



NURSING DIAGNOSES FOR PEOPLE LIVING WITH HIV: RELATIONSHIPS BETWEEN TERMINOLOGIES

Cintia Capistrano Teixeira Rocha¹ 

Dhyanine Moraes de Lima¹ 

Harlon França de Menezes² 

Rudval Souza da Silva³ 

Paulino Artur Ferreira de Sousa⁴ 

Richardson Augusto Rosendo da Silva¹ 

¹Universidade Federal do Rio Grande do Norte, Programa de Pós-Graduação em Enfermagem. Natal, Rio Grande do Norte, Brasil.

²Universidade Federal Fluminense, Escola de Enfermagem Aurora de Afonso Costa. Niterói, Rio de Janeiro, Brasil.

³Universidade do Estado da Bahia, Colegiado de Enfermagem. Senhor do Bonfim, Bahia, Brasil.

⁴Escola Superior de Enfermagem do Porto, Programa de Pós-graduação em Sistemas de Informação em Enfermagem. Porto, Portugal.

ABSTRACT

Objectives: to identify the relationships between nursing diagnoses for people living with HIV from the NANDA-International terminologies and International Classification for Nursing Practice (ICNP[®]) and to validate the equivalent meanings for diagnoses between language systems.

Method: cross-sectional study, conducted in a reference hospital in northeastern Brazil, consisting of the following stages: 1) Identification of clinical findings through interviews and physical examinations with people living with HIV based on a validated script; 2) Structuring nursing diagnoses by means of Risner's clinical judgment; 3) Cross-mapping of nursing diagnosis statements with NANDA-I and ICNP[®]; 4) Two rounds of Content validation using the Delphi technique with specialist nurses, for diagnoses with equivalent meanings between the systems. Data collection took place from August to November 2018.

Results: in the preparation and identification of diagnoses, 135 nursing diagnoses were obtained, of which 62% (n=84) are included in the terminology of the ICNP[®] and 38% (n=51), from NANDA-International. For 81% (n=68) of the nursing diagnoses from the ICNP[®], the absence of direct mapping in NANDA-international was identified, with 19% (n=16). The study showed that 47 diagnoses presented equivalent meanings.

Conclusion: both systems enable the identification of nursing diagnoses accurately and have the ability to assist in the development of an individualized care plan for people living with HIV.

DESCRIPTORS: Nursing process. Standardized terminology in nursing. Nursing diagnosis. HIV. Acquired Immunodeficiency Syndrome.

HOW CITED: Rocha CCT, Lima DM, Menezes HF, Silva RS, Sousa PAF, Silva RAR. Nursing diagnoses for people living with HIV: relationships between terminologies. *Texto Contexto Enferm* [Internet]. 2022 [cited YEAR MONTH DAY]; 31:e20210315. Available from: <https://doi.org/10.1590/1980-265X-TCE-2021-0315en>

DIAGNÓSTICOS DE ENFERMAGEM PARA PESSOAS VIVENDO COM HIV: RELAÇÕES ENTRE TERMINOLOGIAS

RESUMO

Objetivos: identificar as relações entre os diagnósticos de enfermagem para pessoas vivendo com HIV das terminologias NANDA-Internacional e Classificação Internacional para a Prática de Enfermagem (CIPE®) e validar a equivalência de significados dos diagnósticos entre os sistemas de linguagem.

Método: estudo transversal, realizado em um hospital de referência no Nordeste do Brasil, constituído pelas etapas: 1) Identificação dos achados clínicos por meio de entrevista e exame físico com pessoas que viviam com HIV norteada por um roteiro validado; 2) Estruturação dos diagnósticos de enfermagem por meio do julgamento clínico de Risner; 3) Mapeamento cruzado dos enunciados de diagnósticos de enfermagem com os sistemas de classificação da NANDA-I e CIPE®; 4) Validação de conteúdo utilizando a técnica Delphi, em duas rodadas, com enfermeiros especialistas, para os diagnósticos com equivalência de significados entre os sistemas. A coleta de dados ocorreu no período de agosto a novembro de 2018.

Resultados: na elaboração e identificação dos diagnósticos obtiveram-se 135 diagnósticos de enfermagem, destes, 62% (n=84) constam da CIPE® e 38% (n=51), da NANDA-Internacional. Para 81% (n=68) dos diagnósticos de enfermagem da CIPE® foi identificada a ausência de mapeamento direto na NANDA-Internacional, constando 19% (n=16). O estudo evidenciou que 47 diagnósticos apresentaram equivalência de significados.

Conclusão: ambos os sistemas possibilitam a identificação de diagnósticos de enfermagem com acurácia e possuem a capacidade de auxiliar na elaboração de um plano de cuidados individualizado para pessoas vivendo com HIV.

DESCRITORES: Processo de enfermagem. Terminologia padronizada em enfermagem. Diagnóstico de enfermagem. HIV. Síndrome de Imunodeficiência Adquirida.

DIAGNÓSTICOS DE ENFERMERÍA PARA PERSONAS QUE VIVEN CON VIH: RELACIONES ENTRE TERMINOLOGÍAS

RESUMEN

Objetivos: identificar las relaciones entre los diagnósticos de enfermería para personas que viven con el VIH a partir de las terminologías NANDA-Internacional y la Clasificación Internacional para la Práctica de Enfermería (CIPE®) y validar la equivalencia de significados sobre diagnósticos entre sistemas lingüísticos.

Método: estudio transversal, realizado en un hospital de referencia en el noreste de Brasil, que consta de las siguientes etapas: 1) Identificación de hallazgos clínicos a través de entrevistas y exámenes físicos con personas que viven con el VIH con base en un guión validado; 2) Estructuración de diagnósticos de enfermería a través del juicio clínico de Risner; 3) Mapeo cruzado de las declaraciones de diagnóstico de enfermería con los sistemas de clasificación NANDA-I y CIPE®; 4) Dos rondas de Validación de Contenido mediante la técnica Delphi con enfermeras especialistas, para diagnósticos con equivalencia de significados entre sistemas. La recolección de datos se llevó a cabo de agosto a noviembre de 2018.

Resultados: en la elaboración e identificación de diagnósticos se obtuvieron 135 diagnósticos de enfermería, de los cuales el 62% (n=84) están incluidos en la terminología de la CIPE® y el 38% (n=51), de la NANDA-Internacional. Para el 81% (n=68) de los diagnósticos de enfermería de la CIPE®, se identificó la ausencia de mapeo directo en la NANDA-internacional, con el 19% (n=16). El estudio mostró que 47 diagnósticos presentaron equivalencia de significados.

Conclusión: ambos sistemas posibilitan la identificación de diagnósticos de enfermería con precisión y tienen la capacidad de auxiliar en la elaboración de un plan de atención individualizado para personas que viven con VIH.

DESCRITORES: Proceso de enfermería. Terminología estandarizada en enfermería. Diagnóstico de enfermería. VIH. Síndrome de inmunodeficiencia adquirida.

INTRODUCTION

The Human Immunodeficiency Virus (HIV) is characterized as a significant public health problem in the world¹. In Brazil, approximately 920,000 people live with HIV, and 94% of people undergoing treatment do not transmit HIV sexually because they have reached a undetectable viral load². Even with an increase in comorbidities and hospitalizations and, consequently, the increase in the time spent on care by health teams, the advent of antiretroviral therapy provided greater survival for people living with HIV³.

Nursing practice, immersed in the gradual change of scientific knowledge, constantly highlights concern with records and awareness of nursing care documentation. Thus, nurses, as a member of the health team, need to direct more qualified and individualized care to this population. Therefore, the nursing process must be utilized in order to instrumentalize a continuous investigation into the needs, risks and well-being factors⁴.

The nursing diagnosis phase is decisive, as it consists in making clinical decisions about the presence of a human response that requires nursing intervention. Thus, it presents itself as being a title assigned to support and name the conditions of people living with HIV through care that meets the real needs of the human being⁵⁻⁶.

The purpose of the application of a standardized terminology is to direct the work method, which influences the documentation of practices, guidance and support for clinical reasoning and the naming of the phenomena of the profession, thus contributing to the framework of specific knowledge⁷. In this context, The language of diagnoses statements, results and nursing interventions can be guided by terminologies, and the most used in the Brazilian scenario are the International Classification for Nursing Practice (CIPE®), the NANDA-International (NANDA-I), the Nursing Interventions Classification (NIC) and Nursing Outcomes Classification (NOC)⁸⁻⁹.

Considering the importance of different language systems and their merit for health care environments, and that they are composed of a set of structured and logically organized knowledge, strategies such as cross-mapping are understood as a predictive method of the relationship between such systems. Therefore, through diagnostic reasoning it is expected to achieve the same concept for the grouping of clinical evidence, enabling interoperability and the identification of divergences between systems^{6-7,10}.

Thus, the need to conduct a study on the relationship between the main language systems was observed, since there are few studies developed for this purpose, demonstrating a gap in knowledge regarding the scenario of care for people living with HIV. The aim of this study is to increase and improve nursing knowledge.¹¹⁻¹³ Cross-mapping is shown to be a viable strategy that can be implemented in the judgment and improvement process of nurses, as it permits the revision of clinical reasoning, reflection on accurate care practice and contributes to the register of the Nursing Process stages through uniform language, favoring health care to people living with HIV⁸.

Thus, the objectives of this study are: identify the relationships between nursing diagnoses for people living with HIV from the NANDA-International terminologies and International Classification for Nursing Practice (ICNP®) and validate the diagnoses with equivalent meanings in both classifications.

METHOD

This is a cross-sectional study conducted in a reference hospital for infectious diseases in northeastern Brazil with the following stages: 1) Identification of clinical findings through interviews and physical examination with people living with HIV based on a validated script;¹⁴⁻¹⁵ 2) Structuring nursing diagnoses through Risner's clinical judgment; 3) Cross-mapping of nursing diagnosis statements

between the NANDA-I and ICNP classification systems®; 4) Content validation using two rounds of the Delphi technique with specialist nurses, for diagnoses with equivalent meanings between systems.

Regarding participants for the first stage, access was obtained for people living with HIV hospitalized in the hospital ward in 2018, totaling 392 patients. To calculate the sample, the formula for finite populations was used, taking into account the confidence level of 95% ($Z_{\infty}=1.96$), sampling error of 5%, population of 392, resulting in a sample of 115 people, who were selected for convenience, consecutively. It is important to note that only one single hospitalization of each participant was considered.

The following criteria were adopted for participant selection: having a clinical diagnosis of HIV; 18 years of age or older; inpatient during the data collection period. Exclusion criteria: to present some type of psychological disorder recorded in medical records that could compromise their understanding of the study¹⁶.

Regarding participants for the fourth stage, specialist nurses were selected through access to the *Lattes* Platform, hosted by the National Council for Scientific and Technological Development (CNPq). The following eligibility criteria were adopted: nurses who had at least a Master's degree, worked with the nursing process and nursing terminologies and focused on infectious diseases care, teaching and/or research. Invitations were sent to 62 specialists who met the inclusion criteria. Among these, 38 specialist nurses answered the instrument in the 1st round and 24 of them during the 2nd round.

In order to achieve the first stage, the collection occurred between August and November 2018, when interviews and physical examination were conducted by two authors at the same time with the objective of identifying clinical findings in hospitalized people living with HIV. A validated script was used which included sociodemographic, clinical, epidemiological, behavioral and cultural characteristics, nurses' impressions and complications, written by the Theory of Basic Human Needs¹⁴⁻¹⁵.

The second stage included the preparation of the diagnoses, seeking to identify the defining characteristics and related/risk factors according to NANDA-I, version 2018-2020, and with terms present in the ICNP®, version 2019/2020¹⁷⁻¹⁸. The stages of Risner's clinical judgment were followed for the purpose of structuring the nursing diagnoses, which are: data analysis and synthesis and establishment of the diagnoses¹⁹.

It is noteworthy that, in the process of diagnostic inference, clinical data were individually evaluated by the authors of this study, in order to enable greater confidence in the results obtained. The diagnoses that presented agreement were accepted, and those which showed discrepancy between the evaluators were reevaluated in their clinical histories, until an agreement was reached.

It is noteworthy that the International Standard Organization ISO (ISO) 18.104:2014 - Health informatics: category structures for the representation of nursing diagnoses and nursing actions in terminological systems was also taken into account, in which a diagnosis can be expressed as a judgment about a focus or as the expression of a single clinical finding that represents an altered state²⁰. At this same stage, the conceptual and operational definitions for each diagnosis were constructed, using the NANDA-I definitions. Regarding the ICNP®, the terms contained in scientific articles, manuals, nursing textbooks and dictionaries were used for statements with the absence of direct mapping.

For the third stage, cross-mapping, three spreadsheets were created in the Excel for Windows® software, one containing the list of statements of nursing diagnoses developed in the previous stage, and two other lists with the conceptual and operational definitions of the ICNP® diagnoses, version 2019/2020, and NANDA-I, version 2018-2020. Next, the spreadsheets were crossed and a database was created in Software Access for Windows®, in order to identify the equivalent meanings of the

definitions. In addition, we sought to guarantee the meaning of terms and expressions, the comparison to the foci, the correlation present in the concepts and the mapping of possible nursing diagnoses^{6,21}.

The definitions of the diagnoses were classified according to the criteria of the degree of equivalence and cardinality assessment scale in the cross-mapping process, according to ISO/TR 12300:2016, considering the diagnoses that had evaluation 1 (Equivalence of lexical and conceptual meaning), 2 (Equivalent meaning, but with synonymy), 3 (The source term is broader and has less specific meaning than the target term), 4 (The source term is more restricted and has more specific meaning than the target term) and 5 (No mapping is possible)¹⁰.

As for cardinality, it was considered: One to one (1:1) – a single source concept is linked with a single concept or target term; One to many (1:*) – a single source concept is linked with multiple concepts or target terms; Many to one (*:1) – multiple source concepts are linked with a single concept or target term; Many to many (*:*) – multiple source concepts are linked to multiple concepts or target terms.¹⁰ It was determined to consider the ICNP[®] as source terminology and NANDA-I[,] as target terminology.

For the elaboration of the conceptual definitions of diagnoses with no direct mapping in the ICNP[®] and for operational definitions, for both systems, a literature review was performed by the principal researcher, according to the prerogatives of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guideline, and these definitions were validated by the group of researchers involved in this article²¹.

Finally, in the fourth stage, content validation was performed with nurses selected by the Lattes curriculum with two rounds of the Delphi technique. It was proposed that each round lasted up to 45 days, including the deadline for analysis and response from the group of nurses, and the limit of 15 days for a response by the main researchers with a new version of the statements and beginning of the next round. Each expert provided their answers and analysis in a spreadsheet using the Excel for windows[®] software. It is emphasized that the result of the first round was informed to the group in the evaluation of the new version, which included the proposed changes. Thirty-eight specialist nurses participated in the first round and 24 in the second round.

Expert judges agreed or disagreed with the equivalent meanings between the titles and diagnostic concepts of ICNP[®] and NANDA-I. In case of disagreement, they were asked to present the suggestions for adequacy. The participants were also informed about the difference in conceptual definition (of terminologies) and operational definition (constructed).

The validation process occurred through the Delphi technique, composed of two stages: Delphi 1 and Delphi 2. The diagnostic titles of both systems with equivalent meaning were sent to specialist nurses in a spreadsheet prepared using Excel for Windows[®] containing the statements of the diagnoses and conceptual and operational definitions. These definitions were accessed in the current versions of the ICNP and[®] NANDA-I¹⁷⁻¹⁸.

Content validation was contemplated based on the agreement between the answers of the experts, with the Content Validation Index (CVI). This index allowed the evaluation of each item of the instrument and, after, the evaluation of its entirety. This index is widespread in the health area, especially when related to content validation to determine the adequacy of items contained in protocols. In addition to the CVI[,] the Reliability Index (Interrater Agreement – IRA) was also used.

The data were compiled into databases in the Microsoft Excel for Windows[®] software for the calculation of the CVI and the Reliability Index, in addition to applying the Mann-Whitney Test to verify the significance between the first and second round of Delphi. The Mann-Whitney test, with a significance level of 5%, showed evidence of statistical difference of Delphi 1 with 2 in the domains analyzed (Basic Human Needs), with better evaluation in Delphi 2, in the respective domains.

The CVI was used to evaluate the distribution and content of the items in relation to the responses related to cross-mapping between nursing diagnoses and Basic Human Needs (BHNs).²³ In addition to being considered valid, after the evaluations of the specialists, it was necessary to present an agreement above 80% (0.8). Thus, to calculate the CVI of the cross-mapping, the total number of evaluators who assigned a score of 3 or 4 on a four-point ordinal scale with significance from “agree” to “I do not agree” was divided by the total number of evaluators who evaluated the cross-mapping²⁴⁻²⁵.

The Reliability Index evaluated the extent to which the specialists were reliable in the evaluations of the cross-mapping items. For its calculation, the number of items that obtained a value above 0.8 of agreement among the evaluators was divided by the total number of items of each mapping dimension. The Statistical Package for the Social Sciences (SPSS) software, version 20.0 was used for statistical analysis.

The justification for the use of the BHN theory was based on the understanding that it measures the affected needs of the person living with HIV, whether in the psychobiological, psychosocial or psychospiritual scope. The concepts of the theory are tangent to the Nursing Process as it focuses on human-centered care by meeting their basic needs, through observation, interaction and intervention with the individual²⁶.

The research was developed in compliance with the ethical issues established by Resolution 466, of December 12, 2012, whereby consent was authorized after the participants signed the Informed Consent Term.

RESULTS

A total of 115 hospitalized people living with HIV were interviewed. Among these, 89 (53%) were male, state residents, with a predominant age range from 20 to 52 years (63.5%), with community pneumonia and opportunistic infections as their main medical diagnoses. The interview and physical examination showed 92 clinical findings that comprised the *corpus* to achieve the second stage.

In the elaboration and identification of nursing diagnoses for people living with HIV, 135 diagnoses were identified, of which 62% (n = 84) with the ICNP terminology[®] and 38% (n=51) with The NANDA-I. After, it was found that 81% of the ICNP diagnoses[®] had no direct mapping in NANDA-I, with 19%.

The mapping result showed that 47 diagnoses presented equivalent meanings, as shown in Chart 1, in addition to CVIs greater than 0.8, being considered valid by the specialists (Table 1). Because of the diagnoses obtained CVI and IRA above 0.8, they were considered to have valid content, because they contemplated the indexes recommended by the reference adopted in this study, being considered superior in Delphi 2.

By means of the Mann-Whitney test, with a significance level of 5%, there was evidence of statistical difference of Delphi 1 to 2 in the domains analyzed, obtaining a better evaluation in Delphi 2, according to Table 1.

All diagnostic titles were classified according to Human Needs and, thus, were found, respectively, for the ICNP and[®] NANDA-I classifications: 74% and 80% of nursing diagnoses in the Psychobiological dimension; 23% and 16% in Psychosocial; and 3% and 4% in Psychospiritual.

Chart 1 – Evaluation of cardinality and equivalence of nursing diagnoses. Natal, RN, Brazil, 2020.

Nursing Diagnoses		Cardinality	Equivalence
ICNP®	NANDA-I		
Breathing, Impaired Ventilation	Impaired spontaneous ventilation	One for many (1:*)	Equivalence 2
Liquid Imbalance	Deficient fluid volume	One-to-one (1:1)	Equivalence 1
Swallowing, Impaired	Impaired swallowing	One-to-one (1:1)	Equivalence 1
Dentition, Impaired	Impaired dentition	One-to-one (1:1)	Equivalence 1
Food Intake, Insufficient (or Deficient)	Unbalanced nutrition: less than body needs	One-to-one (1:1)	Equivalence 2
Risk of Constipation	Risk of constipation	One-to-one (1:1)	Equivalence 1
Urination, Impaired	Impaired urinary elimination	One-to-one (1:1)	Equivalence 1
Diarrhea	Diarrhea	One-to-one (1:1)	Equivalence 1
Urinary Retention	Urinary retention	One-to-one (1:1)	Equivalence 1
Risk of Urge Urinary Incontinence,	Risk of urge urinary incontinence	One-to-one (1:1)	Equivalence 1
Bowel Incontinence	Bowel incontinence	One-to-one (1:1)	Equivalence 1
Sleep, Impaired	Sleep pattern disorder	One-to-one (1:1)	Equivalence 1
Insomnia	Insomnia	One-to-one (1:1)	Equivalence 1
Fatigue	Fatigue	One-to-one (1:1)	Equivalence 1
Gait (Walking), Impaired	Impaired ambulation	One for many (1:*)	Equivalence 2
Sexual Intercourse, Impaired	Sexual dysfunction	One for many (1:*)	Equivalence 2
Knowledge About Sexual Behavior, Impaired	Ineffective sexuality pattern	One for many (1:*)	Equivalence 2
Sexual Behavior, Impaired	Risk-prone health behavior	One for many (1:*)	Equivalence 2
Ability to Bathe, Impaired	Deficit in self-care for bathing	One for many (1:*)	Equivalence 2
Conditioning Integrity, Impaired	Impaired conditioning integrity	One-to-one (1:1)	Equivalence 4
Pressure Injury	Impaired skin integrity Epidermis and/or altered dermis.	One for many (1:*)	Equivalence 3
Risk of Pressure injury	Risk of pressure injury	One-to-one (1:1)	Equivalence 1
Oral Mucous Membrane (or Oral), Impaired	Integrity of impaired oral mucous membrane	One-to-one (1:1)	Equivalence 1
Trauma Risk	Trauma risk	One-to-one (1:1)	Equivalence 1
Hyperthermia	Hyperthermia	One-to-one (1:1)	Equivalence 1
Acute Confusion	Acute confusion	One-to-one (1:1)	Equivalence 1
Exposure to Contamination	Contamination	One-to-one (1:1)	Equivalence 2
Risk of Infection	Risk of infection	One-to-one (1:1)	Equivalence 2
Immune System Process, Impaired	Ineffective protection	One for many (1:*)	Equivalence 4
Cardiac Output, Impaired	Decreased Cardiac Output	One-to-one (1:1)	Equivalence 2
Tissue Perfusion, Ineffective	Ineffective peripheral variable perfusion	One-to-one (1:1)	Equivalence 2
Risk of Bleeding	Risk of bleeding	One-to-one (1:1)	Equivalence 2
Edema	Excessive fluid volume	One for many (1:*)	Equivalence 4
Pain, Acute	Acute pain	One-to-one (1:1)	Equivalence 1

Chart 1 – Cont.

Nursing Diagnoses		Cardinality	Equivalence
Lack of Knowledge	Poor knowledge	One-to-one (1:1)	Equivalence 2
Non-Therapeutic Regimen	Ineffective health control	Many to many (*:*)	Equivalence 2
Anxiety	Anxiety	One-to-one (1:1)	Equivalence 4
Sadness	Chronic sadness	One for many (1:*)	Equivalence 4
Will to Live	Willingness to improve resilience	Many to many (*:*)	Equivalence 2
Fear of Death	Fear	One for many (1:*)	Equivalence 3
Mood Condition, Negative	Impaired mood regulation	One-to-one (1:1)	Equivalence 2
Lack of Family Support	Committed family coping	One-to-one (1:1)	Equivalence 2
Verbal Communication, Impaired	Impaired verbal communication	One-to-one (1:1)	Equivalence 1
Social Isolation	Social isolation	One-to-one (1:1)	Equivalence 1
Low Self-Esteem	Low situational self-esteem	One-to-one (1:1)	Equivalence 3
Spiritual Suffering	Spiritual suffering	One-to-one (1:1)	Equivalence 2
Religious Belief, Conflictual	Impaired religiosity	One-to-one (1:1)	Equivalence 2

Table 1 – Agreement of the specialists regarding the equivalence of meanings between the nursing diagnoses of the ICNP® and NANDA-I. Natal, RN, Brazil, 2020.

Basic Human Needs (Domains)	Nursing Diagnoses		CVI* (%) of the crossing of diagnoses			CVI* (%) domain		IRA† (%)	
	ICNP®	NANDA-I	Delphi 1	Delphi 2	Mann-Whitney	Delphi 1	Delphi 2	Delphi 1	Delphi 2
Oxygenation	Breathing, Impaired	Impaired spontaneous ventilation	0.904	1.000	0.047	0.902	1.000	0.906	1.000
Hydration	Liquid imbalance	Deficient fluid volume	0.981	1.000	0.001	0.897	1.000	0.910	1.000
Nutrition	Swallowing, Impaired	Impaired swallowing	0.963	1.000					
	Dentition, Impaired	Impaired dentition	0.963	1.000	0.012	0.919	1.000	0.899	1.000
	Food intake, Insufficient (or Deficient)	Unbalanced nutrition: less than body needs	0.970	1.000					

Table 1 – Cont.

Basic Human Needs (Domains)	Nursing Diagnoses		CVI* (%) of the crossing of diagnoses			CVI* (%) domain		IRA† (%)	
	ICNP®	NANDA-I	Delphi 1	Delphi 2	Mann-Whitney	Delphi 1	Delphi 2	Delphi 1	Delphi 2
Elimination	Risk of constipation	Risk of constipation	0.926	1.000					
	Urination, Impaired	Impaired urinary elimination	0.991	1.000					
	Diarrhea	Diarrhea	0.963	1.000					
	Urinary retention	Urinary retention	0.944	1.000	0.038	0.902	1.000	0.879	1.000
	Risk of urge urinary incontinence	Risk of urge urinary incontinence	0.963	1.000					
	Bowel incontinence	Bowel incontinence	0.944	1.000					
Sleep and Rest	Sleep, Impaired	Sleep pattern disorder	0.907	1.000					
	Insomnia	Insomnia	0.926	1.000	0.002	0.908	1.000	0.921	1.000
	Fatigue	Fatigue	0.907	1.000					
Exercise and Physical Activities	Gait (Walking), Impaired	Impaired ambulation	0.998	1.000	0.001	0.913	1.000	0.918	1.000
Sexuality	Sexual intercourse, Impaired	Sexual dysfunction	0.963	1.000					
	Knowledge about sexual behavior, Impaired	Ineffective sexuality pattern	0.964	1.000	0.026	0.945	1.000	0.833	1.000
	Sexual behavior, Impaired	Risk-prone health behavior	0.921	1.000					
Body Care	Ability to bathe, Impaired	Deficit in self-care for bathing	0.927	1.000	0.021	0.926	1.000	0.945	1.000

Table 1 – Cont.

Basic Human Needs (Domains)	Nursing Diagnoses		CVI* (%) of the crossing of diagnoses			CVI* (%) domain		IRA† (%)	
	ICNP®	NANDA-I	Delphi 1	Delphi 2	Mann-Whitney	Delphi 1	Delphi 2	Delphi 1	Delphi 2
Skin integrity	Conditioning integrity, Impaired	Impaired conditioning integrity	0.963	1.000					
	Pressure injury	Impaired skin integrity	0.944	1.000					
	Risk of pressure injury	Risk of pressure injury	0.973	1.000	0.001	0.974	1.000	0.894	1.000
	Oral mucous membrane (or oral), Impaired	Integrity of impaired oral mucous membrane	0.926	1.000					
	Trauma risk	Trauma risk	0.904	1.000					
Thermal Regulation	Hyperthermia,	Hyperthermia	0.962	1.000	0.003	0.980	1.000	0.942	1.000
Neurological Regulation	Acute confusion	Acute confusion	0.907	1.000	0.001	0.904	1.000	0.933	1.000
Immunological Regulation	Exposure to contamination	Contamination	0.926	1.000					
	Risk of infection	Risk of infection	0.997	1.000	0.001	0.878	1.000	0.917	1.000
	Immune system process, Impaired	Ineffective protection	0.907	1.000					
Vascular Regulation	Cardiac output, Impaired	Cardiac Output, Impaired	0.925	1.000					
	Tissue perfusion, Ineffective	Ineffective peripheral variable perfusion	0.941	1.000	0.001	0.912	1.000	0.893	1.000
	Risk of bleeding	Risk of bleeding	0.952	1.000					
	Edema	Excessive fluid volume	0.902	1.000					
Painful Perception	Pain, Acute	Acute pain	0.992	1.000	0.018	0.963	1.000	0.923	1.000
Therapeutics	Lack of knowledge	Poor knowledge	0.901	1.000					
	Non-therapeutic regimen	Ineffective health control	0.944	1.000	0.026	0.802	1.000	0.916	1.000

Table 1 – Cont.

Basic Human Needs (Domains)	Nursing Diagnoses		CVI* (%) of the crossing of diagnoses			CVI* (%) domain		IRA† (%)	
	ICNP®	NANDA-I	Delphi 1	Delphi 2	Mann-Whitney	Delphi 1	Delphi 2	Delphi 1	Delphi 2
Safety	Anxiety	Anxiety	0.998	1.000					
	Sadness	Chronic sadness	0.924	1.000					
	Will to live	Willingness to improve resilience	0.981	1.000	0.001	0.979	1.000	0.908	1.000
	Fear of death	Fear	0.917	1.000					
	Mood condition, Negative	Impaired mood regulation	0.904	1.000					
Love	Lack of family support	Committed family coping	0.907	1.000	0.045	0.816	1.000	0.899	1.000
Communication	Verbal communication, Impaired	Impaired verbal communication	0.907	1.000	0.001	0.923	1.000	0.932	1.000
Gregarious	Social isolation	Social isolation	0.994	1.000	0.001	0.904	1.000	0.927	1.000
Self-esteem	Low self-esteem	Low situational self-esteem	0.998	1.000	0.014	0.913	1.000	0.918	1.000
Religiosity/Spirituality	Spiritual anguish	Spiritual suffering	0.926	1.000					
	Religious belief, Conflictual	Impaired religiosity	0.944	1.000	0.018	0.905	1.000	0.921	1.000

Note: Mann-Whitney: Statistical test; *CVI: Content Validity Index; †IRA: Reliability index or inter-rater agreement

DISCUSSION

A higher representativeness of diagnoses was found for people living with HIV by the ICNP® in relation to NANDA-I, which can be justified by greater freedom in its development, as the construction of their diagnoses is based on the use of terms predominantly associated with clinical signs and symptoms. This allows more approximation of diagnoses with clinical practice, and potential advances to the documentation of the practice, through a set of rules that contribute to language standardization²⁷.

One study corroborates this finding, and justifies the difference considering that ICNP® is an enumerative terminology, but also combinatory, with a multiaxial structure that allows productive and divergent thinking, and thus makes it possible to list a vast search for diagnostic hypotheses, not limited to the diagnostic titles already validated and presented in the Terminological Subsets or Catalogues²⁸.

Although a number of ICNP® nursing diagnoses were found with no direct mapping in NANDA-I, it was found that the clinical reasoning process for the elaboration of diagnostic statements using both classifications led to the formulation of diagnoses with similar patterns when we add the constant diagnoses and those with no direct mapping classified in 1:1 cardinality, resulting in 41% of ICNP® diagnoses. As practical implications based on these findings, it was observed that, nurses can make use of both systems using accurate clinical reasoning.

This similarity is evidenced in both classifications, because both allow nurses to list diagnostic inferences about a given clinical situation, in addition to following ISO 18104:2014, which defines that the structure of a nursing diagnosis is expressed by a judgment on a focus, or as a manifestation of a single clinical finding that represents the alteration of a condition about a person under care^{8,28}.

It is noteworthy that, in nursing practice, it is important to use a specific, standardized and scientific language, which consists of a tool to assist and qualify care, as it supports the diagnosis, planning, implementation and evaluation of nursing interventions, contributing to more effective communication and documentation of clinical practice²⁹.

It was also found that 81% of the nursing diagnoses of the ICNP[®] had no direct mapping in NANDA-I and, of these, only 42% could be classified as similar, that is, 58% of the diagnoses did not present comparable diagnoses in NANDA-I. The use of a standardized nursing language linked to the diagnostic profile of a given population promotes the management and care organization of nursing actions. With this, it is possible to make a set of phenomena clear to the professional to which their attention needs to be focused, in this case, related to the context of people living with HIV. Therefore, it allows for a more qualified team capable of meeting the needs of the users, because it knows the diagnoses, results and interventions, and can anticipate more effective planning.⁶ It should be noted that the diagnoses presented here can be applied and reviewed according to any health care scenario, thus contributing to improving health information.

Although there are similar nursing diagnoses, it is possible to perceive the need to construct its own, precise and consensual vocabulary, which facilitates the identification of diagnostic concepts for care planning and the use of scientific evidence in clinical practice, enabling its consolidation as a science. The lack of a universal language that establishes a definition and description of professional practice has caused concern in nurses and led them to commit to the development of nursing as a science⁶.

It is noteworthy that, even with efforts to develop nursing classification systems, such as ICNP[®] and NANDA-I, it is evident that there are diagnoses used by nurses who are not yet inserted in these systems, which demonstrates the need for deepening in certain populations¹⁸.

Thus, the documentation of care becomes a challenge in the current health practice, however, it has demonstrated its value for continuity of care, visibility of the contribution of the profession and for ethical-legal issues and cost analysis. Cross-mapping reflects the importance of translational research in nursing health and informatics, as robust language systems provide the basis for data, information, knowledge structures and wisdom that contribute to highlight clinical reasoning and evidence of health practices³⁰.

Therefore, as implications for practice, it can be inferred that cross-mapping between standardized terminologies allows an in-depth understanding of operational terms, concepts and definitions, resulting in a more assertive representation of phenomena that are the focus of nursing practice, regardless of the classification system. In addition, it has also been highlighted that the basis of its actions supports its decision-making, both in the designation of the identified phenomenon, as well as in the selection of interventions more appropriate to its resolution.

CONCLUSION

The study showed that there are convergences of nursing diagnoses for people with HIV through cross-mapping based on both systems, even though the results present a higher number of nursing diagnoses in the ICNP® than in NANDA-I.

Both systems enable the accurate identification of nursing diagnoses and have the ability to assist in the elaboration of an individualized care plan for people living with HIV.

Therefore, the findings reinforce the importance of using Standardized Language Systems in the field of nursing for scientific and professional advancement and, thus, new studies can bring nuances on the applicability of these systems and their impact on practice.

REFERENCES

1. Joint United Nations Programme on HIV/AIDS. UNAIDS data 2020 [Internet]. Geneva, (CH): UNAIDS; 2020 [cited 2019 Jul 5]. 436 p. Available from: https://www.unaids.org/sites/default/files/media_asset/2020_aids-data-book_en.pdf
2. Ministério da Saúde (BR), Departamento de Doenças de Condições Crônicas e Infecções Sexualmente Transmissíveis. Casos de Aids diminuem no Brasil: Boletim Epidemiológico sobre a doença aponta queda na taxa de detecção de Aids no país desde 2012 [Internet]. 2020 Dec 1 [updated 2021 Feb 1; cited 2021 Dec 1]. Available from: <http://www.aids.gov.br/pt-br/noticias/casos-de-aids-diminuem-no-brasil>
3. Hipolito RL, Oliveira DC, Costa TL, Marques SC, Pereira ER, Gomes AMT. Quality of life of people living with HIV/AIDS: temporal, socio-demographic and perceived health relationship. *Rev Lat Am Enfermagem* [Internet]. 2017 Apr 20 [cited 2019 Jun 18];25:e2874. Available from: <https://doi.org/10.1590/1518-8345.1258.2874>
4. Benedet SA, Padilha MI, Peres MAA, Bellaguarda MLR. Essential characteristics of a profession: a historical analysis focusing on the nursing process. *Rev Esc Enferm USP* [Internet]. 2020 [cited 2020 Jan 15];54:e03561. Available from: <https://doi.org/10.1590/S1980-220X2018047303561>
5. Silva RAR, Santos WN, Souza FMLC, Santos RSC, Oliveira IC, Silva HLL, et al. Ineffective health control in people living with AIDS: a content analysis. *Acta Paul Enferm* [Internet]. 2020 [cited 2020 Jun 18];33:eAPE20190129. Available from: <https://doi.org/10.37689/acta-ape/2020AO0129>
6. Ferreira AM, Rocha EN, Lopes CT, Bachion MM, Lopes JL, Barros ALBL. Nursing diagnoses in intensive care: cross-mapping and NANDA-I taxonomy. *Rev Bras Enferm* [Internet]. 2016 Mar-Apr [cited 2019 Jun 20];69(2):307-15. Available from: <https://doi.org/10.1590/0034-7167.2016690214i>
7. Gomes DC, Oliveira LES, Cubas MR, Barra CMCM. Use of computational tools as support to the crossmapping method between clinical terminologies. *Texto Contexto Enferm* [Internet]. 2019 [cited 2020 Jun 18];28:e20170187. Available from: <https://doi.org/10.1590/1980-265X-TCE-2017-0187>
8. Morais SCR, Nóbrega MML, Carvalho EC. Convergence, divergence and diagnostic accuracy in the light of two nursing terminologies. *Rev Bras Enferm* [Internet]. 2015 Nov-Dec [cited 2019 Jun 18];68(6):1086-92. Available from: <https://doi.org/10.1590/0034-7167.2015680613i>
9. Hirano GSB, Lopes CT, Barros ALBL. Development of research on nursing diagnoses in Brazilian graduate programs. *Rev Bras Enferm* [Internet]. 2019 Aug 19 [cited 2019 Jun 18];72(4):926-32. Available from: <https://doi.org/10.1590/0034-7167-2018-0259>
10. Torres FBG, Gomes DC, Ronnau L, Moro CMC, Cubas MR. ISO/TR 12300:2016 for clinical cross-terminology mapping: contribution to nursing. *Rev Esc Enferm USP* [Internet]. 2020 [cited 2020 Jun 20];54:e03569. Available from: <https://doi.org/10.1590/S1980-220X2018052203569>

11. Nascimento MNR, Silva MY, Viana MCA, Oliveira CJ, Martins AKL, Félix NDC. Nursing diagnoses for people with heart failure: cross mapping. *Rev Enferm UFPE on line* [Internet]. 2019 Jun [cited 2020 Jun 20];13:e240194. Available from: <https://doi.org/10.5205/1981-8963.2019.240194>
12. Tannure MC, Salgado PO, Chianca TCM. Cross-mapping: diagnostic labels formulated according to the ICNP® versus diagnosis of NANDA International. *Rev Bras Enferm* [Internet]. 2014 Nov-Dec [cited 2020 Jun 20];67(6):972-8. Available from: <https://doi.org/10.1590/0034-7167.2014670616>
13. Rabelo-Silva ER, Cavalcanti ACD, Caldas MCRG, Lucena AF, Almeida MA, Linch GFC, et al. Advanced nursing process quality: comparing International Classification for Nursing Practice (ICNP) with the NANDA-International (NANDA-I) and Nursing Interventions Classification (NIC). *J Clin Nurs* [Internet]. 2017 Feb [cited 2020 Jun 20];26(3-4):379-87. Available from: <https://doi.org/10.1111/jocn.13387>
14. Souza Neto VL, Costa RTS, Santos WN, Fernandes SF, Lima DM, Silva RAR. Validation of the definitions of nursing diagnoses for individuals with Aids. *Rev Bras Enferm* [Internet]. 2020 [cited 2020 Jun 20];73(4):e20180915. Available from: <https://doi.org/10.1590/0034-7167-2018-0915>
15. Silva RAR, Silva BCO, Silva CC, Souza Neto VL, Magalhães FACM, Sousa MES. Predictors for the establishment of nursing diagnoses in renal transplant patients. *Rev Cubana Enferm* [Internet]. 2018 Sep 7 [cited 2020 Jun 20];34(2). Available from: <http://www.revenfermeria.sld.cu/index.php/enf/article/view/1360>
16. Melo DM, Barbosa AJG. Use of the Mini-Mental State Examination in research on the elderly in Brazil: a systematic review. *Ciênc Saúde Colet* [Internet]. 2015 Dec [cited 2020 Nov 12];20(12):3865-76. Available from: <https://doi.org/10.1590/1413-812320152012.06032015>
17. Herdman TH, Kamitsuru S. NANDA International nursing diagnoses: Definitions classification, 2018-2020 [Internet]. 11th ed. New York, NY(US): Thieme Medical Publishers Inc; 2017 [cited 2020 Aug 23]. 512 p. Available from: <https://doi.org/10.1055/b-006-161141>
18. International Council of Nurses. ICNP® Catalogues [Internet]. Genebra, (CH): ICN; 2019 [cited 2020 Aug 23]. Available from: <https://www.icn.ch/what-we-do/projects/ehealth-icnptm/icnp-browser>
19. Góes FSN, Dalri MCB, Fonseca LMM, Canini SRMS, Scochi CGS. Developing clinical cases to reach diagnostic reasoning. *Rev Eletr Enferm* [Internet]. 2014 Mar 31 [cited 2020 Jun 20];16(1):44-51. Available from: <https://doi.org/10.5216/ree.v16i1.20564>
20. Marin HF, Peres HHC, Dal Sasso GTM. Categorical structure analysis of ISO 18104 standard in nursing documentation. *Acta Paul Enferm* [Internet]. 2013 [cited 2020 Jun 20];26(3):299-306. Available from: <https://doi.org/10.1590/S0103-21002013000300016>
21. Moura RMA, Beserra PJF, Medeiros FAL, Nóbrega MML. Cross-mapping of nursing diagnoses/outcomes using ICNP®: a methodological study. *Online Braz J Nurs* [Internet]. 2021 Jun 9 [cited 2021 Jun 20];19(1):e20206226. Available from: <https://doi.org/10.17665/1676-4285.20186226>
22. Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA group. Main items to report systematic reviews and meta-analyses: The PRISMA recommendation. *Epidemiol Serv Saúde* [Internet]. 2015 Apr-Jun [cited 2020 Nov 23];24(2):335-42. Available from: <http://doi.org/10.5123/S1679-49742015000200017>
23. Horta WA. *Processo de enfermagem*. Rio de Janeiro, RJ(BR): Guanabara Koogan; 2011. 112 p.
24. Polit DF, Beck CT, Owen SV. Is the CVI an acceptable indicator of content validity? Appraisal and recommendations. *Res Nurs Health* [Internet]. 2007 Aug [cited 2020 Dec 1];30(4):459-67. Available from: <https://doi.org/10.1002/nur.20199>
25. Ayre C, Scally AJ. Critical values for lawshe's content validity ratio: revisiting the original methods of calculation. *Meas Eval Couns Dev* [Internet]. 2017 Mar 8 [cited 2020 Dec 1];47(1):79-86. Available from: <http://doi.org/10.1177/0748175613513808>

26. Souza Neto VL, Costa RTS, Costa DARS, Belmiro SDDR, Lima MA, Silva RAR. ICNP® diagnoses of people living with AIDS, and empirical indicators. *Rev Bras Enferm* [Internet]. 2019 Sep 16 [cited 2020 Jun 20];72(5):1226-34. Available from: <https://doi.org/10.1590/0034-7167-2017-0850>
27. Menezes HF, Lima FR, Camacho ACLF, Dantas JC, Ferreira LB, Silva RAR. Specialized nursing terminology for the clinical practice directed at COVID-19. *Texto Contexto Enferm* [Internet]. 2020 [cited 2020 Jun 20];29:e20200171. Available from: <https://doi.org/10.1590/1980-265X-TCE-2020-0171>
28. Mata LRF, Souza CC, Chianca TCM, Carvalho EC. Creating diagnoses and interventions under the auspices of different nursing classification systems. *Rev Esc Enferm USP* [Internet]. 2012 Dec [cited 2019 Jun 20];46(6):1512-8. Available from: <https://doi.org/10.1590/S0080-62342012000600031>
29. Nonnenmacher CL, Ávila CW, Mantovani VM, Vargas MAO, Echer IC, Lucena AF. Cross mapping between the priority nursing care for stroke patients treated with thrombolytic therapy and the Nursing Interventions Classification (NIC). *Int J Nurs Knowl* [Internet]. 2017 Oct [cited 2020 Aug 2];28(4):171-7. Available from: <https://doi.org/10.1111/2047-3095.12147>
30. Gonçalves LS, Andreatta D, Schamne FK. Cross-mapping study of nursing practice terms from a brazilian hospital database. *Stud Health Technol Inform* [Internet]. 2020 Jun 16 [cited 2020 Aug 2];270:1233-4. Available from: <https://doi.org/10.3233/SHTI200378>

NOTES

CONTRIBUTION OF AUTHORITY

Study design: Rocha CCT, Lima DM, Silva RAR.

Data collection: Rocha CCT, Lima DM, Silva RAR.

Data analysis and interpretation: Rocha CCT, Lima DM, Silva RAR.

Discussion of results: Rocha CCT, Lima DM, Menezes HFM, Silva RAR.

Writing and/or critical review of the content: Menezes HFM, Silva RS, Sousa PAF, Silva RAR.

Review and final approval of the final version: Menezes HFM, Silva RAR.

APPROVAL OF ETHICS COMMITTEE IN RESEARCH

Approved by the Ethics Committee in Research of the *Universidade Federal do Rio Grande do Norte* through opinion no.1,177,410 of June 10, 2016, Certificate of Presentation for Ethical Appreciation 47380915.2.0000.5537.

CONFLICT OF INTEREST

There is no conflict of interest.

EDITORS

Associated Editors: Elisiane Lorenzini, Ana Izabel Jatobá de Souza.

Editor-in-chief: Roberta Costa.

HISTORICAL

Received: August 11, 2021.

Approved: February 15, 2022.

CORRESPONDING AUTHOR

Harlon França de Menezes

harlonmenezes@hotmail.com