

Nursing care provided to a pregnant woman under prolonged hospitalization due to pulmonary arterial hypertension

Cuidados de enfermagem a uma gestante com internação prolongada por diagnóstico de hipertensão arterial pulmonar

Cuidados de enfermería a una gestante con internación prolongada por diagnóstico de hipertensión arterial pulmonar

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This is a qualitative, exploratory and descriptive study involving a woman diagnosed with Pulmonary Arterial Hypertension. The objective was to identify the perception of nurses about the care provided to this woman. Semi-structured interviews were conducted with six nurses from the maternity of the Hospital of Brasília, Brazil, in 2016. Bardin's Analysis of Thematic Content was used for data analysis. Two categories emerged: *Knowledge about high-risk pregnancies* and *Organization of the nursing care provided to a pregnant woman with Pulmonary Arterial Hypertension*. There was a lack of knowledge about pulmonary arterial hypertension during pregnancy, and diagnoses, interventions, and nursing result taxonomies were not used, despite the demonstration of knowledge about the nursing process.

Descriptors: Pregnancy, High-Risk; Nursing care; Hypertension, Pulmonary; Health care (Public Health).

Trata-se de um estudo com abordagem qualitativa exploratória e descritiva baseada em uma gestação diagnosticada com Hipertensão Arterial Pulmonar. O objetivo foi identificar a percepção de enfermeiras no cuidado de enfermagem dessa gestação. Realizou-se entrevistas semiestruturadas com seis enfermeiras da maternidade do Hospital de Brasília em 2016. Para análise dos dados foi escolhida a Análise de Conteúdo Temática de Bardin. Duas categorias emergiram: *Conhecimento da gestação de alto risco* e *Organização da assistência de enfermagem a uma gestante com Hipertensão Arterial Pulmonar*. Identificou-se desconhecimento sobre hipertensão arterial pulmonar na gestação, bem como a não utilização de taxonomias de diagnóstico, intervenções e resultados de enfermagem, apesar da demonstração de conhecimento acerca do processo de enfermagem.

Descritores: Gravidez de alto risco; Cuidados de enfermagem; Hipertensão pulmonar; Atenção à saúde.

Se trata de un estudio con abordaje cualitativo exploratorio y descriptivo basado en una gestación diagnosticada con Hipertensión Arterial Pulmonar. El objetivo fue identificar la percepción de enfermeras en el cuidado de enfermería de esta gestación. Se realizaron entrevistas semiestructuradas con seis enfermeras de la maternidad del Hospital de Brasília, Brasil, en 2016. Para el análisis de los datos fue elegido el Análisis de Contenido Temático de Bardin. Dos categorías emergieron: *Conocimiento de la gestación de alto riesgo* y *Organización de la asistencia de enfermería a una gestante con Hipertensión Arterial Pulmonar*. Se identificó desconocimiento sobre hipertensión arterial pulmonar en la gestación, así como la no utilización de taxonomías de diagnóstico, intervenciones y resultados de enfermería, a pesar de la demostración de conocimiento acerca del proceso de enfermería.

Descritores: Embarazo de alto riesgo; Cuidados de enfermería; Hipertensión pulmonar; Atención a la Salud.

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INTRODUCTION

Pulmonary arterial hypertension (PAH) is characterized by an average pulmonary artery pressure of ≥ 25 mmHg at rest, measured during the right cardiac catheterization procedure. It is characterized by a group of disorders that lead to progressive obstructive vasculopathy¹. When associated with infections and high-output cases, such as pregnancy, anemia and hyperthyroidism it can aggravate the PAH².

Physiological changes in the course of pregnancy are initially quite tolerable, but the peri and postpartum periods are critical. Mortality of newborns is also high, mainly due to prematurity and low birth weight, being estimated between 11-13%. Current guidelines recommend that pregnancy in patients with PAH should be avoided and, in the case of pregnancy, termination at the initial stage is advised³.

The term "high risk" is attributed to pregnancies where there is a maternal illness or social and biological conditions potentially harmful to the evolution of pregnancy, and therefore, there is a greater risk to the health of the mother and/or the baby⁴. When there is risk, the nurse and the health team must provide an appropriate and quality care⁵.

Health professionals, especially nurses, should carry out preventive, educational and therapeutic interventions. In the case of high-risk pregnancies, particularly considering PAH, the care should be more thorough and provided constantly in order to avoid situations bordering the risk of maternal and fetal death.

In nursing, the group of systematized, interrelated actions directed towards quality patient care, performed in a dynamic way, is called the Nursing Process (NP). According to Resolution 358/2009 of the COFEN (National Council of Nursing), the Nursing Process is a methodological instrument that guides professional nursing care and the documentation of professional practice⁶.

The NP relies on a methodological framework that uses Diagnoses, Results and Interventions Classifications. The North American Nursing Diagnosis Association (NANDA) guidelines are used to classify the

diagnoses and the Nursing Interventions Classification (NIC) to do the same for the interventions, that can be independent or collaborative, of direct or indirect care. The Nursing Outcomes Classification (NOC) is used to describe the current outcome and to choose the desired one. The NP organizes the work of the nursing professional regarding the method, providing greater autonomy and thus making more substantial the care provided to the patients. In addition to improve care practice, the NP directs educational actions⁷.

The relevance of this study was due to the lack of cases reported in the literature, which makes it difficult for students to gain further insight into the subject. Given the context presented, the following questions were raised: What is the nurses' knowledge about high-risk pregnancies? What is the clinical judgment and the nursing care actions aimed at a pregnant woman with PAH?

The objective of this study was to identify the knowledge of the nurses of a University Hospital about a high-risk pregnancy with a diagnosis of PAH and the nursing care provided.

METHOD

This is a qualitative research using the thematic content analysis method⁸. The research was conducted in the Maternity Ward of the University Hospital of Brasília (HUB) in 2016. Nurses working in the maternity hospital providing care to high-risk pregnancies were included in the study. The data collection was performed in the hospital, according to the subjects' available time.

To obtain the data, the nurses were addressed by the researcher, who introduced herself, and explained the research and its objectives. Subsequently, they were asked to participate and to sign the free and informed consent form, as well as the authorization term for audio recording.

Data collection began with the identification variables followed by a semi-structured interview using a script with guiding questions. After completion of the form, the interpretation of the described content began. The interviews took place in

the work environment, but the nurses who agreed to participate did not allow their statements to be recorded. However, they helped to fill out the answers in the interview forms.

After data collection, the interviews were transcribed. The pre-analysis was performed, based on the context of the answers to the questions asked to the nurses about the high-risk pregnancy, specifically in gestations diagnosed with PAH, which were skimmed to organize the material for the next stages of the analysis.

The research was authorized (CAEE: 53153215.0.0000.0030) by the Research

Ethics Committee of the Health School at Universidade de Brasília, in accordance with the norms for conducting research involving human beings, contained in Resolution 466/2012 of the Ministry of Health.

RESULTS

Six nurses working in the maternity ward, specifically in high-risk gestation cases, were part of the study.

In relation to the profile of the participants, five worked during the day and one at night. The table below shows data regarding the sociodemographic and professional profile of the participants.

Table 1. Nurses' socio-demographic and professional characteristics. Brasília/DF, 2016.

| Participant | Gender | Age | Year of graduation | Time working in the maternity ward | Specialization |
|-------------|--------|-----|--------------------|------------------------------------|--|
| E1 | Female | 34 | 2006 | 01 year and half | Public Health |
| E2 | Female | 45 | 1995 | 05 years | Public Health; Nurse occupational health and Auditorship |
| E3 | Female | 32 | 2010 | 01 year | - |
| E4 | Female | 25 | 2012 | 08 months | - |
| E5 | Female | 32 | 2006 | 01 year and 10 months | Public Health and Health Management |
| E6 | Female | 35 | 2004 | 10 years | Nursing in ICU; Nursing occupational health |

The exploration of the material, which was the second stage of the CA, made it possible to know the "registration and context units", that emerged from the frequency of significant words. The theme was considered for categorization, to capture nurses' perceptions and meanings about care, assistance, clinical judgment, and the use of taxonomies.

The third stage was the interpretation and analysis of the answers followed by the categorization of information, that led to two

general categories. From these categories emerged links considered as subcategories, namely: Category 1. *Knowledge about High Risk Pregnancy* with the subcategory *Knowledge about pregnancy with PAH and prolonged hospitalization*; Category 2. *Organization of nursing care provided to a pregnant woman with PAH* with the subcategories: *Existence of protocols that help in the prolonged hospitalization, nursing care itself, knowledge, and the importance of using Nursing Diagnoses*. Both are shown in Table 1

Table 2. Categories, subcategories, registration units and context units related to the perceptions about nursing care provided to a pregnant woman diagnosed with PAH, 2016, Brasília / DF.

| Nurses perceptions | |
|---|--|
| Categories and sub-categories | Registration and Context Unit |
| 1. Knowledge about High Risk Pregnancies 1.1. Knowledge about pregnancy with PAH and prolonged hospitalization | <i>(...) this type of hospitalization is rare (...) they were diagnosed early during the gestation and remained hospitalized throughout all gestation(...)</i> - E6 <i>(...) no.</i> - E3 <i>(...) we have only one woman with PAH and this pathology was diagnosed well before pregnancy.</i> - E5 <i>(...) About high-risk patient hospitalization, yes, specifically for someone with PAH, no.</i> - E2. |
| 2. Organization of nursing care to a pregnant woman with PAH 2.1. Existence of protocols that assist in prolonged hospitalization 2.2. Nursing care itself 2.3. Knowledge and importance of the use of Nursing Diagnostics | <i>(...) There's not one specifically for PAH, at least it was never passed to the nursing staff (that I have knowledge) (...)</i> - E1 <i>(...) for PAH I don't know</i> - E2 <i>(...) There isn't a SOP's for PAH in the institution (...)</i> - E4 <i>(...) I don't know what interventions are required (...)</i> - E4 <i>(...) the nursing care consists of: monitoring the patient's saturation, since this kind of patient uses O2 catheters for most of the day, the patient is partially restricted to the bed, vital signs and hydration of the patient are monitored; the head side of the bed is elevated, always maintaining more than 30°; besides other routine care due to the fact that she is pregnant.</i> - E6 <i>(...) I based my assistance on the self-care and the patient as a whole, meeting the needs of each case.</i> - E2 |

DISCUSSION

In this section, the categories and the subcategories found are discussed:

1. Knowledge about high-risk pregnancies

Most pregnancies evolve without any kind of complication. However, during their course, some complications that lead to mortality and morbidity can threaten the life of mother and baby, and therefore are obstetric emergencies, which require an immediate and appropriate intervention and, in certain situations, the interruption of the gestation.

There are several risk factors in pregnancy. They may take place separately or together, and include sociodemographic conditions, age extremes, previous arterial hypertension, diabetes, and unfavorable gestational history⁹.

In the environment of a hospital of medium and high complexity, nurses report that contact with high risk pregnant women is

frequent and is part of the routine, and also indicate that the greatest demand for hospitalizations is related to gestational diabetes mellitus (GDM) and pre-eclampsia and eclampsia, which can be observed in the following excerpts:

(...) In high-risk hospitalization yes - E2; *(...) the main pathologies that need hospitalization are: HELLP, UTI, Oligohydramnios, DM, SAH, Eclampsia.* - E4; *(...) some with prolonged hospitalization are patients with GDM, eclampsia, HELLP syndrome, pancreatitis* - E5; *(...) here in the maternity, the greatest demand is pregnant women diagnosed with GDM and eclampsia* - E6

The reports of nurses about moments when they encounter pregnant women and high-risk hospitalizations are about the most known diseases that affect pregnant women, and that they need support with professional follow-up. Answers about a specific and rare disease in pregnancy (PAH) were allocated to the subcategory below:

1.1 Knowledge about pregnancy with PAH and prolonged hospitalization

Cases of women diagnosed with PAH are poorly reported in the literature because it is considered to be of high-risk for morbidity and mortality of mother and child. For a safer follow-up of both the woman and the baby, the studies recommend the hospitalization to occur from the 28th week of gestational age.²

About the gestations diagnosed with PAH, more than half of the interviewees were unaware of the disease and had no contact with this type of hospitalization. The nurses with more time of service pointed out that in their experience they had, at most, two hospitalizations of pregnant women with PAH. This is also shown in the following statements:

(...) Yes. 1 time only - E1; (...) specifically pregnant women with PAH only one time- E5; (...) during these years of work I remember 02 patients who were hospitalized with this diagnosis - E6

Those responsible for the assistance to high-risk pregnant women seek to receive and support them, offering effective and safe assistance for different clinical and obstetrical situations, especially aimed at surveillance, control, and reduction of maternal and child diseases¹⁰.

The work that nurse and doctor carry out together is extremely important, since they identify the signs and symptoms and provide immediate assistance¹¹. Knowing the profile of high-risk pregnant women who are cared for and hospitalized will direct nursing actions, taking into consideration the individuality of these clients and their context of entering in the hospital, which will allow a more efficient and effective management of care¹².

Hospitalization can be a stressful factor in pregnancy, due to innumerable circumstances such as: withdrawal from the family environment, loss of privacy, or the stereotype of someone 'sick' given to the pregnant woman when diagnosed with a high-risk pregnancy. At the time of admission and medical visit, many questions may arise, since at this time women are interested in getting information about their condition.

Most of the time such moments are not properly valued, raising the level of anxiety,

which can further aggravate the situation. Health professionals should be aware of their role at this moment, putting their sensitivity and knowledge at the service of the woman and her family, since, for them, hospitalization is a factor that can increase anxiety¹³.

2. Organization of nursing care provided to a pregnant woman with PAH

According to the Ministry of Health¹⁴, in nursing care related to high-risk pregnancies, it should be noted that a small number of pregnant women have some disease or suffered some aggravation or developed problems, presenting a higher probability of an unfavorable outcome for both the fetus and the woman, so that this part of the female population constitutes a group called "high-risk pregnancies".

The concept of the health-disease process called "Risk Approach" is based on the fact that not everyone will become ill or die, and that this probability may be higher in some cases than in others. The difference is on a gradient that indicates the need for care, from minimal, that is, individuals without problems or with little risk of suffering damages, to maximal, those with high chances of suffering health problems¹⁴.

The purpose of high-risk prenatal care is to interfere in the course of a pregnancy that has a greater chance of having an unfavorable outcome, in order to reduce the risks to which the pregnant woman and the fetus are exposed or to reduce their possible adverse consequences¹⁴.

Risk assessment in pregnancy is a complex and indispensable task in all consultations, deserving more severe criteria and attention from the nurse in the last trimester, since in this period the woman's organism is more exposed to the sudden changes in blood pressure and glycemic levels related to multiple individual factors¹⁵.

The nurse must develop a humanized work, prioritizing respect, attention, and care in all activities¹⁶. Based on studies to guarantee qualified and humanize care, protocols have been developed for high-risk pregnant women. As well as clinical protocols and therapeutic guidelines for PAH¹⁷.

In this study, it was found that the participants are unaware of the existence of the protocol specifically directed to high-risk gestations with a diagnosis of PAH, as shown in the subcategory below:

2.1 *The existence of protocols that assist in the provision of care*

The Systematization of Nursing Assistance (SNA) is a methodology for the organization, planning, and execution of systematized actions that are performed by the team during the period in which the individual is under nursing care¹⁸.

This process is a nursing work tool aimed at identifying the patient's needs, proposing actions for their care and assistance, and directing the nursing team in the actions to be performed¹⁸. This brings benefits not only to the staff, but also to those who need a certain type of care.

The nurses are unaware of the existence of protocols or routines for the diagnosis of PAH during pregnancy, and report the absence of them in the institution:

(...) There's not one specifically for PAH, at least it was never passed to the nursing staff (that I have knowledge) (...) - E1 (...) for PAH I don't know - E2 (...) There isn't a SOP's for PAH in the institution (...) -E4; (...) we do not have a protocol for this type of assistance - E6

The SNA, as an organizational process, is capable of offering subsidies for the development of interdisciplinary and humanized methods/methodologies of care¹⁹.

2.2 *Nursing care itself*

Nursing care consists of the essence of the profession and belongs to two distinct spheres: an objective one, which refers to the development of techniques and procedures, and a subjective one, which is based on sensitivity, creativity and intuition to care for another being¹⁹.

The objective of reducing injuries and dealing with maternal morbidity and mortality is only achievable when actions and activities are carried out in health care units and when there are professionals involved and resources available to ensure qualified care²⁰.

It was found that the nurses had already encountered, during the time of service in the high-risk patients ward,

pregnant women diagnosed with PAH. When attending these pregnant women, they reported the search for knowledge about the disease and what care should be provided during hospitalization. The fact is that they revealed they did not have autonomy in the provision of care and, in most cases, they complied with what was prescribed by doctors, incorporating these prescriptions into routine care for hospitalizations of high-risk pregnant women:

(...) Care is provided for patients with respiratory distress or discomfort (...) each professional follows what he understands and knows about the pathology and, as I have said, allied to the medical care prescribed. - E1

Nursing is legally protected, according to Decree No. 94.406 of 1987, which regulates Law No. 7.498 of 1986, that refers to the Nursing Exercise and, in its Article 8, describes nurse private activities. Among these activities are the planning, organization, coordination, execution and evaluation of nursing care services; the nursing consultation; the prescription of nursing care; direct nursing care for critically ill patients at risk of life, and nursing care of greater technical complexity that requires adequate scientific knowledge and the ability to make immediate decisions²¹.

Knowing the reality of high-risk pregnant women and seeing it in a holistic way is of great importance for the planning and execution of quality care. Nursing care should consider the pregnant woman as a biopsychosocial unit, that is, the emotional, spiritual, physical and family aspects to ensure the well-being of the pregnant woman during the period of hospitalization.

2.3 *Knowledge and importance of the use of Nursing Diagnoses*

The use of nursing diagnoses brings benefits to both the professional and the client, as well as to the institution. To facilitate some steps in the nursing process, classification systems are used, especially in nursing diagnosis²².

These systems are technologies that enable the use of a standardized language in the process of clinical and therapeutic reasoning, in order to guide the clinical documentation of professional practice²².

In this study, the nurses interviewed reported that they did not use any kind of

taxonomy to provide care to pregnant women in long-term hospitalizations, especially for pregnant women diagnosed with PAH. In the statements of the participants, although some mention the knowledge of theories, the use of the nursing diagnoses in graduation, and the use of them in other services, it can be observed that they do not make use of them in this service:

(...) At graduation the nursing diagnosis was made using the NANDA guidelines, so that's why I used it in other services. However, here in the HUB we don't use it yet (...)
- E1

Nursing diagnosis is one of the most complex stages of care and there are many divergences in its realization²³. Many professionals do not use nursing diagnoses, fragmenting care and seeing the client / user / patient also in a fragmented way, often prescribing care that has no relation to the problems found, failing to see them as a whole.

When performing the nursing diagnosis, it is possible to obtain information that involves reasoning and judgment, which makes it essential to describe the relationship of help in the practice of care²², favoring the planning, implementation, and evaluation of the continuity of care provided.

The use of diagnoses presents many positive aspects, such as: safety in the planning, execution and evaluation of nursing conducts; the individualization of assistance; the visibility and autonomy of nurses; decrease in hospitalization time, and the consequent savings¹⁸.

CONCLUSIONS

This study aimed to identify the knowledge of nurses at a university hospital about the nursing care provided to a pregnant woman diagnosed with PAH. Regarding the interviews, there was a variation between the time of training and the time of performance in the maternity/high-risk patients ward.

Regarding the disease presented, there was little knowledge about PAH and many nurses did not witness such diagnosis during their professional experience with hospitalized pregnant women. Their specialties are not related to the unit and this is reflected in the care to be provided to these

pregnant women, since the professionals have little qualification.

Likewise, the development of the SNA was not identified when there are prolonged hospitalizations in the maternity ward. The lack of protocols is highlighted, regardless of the disease that affects the pregnant woman. There is no protocol that directs the qualified and humanized care that should be provided to pregnant women and, specifically, pregnant women with PAH.

Knowledge about the use of the nursing process was shown by some nurses. Concerning the nursing diagnoses (NANDA), they know of the existence of diagnoses for pregnant women, but with restrictions; they do not have access to it in the unit in which they work and do not receive encouragement from the institution for its implementation in routine care, also reporting the lack of permanent education actions in the unit. Therefore, each nurse offers the care according to their scientific knowledge about the disease that affects the specific pregnant woman or merely follow the medical prescription.

The limitation of this study is, mainly, the lack of knowledge or contact of the nurses with high-risk pregnant women with PAH. Regarding the use of taxonomies based on NANDA / NOC / NIC, applied to a long-stay in the maternity related to the diagnoses of PAH, it was not possible to interpret the findings due to lack of information and knowledge of taxonomies.

Regarding the intervention plan, it was observed that it will be necessary for the team to obtain knowledge about the disease, to be instructed and to elaborate a protocol or a standardized operating procedure (SOP) for PAH.

However, the nurses were found to carry out their work, attempting to provide care and respond in the best possible way to the specific needs of the pregnant women, according to the disease that affects them, offering assistance according to the resources that are offered in the service. They are also concerned and interested in acquiring more knowledge, in order to provide a relevant

assistance to pregnant women diagnosed with PAH.

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CONTRIBUTIONS

Carine Guimarães participated in data collection and analysis, and in the interpretation of the data and writing. **Rejane Antonello Griboski** and **Raquel Lira Diógenes** contributed in the revision and writing.

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