

Systematization of nursing care in obstetrics: structuring a database

RESUMO | Objetivo: estruturar um banco de dados com diagnósticos e intervenções/atividades de enfermagem para as mulheres no ciclo gravídico-puerperal. Método: pesquisa metodológica, realizada numa maternidade pública, em João Pessoa, Paraíba, Brasil, entre 2015 a 2016, em três etapas: mapeamento cruzado dos diagnósticos de enfermagem com os conceitos da Taxonomia II da North American Nursing Diagnosis Association International, identificação das intervenções/atividades de enfermagem e comparação com as propostas pela Classificação das Intervenções de Enfermagem; e, validação dos diagnósticos e intervenções/atividades de enfermagem. Resultados: foram validados 93 diagnósticos, sendo 36 para as gestantes patológicas, 27 para as parturientes e 31 para as puérperas; e 996 intervenções/atividades de enfermagem para os diagnósticos validados no ciclo gravídico puerperal. Conclusão: a utilização de um banco de dados compatível com a prática de enfermagem desenvolvida na área obstétrica facilita o desenvolvimento das etapas do Processo de Enfermagem e reduz a lacuna entre teoria e prática.

Palavras-chaves: Diagnósticos de enfermagem; Intervenções de enfermagem; Obstetria.

ABSTRACT | Objective: to structure a database with diagnoses and nursing interventions/activities for women in the pregnancy-puerperal cycle. Method: methodological research, carried out in a public maternity hospital, in João Pessoa, Paraíba, Brazil, from 2015 to 2016, in three stages: cross-mapping of nursing diagnoses with the concepts of North American Nursing Diagnosis Association International Taxonomy II, identification of nursing interventions/activities and comparison with the proposed by the Classification of Nursing Interventions; and, validation of nursing diagnoses and interventions/activities. Results: 93 diagnoses were validated, 36 for pathological pregnant women, 27 for pregnant women and 31 for puerperal women; and 996 nursing interventions/activities for diagnoses validated in the puerperal pregnancy cycle. Conclusion: the use of a database compatible with the nursing practice developed in the obstetric area facilitates the development of the stages of the Nursing Process and reduces the gap between theory and practice.

Keywords: Nursing diagnoses; Nursing interventions; Obstetrics.

RESUMEN | Objetivo: estructurar una base de datos con diagnósticos e intervenciones/actividades de enfermería para mujeres en el ciclo embarazo-puerperal. Método: investigación metodológica, realizada en una maternidad pública, en João Pessoa, Paraíba, Brasil, de 2015 a 2016, en tres etapas: mapeo cruzado de diagnósticos de enfermería con los conceptos de la Taxonomía II de Asociación Internacional de Diagnóstico de Enfermería de América del Norte, identificación de intervenciones/actividades de enfermería y comparación con las propuestas por la Clasificación de Intervenciones de Enfermería; y validación de diagnósticos e intervenciones/actividades de enfermería. Resultados: se validaron 93 diagnósticos, 36 para gestantes patológicas, 27 para gestantes y 31 para puérperas; y 996 intervenciones/actividades de enfermería para diagnósticos validados en el ciclo del embarazo puerperal. Conclusión: el uso de una base de datos compatible con la práctica de enfermería desarrollada en el área obstétrica facilita el desarrollo de las etapas del Proceso de Enfermería y reduce la brecha entre teoría y práctica.

Palabras claves: Diagnósticos de enfermeira; Intervenciones de enfermeira; Obstetricia.

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INTRODUCTION

The Systematization of Nursing Care (SNC) is a strategy that guides care, provides direction in the practice of work, assists in the organization and planning of care provided, favoring a better result in the implementation of the care plan. By incorporating it into their practice, the nurse becomes more secure during the provision of care, as it allows for a conduct based on scientific knowledge, contributing so that the professional does not act in an intuitive or impulsive way. The operationalization of the SNC can be carried out through the Nursing Process (NP), which subsidizes the autonomy for decision-making by nurses, in

Received: 15/07/2021

Approved: 30/07/2021

order to build their own knowledge and contribute to consolidating nursing as a science. ⁽¹⁾

Advances in the construction and organization of knowledge about NP were marked by the concern to develop conceptual models or theories of nursing to provide the theoretical framework of the profession. In Brazil, we highlight the studies by Wanda de Aguiar Horta, in the 1960s, who proposed a care methodology based on the Theory of Basic Human Needs, considering the psychobiological, psychosocial and psychospiritual aspects in the assessment of the individual. ⁽²⁾

Thus, Wanda Horta made the first attempts to systematize nursing care through the introduction of NP in health institutions and in Brazilian undergraduate education, at the end of the 1970s and early 1980s, bringing positive changes to the scenario of nursing care. ⁽³⁾

The implementation of SNC, through the NP, is a requirement for public and private health institutions throughout Brazil, according to COFEN resolution 358/2009. ⁽⁴⁾ It is a guideline of the law on the professional practice of nursing, Law no 7.498/1986. ⁽⁵⁾ In addition, its implementation becomes a strategy in the organization of nursing care in institutions, meeting the requirements of the Brazilian Manual for Hospital Accreditation. ⁽⁶⁾

With regard to the care provided to women in the pregnancy-puerperal cycle, in Brazilian maternity hospitals, it is necessary that the instruments used to collect data, identify the diagnoses and nursing interventions are formulated according to the needs that have arisen, subsidizing a personalized and holistic assistance, helping nurses to provide adequate care for a better quality of care for the assisted clientele. ^(7,8)

Therefore, the current demands require its improvement, being essential the adoption of classification systems to describe and standardize profes-

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sional practice situations, as the adoption of classification systems allows the use of a single and standardized language. This practice, in addition to facilitating communication and the use of computerized systems, allows for the representation of clinical nursing knowledge. Therefore, institutions must implement the NP elements using a single language in their information systems as part of their management processes. ⁽⁹⁾

Nursing has classification systems, whose development is related to one of the phases of NP, among which the most used and known are: North American Nursing Diagnosis Association International (NANDA-I), Nursing Interventions Classification (NIC); Nursing Outcomes Classification (NOC); International Classification for Nursing Practice (ICNP) and International Classification of Nursing Practice in Collective Health (ICNPC). ⁽¹⁰⁾ In this research, emphasis was given to NANDA-I and NIC for being the systems that best respond to the purpose of the study.

Thus, it is essential to implement the NP in a standardized way in the care of women in the pregnancy-puerperal cycle, in order to favor comprehensive care based on scientific knowledge, strengthening communication and bringing improvements to the care provided. However, this practice is not always observed in maternity hospitals, including the one where the study was carried out.

In the midst of this context, the question is: what are the main diagnoses of nursing interventions/activities should be drawn for women in the pregnancy-puerperal cycle? To answer this question, the present study aimed to structure a database with diagnoses and nursing interventions/activities for women in the pregnancy-puerperal cycle.

From this perspective, it is expected that this study will contribute to nursing practice while providing standardized language, guaranteeing quality in ver-

bal and written communication and in electronic nursing records.

METHOD

This is a methodological research, carried out in a public maternity ward, located in the city of João Pessoa, Paraíba, from 2015 to 2016.

The first stage consisted of the cross-mapping of nursing diagnoses present in maternity and in the literature with the concepts of Taxonomy II of NANDA-I (2015-2017). At this stage, at first, the nursing diagnoses recorded in 1000 medical records of the service's patients were extracted, using a form that identified the diagnoses present in pregnant women with gestational pathologies, in women in labor and in postpartum women. Secondly, a survey was carried out in the LILACS, MEDLINE and SciELO databases from 2014 to 2016 on NANDA-I nursing diagnoses in the obstetric area using the descriptors: nursing diagnoses, nursing interventions, obstetrics, parturients, postpartum women, high risk pregnancy. Then, comparisons were made between the diagnoses raised in the databases and those found in the medical records of the maternity patients.

In the second stage, the identification of nursing interventions/activities recorded in the literature and compared with the interventions/activities proposed by the NIC was carried out. In this phase, a survey of possible nursing interventions/activities aimed at each diagnosis previously identified for women in the pregnancy-puerperal cycle was carried out, using the articles investigated in the first phase. Then, a survey of nursing interventions/activities was carried out using the NIC for each diagnosis identified in the first stage.

Finally, the third stage consisted of validating the diagnoses and nursing interventions/activities. From the data collected, that is, from the diagnoses

and nursing interventions/activities identified for the obstetric area in the previous stages, the need to validate them was perceived, since information constructed by the clinical nurses was used in addition to the findings in the literature and in the taxonomy of NANDA-I and NIC.

For the validation step, we opted for validation by consensus, with 12 nurses being part of this validation, being four professors and eight nurses from the service. For the selection of experts, a survey was carried out through the lattes platform of specialist professors in the field of obstetrics and professors with practical experience in the use of SNC. The other nurses who participated in this phase were maternity care nurses, who were selected, taking into account the following criteria: being a specialist in the obstetric area, having worked for five years or more in the maternity ward and having practical experience in the use of SNC. For validation, the diagnosis was presented in a form with their respective nursing interventions/activities and, from there, a consensus was reached among experts to decide which diagnoses and interventions/activities best represented the needs of the clientele. For this, the specialists signed the Informed Consent Form and filled out the form with the indications: I recommend without changes, recommend with changes and do not recommend.

Quanto aos aspectos éticos, a pesquisa obedeceu às orientações da Resolução nº 466/12 do Conselho Nacional de Saúde, a qual foi aprovada e registrada no Sistema Nacional de Informação sobre Ética em Pesquisa envolvendo Seres Humanos (SISNEP) com CAEE-20523814.5.0000.5183.

RESULTS

To support the cross-mapping, initially, a survey was carried out in the medical records, which enabled the

extraction of 23 nursing diagnoses identified for the needs of pathological pregnant women, 16 diagnoses related to those of the parturients, 15 diagnoses related to the needs of the mothers, totaling 54 nursing diagnoses.

Then, through a survey in the databases, 21 articles were obtained, from which 36 diagnoses were extracted for pregnant women, 07 diagnoses for parturients and 24 for postpartum women, totaling 67 nursing diagnoses. The repetitions were eliminated, totaling 121 diagnoses. After corrections, adequacy of verbal tenses, gender and number uniformity, 109 diagnosis remained, as shown in table 1.

When proceeding with the cross-mapping of the diagnostic titles identified in the first stage of the research to the concepts of Taxonomy II of NANDA-I, of the 109 nursing diagnoses surveyed, 94 diagnosis remained, distributed as follows: for pathological pregnant women 36 diagnoses; for parturients, 27 diagnoses continued and for puerperal women, 31 diagnosis remained. Therefore, these were the nursing diagnoses that constituted the database, as shown in table 1.

The second stage consisted of identifying the nursing interventions/activities recorded in the literature and comparing them with the interventions/activities proposed by the NIC. In the initial phase, 88 interventions/activity for pathological pregnant women, 15 for parturients and 87 for postpartum women were extracted from the articles surveyed, totaling 190 nursing interventions/activities. And in the NIC, 910 nursing interventions/activities were withdrawn, distributed as follows: 325 activities for pathological pregnant women, 259 activities for parturients and 326 for postpartum women.

At the end of the survey of nursing interventions/activities, 190 were identified in the databases and 910 in the NIC, totaling 1.100. After comparison and analysis, for the pathological preg-

Table 1: Stages of the Validation Process of Nursing Diagnoses and Nursing Interventions/Activities

FIRST STEP	Nursing Diagnoses (ND) surveyed in medical records	Nursing Diagnoses (ND) surveyed in the literature	Cross mapping of diagnoses raised after eliminating repetitions
Pathological pregnant women	23	36	36
Parturients	16	07	27
Postpartum women	15	24	31
Total	54	67	94
SECOND STEP	Interventions/ Nursing Activities surveyed in Literature	Interventions/ Nursing Activities surveyed at NIC	Interventions/Nursing Activities after elimination of repetitions
Pathological pregnant women	88	325	373
Parturients	15	259	259
Postpartum women	87	326	364
Total	190	910	996
THIRD STEP	VALIDATED NURSING DIAGNOSTICS	VALIDATED INTERVENTIONS/ACTIVITIES	
Pathological pregnant women	35	341	
Parturients	27	246	
Postpartum women	31	356	
Total	93	943	

Source: research data, João Pessoa, 2016

nant women, of the 88 activities found in the bibliographic survey, 40 were excluded, by repetition when compared to the NIC activities, leaving 373. For the parturient women, 15 activities present in the literature were excluded, by repetitions, leaving 259 activities; and for the puerperium, of the 87 interventions/activities in the literature, 49 activities were eliminated, leaving 364 activities, as shown in table 1.

In the validation process, a total of 93 diagnoses and 943 nursing interventions/activities were validated. Corresponding to high-risk pregnant women, of the 36 diagnoses mapped, 35 were validated, with one being eliminated; of the 373 activities, 341 were validated, among which 39 underwent changes

and 32 were eliminated. For the parturients, of the 27 diagnoses mapped, all were validated; of the 259 activities, 246 were validated, among which 32 underwent changes and 13 were eliminated. For puerperal women, of the 31 diagnoses mapped, all were validated; and of the 364 activities surveyed, 356 were validated, of which 16 underwent changes and 8 were eliminated.

The results pointed out in the study can be seen in table 1.

With a database with diagnoses and nursing interventions/activities, an analysis was carried out to establish the relationship between validated nursing diagnoses and basic human needs (BHN) present in the institution. The main needs, such as oxygenation, hy-

dration, nutrition, elimination, vascular regulation and thermal regulation, stood out in the study.

DISCUSSION

During labor, the need for oxygenation may be affected due to the lack of control in the respiratory cycle, reflected by increased ventilation, as a result of visceral pain caused by contractions, anxiety and the neuroendocrine response. Therefore, there may be a reduction in blood carbon dioxide and maternal respiratory alkalosis, with an increase in cardiac output, increasing peripheral vascular resistance and maternal blood pressure, impairing uterine contractility and perfusion, thereby decreasing the supply of oxygen to the fetus. ⁽¹¹⁾

Furthermore, another factor that affects this need is the pressure of the pregnant uterus against the inferior vena cava, when in the supine position, it reduces the venous return to the heart. ⁽¹²⁾ Thus, the following nursing diagnoses were validated: ineffective breathing pattern related to the physical effort of labor; risk for ineffective breathing pattern related to the pressure of the pregnant uterus against the inferior vena cava.

As for the need for hydration, during the pregnancy-puerperal period there are changes that promote excess fluid, changing the regulatory mechanisms of the woman's body. Among them, there is expansion of plasma volume, as well as a decrease in albumin concentration with a consequent decrease in colloid osmotic pressure, which allows greater leakage of fluid into the extravascular space. In addition, there are changes mediated by the action of estrogen, resulting in sodium and water retention. In this context, one of the most frequent complaints in pregnant women is edema in the extremities and, in part, in the face and upper limbs. ⁽¹³⁾

It is noteworthy that the pains of la-

bor can compromise the hydration needs of parturients due to the low acceptance of fluids or even the nausea and vomiting that can be triggered. Considering these aspects, the following nursing diagnoses were validated: deficient fluid volume related to failure of regulatory mechanisms; excessive fluid volume related to compromised regulatory mechanisms; risk for deficient fluid volume related to decreased fluid intake.

As for the need for nutrition, during pregnancy there is a significant increase in the demands of some micronutrients, such as iron, folic acid and zinc, and in the increase in energy requirements that vary depending on the pre-gestational nutritional status, stage of pregnancy, physical activity level and increased basal metabolism. Adequate energy intake by pregnant women is essential, as the limitation of nutrients to the fetus can impair its development and growth, as well as perinatal mortality. On the other hand, the pregnant woman's high weight gain may increase the risk of cesarean section, fetal macrosomia and births of large-for-gestational-age newborns. ⁽¹⁴⁾

In the parturition process, a woman spends a lot of energy. This energy expenditure is equivalent to continuous moderate physical exercise. However, this energy must be recovered. In this context, feeding during labor should not be eliminated, but encouraged in an appropriate way, as it not only replenishes energy needs, but also prevents ketosis, hyponatremia and maternal stress. ⁽¹⁵⁾

Furthermore, in the puerperal period, the increase in prolactin levels and energy expenditure, secondary to lactation, favors an increase in appetite, showing the need for a balanced diet. ⁽¹⁶⁾ In view of this need, the following nursing diagnoses were validated: unbalanced nutrition: more than bodily needs related to excessive intake in terms of metabolic needs; unbalanced

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nutrition: less than bodily needs related to psychological factors.

As for the need for elimination, nausea and vomiting are common symptoms, especially in the first trimester of pregnancy, due to hormonal, vestibular system, taste and olfactory sensitivity changes. ⁽¹⁷⁾ Another change is the increase in urinary frequency due to the increase in the renal glomerular filtration rate and urine production, as well as the compression of the uterus on the bladder. ⁽¹⁸⁾ In the puerperal period, constipation or the risk for constipation are common phenomena due to anesthetic effects, stress, decreased peristaltic rhythm and postoperative stay in bed, in addition to insufficient intake of fibers and fluids and fear of pain. ⁽¹⁹⁾ For this need, the following nursing diagnoses were validated: anxiety-related nausea and psychological factors of pregnancy; constipation related to decreased gastrointestinal tract motility and/or insufficient fiber and fluids; impaired urinary elimination related to the physiology of pregnancy; decreased risk of constipation related to peristalsis.

The need for vascular regulation may be altered mainly in the immediate postpartum period, in which the maternal organism undergoes changes that result in an increase in blood pressure in the first 24 hours, due to the increase in circulating volume, uterine contraction and interruption of placental circulation. ⁽²¹⁾ Considering these aspects, the following nursing diagnoses were validated: ineffective peripheral tissue perfusion related to hypertension in pregnancy; ineffective maternal-fetal placental/tissue perfusion related to decreased venous return; postpartum hemorrhage related to uterine atony; risk of bleeding related to postpartum complications; excessive fluid volume related to compromised regulatory mechanisms; deficient fluid volume related to active loss of fluid volume.

And finally, the need for thermal

regulation can be achieved during the pregnancy-puerperal cycle, especially during cesarean section and postpartum. Therefore, in cesarean, temperature decrease frequently occurs during anesthesia and surgery due to the redistribution of central heat to the periphery by regional anesthesia, in addition to the direct inhibition of thermoregulation by anesthetics, by decreased metabolism, by the patient's exposure to the cold environment of operating rooms and exposure of body cavities.⁽²²⁾ The increase in temperature occurs in the immediate postpartum period, when the puerperal woman may present a slight increase in axillary temperature due to the proliferation and rise of vaginal bacteria into the uterine cavity, without necessarily having an installed infection. However, after the first 24 hours, there may still be an increase in temperature, which may be associated with the time of the "Let-down", with breast engorgement or some infection.⁽²³⁾ For

this need, the following nursing diagnoses were validated: hyperthermia related to postpartum physiological processes and/or breast engorgement; hypothermia related to the action of drugs and/or the cold environment.

CONCLUSION

Nurses provide comprehensive and continuous care to individuals, from their most stable to the most critical state, and for this, the use of SNC is of paramount importance, allowing them to provide more qualified and organized care.

The use of SNC brings numerous benefits, especially when associated with nursing classification systems, because it allows the use of a single and standardized language, which favors the communication process, data compilation for care planning, development of research, the teaching-learning process and fundamentally confers scientificity

to care.

In this context, to structure the database, the affected basic human needs were identified, based on Horta's conceptual model to develop the nursing care plan based on NANDA-I Taxonomy II and NIC. Thus, the main diagnoses and the main nursing interventions/activities were pointed out.

It was concluded that, with the use of a database compatible with the nursing practice developed in the obstetric area, it will be possible to develop the stages of the NP and reduce the gap between theory and practice. Therefore, this database brings an immense contribution to Nursing, since it was created with the objective of being inserted in a technological tool that will provide great help to nurses in the application of NP in the obstetric area. As well as opening up ample possibilities for research and consultation, contributing to a better functional performance of nurses in the SNC. 🐦

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