Nursing Care Systematization according to nurse's knowledge from a blood center outpatient clinic*

Sistematização da Assistência de Enfermagem segundo o conhecimento de enfermeiros do ambulatório de um hemocentro

Sistematización de la atención de enfermería según el conocimiento de enfermeros del ambulatorio de un centro de sangre

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Abstract: Objective: identify the knowledge of the nurses from a blood center outpatient clinic, about the Nursing Care Systematization (NCS). Methods: this is a qualitative descriptive research, performed through semi-structured interviews with eight nurses from a blood center’s outpatient clinic, in November and December, 2020, and the data was analyzed according to thematic content analysis. Results: some difficulties were described by the participants during the application and implementation of NCS, which was related to work overload and lack of training in the area, interfering in the evaluation of results obtained during the patient’s anamnesis. With the form implementation, the professionals noticed an improvement in the care quality, however, they claim to be easier to apply it at the hospital environment, in which they emphatically perceive the NCS. Conclusion: the nurses’ knowledge on NCS and its applicability was limited, revealing the need for work training.

Descriptors: Nursing care; Nursing Process; Nursing Diagnosis; Patient Care Planning; Hemothrapy Service

Resumo: Objetivo: identificar o conhecimento dos enfermeiros do ambulatório de um hemocentro, acerca da Sistematização da Assistência de Enfermagem (SAE). Método: pesquisa descritiva qualitativa realizada por meio de entrevista semiestruturada com oito enfermeiros do ambulatório de um hemocentro, em novembro e dezembro de 2020, com os dados analisados segundo a análise de conteúdo temático. Resultados: verificou-se dificuldades na aplicação e

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implementação da SAE, em decorrência da sobrecarga de trabalho e falta de capacitação na área, dificultando a avaliação dos resultados obtidos durante a anamnese do paciente. Com a implantação de um impresso, os profissionais perceberam uma melhora na qualidade do atendimento, contudo, afirmam ser mais fácil sua aplicabilidade no âmbito hospitalar, no qual percebem de forma enfática a SAE. **Conclusão:** o conhecimento dos enfermeiros acerca da SAE e sua aplicabilidade apresentou-se limitado, revelando a necessidade de treinamento em serviço. **Descritores:** Cuidados de Enfermagem; Processo de Enfermagem; Diagnóstico de Enfermagem; Planejamento de Assistência ao Paciente; Serviço de Hemoterapia

**Resumen: Objetivo:** identificar el conocimiento de los enfermeros del ambulatorio de un centro de sangre, respecto de la sistematización de la asistencia de enfermería (SAE). **Método:** pesquisa descriptiva cualitativa hecha a través de entrevista semiestructurada con ocho enfermeros del ambulatorio de un centro de sangre, en noviembre y diciembre de 2020, con los datos analizados bajo el análisis de contenido temático. **Resultados:** Se constató dificultades en la aplicación e implementación de la SAE a causa del exceso de trabajo y a la falta de capacitación en el área, lo que dificulta la evaluación de los resultados obtenidos durante la anamnesis del paciente. Con la implantación de un formulario, los profesionales percibieron una mejora en la cualidad del atendimiento, aun así, afirman ser más sencilla su aplicabilidad en el ámbito hospitalario, en el cual perciben de manera enfática la SAE. **Conclusión:** el conocimiento de los enfermeros sobre la SAE y su aplicabilidad se presentó limitado, lo que demuestra que hay la necesidad de entrenamiento en servicio. **Descritores:** Atención de Enfermería; Proceso de Enfermería; Diagnóstico de Enfermería; Planificación de Atención al Paciente; Servicio de Hemoterapia

**Introduction**

Nursing emerged as an empirical way of care for the sick and was performed voluntarily by women. It only evolved as a science after the emergence of nursing theories. These theories consist in a systematic set of definitions that explain a reality and give support to the scientific nature of nurses’ actions. Among the main theories are Florence Nightingale’s Environmentalist, Josephine Patterson and Loretta Zderad’s Humanistic, Joyce Travelbee’s Interpersonal Relationship, Dorothea Orem’s Self-Care, Madeleine Leininger’s Transcultural, Wanda Horta’s Basic Human Needs. This last one substantiates the Nursing Care Systematization (NCS) that gives support to the Nursing Process (NP).

Thus, the NCS is the main tool for nurses, as it implies the work organization from care scope to the health services management. Since the NCS implementation, it is possible to operationalize the NP, which consists in five stages: anamnesis (data collection), problem
identification (nursing diagnosis), action or care plan (nursing planning), intervention (implementation) and evaluation.²

The NCS is based on Brazilian legislation and must be deliberately and systematically used in public or private environments, in which nursing care takes place in order to establish a common language to describe people, family and community care in different locations. This allows spatial and time comparisons. Therefore, the NP becomes possible based on the International Classification for Nursing Practice (ICNP), NANDA International (NANDA-I), Nursing Intervention Classification (NIC), Nursing Outcomes Classification (NOC), Clinical Care Classification (CCC) and Omaha Community Health System.³

Nursing is a professional category and its expertise areas are diverse, the possibilities range from assistance to health care management services. Within those options, hematology and hemotherapy are promising areas for nursing activity, as they are related to the hematological patient care (people with blood-related pathologies), to the blood and bone marrow donor and transfused biological material management, which can pass by several departments.⁴

Therefore, the nursing professional role in hemotherapy and hematology aims to promote health and safety for both the donor and the recipient. Its activity areas are attracting donors, hemovigilance, blood collection, blood transfusion services, blood transfusion in clinical and surgical patients or in emergency situations; Hematology clinics; hematological and onco-hematologic patients nursing care; as well as in the hematopoietic stem cells transplant.⁵

In this regard, a question on the application of the NCS and NP directly related to the blood therapy and hematology environment arises, where nurses of a blood center’s outpatient clinic develop their activities. Thereby, the present study aimed to identify the knowledge about NCS from nurses of a blood center’s outpatient clinic.

**Method**

This is a descriptive research with a qualitative approach performed in a public blood center.
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outpatient clinic, located in Pará state, which is responsible for coordinating and implementing the State Blood Policy. Aligned with the National Blood Policy, it has adequate technical conditions, physical facilities, equipment and human resources to provide highly complex specialized care for the diagnosis and treatment of hematological diseases. In addition, it provides blood, its components and derivatives, as well as protective measures for the donor and recipient.  

Eight nurses working at the outpatient clinic of the aforementioned blood center, who follow up patients with coagulopathies and haemoglobinopathies, took part in the study. For participants selection, the following inclusion criteria were followed: nurses who had a link with the blood center, among which, effective, transient and residents; and those who provided assistance to patients with coagulopathies and haemoglobinopathies.  

The study excluded nurses whose professional performance in the outpatient clinic of the blood center corresponded to another professional category (such as workers who, despite their graduation in nursing, perform other activities in the institution, such as nursing technicians, pharmacists, among others); and nurses who worked outside the institution’s outpatient clinic.  

Participants were verbally invited to participate in the research. At this moment, the risks and benefits of the study were presented to them, its importance for the academic community and for the performance of nursing at the blood center; besides to the study objectives and how the interviews would be carried out, scheduling date and place.  

Study data were collected through audio recording of semi-structured interviews made with professionals who met the study criteria. For this, a two-part research script was used: the first corresponds to the participants’ sociocultural profile characterization, evaluating the following aspects: gender, age, time since graduation, postgraduate courses and any updating in NCS’s in the last two years. The second part refers to the following open questions: What do you understand about NCS? What do you understand about NP and what are its steps? How important do you think NCS is for your performance in the blood center’s outpatient clinic? In your perception, what are
the aspects to be promoted to support the implementation of NCS in the blood center’s outpatient clinic? The average time of each interview was 15 minutes.

Data collection was carried out in the morning and afternoon shifts, using the physical space where each professional works, such as blood transfusion room and a nursing consulting room. This stage took place between November 17th and December 18th 2020 as previously scheduled. Data were analyzed using the Thematic Content Analysis technique, featuring three steps: 1) pre-analysis; 2) exploration of the material; 3) treatment and interpreting of results.\(^7\)

A text corpus was built from the transcription and coding of participants’ interviews. To assist in the exploration of material, the Iramuteq 0.7 alpha 2,\(^8\) software was used using the Reinert method, which enabled the descending hierarchical classification (DHC).\(^9\)

Analysis of the collected data was carried out following the theoretical basis designed, to which the most significant excerpts of the statements were introduced. Regarding this, the materials produced were characterized as primary sources of data, and were also consolidated and collated with the study theoretical background. The material produced by the research participants allowed them to understand and describe their knowledge about NCS.

This study was submitted to the Research Ethics Committee and approved under opinion number 4,400,017 on November 16th, 2020. Participants were previously informed about the objectives, benefits and how to participate in the research, in accordance with the Informed Consent Form, pursuant to Resolution N\(^{o}\)466 of the National Health Council, on December 12th, 2012. This resolution guarantees due respect for the anonymity and human dignity of participants. To respect the anonymity of participants, the acronym of the NURSE category was used, followed by a number in ascending order to identify their reports.

**Results**

All participants were female, aged between 25 and 58 years old, with graduation experience varying from 3 to 32 years old. Among the participants, only one did not have a postgraduate course
and, when questioned about having any training in NCS, three nurses answered that they did not have required training. The data analysis was carried out using the Reinert method, crossing text and word segments, where six classes were found. The corpus was composed by seven texts, with 67 analyzed segments, representing 79.1% of the corpus, according to the dendrogram (Figure 1):

![Figure 1: Descending hierarchical classification dendrogram - DHC. Belém (PA), Brazil, 2021.](image)

Through the classes’ analysis, six categories were listed and numbered from 1 to 6, named, respectively, as: The NCS implementation as a constant practice; The frailty on the NCS implementation in transfusion room; The frailty on the NCS implementation in nursing...

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consultations; Nursing service improvements through the NCS; Implementation of NCS also depends on the nurse; NCS in the hospital context.

**The NCS implementation as a constant practice**

In this category, it is observed that the NCS was recently implemented in the transfusion room of the blood center through a form available to nurses, which promoted an improvement in the visit process and in the patient data collection. Despite this, the forms’ script questions are not applicable to all patients, in addition to not reaching all their needs. Therefore, to the NCS implementation in fact, it is necessary to continuously apply and revise it, not focusing exclusively on the print, by its dynamic, as can be noticed in the statements below.

*Some diagnostic points, which I think we still have a few, could still be more comprehensive, our interventions I also think are limited, there is a lot that we could be doing here that we have not implemented yet.* (NURSE 01)

*I think it is necessary for the nurses to get familiar with the knowledge, because we can learn something new every day, so it [NCS] is not finished.* (NURSE 03)

*But the lack of daily use [of the NCS], then, comes into disuse and becomes difficult to deal with the system, we take it in a very automatic way.* (NURSE 04)

It should be noticed that NCS is the method that organizes the nurses’ work and as a study, it has no ending, becoming a daily practice with constant updates and adaptations to the individual needs of each patient.

**The frailty on the NCS implementation in transfusion room**

In this category, it is noticed that, with routine and work overload, it is more difficult to use the NCS as the nurses would like. In addition, patients at the blood center are not admitted in the outpatient clinic, which contributes to their short time remaining in the service, increasing their turnover.

*So, here at the clinic, we develop both basic nursing and hematology activities and we always had difficulties in [...] using these tools [SAE printouts] [...] that are available for nursing professionals.* (NURSE 07)

*We have a very short time with the patient, we spend half an hour on average with the medication and then there are other more serious ones that we need to pay more attention to,*
The reports show that there are difficulties for nursing to apply the NCS in the work routine due to care complexity, patients turnover and the fact that the NCS applicability tool is extensive to fill out the records and, also, because the professional requires time to attend to the patients with mild and severe conditions simultaneously.

The frailty on the NCS implementation in nursing consultations

It was possible to understand during the interviews that the NCS application and Nursing Process steps were less noticeable in the nursing consultation, as nurses could perceive data collection and anamnesis in general. However, difficulties in results evaluation were pointed out due to the lack of daily care continuity. Thus, patients that return several days after for nursing consultation often present a sudden change in their clinical condition, for the best or worst.

Here [nursing consultation] the person does not stay, it is different from the hospital [...] so here I have to provide quick care, but the nursing consultation is not done properly, it is not organized and systematization is this, you have to organize your work. (NURSE 05)

So, hematology [...] is a very dynamic study and the patients get well very fast, but they also get worse very fast, here in front of you. (NURSE 03)

Furthermore, the interviews showed that some patients that are in nursing consultations do not have a link with the institution, even though they are in the disease investigation phase, which makes the nursing evaluation on interventions and assistance obtained results unfeasible.

Nursing service improvements through the NCS

The study participants claim that, until recently, the blood center’s outpatient clinic did not have any instruments for the NCS implementation, so the nursing visits to the transfusion room patients were simpler and faster. During these visits, questions were asked about eating and sleeping habits, for example, without getting other more important information for the nursing assessment.

And now, as we have an instrument, we need to do an interview, collect all the data, record everything and this allows me to identify problems with my patient that I did not identify before and try to solve these problems. (NURSE 01)

Today we have the NCS and I think it helped to improve our work a lot, because we now can...
look at our patients globally, we can see the problems they have and how we can solve them, and I think this is very important for us to improve our patient care. (NURSE 02)

Currently, after a form implementation - a NCS summary - the professionals interviewed noticed an improvement in the quality of their visit, in the patient data collection and, in consequence, in care and evaluation on the nursing results of each user in the service.

**Implementation of NCS also depends on the nurse**

In this category, it is observed that the NCS is an important work tool, as it scientifically organizes the nurses' work. Although, it is noticed that exists a distancing of the professional regarding the NCS application due to the lack of training and updating in the area, the difficulty in multiple tasks execution on the work routine and, mainly, on the lack of personal knowledge search about the NCS. This situation can be confirmed by the participants testimony that follows:

> There are some things we won’t be able to know just by following a script. So, I think we have to go beyond and take into consideration what the patient says, inciting him to ask and respond more, not just dwelling on this, as it were this NCS form. (NURSE 02)
> So what do I really think you need? The perception, interest, knowledge about everything that is not finished yet, which is everyday, so that we can implement it according to the needs that the patient is presenting at that moment. (NURSE 03)

In this perspective, it is clear that, for the NCS service implementation, it is essential that the professionals stay alert not only to the nursing questions and diagnoses, but also have the initiative on information search, as this allows them to go further on the hematology NCS form.

**NCS in the hospital context**

It is understood that the NCS is the nursing care performed in an organized way. This organization is made by steps that are part of the NP, such as anamnesis, which includes data collection, the patient's medical history in order to identify the nursing diagnoses, as well as the elaboration of a care plan, evaluating the acquired data. In the blood center's outpatient clinic, it is hardly noticed the NCS implementation, which is, in fact, noticed by the professionals in hospital environments, where nurses work in parallel, which differs from the outpatient routine of the transfusion room.
I have been working for 17 years here at the blood center and we still don’t have the NCS, the outpatient clinic has not joined the NCS yet, unlike the hospital [...] Here the patient does not stay, unlike the hospital (NURSE 05)

The part where we collect the data, do the diagnoses even is in the document, but the implementation part we still don’t have, for example, non-drug pain control, we don’t know how to implement this, so I believe that these therapeutic techniques could be further addressed (NURSE 08)

Hence, in this approach, it is observed that in the hospitals, the NCS is addressed more emphatically, with training and guidance on the Nursing Process and its stages. This can be justified by the care continuity provided to hospitalized patients, who receive daily visits and evaluations from the professionals, which does not occur in an outpatient setting.

**Discussion**

Regarding the implementation of NCS as a regular practice, the relevance of the discussed method as a continuous process is evidenced, as it should not be limited to a structured script, given the uniqueness of each patient. Thus, human care goes beyond the technical aspects of completing tasks and procedures. This care involves sensitivity, always searching for the transformation of unfavorable environments so that others can find their potential, specially, related to human characteristics\(^{10}\). In this context, moral sensitivity emerges as a personal and important ability that nurses must have. This ability is necessary for decision making in the management of ethical issues in the most varied healthcare workspaces\(^{11}\).

Furthermore, the need to implement and review the NCS and its NP, both in blood center’s outpatient clinics and other spaces, is a reality and its adaptation according to the specificity of the service is utmost important. This reality is evidenced from participatory management, in which nursing professionals can understand, build or reconstruct their work process along with managers. Such actions make possible a unified NCS, ceasing with fragmentations or internal movements within the scope of work\(^{12}\).

The advantage of individualized nursing care is the commitment to the patient/client, which
contributes to good professional relationships between clients, family and community. In this regard, professionals report an improvement in the provided service after the implementation of NCS and, thus, being able to efficiently achieve the established goals, favoring integration of the multidisciplinary team.

The application of NCS is important, as it brings complete and qualified care, in a systematic, organized way showing positive assistance results. Additionally, its direct connection with professional care in daily practice is essential, as it guarantees patient’s nursing and safety procedures.

Therefore, regarding the weaknesses of NCS in the transfusion room and in nursing consultation, based on nurses’ statements, it is possible to infer that such problems are directly related to a method applied in a fragmented and incomplete way. Hence, work overload and disorganization in the nursing consultation are factors that interfere in the practices that nurses experience, as well as attending high numbers of patients and performing numerous tasks. All these problems show a difficulty in organizing the activities performed and in assisting the patient in a comprehensive way. Thus, the work overload reported by professionals results in tiredness in daily performance and difficulty in applying the NCS.

Among the difficulties in the care process pointed out by the nurses, elements related to the lack of attention from the team, on duty adversities, such as responsibility for several patients, in addition to ethical issues related to the transfusion process and the patient’s beliefs, stand out.

In the improvement in the nursing service category through NCS, the importance of using methodologies and technologies that optimize the nursing service at the blood center is noted, as is the case with the implementation of the NCS. In this aspect, the use of management instruments that transform the care process by nurses is essential, considering that care management consists of, among other issues, organizing care and building a relationship between NCS and care management itself.
The study carried out in an Intensive Care Unit showed that the implementation of the NCS implies benefits, both for the recipient of this service in the recovery process, as well as the reduction of complications during treatment and the quality of the individualized service. In addition, there was greater organization of the work process and a reduction in hospital stay. Considering that NCS practice implies improvements in the quality of care and professional valuation - which facilitates the work and generates autonomy for the nurse, providing a qualified anamnesis of the patient, through collection of information -, it is necessary its application in the care environment, in which the nursing team works. The nurses revealed challenges for the execution of an adequate NCS, such as the lack of interest from professionals and/or the lack of knowledge about the subject. Among the main factors that difficult the full exercise of the NCS, there is the lack of professional knowledge regarding the physical examination, lack of training and updating of the methodology in effective health institutions, inadequate record of nursing care, conflict of roles in professional practice, inflexibility in the process of change, lack of credibility in nursing prescriptions, lack of establishment of organizational priorities and lack of professionals.

The study carried out in a private hospital with 12 nurses highlighted the professionals' difficulty regarding their perception of NCS. There was a notable lack of knowledge on the subject. Respondents recalled the steps of SAE, but did not know how to order them or even explain them clearly. Thus, the sensitive and critical look of these professionals about the quality of the service and its challenges is important. This perception of the nursing team about the NCS, the assessment of points that influence its implementation and the records of potentialities and challenges of its application in the routine are essential for the suggestion of resources that enable the introduction of the method in health care.

Accordingly, there is some comparison between NCS of the blood centers' outpatient sector in question and that of other institutions, such as hospitals, which was very well addressed by
professionals, thus inferring the usefulness of the methodology in the most varied specialized health services. Therefore, NCS is beneficial in several aspects as it is a proposal that aims to improve the quality of the service provided to the client, because it organizes, systematizes and directs, addressing all stages of care recommended for nursing.

The difficulties encountered by nurses in the application of the NCS in the hospital environment evidenced the lack of motivation among professionals due to the difficulty of leadership in teamwork, the resistance of the nursing technicians to adhere to the care plan and the lack of time due to work overload and reduced staff, which are factors that deteriorate the ability to perform the method.

Thus, the practice of systematizing care relates the nursing care process to a scientific activity based on theories and field studies, which is, therefore, an exclusive practice of nurses. This practice is evidenced by the Nursing Council, which provides autonomy and visibility to the profession.

Thus, it is evident the need to expand the practice of NCS in the outpatient setting and increasingly in-depth training of nurses regarding this tool, generating innovative mechanisms that encourage their learning. As a limitation of the study, it can be considered that it was carried out in only one blood center and with a small number of participants. However, the data produced constitute an important advance for nursing in the implementation of NCS in blood centers. It is suggested, therefore, that new studies investigating this theme are carried out in other blood centers and with a larger number of participants, and also that their results can be compared.

**Conclusion**

It was found that the nurses knowledge was limited, as they showed little familiarity with NCS practice, reporting not seeing its fullness in the daily work at the blood center's outpatient clinic. Thus, when asked about the NP and its stages, they referred to distant memories from everyday practice, mentioning definitions of the stages of the process, but not linking them fully
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with the routine of care at the outpatient clinic.

It was observed that a greater understanding of the NCS and its implementation is needed as an improvement in the nursing care process, as a methodology to be used to enhance nursing actions, ensuring standardization of activities and solving problems presented by patients in the outpatient clinic.

There was also a need for adapting NCS’ script already available in the service mentioned. This is so that there is constant updating of the form as a way to assist nurses in meeting the specific needs of the blood center’s public. And with that, it will work as a support tool for the implementation of Systematization.

In order for NCS to become essential for the organization care of nurses in the blood center's outpatient clinic, it is necessary that the entire nursing team involved in the care of hematological patients receive training in NCS, so that, with this this knowledge, outline specific criteria for patient care on an outpatient basis and seek subsidies for the organization and implementation of care.

Thus, this study contributed to the nursing category while identified the need for in-service training to update NCS, allowing professionals to take control of their work tools and better qualify their assistance. And yet, the research led professionals to reflect on the organization of care for nurses established in the blood center's outpatient clinic.

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