	Documental, descriptive research	This study involved 17 terms of a single subclass of ICNP® and presented 37 titles of ND/NO assessed as eligible for use in healthcare practice.

Authors	Title of the article	Journal/year/country	Objective	Type of study	Result
	representados em uma ontologia.	Brasil	terms of the Focus axis, limited to the Circulatory System Process, and the terms of other ICNP® axes and to integrate these terms into an ontology.		
Silva Oliveira MD, Rocha BS, Bachion M M	Desafios para a introdução da CIPE® no ensino de Saúde Coletiva: Relato de Experiência.	Enfermagem em Foco. 2013; 4(1): 07-10. Brasil	Experience report on the teaching of Orem's Theory and CIPE® (International Classification for Nursing Practice) in a subject of the collective health area	Experience report	A successful experience, contributing to the strengthening of reflection and student satisfaction in clinical activity. This was evidenced in the change of attitude of the same as the appreciation of Orem's Theory and the ICNP® terminology.
Moura DDJM, Freitas MCD, Guedes MVC, Lopes MVDO	Problemas adaptativos segundo Roy e diagnósticos fundamentados na CIPE® em hipertensos com doenças associadas.	Rev. Eletr. Enf.[Internet]. 2013; 15(2), 352-61. Brasil	Investigate the adaptive problems of the users to high blood pressure based on the Roy model and ICNP terminology	Multiple case studies with quantitative approach	The identification of adaptive and/or ineffective behaviors/responses, as well as nursing diagnoses in the clients under study is important to propose measures consistent with the situation of being hypertensive, and carrying other diseases, helping in maintaining adaptation and integration of this clientele to this environment.
Medeiros ACT, Nóbrega MML	Terminological subsets of the International Classification for Nursing Practice-ICNP® for senior patients: a methodological study.	Online Brazilian Journal of Nursing. 2013; 12, 590-592. Brasil	Formulate ICNP terms, diagnoses and interventions for the use by nurses with older adult users.	Quantitative	This study built relevant terms for diagnosis and intervention for improved elder care
Mata RF, Souza CC, Chianca TCM, Carvalho EC	Elaboração de diagnósticos e intervenções à luz de diferentes sistemas de classificações de enfermagem.	Revista da Escola de Enfermagem da USP. 2012; 46(6), 1512-1518. Brasil	Analyze the use of different classification systems and meeting the standards set by ISO 18104: 2003	Clinical case study	It was possible to relate the classification systems with ISO, and note that the terminology of the NANDA-I and ICNP® meet the reference model proposed by the standard, which is not explained in the structuring of NIC interventions
Barra DCC, Sasso GTMD	Processo de enfermagem conforme a classificação internacional para as práticas	Texto and Contexto Enfermagem. 2012; 21(2), 440.	Review the implementation of the Nursing Process, according to ICNP® in the	Review article	They showed that ICNP® has all the elements of nursing practice because it integrates, organizes and ensures the continuity of the information

Authors	Title of the article	Journal/year/country	Objective	Type of study	Result
	de enfermagem: uma revisão integrativa.	Brasil	different scenarios of professional care.		and care of the nursing team allowing evaluate their efficiency and effectiveness and modify them.
Andrade LL, Costa KNFM, Nóbrega MML, Santos Oliveira J, Accioly CMC.	Termos identificados em uma clínica médica e classificados como não constantes na CIPE®.	Revista Eletronica de Enfermagem. 2012; 1(14), 330-336. Brasil	Identify the terms not available in ICNP® Version 2.0 taxonomy and nomenclature of a medical clinic	Exploratory study with a quantitative approach	New terms can be added to the nomenclature of a hospital of Paraiba and ICNP®.
Fialho LFG, Fuly PDSC.	Catálogo CIPE para pacientes com mieloma múltiplo: estudo descritivo.	Online braz. j. nurs. (Online). 2012; 11(2, supl. 1). Brasil	Create catalog with ICNP terminology for nursing work in patient care with multiple myeloma	descriptive study	catalog creation with ICNP terminology for nursing work in patient care with multiple myeloma
Mattei FD, Cubas MR, Toniolo RMM, Malucelli A, Garcia TR.	Uma visão da produção científica internacional sobre a classificação internacional para a prática de enfermagem.	Revista Gaúcha de Enfermagem. 2011; 32(4), 788. Brasil	Identify studies developed at the global level addressing the ICNP®, categorizing them according to their purposes.	Review article	Few studies have evaluated projects or results of practical applications of ICNP.
So EY, Park H.	Exploring the possibility of information sharing between the medical and nursing domains by mapping medical records to SNOMED CT and ICNP.	Healthcare informatics research. 2011; 17(3), 156-161. Coreia	Explore the possibility of sharing information among the areas of medicine and nursing	descriptive study	About 32.3% of 705 concepts were drawn from the statements mapped for both SNOMED CT and ICNP. Mapping results suggest that medical records can be structured and used for the electronic medical record system.
Cubas MR, Carvalho CMG, Malucelli A, Denipote AGM.	Mapeamento dos termos dos eixos tempo, localização, meio e cliente entre versões da CIPE® e CIPESC®.	Rev. bras. Enferm. 2011; 64(6), 1100-1105. Brasil	Map the terms of the axes "Time", "Location", "Media" and "Client" between versions: Beta-2, 1.0 and 1.1 of the ICNP® and CIPESC after changing the CIPE to 7 axes	Bibliographic, descriptive study	Diversity found in the terms set out in the ICNP®, CIPESC® in relation to the axis location and clientele contributed to the inclusion of terms that reflect the diversity of nursing practice in the SUS.
Lins SMDSB, Espírito Santo FH, Fuly PDSC.	Aplicabilidade da classificação internacional para a prática de enfermagem no Brasil- <a href="https://doi.org/10.4025/cienc_cuid_saude">doi: 10.4025/cienc_cuid_saude</a> .	Ciência, Cuidado e Saúde. 2012; 10(2), 359-365. Brasil	Evaluate the types of research conducted in Brazil with the use of ICNP and verify the creation of the ICNP catalogs.	Review article	Continue studying this issue so that one can spread the use of this language in the country and achieve the creation of ICNP catalogs.

Authors	Title of the article	Journal/year/country	Objective	Type of study	Result
	v10i2. 13191.				
Sá Basílio LSM, Espírito Santo FH, Santos CFP.	Catalog based on the nursing international classification in heart failure: a descriptive study.	Online Brazilian Journal of Nursing. 2012; 10(2). Brasil	Create a catalog with ICNP terminology for nursing work in patient care with heart failure in a hospital institution.	Descriptive-type article	A catalog creation with ICNP terminology for nursing work in patient care with heart failure in hospital institution.

## DISCUSSION

### Studies on Integrative Reviews about ICNP

Five Literature Review articles focus on the applicability of ICNP in Brazil and in different global scenarios and cover research carried out by the year 2013.

The ICNP® has as strategic objectives serve as the basis for the relationship between the nursing contribution and overall health as well as promote harmonization with other classifications used.<sup>7</sup> The same study points out that the improvement and diffusion of this classification have occurred through the nine accredited centers of research and development of ICNP, which are installed in Iran, Korea, Chile, the USA, Australia, Germany, Poland, Portugal and Brazil.

The study showed that ICNP® is comprehensive, because it made possible the development and improvement of professional practice, contributing to the visibility of nursing in health care, and may be adopted by nurses in various specialties.<sup>14</sup> We agree with the authors when they emphasize that the definition of studies and / or validation of concepts and the translation of the ICNP® terms, as well the implementation of cross-mapping technique, strongly contributed to the evolution and dispersal of this

classification system by the various countries and clinical / performance specialty nurses.

Regarding the studies that evaluated the ICNP®, it was found that the system is feasible and can assist with reservations that improvement is needed. It must be considered that the permanent development is an intrinsic feature of a system as the ICNP®, and that the more widespread is their use, faster acquire consistency.<sup>15</sup>

It is clear, through research, that nurses from different countries, including Brazil, are showing interest in the subject and involved in this process of collaboration with the ICN to make the ICNP® a terminological reference to be used worldwide for strengthen and expand the effects of the profession in health care, education and research.<sup>16</sup>

### CIPE application in specific situations of care or certain diseases

Twelve articles that used the rating for language homogeneity of certain diseases or specific clinics, as well as study of relevant terms to specific needs pathologies were found. Four studies made catalogs for specific diseases: Heart Failure aiming to raise needs of patients with heart disease who needed nursing care<sup>7</sup>; Catalog diagnoses, interventions and nursing outcomes for patients with



multiple myeloma structured according to the conceptual framework of Wanda de Aguiar Horta<sup>17</sup>; Catalog for cancer pain, to be used as a tool for the documentation of the implementation of the nursing process in cancer patients<sup>18</sup>; catalog for older adult care patients and their necessities.<sup>27</sup>

Other studies aimed to propose subsets of terms: terms for subsets of cancer patients<sup>19</sup>; it was also possible to combine the use of Dorothea Orem's theory as an instrument associated with ICNP taxonomy, adapting the form of nursing care planning in patient who underwent mastectomy<sup>20</sup> and propose a subset of nursing diagnoses for chronic renal patients, elaborating them according to the guidelines of ICNP and arranging them according to the Theory of Human Basic Needs by Wanda Aguiar Horta<sup>21</sup>; subsets of terms for nursing care in patients with dementia.<sup>22</sup>

Studies have identified diagnoses and nursing interventions ICNP® more frequent in trauma during pre-hospital care<sup>21</sup>, during home care patient with multiple pathologies<sup>23</sup> and in care of patients with Congestive heart failure<sup>24</sup>, 24. AA Araújo, Nóbrega MML, Garcia TR. Diagnosis and nursing interventions for patients with congestive heart failure using the ICNP®. Rev Esc Enferm USP. 2013; 47 (2): 385-92.all of them evaluated that they can contribute to more targeted and

systematic care, in addition to promoting the nursing documentation. In physical-motor rehabilitation, a study validated the terms of the special language of nursing used, identified in records of rehabilitation nurses.<sup>25</sup>

### **Application of ICNP system in Primary Health Care**

It was found the application and use of this classification in primary health care for a total of seven studies of which four use the ICNP to propose diagnostics to be used in life cycles such as pregnancy, postpartum period, infancy and senescence.

As examples, a reasoned case study on the Theory of Basic Human Needs by Horta aimed to operationalize the nursing process to a postpartum women with anemia and to identify nursing diagnoses, establishing the expected results and interventions from the physiological needs and psychosocial affected<sup>26</sup>, 26. Milk MCA Fernandes MGM, Medeiros ALD Nobrega MMLD. nursing care to a postpartum woman using the garden of theory and CIPE. Rene. 2013; 14 (1): 199-208.and also analyze the nursing diagnoses in 0-36 months-old children records seen in nursing consultations in childcare, using document analysis and mapping technique.<sup>27</sup> To characterize the profile of pregnant women in prenatal nursing



consultation; identify the most frequent nursing diagnoses and devise interventions using the ICNP / version 1.0.<sup>28</sup> The International Classification of Nursing Practice for listing diagnoses and interventions for nursing care in geriatrics.<sup>29</sup>

The proposal of an educational plan organized by the Nursing Process (NP), ICNP, based on the Theory of Modeling and Role Modeling, a group of women, and this theory proposed by Erickson, Tomlin and Swain, aiming to instigate nurses to compose an interpersonal and interactive relationship with clients, whose research (model) will determine planning (role model), based on the world view of the subject of care, triggering then nursing interventions.<sup>30</sup>

Another study uses the theoretical model of Roy to identify adaptive problems and stimuli and propose nursing diagnoses according to the ICNP classification as having hypertensive subjects with associated diseases, assisted by a health care facility.<sup>31</sup> Only one study evaluated the introduction of ICNP in undergraduate teaching in public health area, with the teaching of Orem's Nursing Theory.<sup>32</sup> In the speech of students, they realized a dichotomy between training and practice regarding the application of systematic care.

### **Cross-mapping studies with the terms of the ICNP**

Seven studies were found using the cross mapping to identify the terms used in local practices, and / or other classifications to check whether they are constant or not constant in ICNP.

Cross mapping is a process performed to identify terms that can be used, compared or understood from a standardized language and may carry out studies showing that existing nursing terms in various scenarios can be compared to different Nursing Classifications and, this way, suitable for a standardized language.<sup>33</sup>

A study was conducted on the analysis of the use of different classification systems and meeting the standards set by ISO 18104: 2003, with the conclusion that both classification systems (NANDA-I and ICNP) fit to the standard once that the diagnostic proposed structure consists of the axes focus descriptors (in NANDA-I concept diagnosis) and judgment and we can infer that the nursing care planning stage an intervention by the ICNP is in the same sphere of practical application of a NIC activity.<sup>34</sup>

Studies aimed to develop diagnostic palliative care in oncology titles, identifying the terms and carry out cross-mapping between the diagnostic formulations with the model of Seven axes

of ICNP 2011.<sup>35</sup> Another one identified three non-constant terms in the ICNP version 2.0 taxonomy and nomenclature of a medical clinic (hypercaloric, urinal and epigastric region) that can be added to the nomenclature of the ICNP.<sup>36</sup>

Cubas et al, mapped the terms of the axes "Time", "Location", "Media" and "Client" among versions: Beta-2, 1.0 and 1.1 of the ICNP and CIPESC. The Brazilian contribution to ICNP was based on the structure and the terms set forth in *Beta*, resulting in a lexical inventory called CIPESC, designed and developed by the Brazilian Nursing Association - ABEN under the guidance of ICN and financial support from the Kellogg Foundation. For this purpose it is needed an update to the new hierarchical structure of ICNP and cross-cultural adaptation of the professional language use of words and the Brazilian nursing practice.<sup>37</sup>

A study related to the circulatory system aimed to elaborate title diagnoses and nursing results from association rules between terms of the Focus axis, class process, subclass body Process, subclass Process of the circulatory system and terms of other axes that make up the ICNP, except the action axis, and represent them in an ontology.<sup>38</sup>

In primary care, the use of cross mapping method allows for the comparison of the information in the

records of the children treated at the nursing consultation with the nursing diagnoses standardized by ICNP, which can contribute to the implementation of the classification system in this area.<sup>27</sup>

### **Use in the computerization and translation program of ICNP**

Three studies reported the use of computerization and one on the translation of ICNP. Two of them deal with the development of the computerized Nursing Process (PEI) to the Intensive Care Unit. One is a report of the development and the other an evaluation of the usability criteria of the computerized system set by the ISO 9126-1 standards, 9241- 1 and NBR 9241-11 systems.<sup>39</sup> It is suggested for future researches: update and evaluation of PEI using the ICNP version 3.0, and articulation and mapping of data and information from the ICNP 3.0 with terminology / reference classification systems (NANDA, NIC, NOC and CID 10).<sup>14</sup>

A Study carried out in Seoul, South Korea, aimed to explore the possibility of sharing information between the fields of medicine and nursing. Concepts of statements that describe problem and medical procedures of patients were mapped to the *Systematized Nomenclature of Medicine Clinical Terms* (SNOMED CT) and the International Classification for

Nursing Practice (ICNP). At about 32.3% of 705 concepts were drawn from the statements mapped to both classifications (SNOMED CT and ICNP®).<sup>40</sup>

A Chinese case report describes the translation strategy used and the challenges faced in translating ICNP® Version 2 of preferred terms from English to traditional Chinese. The modified Delphi strategy has been used for translation and expert consensus being held to facilitate the semantic and cultural translation and validation of the ICNP®. A total of 1863 preferred terms of version 2 ICNP® were translated from English to Traditional Chinese.<sup>41</sup>

## CONCLUSION

It was observed that all the articles are concerned to qualify the nursing care and implement the nursing process with standardized language providing better communication between the nursing staff and this with the other professionals.

In ICNP undergraduate teaching it was found only one article, which can demonstrate gaps in the research related to this subject, reaffirming the need for research in the nursing practice field, or even the more frequent use of another classification system, such as the taxonomy of the *North American Nursing Diagnosis Association* (NANDA), for example.

We emphasize that the studies have used different nursing theories to support the practice in the use of ICNP, showing great practicality of this terminological classification, as well as the cross-mapping of terms used in the professional practice, which are constant in ICNP, needing only to rearrange the records so that they can officially be used to compose the quality of care by standardizing the language.

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