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# Use of the International Classification for Nursing Practice in the construction of a care protocol

*Uso da Classificação Internacional para a Prática de Enfermagem na construção de protocolo de cuidados*

*Utilización de la Clasificación Internacional para la Práctica de Enfermería en la construcción de protocolo de cuidados*

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**ABSTRACT**

**Objectives:** to describe the use of the International Classification for Nursing Practice (ICNP®) in the construction of a nursing care protocol for children undergoing hematopoietic stem cell transplantation. **Methods:** experience report. **Results:** nursing problems were defined based on complications identified in a previous study; later, the ICNP® enabled the organization and systematization of childcare. The care protocol consists of 40 nursing problems, with their human needs affected, diagnoses and nursing interventions. The axes Focus, Judgment, Location, Action, Means, Time, and Client were used in the elaboration of diagnoses and interventions proposed in the protocol. **Final Considerations:** the use of the classification allowed the establishment of nursing interventions compatible with the needs of the child undergoing transplantation, providing support for the care protocol. It made it possible to encourage the use of classification in this context, contribute to patient safety and strengthen professional practice.

**Descriptors:** Standardized Nursing Terminology; Nursing Care; Hematopoietic Stem Cell Transplantation; Clinical Protocols; Patient-Centered Care.

**RESUMO**

**Objetivos:** descrever a utilização da Classificação Internacional para a Prática de Enfermagem (CIPE®) na construção de protocolo de cuidados de enfermagem à criança submetida ao transplante de células-tronco hematopoiéticas. **Métodos:** relato de experiência. **Resultados:** os problemas de enfermagem foram delimitados com base em complicações identificadas em estudo anterior; posteriormente, a CIPE® possibilitou a organização e sistematização do cuidado à criança. O protocolo de cuidados é composto por 40 problemas de enfermagem, com respectivas necessidades humanas afetadas, diagnósticos e intervenções de enfermagem. Os eixos Foco, Julgamento, Localização, Ação, Meios, Tempo e Cliente foram utilizados na elaboração de diagnósticos e intervenções propostos no protocolo. **Considerações Finais:** o uso da classificação permitiu o estabelecimento de intervenções de enfermagem compatíveis com as necessidades da criança submetida ao transplante, fornecendo sustentação ao protocolo de cuidados. Possibilitou incitar o uso da classificação nesse contexto, contribuir com a segurança do paciente e fortalecer a prática profissional.

**Descritores:** Terminologia Padronizada em Enfermagem; Cuidados de Enfermagem; Transplante de Células-Tronco Hematopoiéticas; Protocolos Clínicos; Assistência Centrada no Paciente.

**RESUMEN**

**Objetivos:** describir utilización de la Clasificación Internacional para la Práctica de Enfermería (CIPE®) en la construcción de protocolo de cuidados de enfermería al niño sometido al trasplante de células madre hematopoyéticas. **Métodos:** relato de experiencia. **Resultados:** los problemas de enfermería delimitados basados en complicaciones identificadas en estudio anterior; posteriormente, la CIPE® posibilitó la organización y sistematización del cuidado al niño. Protocolo de cuidados es compuesto por 40 problemas de enfermería, con respectivas necesidades humanas afectadas, diagnósticos e intervenciones de enfermería. Ejes Enfoque, Juicio, Ubicación, Acción, Medios, Tiempo y Cliente utilizados en la elaboración de diagnósticos e intervenciones propuestos en el protocolo. **Consideraciones Finales:** utilización de la clasificación permitió el establecimiento de intervenciones de enfermería compatibles con las necesidades del niño sometido al trasplante, ofreciendo sostenimiento al protocolo de cuidados. Posibilitó incitar el uso de la clasificación en ese contexto, contribuir con la seguridad del paciente y fortalecer la práctica profesional.

**Descriptores:** Terminología Normalizada de Enfermería; Atención de Enfermería; Trasplante de Células Madre Hematopoyéticas; Protocolos Clínicos; Atención Dirigida al Paciente.

## INTRODUCTION

The International Classification for Nursing Practice (ICNP®) is an enumerative and combinatorial terminology that characterizes professional practice, being recognized, validated, and used worldwide. In view of the needs of people, families or communities, the ICNP® lists terms that represent the main elements of nursing practice: nursing diagnoses, outcomes and interventions[1-2].

The use of ICNP® should be encouraged in the professional practice of nurses, whether in teaching, care, or nursing research. Thus, the elaboration of a care protocol based on the ICNP® can help in the dissemination of terminology, as well as in the standardized registration of the nursing process and clinical decision-making by nurses, directing the assistance provided by the nursing staff. Furthermore, the use of ICNP® can contribute to the safe practice of care[3]. It is noteworthy that a care protocol is an instrument that can contribute to patient safety through the systematization of care and that aims to prevent avoidable or even real damage, in addition to reducing the risk of adverse events[4].

Based on the understanding that ICNP® is applicable in different scenarios of nursing practice, its use in hematopoietic stem cell transplantation (HSCT), specifically for children, was considered. The diversity of possibilities for constructing nursing diagnoses and interventions provided by the ICNP®, compatible with the profile of patients with multiple needs, motivated the choice of this terminology to list diagnoses and care included in a protocol. In addition, the fact that nursing practice in HSCT lacks instruments capable of guiding care[5].

It is worth noting that patients undergoing HSCT are at high risk of complications, physical and social impacts resulting from the treatment, as well as demand specific and qualified nursing interventions[5]. Therefore, establishing diagnoses and interventions based on the ICNP® can help in the recovery process in different spheres (psychobiological, psychosocial and psychospiritual). In addition, there is a lack of studies that exemplify the use of ICNP® in the construction of nursing diagnoses and interventions to compose a care protocol.

## OBJECTIVES

To describe the use of ICNP® in the construction of a nursing care protocol for children undergoing HSCT.

## METHODS

### Ethical aspects

The ethical precepts of resolutions 466/2012 and 510/2016, such as confidentiality and anonymity, were respected; and the project was approved by the Ethics and Research Committee, for the phases that involved the participation of professionals.

### Study type

This is an experience report of the theoretical structuring of knowledge produced by the Theory of Basic Human Needs (TBHN) and by the ICNP®, in which nursing problems identified in children were correlated with diagnoses and interventions.

### Theoretical Reference

In addition to the ICNP®, the construction of nursing diagnoses and interventions was based on the basic human needs affected, correlated with the main complications and complications found in children undergoing HSCT, which were identified in a previous clinical profile study, which was part of the research. reported in master's thesis[5].

Basic human needs, as proposed by Wanda Horta, were divided into psychobiological, psychosocial and psychospiritual. Thus, Wanda Horta's model, used as a reference in the health institution where the previous profile study was conducted, allowed for the organization of problems and diagnoses, and later nursing interventions to meet the affected needs were identified.

### Study scenario

The elaboration of the nursing care protocol took place in the Bone Marrow Transplant Service of a university hospital located in southern Brazil. The target population are children undergoing HSCT, up to 12 years old.

### Data collection and organization

For the organization and development of the care protocol construction stage, a framework with the primary basic human needs was drawn up, according to the description in the TNHB.

Next, nursing problems (represented by the main complications and complications identified in transplanted children), human needs affected because of the primary need, diagnoses (using ISO 18104), as well as nursing interventions/care were listed with based on a thorough reading of all the axes contained in the ICNP® and selection of those that were in line with the nursing problems initially identified. This stage had the experience of a specialist nurse in the practice of HSCT and was carried out in September 2019.

It is noteworthy that, although the ICNP® adopts the term "nursing intervention", it was chosen, in the construction of the care protocol for children undergoing HSCT, to use the terminology "nursing care", as it is considered less technical and more compatible with the TCTH context. In addition, an adaptation was carried out, using synonymous terms, according to the setting and institution, to make the terms clearer and more compatible with those already used by the institution.

After this construction, a first version of the care protocol was submitted to semantic or item comprehension analysis by a committee of experts, composed of three nurses working in HSCT, in addition to one of the authors of this report. At this stage, there was a new adaptation of the vocabulary of the care protocol, to facilitate the understanding of HSCT nurses, a population that will use the technology. Subsequently, the protocol was submitted to judges for content validation.

## RESULTS

The care protocol built is composed of 40 nursing problems, with the respective affected human needs, diagnoses, and nursing interventions, listed with the help of the ICNP®.

The ICNP® version used in the construction was from 2017, being read in full and exhaustively. It maintains the seven-axis model: Focus, Judgment, Means, Action, Time, Location and Customer. The composition of the terminology includes ten organizing concepts; 1,915 pre-coordinated concepts (which include nursing diagnoses/outcomes and nursing interventions) and 2,401 primitive concepts (which include Focus, Judgment, Action, Location, Means, Time and Client)[1]. Due to the publication of the 2019-2020 version, all constructed diagnoses and interventions were revised and adapted to the new version.

Of the axes contained in the ICNP®, Focus is defined as an important care area for nursing; Judgment is the clinical opinion related to the focus of nursing practice; Means is the form or method of carrying out an intervention; Action is the intentional process applied or performed by a customer; Time is the instant, moment, period, duration or interval of an occurrence; Location is the anatomical or spatial orientation of a diagnosis or intervention; The client is the individual to whom the diagnosis refers and who is the beneficiary of a nursing intervention[1].

The nursing diagnosis is a name given to an event, finding, situation or other health condition that indicates the need for care by the nurse. Thus, the diagnosis can be expressed as a judgment about a focus or a simple expression of a clinical finding that represents an altered process, state, function, behavior or structure observed in an individual[1,6].

An example of a judgment on an outbreak would be Impaired Skin Integrity. The focus may also follow where it occurs (e.g., left heel). A nursing diagnostic statement may also be accompanied by an associated potential (risk of or chance of), in which the "risk" is associated with a potential for the occurrence of a negative diagnosis, and "chance of" with a positive diagnosis[1], both potential associates being used in the protocol.

The diagnosis can also be accompanied by the subject of the information (e.g., caregiver stress)[1]. From this perspective, the understanding was that the subjects of the interventions are the children and their caregivers, who are characters inherent to the HSCT process.

As for the nursing action, the statement of an action must include a descriptor for the action and a target descriptor, at a minimum (e.g., removing the wound dressing)[1].

In the construction of diagnoses, the axes that could be used were Focus, Judgment, Location and Customer, which allowed the targeting and planning of interventions. In the construction of the interventions, the axes Action, Focus, Location, Means, Time, and Client could be used, so that the intervention was clearly described.

Based on the complications of HSCT, nursing problems were considered, and diagnoses established, with correspondence between them by the term itself or by attribute of its definition. When establishing the diagnosis, based on the ICNP®, the interventions were delimited. They directed care towards meeting the affected need, from a perspective of complexity of human problems and interdependence between them, inherent to HSCT, seeking to maintain the basis of classification terms.

Care was divided into general care, when applicable, being performed by the nursing team; and guidance care, which is guided by the team to be performed by caregivers at home. An example of diagnoses and nursing care established based on the ICNP® can be seen in Chart 1.

**Chart 1 –** Example of diagnoses and nursing care for children in the post-transplantation of hematopoietic stem cells, structured based on the Theory of Basic Human Needs and the International Classification for Nursing Practice, Curitiba, Paraná, Brazil, 2020

| Basic human needs (BHN) | Nursing problem | Basic human needs affected (BHNA) | Code (ICNP®) | Nursing diagnosis (ICNP®) | Nursing care (ICNP®) |
|---|---|---|---|---|---|
| **PSYCHOBIOLOGICAL** | | | | | |
| Regulation (cell growth and functional development | Conditioning toxicity | Sexuality and reproduction, Vascular, Elimination, Regulation | 10013783 10037314 10016841 10020421 | Risk of Deteriorated Organism; Risk of Impaired Cardiac Function; Impaired Reproductive System; Impaired Urinary System | - Monitor physiological condition; - Monitor heart rate; - Monitor blood pressure; - Monitor heart condition; - Monitor respiratory condition; - Monitor response to treatment continuously. |
| **PSYCHOSOCIAL** | | | | | |
| Self-esteem, self-confidence, self-respect | Graft versus host disease | Communication, gregarious, Emotional security, love, acceptance | 10015180 10038424 10027787 | Risk of Low Situational Self-esteem; Risk of Impaired Psychosocial Condition; Caregiver Stress Risk | - Obtain data on ability to manage stress. |
| **PSYCHO SPIRITUAL** | | | | | |
| Religiosity or spirituality | Spirituality | Religiosity or spirituality | 10018583 10027033 | Risk of Spiritual Distress; Impaired Spiritual Support | - Obtain data on spiritual condition; - Obtain data on spiritual beliefs; - Decrease spiritual distress; - Support beliefs; - Promote spiritual support; - Facilitate ability to communicate feelings. |

*TNHB – Basic Human Needs Theory; ICNP® – International Classification for Nursing Practice.*

## DISCUSSION

The inclusion of standardized terminology in the care protocol can be considered a technological strategy for using the classification. In the literature, the evidence generated indicates that the use of ICNP® collaborates with the evolution and strengthening of terminology, recognition, and professional visibility, as well as with the promotion of information exchange between nurses and other professional categories. Furthermore, it favors scientifically based nursing practice, the application of the nursing process and the validation of the effectiveness of nursing services[2,7-8].

The use of ICNP® was investigated through studies that were developed in stricto sensu graduate programs (dissertations and theses) and that are directed to care practice and to methodological research. There is evidence on the lack of use of ICNP® in critical areas, such as HSCT, studies with the population of children and produced in the North and South regions of the country[2,7].

The ICNP® was also used to construct nursing diagnoses in the palliative care setting, as recommended by ISO 18.104. The diagnoses ranged from physical symptoms (pain, nausea, fatigue, impaired breathing) to psychological symptoms (hopelessness, lack of family support, chronic sadness)[6], as also occurred in the construction of the care protocol mentioned in this report. In this sense, the ICNP® allows you to integrate the different spheres of needs presented by patients with a complex care demand.

Furthermore, it is noteworthy that the establishment of nursing diagnoses based on the ICNP® terminology allows the definition of appropriate interventions and results[9], being considered a crucial step for comprehensive and individualized care.

In another research, nursing diagnoses, interventions and outcomes based on the ICNP® were identified in adults hospitalized in a surgical clinic, which were divided into psychobiological, psychosocial and psychospiritual needs. Among the established diagnoses, we highlight Risk of Infection, Impaired Walking, Impaired Skin Integrity, Anxiety, Impaired Sleep and Rest. Monitoring vital signs and symptoms of infection, using aseptic techniques, supervising the skin, offering psychological support and teaching relaxation techniques were some of the interventions mentioned[9]. The relationship between different nursing practice scenarios with TNHB is represented in the diversity of terms provided by the ICNP®, which, in principle, is not based on a previously defined theoretical model.

ICNP® is considered complex terminology, as it includes nursing diagnoses, interventions, and outcomes. In addition, it allows for improved accuracy in the documentation of nursing care. However, it is pointed out that it is little used, and its use is sometimes not recognized by the category. It is noteworthy that the nurse must have knowledge of standardized terminologies for recording the nursing process, as well as identify the need for adjustments to the standardized terms to the specific situation of the patient[10], provided that the hierarchical structure and its definitions are respected.

In HSCT, different complications are expected, such as conditioning toxicity (preparation for transplantation) and liver changes. In this sense, the inclusion of monitoring the functioning of different body systems — based on the options contained in the Focus axis of the classification, as well as the verbs belonging to the Action axis — allowed for the necessary adjustments to the care protocol, being essential for the assessment the clinical condition of the child undergoing transplantation.

It is noted that there is a concern to theoretically and in clinical practice support nursing care using ICNP®, which can contribute to improving care. The classification is versatile, makes it possible to standardize the documentation of nursing care and the interpretation of data internationally, as well as making the nursing process clear and understandable for nurses from different areas of expertise[2].

### Study limitations

The lack of implementation of the care protocol in the health service, supported by the ICNP®, to assess its potential in professional practice is a step that has not yet been performed, so it can be considered as a limitation of the present report.

### Contributions to the field of nursing

This report demonstrates how ICNP®, internationally validated and recognized terminology, can be adapted and used in professional nursing practice in HSCT, composing a tool for care, to support it theoretically and scientifically — in addition to the fact that it is compatible with the needs of the patient profile in question.

## FINAL CONSIDERATIONS

The construction of a care protocol based on the ICNP® enabled the technical and scientific foundation of the tool, as well as the appropriation of the nomenclature and subsidies for the improvement of nursing care at HSCT. It also allowed to spread to the academic and professional community the needs of the child undergoing transplantation.

As a limitation, the use of ICNP® in a specific care protocol is highlighted, in the HSCT scenario, in which the patient has a characteristic behavior in the process of illness, treatment and care. Given the above, the need to implement the elaborated care protocol is pointed out, to verify the feasibility of using the terminology.

It is noteworthy that the standardized record using the ICNP® provides potential for patient safety, nursing care results and professional visibility.

### SUPPLEMENTARY MATERIAL

The manuscript has research data available in URL: https://www.prppg.ufpr.br/siga/visitante/trabalhoConclusaoWS?idpessoal=28439&idprograma=40001016045P7&anobase=2020&idtc=129

## REFERENCES

1.  Garcia TR, Nóbrega MML, Cubas MR. CIPE®: uma linguagem padronizada para a prática profissional. In: Garcia TR, (Org.). Classificação internacional para a prática de enfermagem: versão 2019/2020. Porto Alegre: Artmed; 2020, p. 21-34.

2. Beserra PJF, Gomes GLL, Santos MCF, Bittencourt GKGD, Nóbrega MML. Scientific production of the International Classification for Nursing Practice: a bibliometric study. Rev Bras Enferm. 2018;71(6):2860-8. https://doi.org/10.1590/0034-7167-2017-041

3. Querido DL, Christoffel MM, Nóbrega MML, Almeida VS, Andrade M, Esteves APVS. Terminological subsets of the International Classification for Nursing Practice: an integrative literature review. Rev Esc Enferm USP. 2019;53:e03522. https://doi.org/10.1590/S1980-220X2018030103522

4. Santos T, Cruz EDA, Pontes L, Abi AXCF. Protocol for the safe use of medications in a bone marrow transplant service. Cogitare Enferm. 2020;25:e63859. https://doi.org/10.5380/ce.v25i0.63859

5. Rodrigues JAP, Lacerda MR, Gomes IM, Paes MR, Ribeiro RP, Bonfim CMS. Clinical profile of children undergoing hematopoietic stem cell transplantation. Cogitare Enferm. 2019;24:e55967. https://doi.org/10.5380/ce.v24i0.55967

6. Silva RS, Pereira A, Nóbrega MML, Mussi FC. Construction and validation of nursing diagnoses for people in palliative care. Rev Latino-Am Enfermagem. 2017;25:e2914. https://doi.org/10.1590/1518-8345.1862.2914

7. Clares JWB, Guedes MVC, Freitas MC. International classification for nursing practice in Brazilian dissertations and theses. Rev Eletron Enferm. 2020;22:56262. https://doi.org/10.5216/ree.v22.56262

8. Oreofe AI, Oyenike AM. Transforming practice through nursing innovative patient centered care: standardized nursing languages. Intern J Caring Sci. 2018[cited 2020 Jul 20];11(2):1319-22. Available from: https://search.proquest.com/docview/2148638685?pq-origsite=gscholar&fromopenview=true

9. Vieira MM, Oliveira DMN, Carvalho MWA, Nóbrega MML. Diagnostics, results and nursing interventions for patients in the surgical clinic of a university hospital. J Nurs UFPE. 2016;10(12):4517-23. https://doi.org/ 10.5205/1981-8963-v10i12a11518p4517-4523-2016

10. De Groot K, De Veer AJE, Paans W, Francke AL. Use of electronic health records and standardized terminologies: a nationwide survey of nursing staff experiences. Int J Nurs Stud. 2020;104:103523. https://doi.org/10.1016/j.ijnurstu.2020.103523