



Terminological subset of the international classification for nursing practice: an integrative review

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ABSTRACT

Aim: to identify, in scientific publications, the initiatives in the development and use of terminological subsets of ICNP®.

Method: this is an integrative review, undertaken from March to April 2012, in the databases of BDENF, BioMedLib, LILACS, MEDLINE, PubMed and SciELO, using as search strategy the key words: ICNP and terminological subset of ICNP, in the period 2005-

Results: the articles that met the inclusion criteria led to the identification of two thematic categories; namely, the development process of a terminological subset of **ICNP®** studies of applicability of terminological subsets of ICNP®. Conclusion: the development and practical use of terminological subsets of ICNP® are still incipient despite the fact that the methodological process of these subsets is promising. It is suggested that the following be considered: the development of new terminological subsets of ICNP®, the publication of the application and validation of the developed subsets, and the refinement or construction of a methodological process for the development of these subsets.

Keywords: Nursing; Classification; Terminology.

INTRODUCTION

In the modern world the use of terminologies has been deemed necessary and indispensable, both in transmitting information, as in scientific, technological and professional communications, taking into account that the terminological normalization allows uniformity of meaning and, at the same time, the scope of effectiveness in communication⁽¹⁾. This consideration is quite significant in the context of nursing, since there is still debate concerning the weakness that persists with regard to the visibility of nursing care in statistics, indicators and official health reports. Therefore, nursing professionals should be aware that the organization of a terminology reveals the knowledge of a certain area as a product of interpretation, which is influenced by a conceptual multiplicity built in different performance spaces or in different scientific communities, requiring a greater commitment to associative entities to contemplate areas, knowledge and cultural insertions of nursing practice in order to obtain a consensus regarding its terms, concepts and relationships⁽²⁾.

In order to satisfy the need to unify Nursing language, the International Classification for Nursing Practice (ICNP®) was developed, and it is consolidating itself as a worldwide trend towards the standardization of communication and exchange of information between nurses, aiming at the representation of nursing practice in Health Information Systems⁽²⁾. The ICNP® is a dynamic and changeable instrument that requires constant maintenance of its assessment as well as the review and validation of its terms, which has resulted, from its conception to the present, in the publication of seven versions; namely, ICNP® Alpha Version in 1996; Beta Version in 1999; Beta Version 2, in 2001; Version 1.0, in 2005; Version 1.1 in 2008; Version 2, in 2009; and Version 2011, in May 2011⁽³⁻⁴⁾.

Among the several published versions of ICNP®, Version 1.0 reflects the main reformulations related to the strengthening of classification systems at the technological level when presenting itself as combinatorial terminology: the introduction of the Seven Axis Model and the orientation for building terminological subsets of ICNP®, consisting of diagnoses, results and nursing interventions for a group of clients and a selected health priority⁽³⁻⁵⁾.

The ICNP® Program is organized in three main areas of work: Research and Development, Maintenance and Operation, and Dissemination and Education, comprising the Life Cycle of the ICNP® Terminology. In the field of research and development the

Centers accredited by the International Council of Nurses (ICN) stand out for the research and development of ICNP® and the catalogs or terminological subsets of ICNP®⁽⁶⁾. These aim to develop consistent data describing Nursing work and are a benchmark for easy access to nurses in their specific context of care, since they feature subsets of ICNP® for nurses who work with clients with specific health priorities⁽⁶⁻⁷⁾.

The guidelines for developing a catalog or terminological subsets of ICNP® are available in the Guide for the Development of ICNP® Catalogues published by the ICN in 2008, in which the structure of a catalog is described, showing how the statements of diagnosis, outcomes and intervention of ICNP® are consistent with the Nursing Terminology Reference Model 18.104:2003 ISO⁽⁷⁾.

Since the publication of the guidelines, building a catalog or a terminological subset of ICNP® has been the goal of the ICNP® Program; however, the existence of a conflict between the definition given to the term catalog and the term subset was observed and recognized since they overlap one another and cause confusion. Thus, a decision to change was made so that all sets of diagnoses, outcomes and interventions of ICNP® started to be called terminological subsets, since this has greater compliance with information technology⁽⁸⁾.

The ICN welcomes the participation of nurses all over the world in the development of terminological subsets of ICNP® and, furthermore, encourages nurses in clinical care areas of specialty organizations to work with ICN to develop and test terminological subsets for nurses on a global scale⁽⁶⁻⁷⁾.

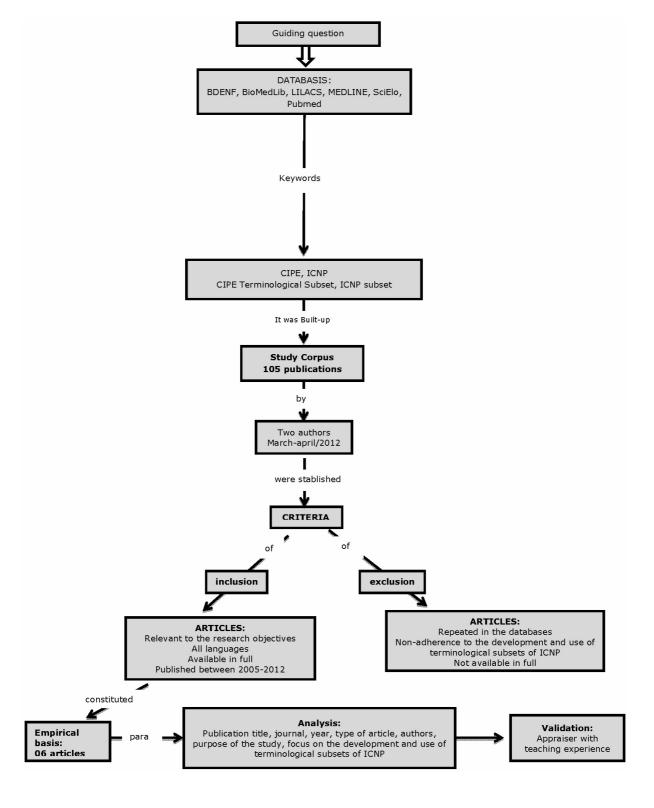
In view of this context, this article of integrative review aims to identify, in scientific publications, initiatives in the development and use of terminological subsets of ICNP®.

METHOD

This is an integrative review, defined as a specific method of review that summarizes the previous empirical or theoretical based literature for greater understanding of a particular phenomenon. This method contributes to the development of Nursing in theoretical aspects and has direct application in practice and policies⁽⁹⁾. In this study the following steps were undertaken: preparation of guiding questions, establishment of the criteria for inclusion/exclusion, search for articles in databases, choice of the articles relevant to the

purposes of this study, evaluation of these articles, interpretation and presentation of results, as per the flowchart presented below.

METHODOLOGICAL PROCESS FLOW CHART: AN INTEGRATIVE REVIEW



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To guide the integrative review, the following question was posed: How is the

development and use of terminological subsets of ICNP® described in the scientific

literature?

To select the articles the following databases were used: Nursing Database (BDENF),

BioMedLib, Latin American and Caribbean Health Sciences Literature (LILACS), Medical

Literature Analysis and Retrieval System Online (MEDLINE), Scientific Electronic Library

Online (SciELO), and PubMed; using as search strategy the keywords CIPE, ICNP,

terminological subset of CIPE and ICNP subset.

The body of the study was compiled by two authors from March to April 2012, in an

independent manner, as a strategy to ensure the legitimacy of the content of the

analysis. The following inclusion criteria were used: pertinent articles to the research

objectives, without any language restrictions, and articles available in full in the selected

databases in the period between 2005 and 2012. The time frame is justified by the fact

that the recommendation for the construction of terminological subsets was only

published after 2005, in ICNP® Version 1.0. The criteria for exclusion were the articles

that were repeated in the databases, those that had no adherence to the development

and use of the terminological subsets of ICNP®, and unpublished documents in full.

The initial analysis set of 105 publications was reduced to six articles after the

identification of the articles and reading of the abstracts, taking into account the inclusion

criteria. For the analysis stage, an instrument was prepared including the following

items: title of the publication, journal, year of publication, type of article, authors,

purpose of the study, and focus on the development and use of the terminological

subsets of ICNP®. It should be noted that, in order to analyze and validate the proposed

content, the study engaged a second appraiser with teaching experience, who teaches

full time at their home institution.

RESULTS

In this integrative review, six publications were analyzed that met the inclusion criteria. These are presented in <u>Table 1</u>, including the following aspects: title of the publication, authors, journal (year, volume, number and pages) and considerations/theme.

Table 1: Description of studies included in the integrative review. João Pessoa, PB, 2012.

Title	Authors	Journal (year, vol., No, page)	Considerations/ Theme
Building a subset of ICNP® terms for oncological patients ⁽¹⁰⁾	Konig P, Siller M.	Stud Health Technol Inform. 2006;122:900-1.	It describes the initial process for building a subset for oncological patients.
Standardizing nursing information in Canada for inclusion in electronic health records: C- HOBIC ⁽¹¹⁾	Hannah KJ, White PA, Nagle LM, Pringle DM.	J Am Med Inform Assoc. Jul-Aug 2009; 16(4): 524- 30.	It describes the information system design C-HOBIC of Canada articulated with ICNP® for building an ICNP® C-HOBIC Catalogue.
Development of terminological subsets using ICNP® (12)	Coenen A, Kim TY.	Int J Med Inform Jul 2010; 79(7):530-8.	It presents the stages of development of the ICNP® Terminological subsets related to the lifecycle of terminology.
Supporting dignified dying in the Philippines ⁽¹³⁾	Doorenbos AZ, Abaquin C, Perrin ME, Eaton L, Balabagno AO, Rue T, Ramos R.	Int J Palliat Nurs. Mar 2011; 17(3):125-30.	It evaluates the applicability of ICNP® Catalogue Hospice care for a dignified death in the Philippines.
Nursing interventions to promote dignified dying in South Korea ⁽¹⁴⁾	Jo KH, Doorenbos AZ, Sung KW, Hong E, Rue T, Coenen A.	Int J Palliat Nurs. Aug 2011; 17(8):392-7.	It evaluates the applicability of interventions of ICNP® Catalogue Hospice care for adignified death in South Korea
Creating an ICNP® Subset: Children with HIV/AIDS in developing countries ⁽¹⁵⁾	Choromanski L., Collins BJ, Hart CM, Westra B, Delaney C.	Comput Inform Nurs. Apr 2012; 30(4):183-9.	It describes the development of a subset for documentation of nursing care of children with HIV/AIDS in developing countries and compares it with the latest terms of ICNP® and with the recommendations for the development of subsets.

The analysis of these publications identified two thematic categories that outlined the discussion of this study: I - Process of development of terminological subsets of ICNP®, consisting of two sub-categories: a) Steps for building a terminological subset of ICNP®,

and b) terminological subsets of ICNP® developed and/or under development; and II - Studies of applicability of terminological subsets of ICNP®.

DISCUSSION

Development Process of а terminological subset of **ICNP®** Despite the ICNP® Version 1.0 already containing ICN recommendations for the construction of ICNP® catalogs, currently called terminological subsets, it was only in 2007, at an international event, that a method was announced for its development, containing ten steps: 1) to identify the clientele intended and health priority; 2) to document the significance for Nursing; 3) to contact ICN to determine if other groups are already working with the priority in health focused on the catalog, to identify potential collaboration; 4) to use the Seven Axis Model of ICNP® Version 1.1 to write the statements nursing diagnoses, outcomes and interventions; 5) to identify additional statements through the review of literature and relevant evidence; 6) to develop content for support; 7) to test or validate the statements of the catalog in two clinical studies; 8) to add, delete or revise the statements of the catalog, as needed; 9) to work with the ICN to prepare the final copy of the catalog; and 10) to assist the ICN in the dissemination of the catalog⁽¹⁶⁾. These steps were confirmed in the ICN publication "Guide for the Development of ICNP® catalogs"(7).

In the six studies analyzed, we found that one study presents a model of the development process of ICNP® terminological subsets⁽¹²⁾ and another presents a comparison between the model of the development process of the terminological subsets of ICNP® proposed by the ICN with the model built by the ICNP® Center at the University of Minnesota⁽¹⁵⁾.

In the first study⁽¹²⁾, the development model of the terminological subsets of ICNP® consists of six stages which are correlated with the three main components of the Lifecycle of ICNP® Terminology: a) Research and Development; b) Maintenance and

Operations; and c) Dissemination and Education. The stages are: 1) Identification of

clients and health priority; 2) Collection of terms and concepts that are relevant to health

priority; 3) Mapping of the concepts resembling ICNP® 4) Modeling of new concepts; 5)

Completion of the subset; and 6) Disclosure of the subset.

This form of organization is justified by the belief that a terminology must continually

evolve to meet the needs of its users and the demand for standard organization and, as

the subsets are a product of the ICNP® Terminology which has as its main purpose to

expand terminology and facilitate its use in the interface of health records, their

construction stages were related to the lifecycle of the ICNP® Terminology⁽¹²⁾.

In the stage of identification of clients and health priority the client is defined as the

subject to which a diagnosis is related and who is the receiver of an intervention; this

can be individuals, families and communities who receive nursing care. Health priorities

fall into one of three areas: health conditions (diabetes, mental health, for example),

specialty of healthcare or place of service, and nursing phenomena⁽¹²⁾.

The collection stage of terms and concepts starts after the definition of the clientele

and the participation of experts in the clinical process should be taken into consideration.

The mapping of the concepts of ICNP® is a screening process to determine the

existence of concepts identified in the current version of the ICNP®. The modeling

stage of new concepts happens when there is no appropriate concept for the subset,

new concepts need to be added to ICNP® or existing concepts need to be redesigned for

better clarification. These concepts need to follow the guidelines of the ICN for the

formulation of nursing diagnoses, interventions and outcomes⁽¹²⁾. It is noteworthy,

however, that the construction or modifications of these statements must be in line with

ISO: 18104⁽¹⁷⁾, a model of reference terminology for nursing, adopted as the basis for

building the content of terminological subsets of ICNP®.

The stage of **completion of the subset** is the moment it is printed, including information, concepts encoding, examples on how to use the subset and images of the content of an interface for electronic health records. Finally there is the stage of **disclosure of the subset**, which may be distributed in any electronic or printed format. This process is the beginning of a new assessment of the ICNP® Terminology and

consequently leads to recommendations in terms of the revision and the life cycle

process.

In the second study⁽¹⁵⁾, the development model built by the ICNP® Center at the University of Minnesota differs from the model proposed by the ICN, by presenting the addition of a new stage - the adaptation or creation of an appropriate conceptual framework for the population selected. This conceptual framework should guide the selection of terms and concepts, focusing on the most relevant ones for the subset in order to facilitate communication between clinical specialists and potential users of the subset. This model was used to construct a subset for children with HIV/AIDS, which will be described in the following subcategory.

Terminological subsets of ICNP® developed and/or under development

It is known that there are several terminological subsets of ICNP® built or under construction, but in the researched literature three studies involving this development process were identified.

The first study⁽¹⁵⁾ refers to the development of the ICNP® subset for documentation of nursing care for children with HIV/AIDS, which was built based on the model proposed by the ICN, adding a new phase related to the use of a conceptual framework to delineate the subset. It was used as a conceptual framework in the Bindler-Ball Healthcare Model for children. For this study, the selection was clients and health priority of children with HIV/AIDS in developing countries, from childhood to pre-adolescence, including their families. The justification for the development of this subset was due to the fact that HIV/AIDS is a priority of the ICN⁽⁷⁾.

For the selection of terms and concepts to be included in this subset the conceptual framework mentioned above was used as they are identified by clinical experts and researchers. For the mapping of the concepts with ICNP® a consensus among nurses was used, establishing the most suitable for practice with children with HIV/AIDS and classifying them according to the degree of adequacy, based on a scale of 1 to 4 points, where 1 means perfect fit, 2 means conceptual adequacy, 3 means partial adaptation and 4 means no adequacy. This process used various tools of ICNP® such as the structure of the browser online, the printed version and a list of terms, definitions and codes. The statements of nursing diagnoses and outcomes were built or altered in accordance with the Seven Axis Model of ICNP®. Nursing interventions were initially built using ICNP® Version 1.0, but it was not specified how they were developed and who would deal with it, due to the fact that the method and its implementation may vary between countries and communities. This resulted in a total of 53 concepts of nursing diagnosis and outcomes and 85 intervention concepts being included in the subset. The concepts of nursing diagnoses, outcomes and interventions were organized into five levels of care in the conceptual framework: Health Maintenance, Health Promotion, Living with a Chronic Condition, Acute Intermittent Illness and End of Life Care⁽¹⁵⁾.

The second study⁽¹¹⁾ describes the Canadian project "Outcomes for Canadian health for better information and care" (C-HOBIC), which aims to promote the widespread and systematic use of evaluations of patients and standardized documentation, encouraging nurses to use the health information systems. In the clinical practice of the province of Ontario, nursing results were identified that reflected the contribution of nursing in patient care to be mapped with the terms of ICNP®. This terminology is used for the documentation of nursing practice. The concepts of Project C-HOBIC mapped with the terms of ICNP®, resulted in 54 words matching each other and 24 terms to be included in the ICNP®, providing the basis for the construction of ICNP® subset C-HOBIC.

Although it is not available in the scientific literature, this project has already evolved into a total of 96 terms. Moreover, the statements about diagnoses/outcomes and

nursing interventions were built based on the ICNP® Version 2.0 and are currently

published on the ICN website in a joint publication with the Nurses Association of

Canada under the title Nursing Outcome Indicators as the subset of the C-HOBIC

Project⁽¹⁸⁾.

The third study⁽¹³⁾ presents a project aiming to build an ICNP® subset for oncology

patients that may be used in computerized nursing documentation. The study was

conducted in Freiburg, Germany, at "Klinik fur Tumorbiologie", and 67 nursing care plans

were included. The care plans were based on nursing diagnoses and described patients'

responses to health problems and nursing actions, which were used by nurses in the

daily documentation of care.

Nursing diagnoses and interventions contained in care plans were separated and sub-

divided using the ICNP® structure, organized according to the different axes and then

mapped with the terms and concepts of ICNP®, using the cross-mapping method

developed by the ICN⁽¹⁹⁾. The terms resulting from the mapping process were organized

into groups and then evaluated and classified according to the degree of correspondence,

using a scale of 1 to 4 points, in which 1 means equal, 2 means similar, 3 denotes a

more specific or broader concept, and 4 is related to no correspondence. After this

process the groups of terms mapped were sent to the ICN and were submitted to the

review process of ICNP®. It is expected that they can contribute to increase the content

of ICNP® and consequently promote the development of a subset for Cancer care.

Applicability of the terminological subsets of ICNP®

Currently there are five subsets of ICNP® published and validated by the ICN, of which

two were developed by the ICN: Establishing a Subset in partnership with individuals and

families to promote adherence to treatment, and the Subset Palliative Care for a

Dignified Death; and three developed in partnership with other ICNP® Centers:

Community Nursing, Nursing Outcome Indicators (C-HOBIC), and Hypertension⁽¹⁹⁾.

However, there are few published articles that present the applicability of these subsets in nursing practice.

In this integrative review, two studies of the applicability of the Subset Palliative Care for a Dignified Death, undertaken in the Philippines and in South Korea, were found⁽¹³⁻¹⁴⁾. This subset of palliative care for a dignified death was developed for individuals in the final stages of life, after research work in four countries (Ethiopia, India, Kenya and the United States) to identify nursing interventions to promote dignified death. It was based on the "Model of Dignity Preservation Care" and was organized in 269 statements of nursing diagnoses, outcomes and interventions in three systems: concerns about the disease, repertoire of dignity preservation and social dignity inventory⁽²⁰⁾.

The first study of the applicability of the Subset Palliative Care for a Dignified Death⁽¹³⁾, was undertaken in the Philippines and was aimed at evaluating the applicability of nursing interventions to promote dignified death with nurses. This was a cross-sectional study, in which 230 nurses working in health centers, clinics and hospitals were interviewed. For data collection, a questionnaire was used that contained demographic data and 105 nursing interventions from this catalog. The participants evaluated the interventions using a Likert-type scale of four points and answered an open question about which specific nursing actions are used to promote dignified death. For the analysis of interventions a statistical method was used and for the open question a content analysis was conducted. As a result of the analysis a list of the twenty most relevant interventions of the Subset was obtained along with a classification of nursing actions divided into three categories of the model of care for the preservation of dignity.

The study showed that the subset evaluated is appropriate to promote dignity at the end of life for patients in the Philippines and may be useful and applicable in other countries. However, it has highlighted limitations: the fact that the research results represent only a sample of nurses and thus they cannot be generalized to all the nurses of the Philippines, and the weakness of the perception of the concept of dignity⁽¹³⁾.

The second study⁽¹⁴⁾ of the applicability of the Subset Palliative Care for a Dignified Death

was undertaken in South Korea. This study is similar to the one conducted in the

Philippines. A questionnaire was administered to 167 nurses from different hospitals and

46 community nurses from seven public health centers. The instrument contained seven

questions regarding demographic data, including education level and number of years in

nursing practice, in addition to the list of the 105 nursing interventions of the subset

mentioned previously.

The demographic data were analyzed statistically and the interventions analyzed using a

Likert-type scale of four points regarding the degree of importance. The results were

analyzed by making equivalence between the most important interventions in relation to

the level of training of the nurses participating. The three nursing interventions,

considered the most important in palliative care, pointed from an increasing level of

training were: establishing trust, administering pain medication, and establishing

rapport⁽¹⁴⁾.

The study authors argue that these results coincide with other studies that emphasized

the importance of the psychological and emotional domain in the provision of palliative

care, in contrast with others that emphasize the importance of the physical domain.

Evaluating these results in South Korea, it is acknowledged that these may be a result of

the influence of Korean society, since it values interpersonal relationships and regards

harmony as its main virtue. Regarding the difference in the classification of the

importance of intervention by level of education, it is justified by the fact that the theme

Palliative Care has only recently become part of the curriculum of the Nursing Course⁽¹⁴⁾.

However, it is recognized that, although the study was only undertaken in a province of

South Korea, the use of the Subset allowed a better quality of palliative care in nursing

by providing a standardized classification system for potentiating the documentation of

nursing care. It is recommended that the use of the Subset worldwide will produce a

positive impact on nurses' ability to communicate concerning the nursing care provided in

their countries⁽¹⁴⁾.

Based on the articles analyzed, it can be stated that the development and practical use of

the terminological subsets of ICNP® are still incipient, given the small number of

publications on this topic, and that the methodological process of the development of

these subsets is promising, but its potential has not yet been fully explored.

CONCLUSION

The completion of this study made it possible to go beyond the stated objectives. It can

be confirmed that the terminological subsets of ICNP® are a source of content and a

product of the Life Cycle of ICNP®, designed primarily to expand ICNP®'s terminology,

since it is believed that from the validation and refinement of models of subset

development one can contribute to the further development of this classification for

nursing practice.

It is noteworthy that the development of ICNP® terminological subsets in nursing

research began in 2005, from the release of version 1.0. It is perceived through research

that nurses from different countries, including Brazil, are showing an interest in the topic

and are involved in this process of collaboration with the ICN to make ICNP® a reference

terminology to be used worldwide to strengthen and expand the purposes of the

profession in care, education and research.

Given the above, the following is suggested: the development of new terminological

subsets of ICNP®, the application and validation of terminological subsets already

developed and their respective publications, and the refinement or construction of a

methodological process for developing these subsets, following the ICN's

recommendation.

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Authors' role in the research:

Luciana Gomes Furtado - Conception and design, bibliographical research, article writing, revision and final approval of the article. critical Ana Claudia Torres de Medeiros - Conception and design, bibliographical research, critical article. article writing, revision and final approval the Maria Miriam Lima da Nóbrega - Conception and design, bibliographical research, article writing, critical revision and final approval of the article.