

## Useful terms for nursing practice in the care of people with leprosy

Termos úteis à prática de enfermagem na atenção a pessoas com hanseníase Términos útiles a la práctica de enfermería en la atención a personas con lepra

## ABSTRACT

**Objectives**: To identify useful terms for nursing practice in the care of people with leprosy and to cross-mapp the identified terms with the ICNP\* terms. **Method**: A descriptive, documentary study that included publications of the Ministry of Health in the area of leprosy launched between 2002 and 2017. The terms identified in these publications were extracted and underwent a normalization proces and then, were cross-mapped with terms of the ICNP\* version 2015 for the identification of constant and non-constant terms in this terminology. **Results**: In total, were extracted 1,177 terms, of which 26.76% were equal, 4.59% similar, 4.26% were broader, 19.62% were more restricted, and 44.77% were totally different from the ICNP\* terms. **Conclusions**: The large number of terms identified and not included in the ICNP\* show the need for its expansion in order to contemplate the phenomena of clinical practice more effectively and allow better representation of nursing care for people with leprosy.

**Descriptors**: Nursing; Leprosy; Classification; Terminology as Topic, Communicable diseases

#### RESUMO

**Objetivos**: Identificar termos úteis à prática de enfermagem na atenção a pessoas com hanseníase e realizar mapeamento cruzado entre os termos identificados e a CIPE<sup>\*</sup>. **Método**: Estudo descritivo, documental, que incluiu publicações do Ministério da Saúde na área de hanseníase, editadas entre 2002 e 2017. Realizou-se a extração e normalização de termos identificados nessas publicações e, em seguida, o mapeamento cruzado desses termos com os da CIPE<sup>\*</sup> versão 2015, para identificação de termos constantes e não constantes nessa terminologia. **Resultados**: Foram extraídos 1.177 termos, dos quais 26,76% eram iguais, 4,59% semelhantes, 4,26% mais amplos, 19,62% mais restritos do que os da CIPE<sup>\*</sup>, e 44,77% totalmente diferentes dos termos daquela terminologia. **Conclus**ões: O grande número de termos identificados e que não constam da CIPE<sup>\*</sup> evidenciam a necessidade de sua ampliação para contemplar os fenômenos da prática clínica de modo mais efetivo, e permitir melhor representação da atenção de enfermagem a pessoas com hanseníase.

Descritores: Enfermagem; Hanseníase; Classificação; Terminologia como Assunto, Doenças Transmissíveis

#### RESUMEN

**Objetivos**: Identificar los términos útiles a la práctica de enfermería en la atención a personas con lepra y realizar mapeo cruzado entre los términos identificados y la CIPE<sup>\*</sup>. **Método**: Estudio descriptivo, documental, que incluyó publicaciones del Ministerio de Salud en el área de lepra, editadas entre 2002 y 2017. Se realizó la extracción y normalización de términos identificados en esas publicaciones y, a continuación, el mapeo cruzado de estos términos con los de la CIPE<sup>\*</sup> versión 2015 para la identificación de términos constantes y no constantes en esa terminología. **Resultados**: Se extrajeron 1.177 términos, de los cuales el 26,76% eran iguales, 4,59% similares, 4,26% más amplios, 19,62% más restringidos y 44,77% totalmente diferentes de los términos de la CIPE<sup>\*</sup>. **Conclusiones**: El gran número de términos identificados y que no constan de la CIPE<sup>\*</sup> evidencia la necesidad de su ampliación para contemplar de modo más efectivo, los fenómenos de la práctica clínica, y permitir mejor representación de la atención de enfermería a personas con lepra.

Descriptores: Enfermería; Lepra; Clasificación; Terminología como Asunto, Enfermedades Transmisibles

Michele Dias da Silva Oliveira<sup>1</sup> ORCID 0000-0003-3219-5669

Juliana de Oliveira Roque e Lima<sup>1</sup> ORCID 0000-0002-6646-7995

> Telma Ribeiro Garcia<sup>II</sup> ORCID 0000-0003-3086-0565

> **Maria Márcia Bachion<sup>III</sup>** ORCID 0000-0001-5044-6148

'Universidade Federal de Goiás, Faculdade de Enfermagem. Programa de Pós-Graduação em Enfermagem. Goiânia, Goiás, Brasil. "Universidade Federal da Paraíba, Centro para Pesquisa e Desenvolvimento da CIPE<sup>®</sup> do Programa de Pós-Graduação em Enfermagem, João Pessoa, Paraíba, Brasil. ""Universidade Federal de Goiás, Faculdade de Enfermagem. Programa de Pós-Graduação em Enfermagem. Goiânia, Goiás, Brasil. Bolsista CNPq.

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#### **Corresponding Author:**

Michele Dias da Silva Oliveira E-mail: mds.fen@gmail.com

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## INTRODUCTION

Leprosy is a neglected, stigmatizing disease with high endemicity in countries of Asia, Latin America and Africa. It can lead to physical disability if not diagnosed and treated early<sup>(1)</sup>.

It is important to represent the field of nursing in this area and to portray the phenomena of clinical practice aimed at this unique population in order to improve the quality of care provided by these professionals to this clientele.

The approach of nursing care to people, families and population groups is based on the Nursing Process. This method is structured to identify potentialities and problem situations in the biopsychosocial context that guides the therapeutic plan based on goals agreed with the clientele.

When performing the Nursing Process, are used standardized languages to describe the evaluations, interventions and outcomes pertinent to nursing care. The International Council of Nurses (ICN) has invested in the development of the International Classification for Nursing Practice - ICNP<sup>•(2)</sup> with the objective of representing the knowledge of the area through identification, organization and definition of relevant concepts to the practice by listing nursing diagnoses, interventions and outcomes<sup>(3-4)</sup>.

The ICNP<sup>\*</sup> terms are divided into two main categories: pimitive concepts and the pre-coordinated concepts (nursing statements of diagnosis/outcomes and interventions). The primitive concepts are organized in the Seven Axes Model, namely: *Focus* ("area of care relevant to nursing"), *Judgment* ("clinical opinion or determination related to the focus of nursing practice"), *Means* ("form or method of performing an intervention"), *Action* ("intentional process applied to a client"), *Time* ("the moment, period, time, interval, or duration of a diagnosis or intervention") and *Client* ("subject to which the diagnosis refers and the recipient of an intervention"). The ICNP<sup>\*</sup> version 2015 is available in several languages, including Brazilian Portuguese<sup>(5)</sup>.

For the advancement of the nursing science in the context of care for people with leprosy, nursing diagnoses, interventions and outcomes should be established with use of a standardized language.

## OBJECTIVE

To identify useful terms for clinical nursing practice in the care of people with leprosy and to perform cross-mapping between the identified terms and the ICNP<sup>\*</sup>.

## **METHODS**

## **Ethical aspects**

The study is included in a more comprehensive project, and was approved by the Research Ethics Committee of the Universidade Federal de Goiás under number 878.55 of 20 November 2014).

## Design, place of study and period

A descriptive, documentary, quantitative study performed between January 2015 and April 2018 with use of terminological research<sup>(6)</sup>.

## Inclusion and exclusion criteria

The following inclusion criteria were used: publications of the Brazilian Ministry of Health in the form of catalogs, manuals or guidance documents for the care of people with leprosy edited between 2002 and 2017. Exclusion criteria were: publications of the Ministry of Health in which, despite the focus on leprosy, the format was a booklet to be completed by the user, publications on epidemiological data, publications aimed at community health agents and material for managers.

## Study protocol

Three methodological steps were followed: 1) Identification of the specialized documentation; 2) Delimitation of the thematic field of terminological analysis, extraction and normalization of terms; and 3) Cross-mapping with terms of the ICNP<sup>\*</sup> version 2015.

## 1) Identification of specialized documentation

Given the pre-established inclusion criteria, the textual corpus consisted of fifteen publications identified online at <http://portalms.saude.gov.br/vigilancia-em-saude/publicacoes>, as described in Chart 1.

**Chart 1** – Publications of the Ministry of Health focusing on the care of people with leprosy, Brazil, from 2002 to 2017

Year	Title of publication
2002	Guide to leprosy control <sup>(7)</sup>
2008	Leprosy and human rights: rights and duties of SUS users <sup>(8)</sup>
2008	Manual of rehabilitation and surgery in leprosy <sup>(9)</sup>
2008	Manual of prevention of incapacities in leprosy <sup>(10)</sup>
2008	Manual of conduct for ulcer treatment in leprosy and diabetes <sup>(11)</sup>
2008	Manual of conduct for ocular changes in leprosy <sup>(12)</sup>
2008	Manual of adaptation to insoles and footwear <sup>(13)</sup>
2010	Self-care in leprosy: face, hands and feet <sup>(14)</sup>
2010	Guide to technical procedures: bacilloscopy in leprosy <sup>(15)</sup>
2010	Support guide for self-care groups – leprosy <sup>(16)</sup>
2010	Guidelines for use: corticosteroids in leprosy <sup>(17)</sup>
2010	Training in disability prevention in leprosy: Participant's booklet <sup>(18)</sup>
2016	Guidelines for surveillance, care and elimination of leprosy as a Public Health problem <sup>(19)</sup>
2017	Practical guide on leprosy <sup>(20)</sup>

# 2) Delimitation of the thematic field of terminological analysis, extraction and normalization of terms

The thematic field of terminology analysis was the Seven Axes Model of the ICNP<sup>\*</sup>. For the extraction and categorization of terms, was used the definition of ICNP<sup>®</sup> axes: *Focus, Judgment, Action, Means, Localization, Client* and *Time*. With this conceptual framework in mind, the texts were read for identifying eligible terms for one of the axes. Each eligible term found underwent a normalization process, for later scrutiny regarding its applicability to nursing practice in the context of care for people affected by leprosy. The selected publications were read to collect fragments of information that demonstrated the characteristics of the different classes of concrete or abstract terms for classification according to the Seven Axes Model of the ICNP<sup>\*(5)</sup>. In this step, was used a sheet with two columns: one for the term found and another for the normalized term.

The extraction of terms was carried out by two researchers independently. At the end of this process, they compared their respective databases in search of consensus. The material containing the terms underwent a normalization process and later, classification in ICNP<sup>\*</sup> axes was made by two other researchers who were also reviewers.

For the normalization of the extracted terms, were adopted the following rules:<sup>(6,21)</sup>: a) for terms found in both masculine and feminine forms of the Portuguese language, as a rule, was adopted the masculine form of the term; b) for terms found both in the singular and plural forms, as a rule, was adopted the term in the singular form; c) for terms that were not in accordance with current grammatical rules, the spelling of the term was updated. To these, was observed the need to add another rule, namely e) for terms related to therapeutic nursing actions (performed by the professional or the client), the use of a verb in the infinitive was adopted as a rule. During the normalization process, repetitions of terms were excluded, which resulted in a total of 1,177 terms extracted from the publications examined.

## 3) Cross-mapping with terms of the ICNP° version 2015

The terms extracted and normalized were subjected to the cross-mapping technique with terms of the Seven Axes Model

of the ICNP° version 2015. In this step, the terms were inserted in an Excel for Windows worksheet according to their previous classification in one of the ICNP° axes, and compared with the terms of this terminology. From this comparison, terms were classified into one of the following five categories, adapted from Ehnfors, Florin and Ehrenberg<sup>(22)</sup>: 1) Equal - when there was a perfect mapping in spelling and definition of the term identified in the study with a term constant in the ICNP°; 2) Similar - when there was a term in the ICNP° comparable in meaning but written in a different way from the term identified in the study; 3) Broader - when the term identified in the study was broader in scope compared to the ICNP° term; 4) More restricted - when the term identified in the study had a less comprehensive meaning than the ICNP° term; 5) Different (New) - when a term identified in the study could not be mapped with any constant term in the ICNP°, whether it was equal, similar, broader or more restricted.

The complete listing and classification of the terms identified in the study was reviewed by a researcher specialist in the ICNP<sup>\*</sup> regarding the similarities or differences with the ICNP<sup>\*</sup> terminology.

## Analysis of results and statistics

The analysis of the terms extracted was based on the seven axes model of the ICNP<sup>\*(5)</sup>, and its normalization was based on criteria of Pavel & Nolet<sup>(6)</sup>, Medeiros et. al<sup>(21)</sup>. For the cross-mapping analysis, were used the five categories (equal, similar, more restricted, broader and different) established by Ehnfors, Florin and Ehrenberg<sup>(22)</sup>. Simple and percentage frequencies were used to present the results.

## RESULTS

A total of 1,177 terms were extracted from the publications examined, most of which were different from ICNP<sup>®</sup> terms (Table 1).

The terms classified in the *Focus* (324 - 27.53%) and *Means* (285 - 24.21%) axes predominated and accounted for 51.74% of the total terms extracted from the publications. Charts 2 and 3 present the detailed distribution of terms according to the axes and the category in which they were classified - equal, similar, broader, more restricted and different (new) terms than terms in the ICNP° version 2015.

Table 1 - Distribution of leprosy-related (2002-2017) terms identified in publications of the Brazilian Ministry of Health according to the ICNP\* version 2015 (F= 1.177)

	Mapping in relation to ICNP® terms											
ICNP <sup>®</sup> axes	Equal		Similar		Broader		More restricted		Different (new)		Total	
	f	%	F	%	f	%	f	%	f	%	f	%
Focus	106	9.00	18	1.52	34	2.89	65	5.52	101	8.58	324	27.53
Means	33	2.80	8	0.68	8	0.68	53	4.50	183	15.55	285	24.21
Action	90	7.65	8	0.68	3	0.26	0	0.00	132	11.21	233	19.80
Location	46	3.91	7	0.60	4	0.34	77	6.54	45	3.82	179	15.21
Judgement	17	1.44	2	0.17	1	0.09	30	2.55	49	4.16	99	8.41
Time	9	0.77	6	0.51	0	0.00	0	0.00	8	0.68	23	1.95
Client	14	1.19	5	0.43	0	0.00	6	0.51	9	0.77	34	2.89
Total	315	26.76	54	4.59	50	4.26	231	19.62	527	44.77	1,177	100.00

**Chart 2** - Distribution of leprosy-related terms extracted from publications of the Brazilian Ministry of Health (2002-2017) and mapped with *Focus*, *Location, Judgment* and *Client* terms of the ICNP\* version 2015.

## FOCUS AXIS (f = 324)

#### Equal terms (f = 106)

Acceptance; access; adaptation; adherence; height; anxiety; appetite; attention; attitude; patient activity; self care; self esteem; self image; autonomy; cataract; shock; wound healing; behavior; employment status; social status; trust; decisional conflict; comfort; knowledge; awareness; joint contracture; belief; fault; culture; cure; discomfort; diabetes; diarrhea; dignity; human right; discrimination; pain; eczema; edema; epistaxis; erythema; sputum; stigma; fever; wound; fissure; weakness; fracture; heart rate; frustration; hemorrhaging; hyperglycemia; hyperthermia; identity; body image; inability; infection; inflammation; integrity; skin integrity; injury; maceration; walking; fear; nausea; necrosis; obstruction; foul odor; smell; orientation; role; gender role; paralysis; paresis; equine foot; dry skin; pressure; blood pressure; itching; quality of life; burn; recovery; sangramento/bleeding; health; secretory substance; safety; vital sign; symptom; nervous system; suffering; sleep; tachycardia; touch; body tissue; body temperature; trauma; sadness; ulcer; arterial ulcer; pressure ulcer; venous ulcer; value; shame; bonding; sight; vomiting.

#### Similar terms (f = 18)

Adherence to treatment (adherence to therapeutic regimen); activity of daily life (patient activity); cramp (muscle cramp); economic condition (financial status); contagion (contamination); sensitive deficit (sensory deficit); neuropathic pain (neurogenic pain); side effect of medicament (medication side effect); injury (wound); isolation of the person in society (social isolation); bad smell (foul odor); social participation (community participation); body weight (weight); skin cracking (fissure); skin drying (dry skin); tactile sensitivity (touch); sitting down (sitting); sweating (perspiration).

## **Broader terms** (f = 34)

Feeding (self-feeding); appearance (self image); contagion (fear about contagion); contracture (joint contracture); scab (crust or cradle cap); care (eye care regime and foot care etc.); deficiency (impaired immune system process); dexterity (poor manual dexterity); difficulty (impaired coping process); family dynamics (family coping); health education (health knowledge); exercise (exercise regime); drug failure (negative response to treatment); motor function (fine motor function); age (gestational age); immunization (immunization regime); incidence (incidence of disease); information (information processing); housing (housing service); paresthesia (paresis); poverty (level of poverty); prevention (prevention role); healing process (wound healing); protection (effective protective ability,); love relationship (sexual intercourse); sensitivity (breast tenderness); kinesthetic sensitivity (sensory deficit); skin sensitivity (sensory deficit); sensibility of the cornea (sensory deficit); painful sensitivity (sensory deficit); protective sensitivity (sensory deficit); thermal sensitivity (sensory deficit); vibratory sensitivity (sensory deficit); sexuality (sexual intercourse)

#### More restricted terms (f = 65)

Abandonment of treatment (abandonment); joint range of motion (active range of motion); range of motion against resistance (active range of motion); range of motion against gravity (active range of motion); reddish area (rash); cyanosis (hypoventilation); healing with adhesion (wound healing); healing by first intention (wound healing); healing by second intention (wound healing); healing by third intention (wound healing); health status (status); life status (status); risk awareness (awareness); right of access (patient right); right of inclusion (patient right); social right (human right); abdominal pain (pain); affective pain (pain); physical pain (pain); psychic pain (pain); intellectual aid organization (entity); religious aid organization (entity); social aid organization (entity); erythema nodosum leprosum (rash); inability to sew (disability or limitation); inability to pick up a cup (disability or limitation); physical disability (disability or limitation); post-traumatic infection (infection); secondary infection (infection); integrity of neural function (integrity); physical integrity (integrity); foveolar lesion (lesion); skin lesion (lesion); traumatic injury (injury); fallen hand (hand); claw hand (hand); joint mobility (impaired mobility); abduction movement (body movement); adduction movement (body movement); dorsiflexion movement (body movement); eversion movement (body movement); flexion movement (body movement); plantar flexion movement (body movement); inversion movement (body movement); pronation movement (body movement); supination movement (body movement); nasal obstruction (obstruction); dry eye (eyes); diabetic foot (foot); equine foot varo mobile (foot); equine foot varo rigid (foot); dry foot (dry skin); inflammatory process (inflammation); interpersonal relationship (relationship); work daily routine (routine); home daily routine (routine); lacrimal secretion (secretory substance); nasal secretion (secretory substance); household chore (patient activity); epithelial tissue (scar tissue); granulation tissue (scar tissue); devitalized tissue (scar tissue); fibrous tissue (scar tissue); hypertensive ulcer (ulcer); neuropathic ulcer (ulcer).

#### Different terms (f = 101)

Abscess; abscess with ulceration; user embracement; visual acuity; alcoholism; functional alteration; motor alteration; thermal anesthesia; anhidrosis; ankylosis; burning; economic activity; school activity; family activity; community activity; welfare; blister; necrotic blister; callus blood; callus; walking; marriage; citizenship; inverted eyelash; itching; social interaction; emotional damage; physical damage; spiritual damage; functional damage; socioeconomic damage; motor impairment; sensory and motor impairment; physical deformity; depression; desquamation; muscle imbalance; dorsiflexion; elasticity; blurred vision; eschar; slough; muscle spasm; emotional stability; lifestyle; social exclusion; exudate; muscle strength; photophobia; sweat function; mobile claw; ulnar claw; income generation; life habit; leprosy; environmental hygiene; personal hygiene; hyperpigmentation; nerve hypersensitivity; painful hypoesthesia; thermal hypoesthesia; hypotrophy; collective imaginary; social inclusion; social integration; irritability; ischemia; tearing; activity limitation; functional limitation; limitation of range of motion; general malaise; plantar perforating disease; spot; marginalization; myalgia; mycoses; way of living; neuritis; instruction level; nutrition; nasal septum perforation; hypertensive peak; prejudice; prevention of infection; life project; health-patient professional relationship; resistance to treatment; physical representation; psychic representation; respect; responsibility; venous return; rigidity; hoarseness; stress; overcoming; muscle tone; tuber; urticaria; vigil

#### LOCATION AXIS (f = 179)

#### Equal terms (f = 46)

Anterior; forearm; joint; arm; heel; brain; cornea; body; thigh; finger; prone; distal; school; left; face; gland; lower; hand; muscle; buttock; nose; nerve; eye; shoulder; bone; eyelid; foot; skin; peripheral; perineum; leg; neck; anterior posterior position; proximal distal position; anterior posterior position; proximal distal position; anterior posterior position; wrist; axillary region; testis; kidney; physiotherapy clinic; occupational therapist service; chest; trunk; nail.

#### Similar terms (f = 7)

Calcaneus (heel); lateral (laterality); nasal mucosa (mucous membrane); bone (bone); face (face); subcutaneous (subcutaneous tissue); health unit (health care facility).

#### Broader terms (f = 4)

House (nursing home); health (health service); upper region (upper body); ankle (ankle joint).

#### More restricted terms (f = 77)

1<sup>st</sup> intermetacarpal space (bone); 1<sup>st</sup> interosseous space (bone); 1<sup>st</sup> metatarsal (bone); 5th metatarsal (bone); short abductor of the thumb (finger); short abductor of the 5<sup>th</sup> finger (finger); short adductor of thumb (finger); toe (bone); interphalangeal joint (joint); 2<sup>nd</sup> finger (finger); 3<sup>rd</sup> finger (finger); 4<sup>th</sup> finger (finger); 5<sup>th</sup> finger (finger); carpal (bone); septal cartilage (nose); scalp (head); little finger (finger); dermis (integumentary system); epidermis (integumentary system); scapula (thorax); sclera (eye); phalanx (finger); proximal phalanx back (finger); interdigital space (bone); fibula (bone); hypodermis (integumentary system); hallux (toe); university hospital (hospital); dorsal interosseous (bone); palmar interosseous (bone); iris (eye); knee (leg); nail bed (finger); malleolus (bone); metatarsus (bone); conjunctival mucosa (mucous membrane); deltoid muscle (muscle); fibular nerve (nerve); median nerve (nerve); peripheral nerve (nerve); radial nerve (nerve); saphenous nerve (nerve); sural nerve (nerve); tibial nerve (nerve); trigeminal nerve (nerve); ulnar nerve (nerve); opponent of the thumb (finger); ear ear); palate (oral cavity); ear (ear); palate (oral cavity); ear pavilion (ear); nasal pyramid (nose); thumb (finger); tip of nose (nose); postero inferior (lower); bone prominence (bone); pupil (eye); lateral inferior quadrant of the iris (eyes); nasal region (nose); ocular region (eye); lacrimal sac (nose); nasal septum (nose); specialized service (health service); state referral service (health service); municipal referral service (health service); national referral service (health service); palmar surface (hand); plantar surface (foot); middle third of arm (arm); tibia (bone); trochanter (bone); humerus (bone); basic health unit (health care facility); ambulatory referral unit (outpatient department); nasolacrimal duct (eyes).

#### Different terms (f = 45)

Workplace; family environment; internal longitudinal arch; adjacent area; controlateral area; external area; cold area; internal area; hot area; community association; residents association; armpit; spleen; edge; eyelash; health council; elbow; residence; back; private space; public place; follicle; genitalia; hemiface; environment; lower limb; family nucleus; calf; hair; restaurant; face; street; appointment room; dressing room; shoe repair; social security service; shoe repair service; trade union; eyebrow; eyebrow; superficial; tendon; forehead; ankle; groin.

To be continued

Chart 2 (concluded)

JUDGEMENT AXIS (f= 99)
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#### Equal terms (f= 17)

Altering; high; low; chronic; effective; large; degree; mild; moderate; normal; partial; small; impaired; risk; severe; simple; total.

Similar terms (f= 2)

Completed (complete\*); severe (severity).

Broader terms (f= 1)

Absence (absence of medication side effect)

#### More restricted terms (f= 30)

Brownish (state); purplish (state); asymmetric (state); increased (state); absent (state); reddish (state); well defined (state); white center (state); congestion (state); scaly (state); blanchable (state); diffuse (extent); decreased (state); scatered (state); painful (state); whitish (state); dark (state); pale (state); thickened (state); hypochromic (state); inaccurate (state); painless (state); infltrate (state); smooth/without wrinkle (state); clearer (state); more intense (state); poorly defined (extension); multiple (state); dryness (state); totally asymmetric (total).

#### **Different terms** (*f*= 49)

Accentuated; appropriate; sudden onset; preserved; short; long; definitive; discreet; disseminated; hard; high; hardened; scarce; excess; thin; strong; equal; inappropriate; incapacitating; incomplete; inelastic; infected; intense; irregular; located; long; bigger; less; minimum; very far; negative; new; loss; worsening; little; precocious; preserved; deep; prolonged; reduced; regular; satellite; dry; similar; enough; superficial; late; temporary; single.

#### CLIENT AXIS (f= 34)

#### Equal terms (f= 14)

Adolescent; adult; grandmother; grandfather; community; child; family; group; elder; individual; brother; mother; patient; father.

#### Similar terms (f= 5)

Child (infant); relative (family member); sick person (patient); person (individual); neighbor (neighborhood).

#### Broader terms (f= 0)

#### More restricted terms (f= 6)

Spouse (couple); patient with leprosy (patient); family member of a person with leprosy (family); paucibacillary adult patient (patient); multibacillary adult patient (patient); susceptible person (individual).

#### Different terms (f= 9)

Classmate; coworker; contact; visually impaired; pregnant woman; men; young person; woman; population; neighbor.

Note: The terms in parentheses refer to those included in ICNP<sup>®</sup> versio 2015.

**Chart 3** - Distribution of leprosy-related terms extracted from publications of the Brazilian Ministry of Health (2002-2016) and mapped with *Means, Action* and *Time* terms of the ICNP\* version 2015.

## MEANS AXIS (f = 285)

#### Equal terms (f = 33)

Water; needle; amputation; analgesic; artefact; walking stick; wheelchair; bed; surgery; surgeon; spoon; control; cream; nurse; toothbrush; physical examination; knife; physiotherapist; fork; glove; medication; physician; glasses; comb; patient record; protocol; soap; syringe; health service; splint; occupational therapist; scissors; legal guardian.

#### Similar terms (f = 8)

Passive joint amplitude (passive range of motion\*); compress (compression bandage); education (educating); active exercise (active range of motion); passive exercise (passive range of motion); medicine (branded or generic medication); passive movement (body movement); therapeutic response (response to therapy).

#### Broader terms (f = 8)

Topical agent (hemostatic agent); chair (wheelchair); aid group (support group therapy); support group (support group therapy); active movement (body movement); prevention (prevention role); rehabilitation (rehabilitation regime); therapeutic response (monitor response to treatment).

#### More restricted terms (f = 53)

Adaptation of working tools (teaching adaptation technique for sensory deficit); adaptation of instruments of daily living (teaching technique of adaptation to sensory deficit); hot water (water); sterile insulin needle (needle); support from social organization (social support); psychological support (emotional support); basic care (attention); integral attention (attention); primary eye care (attention); secondary eye care (attention); hot water compress (compression bandage); nursing consultation (follow-up appointment or appointment); medical consultation (follow-up appointment or appointment); counting fingers examination of visual acuity (physical examination); urea cream (cream); conjunctiva examination (examination); motor power examination (examination); sensitivity examination (examination); dermato neurological examination (examination); contact examination (examination); motor examination (examination); eye examination (examination); abduction exercise (active range of motion); adduction exercise (exercising); assisted active exercise (exercising); exercise of daily routine (exercising); lymphatic drainage exercise (exercising); university hospital (hospital); immobilization in splint (splint); radial deviation movement (movement); movement of ulnar deviation (movement); social movement (movement); crutch (walking/walking using device); blindfold (glasses); sunglasses (glasses); prevention of eye problems (eye care); physical rehabilitation (rehabilitation regimen); social rehabilitation (rehabilitation regime); non-slip shoe (correction shoe/orthotic device); top opening shoe with lace (correction shoe/orthotic device); top opening velcro shoe (correction shoe/orthotic device); shoe with resistant sole (correction shoe/orthotic device); comfortable shoe (correction shoe/orthotic device); rocker sole shoe (correction shoe/orthotic device); 0.9% sodium chloride solution (solution); sterile physiological solution (solution); financial support (financial status); sensitivity test (diagnostic test); corneal sensitivity test (physical examination); capillary glycemia test (diagnostic test); tuberculin skin test (PPD) (diagnostic test); 5 ml glass test tube with rubber lid (tube); BCG vaccine (vaccine).

#### Different terms (f=183)

Tongue depressor; user embracement; mobilization action; educational action; political action to combat stigma; essential fatty acid; shoe adaptation; alcohol; alcoholic anonymous; pin; calcium alginate; cotton; pliers; stretching; psychiatric support; support from religious organization; support from social organization; home care; crepe bandage; daily self inspection; self exam; selfexercise; dermatological evaluation; medical evaluation; simplified neurological evaluation; systematic evaluation; bacilloscopy from intradermal scraping; bucket; stool; small ball; lid; rubber; Unna's boot; button; thick pan handle, with non-slip cover; flat pan handle, with non-slip cover; long, wooden pan handle; adapted footwear; heat; ballpoint pen; self-care training; scheduling card; occluder card; activated charcoal; wide brim hat; clasp; eye drops; eye drops gel; cup; swab; sterile swab; kidney basin; decal; debridement; debridement by autolytic process; debridement by enzymatic process; debridement by mechanical process; surface disinfection; laxative diet; dorsiflexion; supervised dose; health education; elastic rubber; Snellen scale; plaster; wooden spatula; mirror; polyurethane foam; stoichiometry; Semmes-Weinstein esthesiometer/ monofilament; clinical examination; laboratory examination; active exercise; stretching exercise; elastic band; Harris splint or dorsiflexor apparatus; bean; simplified neurological assessment form/sheet and classification of degree of disability; cling film; fine or extrafine floss without flavor; adhesive tape; paper tape; measuring tape; buckle; flexion; active flexion, lubricating fluid; luminous focus; paper sheet; fruit; thermos flask; ice; glycerin; moisturizer; hydrocolloid fiber; hydrocolloid tape; hydrocolloid gel; granular hydrocolloid; paste hydrocolloid; hydrocolloid layer; hydrocolloid powder; immobilization; eye inspection; coat; artificial tears; vegetable; cleaning; eye cleaning; sandpaper; lubrication; magnifying glass; massage; thick soft seamless light-colored cotton sock; micropore; monofilament; mosquito net; foam-lined cloth occluder; ophthalmologist; mineral oil; orthosis; orthopedist; otolaryngologist; insole; adapted insole; orthopedic insole; simple insole; pan with wooden handle; long cable wooden pan; thick cloth; clean cloth; papain; pan catcher; 0.01% potassium permanganate; cigarette holders; plantar flexion; polyochemotherapy - PCT; 10% polyvinylpyrrolidone-iodine; ophthalmic ointment; self-care practice in a mutual aid group; self-care daily practice; clothes peg; prevention of physical incapacity; healthcare professional; eye health promotion; skin protection; protection of bone prominence; sunscreen; prosthesis; psychologist; ultraviolet radiation; ruler; rest; manual removal of eyelashes; social reinsertion; restriction; meeting; joint rotation; plastic waste bag; well lit room; sandal with straps passing behind the heel; fine urethral catheter; silver sulfadiazine; psychological support; wooden handle cutlery; small screw lid; blindfold; clean fabric/clean cloth; footwear technician; muscle strength test; sensitivity test; tensiometer; touch; supervised treatment; lace training; fine motor coordination training; gross motor coordination training; screening for activity limitation; screening of activity limitation and safety awareness-SALSA; test tube; vaseline; vegetables; home visit; diluted neutral shampoo; zipper.

To be continued

Chart 3 (concluded)

#### ACTION AXIS (f = 233)

Equal terms (f = 90)

Lowering; accompanying; administering; scheduling; adjusting; relieving; increasing; assisting; evaluating; covering; collecting; checking; consulting; counting; controlling; giving; demonstrating; developing; draining; leevating; referring; encouraging; interviewing; rinsing; stabilizing; stimulating; avoiding; examining; performing; explaining; speaking; performing; providing; ensuring; identifying; immobilizing; inducing; informing; initiating; inspecting; instilling; to interpreting; interrupting; irrigating; washing; coping; manipulating; maintaining; massaging; measuring; minimizing; mobilizing; soaking; monitoring; recording; observing; obtaining; offering; organizing; guiding; optimizing; listening; palpating; participating; percussing; preventing; promoting; rocuceting; providing; recording; regulating; requesting; removing; responding; supervising; testing; touching; tracing; transferring; treating; training; changing; checking.

#### Similar terms (f = 8)

Wrapping (draping); involving (involving); doing (progress or promoting); rising (elevating); providing (providing); reducing (minimize); wiping (drying out), turning (self turning).

#### **Broader terms** (f = 3)

Helping (assisting with walking, assisting with self care); holding (hand holding); suspending (suspending use).

#### More restricted terms (f=0)

### **Different terms** (f = 132)

Approaching; opening; embracing; adding; adapting; putting away; smoothing; stretching; softening; enlarging; taking note; squeezing; applying; assuming; searching; putting on; training; certifying (ensure); checking; sticking; eating; comparing; understanding; conducting; making; trusting; continuing; counterreferencing; contributing; correcting; dating; dedicating; defining; debriding; resting; wearing out; despising; destroying; detecting; differentiating; diluting; discussing; making available; dobrar/folding/bending; elaborating; eliminating; fitting in; pulling over; emphasizing; inserting; facing; teaching; sending; wiping; clarifying; choosing; spreading; straightening; exercising; exploring; favoring; closing; staying; fixing; strengthening; piercing; hydrating; immersing; including; investing; investigating; gathering; releasing; limiting; sanding; moving: lubricating; manifesting; mapping; marking; improving; diving; moving; modifying; moving; changing; occluding; looking; passing; taking; perceiving; drilling; asking; staying; drilling; enabling; preserving; proceeding; producing; arranging; providing; qualifying; tearing; accomplishing; reassessing; receiving; covering; recognizing; cutting; recovering; reeducating; referring; reflecting; returning; remembering; repairing; repeating; respecting; withdrawing; reuniting; reviewing; screwing; selecting; separating; requesting; releasing; subsidizing; putting the lid; moistening; using; utilizing; valuing.

#### TIME AXIS (f= 23)

Equal terms (f= 9)

Acute; year; continuous; day; morning; month; night; week; always.

#### Similar terms (f= 6)

Annual (year); daily (day); diurnal (day); frequent (frequency); monthly (month); nightly (night).

Broader and more restricted terms (f=0)

#### Different terms (f= 8)

Hour; second; minute; before bedtime; initial; slow; post-discharge; subsequent.

Note: The terms in parentheses refer to those included in ICNP® versio 2015.

## DISCUSSION

The ICN is interested in identifying terms used in specific areas of nursing practice. To the best of our knowledge, this is the first study that addresses the mapping of ICNP<sup>®</sup> terms in the context of nursing care for people affected by leprosy.

The evolution of the ICNP<sup>\*</sup> is well known, and terms are added at each issue<sup>(3)</sup>. In spite of advances, the results of several studies show a considerable amount of new terms used in nursing practice to different populations with the possibility of inclusion in the ICNP<sup>\*(23-27)</sup>. The percentages of different terms indicated in these studies range from  $22.28^{(27)}$  to  $68.76\%^{(23)}$ .

The number of terms identified in this study as non-constant in the ICNP° version 2015 (44.77%) shows the need for a great investment in this classification system by researchers and nurses working in the care of people with leprosy in order to represent the domain of Nursing and more effectively portray the phenomena of clinical practice developed with this unique group of users. Scholars should make a commitment to complete the process necessary to submit new terms to the International Council of Nurses and propose the necessary modifications to avoid perpetuating the gaps. Terms classified as different from the ICNP° have been repeatedly identified in studies that use cross-mapping<sup>(23-28)</sup> but to date, have not yet been included in the ICNP°.

In in addition to the lack of necessary terms for the clinical practice of nursing care for people with leprosy, in the present study, were found terms classified as different from those contained in the axis taken as a reference, but included in another axis of the ICNP°. After in-depth discussion of the researchers, and by consensus, several terms were classified into axes other than those in which they are currently allocated in the ICNP°. This fact also occurred in another study<sup>(29)</sup>. In the present study, this occurrence was more frequent in the Means and Judgment axes. For example, the term home visit, was classified in the Means axis in this study, but is in the Time axis of the ICNP°. The regular term was classified in the Judgment axis in this study, but is in the Action axis of the ICNP°. In this case, as the term indicates a verb and an adjective, it could appear in both axes. The terminologies are in continuous updating process, and even with advances, the ICNP° needs periodic revision, given the complexity of Nursing, the constant evolution of its knowledge, expansion of spaces of the exercise of profession and development of terminology research.

In the normalization process, the rule was to use terms in the masculine form, including adjectives. In English, adjectives are neutral, that is, they can be applied to masculine and feminine. As the Portuguese language works differently, this issue should be relativized and adjusted for use of the bank of terms in clinical practice. In the case of computerized registration systems, this issue deserves special attention. For example, from the point of view of the informational process, the adjectives *moderado* and *moderada* (moderate) should be considered as distinct entities, so the user can have both terms in the context of clinical practice.

In the general count, the highest number of terms was classified in the *Focus* axis - 324 terms, of which 101 (31.17%) were not contained in the ICNP<sup>\*</sup> version 2015. They are new and essential terms for the nursing clinical practice with great potential of contribution to the development of nursing diagnoses and outcomes in the care of people with leprosy. *Type 1 reaction* (degradation or reverse reaction) and *Type 2 reaction* (or erythema nodosum leprosum), also known as *Reactional state*, are disorders caused by the immune system reaction to the bacillus that leads to granulomatous inflammation in the nerves<sup>(17,19-20)</sup>. They designate everyday phenomena identified by nurses and to which they develop a therapeutic plan in collaboration with the multiprofessional team. Although not included in the ICNP<sup>\*</sup> version 2015, these terms are extremely important because they characterize urgencies in the treatment of leprosy<sup>(10)</sup>. Neuritis resulting from a *Reactional state* can lead to loss of muscle strength with subsequent paralysis, which can lead to incapacities and deformities in the eyes, nasal mucosa, hands and feet. Likewise, the terms mobile claw, hypotrophy, tearing and poor plantar perforation are phenomena of interest to health professionals who treat people with leprosy<sup>(10,14,19-20)</sup>, but are not yet contained in the *Focus* axis of the ICNP<sup>\*</sup>.

In the Means axis, many terms different from those contemplated in the ICNP° were also identified. The peculiarities of the nursing practice phenomena in the care of people with leprosy require both general interventions (common to several population groups) and specific interventions (applicable exclusively to this group), which justifies the number of different terms found in the Means axis. The prevention of disabilities and physical deformities requires self-care activities - hydration, lubrication, skin massage, daily self-inspection of the eyes, hands and feet, physical exercise to strengthen muscles, use of sunscreen and/ or protection in activities of daily life and work. These activities demand artifacts (Means) that are not part of the equipment used in health institutions, which justifies their inclusion in the ICNP°. Terms such as Small screw lid and Elastic band also refer to material used in coordination and strength training<sup>(10,14)</sup>. Since this is a specific population, Means such as artificial tear, sunglasses, insole, thick soft seamless light-colored cotton sock, sunscreen, among others, are necessary for the promotion of eye health, and protection of skin and bony prominences<sup>(12,16)</sup>.

As this population is subject to the appearance of ulcers and other types of lesions, nursing professionals use a wide variety of products to perform dressings<sup>(24)</sup> that are not covered by the ICNP<sup>®</sup> terminology. Fine-grip training is required for rehabilitation, and is performed by actions such as *fitting and screwing objects with varying degrees of difficulty* or *piercing materials of various densities with a needle*. These terms are not part of the options contained in the *Action* axis of the ICNP<sup>®</sup> version 2015. In the *thick-grip training*, are used button, zipper, bracket and buckles<sup>(9)</sup>, which are not covered in the *Means* axis.

Although the number of terms in the *Client* and *Judgment* axes extracted from the documents has been small in absolute numbers compared to the other axes, the inclusion of different (new) terms in the ICNP<sup>\*</sup> can represent a significant contribution to denominations of customer types contemplated in professional nursing care such as woman, pregnant woman, contact, and neighbor, and in descriptions of diagnoses identified in people with leprosy.

Regarding the *Location* axis as an orientation for composing nursing diagnoses, outcomes and interventions for people with leprosy, there was an evident need for a hierarchical structure in the ICNP<sup>\*</sup> with more general terms and inclusion of more specific terms. For example, the hand is composed of fingers called thumb, 1<sup>st</sup> finger, 2<sup>nd</sup> finger, 3<sup>rd</sup> finger, 4<sup>th</sup> finger and 5<sup>th</sup> finger (nomenclature commonly used in the care of people with leprosy). These fingers are composed of phalanges (distal, median and proximal), nails with nail beds, and are covered with several muscles (short abductor of thumb, thumb opponent, thumb adductor, short abductor of the 5<sup>th</sup> finger, short flexor of the 5<sup>th</sup> finger, 5<sup>th</sup> finger

oponent, lumbrical, palm interosseous and dorsal interosseous), each with a function and innervation (ulnar nerve, ulnar-median nerve and median nerve), and need for specific exercises (passive and/or active with or without resistance) to strengthen this musculature<sup>(14, 19-20)</sup>.

The *Time* axis is fundamental as a way of determining the period for performing a particular intervention. In the care of people affected by leprosy, some common interventions are *instructing the patient to remain with hands dipped in water for 10 to 15 minutes*, or *guiding the patient to close the eyes gently and remain this way for about 30 seconds after lubrication of the eyes* (in case of dryness of the ocular mucosa)<sup>(18)</sup>. Thus, refinement of the ICNP<sup>\*</sup> in this axis is essential for increasing its applicability in nursing clinical practice during care to this population.

The analysis of studies describing the nurse's role in the care of people affected by leprosy<sup>(30-34)</sup> demonstrates that the development and use of a special nursing language can standardize the terminology in the context of clinical practice so that diagnoses, interventions and outcomes represent the combination of standardized terms.

No terminology should be considered as entirely finished, which reveals the need for constant evolution of the ICNP<sup>\*</sup> (<sup>23</sup>) and the usefulness of studies such as the present one for the construction of terminological subsets<sup>(3)</sup>, and subsequent pertinent actions for formal additions of new terms in the ICNP<sup>\*</sup>.

## Limitations of the study

The limitation of the study was not using softwares for the extraction of terms. This step was performed manually by two researchers independently. Although methodological rigor was used, terms may have not been extracted because they were considered irrelevant to clinical nursing practice in the care of people with leprosy.

## Contributions to the area of nursing, health or public policy

Nurses will be able to use terms identified in this study for developing nursing diagnoses, interventions and outcomes according to the seven axes of the ICNP<sup>\*</sup>, which will improve the quality of records, enable the evolution of information systems of health services and the use of a standardized language.

## CONCLUSION

A total of 1,177 terms were identified in 15 publications of the Brazilian Ministry of Health in the area of leprosy in the period from 2002 to 2017, of which 55.23% were included in the ICNP<sup>®</sup> axes in an equal or similar way (whether broader or more restricted), and 44.77% were different and represented a number of new terms. The results found in this study indicate the need to expand the ICNP<sup>®</sup> in order to better contemplate the phenomena of clinical nursing practice in the care of people with leprosy. The set of terms identified here can be used as a starting point for developing a terminological subset that favors the consolidation of the nursing praxis in this area.

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