

**Nursing care in gestational hypertension with a focus on HELLP Syndrome***Atención de enfermería en la hipertensión gestacional con enfoque en el Síndrome HELLP**Cuidados de enfermagem na hipertensão gestacional com enfoque na Síndrome HELLP***Mirian de Oliveira Ferreira<sup>1</sup>**

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<sup>1</sup>Universidade Veiga de Almeida. Rio de Janeiro, Brazil.<sup>2</sup>Universidade do Estado do Rio de Janeiro. Rio de Janeiro, Brazil.<sup>3</sup>Hospital Universitário Pedro Ernesto. Rio de Janeiro, Brazil.**\*Corresponding author:** E-mail: [abilenegouvea@gmail.com](mailto:abilenegouvea@gmail.com)**Abstract**

The aim was to recognize the risk factors for HELLP syndrome, identify the clinical manifestations, and the nursing care provided to women with HELLP syndrome. The searches conducted for this research were carried out between August 2022 and January 2023, covering the period from 2018 to 2023. Searches were conducted in the following databases: Virtual Health Library, Nursing Databases, Latin American and Caribbean Literature in Health Sciences, and Scientific Electronic Library Online. Without a doubt, HELLP syndrome encompasses a wide range of clinical impairments, and its diagnosis can be confused with various pathologies, which complicates treatment. The development of this research, in addition to highlighting important aspects of HELLP syndrome, was of paramount importance for expanding our academic knowledge, as we had the opportunity to conduct an in-depth analysis of the proposed topic. In conclusion, this research, in addition to highlighting important aspects of HELLP syndrome, was of paramount importance in expanding our academic knowledge, as we had the opportunity to conduct an in-depth analysis of the proposed topic.

**Descriptors:** Gestational Hypertension; HELLP Syndrome; Nursing Care; Women's Health; Hypertension.**How to cite this article:**

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## Resumén

El objetivo fue identificar los factores de riesgo del síndrome HELLP, las manifestaciones clínicas y la atención de enfermería brindada a mujeres con este síndrome. Las búsquedas realizadas para esta investigación se llevaron a cabo entre agosto de 2022 y enero de 2023, abarcando el período de 2018 a 2023. Se realizaron en las siguientes bases de datos: Biblioteca Virtual en Salud, Bases de Datos de Enfermería, Literatura Latinoamericana y del Caribe en Ciencias de la Salud y Biblioteca Científica Electrónica en Línea. Sin duda, el síndrome HELLP abarca una amplia gama de discapacidades clínicas, y su diagnóstico puede confundirse con diversas patologías, lo que dificulta su tratamiento. El desarrollo de esta investigación, además de destacar aspectos importantes del síndrome HELLP, fue fundamental para ampliar nuestro conocimiento académico, ya que tuvimos la oportunidad de realizar un análisis profundo del tema propuesto.

**Descriptores:** Hipertensión Gestacional; Síndrome HELLP; Atención de Enfermería; Salud de la Mujer; Hipertensión.

## Resumo

Objetivou-se reconhecer os fatores de risco para a síndrome HELLP, identificar as manifestações clínicas, os cuidados de enfermagem dispensados às mulheres com síndrome HELLP. As buscas realizadas para elaboração da pesquisa foram entre o período de agosto de 2022 e janeiro de 2023, com a periodização entre 2018 e 2023. Foram realizadas através de pesquisas nas seguintes bases de dados da Biblioteca Virtual de Saúde, Bases de Dados de Enfermagem, Literatura Latino-Americana do Caribe em Ciências da Saúde e *Scientific Electronic Library Online*. Sem sombra de dúvidas, a síndrome HELLP engloba um vasto comprometimento clínico, e o seu diagnóstico pode ser confundido com diversas patologias, o que dificulta o tratamento. A elaboração desta pesquisa, além de mostrar aspectos importantes sobre a síndrome HELLP, foi de suma importância para ampliação dos nossos conhecimentos acadêmicos, pois tivemos a oportunidade de realizar uma análise profunda sobre o tema proposto. Conclui-se que a elaboração desta pesquisa, além de mostrar aspectos importantes sobre a síndrome HELLP, foi de suma importância para ampliação dos nossos conhecimentos acadêmicos, pois tivemos a oportunidade de realizar uma análise profunda sobre o tema proposto.

**Descritores:** Hipertensão Gestacional; Síndrome HELLP; Cuidados de Enfermagem; Saúde da Mulher; Hipertensão.

## Introduction

Pregnancy is a physiological phenomenon in females, resulting from the fertilization of an egg by a sperm, which then implants in the uterine wall and ends at the moment of birth. The progression of pregnancy is usually uneventful; however, a small number of pregnant women experience some type of complication<sup>1,2</sup>.

The main complication during pregnancy is high blood pressure of 140/90 mmHg or higher, affecting approximately 10% of pregnant women. It has a bimodal frequency, being more common in young women in their first pregnancy and in older multiparous women. Two etiologically different disorders are responsible for hypertension in pregnancy. Gestational hypertension occurs when there is an associated lack of proteinuria, since the presence of proteinuria leads to pre-eclampsia. Eclampsia occurs with the presence of seizures and/or coma, and HELLP syndrome is characterized by the worsening of eclampsia<sup>3,4</sup>.

HELLP syndrome is a serious pregnancy complication first described in 1982 by Weinstein, characterized by (H) hemolysis, (EL) elevated liver enzymes, and low platelet count. Although the cause is not yet fully understood, the syndrome can lead to several serious complications, such as heart failure, lung failure, and kidney failure, among others. Other serious complications for the

fetus include restricted uterine growth and respiratory distress syndrome<sup>5</sup>.

The signs and symptoms of HELLP syndrome can easily be confused with severe pre-eclampsia, which includes pain in the upper or central abdomen, headache, nausea, vomiting, and general malaise. Without proper laboratory evaluation, these symptoms can go unnoticed, and a diagnosis is only made when the condition worsens. The only treatment capable of halting the effects of HELLP syndrome is termination of the pregnancy, which can be done through a cesarean section or induction of labor<sup>6</sup>.

Because it is not a common pathology, many healthcare professionals do not know how to recognize its clinical manifestations. Therefore, we must know how to identify it, as it is a woman's right to receive assistance from healthcare professionals, and especially quality nursing care, working not only in rehabilitation and treatment but also in health promotion. The complexity of this syndrome in the evolution of pregnancy led us to develop research whose objects are the nursing care to be provided to pregnant women with HELLP syndrome<sup>7</sup>.

To guide the investigation steps, we developed the following guiding questions: "What are the risk factors for HELLP syndrome?", "What are the clinical manifestations of HELLP syndrome?", and "What nursing care is provided in HELLP syndrome?". The general objective is to recognize HELLP syndrome and the nursing care provided to pregnant



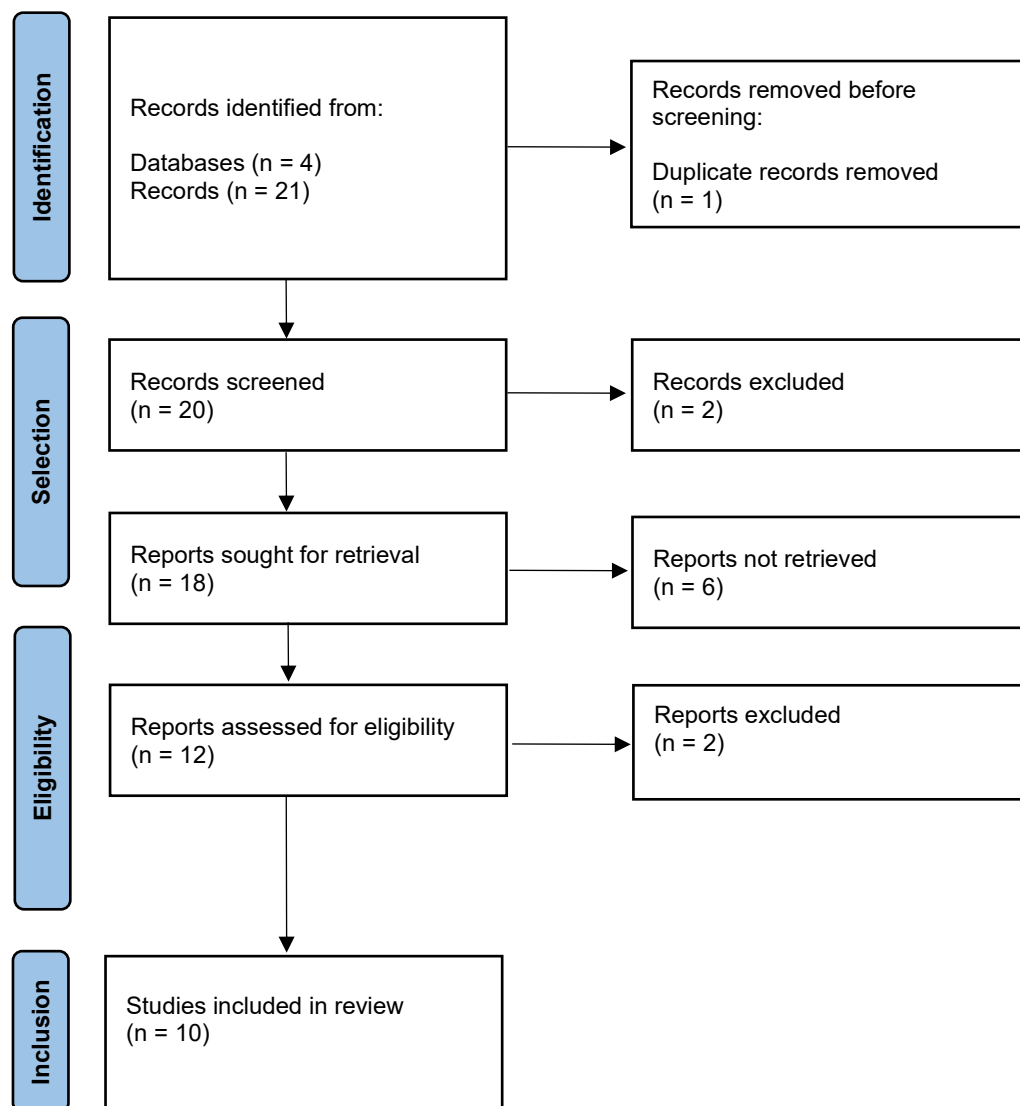
women with HELLP syndrome. The specific objectives are: to recognize the risk factors for HELLP syndrome; to identify the clinical manifestations of HELLP syndrome; and to describe the nursing care provided to women with HELLP syndrome. Knowledge of the clinical manifestations of HELLP syndrome is of paramount importance, as this pathology is part of the range of complications of a high-risk pregnancy; therefore, promoting the improvement of women's living conditions and health contributes to reducing female morbidity and mortality.

## Methodology

This study is a literature review on pharmaceutical care in primary health care and other information related to pharmaceutical assistance. The acquisition and analysis of scientific articles, theses, and dissertations was carried out in the databases Scientific Electronic Library Online (SciELO), Virtual Health Library (BVS), Latin American and Caribbean

Literature in Health Sciences (LILACS), and through electronic search engines and virtual libraries, such as Google Scholar. The search for scientific documents was conducted from August 2022 to January 2023, with selection criteria considering complete works published in full in the last ten years (2018-2023) using the descriptors: "Nursing Care", "Hypertension", and "Pregnancy". Subsequently, an approach was taken to organize the information and identify the object of study that addresses the relevant topic. Based on the research conducted, 21 articles were found. From these, we adopted selection criteria, which were based on the following sequence: reading the abstract of each article, analyzing the article's periodization, articles published in full text, and articles published in Portuguese. Of the 21 articles, we selected 12 articles, and from these, we made a further selection, totaling 10 articles that meet the objectives of the research conducted.

**Flowchart 1.** Search and selection of studies. Rio de Janeiro, RJ, Brazil, 2023



## Results

A chart was created containing the ten articles, and for each one, the year of publication, source, title, and

author were highlighted, as well as the study approach, subject, data collection method, main results, place of publication, and keywords used. After the flowchart was

completed, we analyzed the results found. In this section, to provide the reader with a better understanding of the works

identified by the data collection, we constructed an analytical table with them, as can be seen in Chart 1.

**Chart 1.** Summary of the main articles found in the database search. Rio de Janeiro, RJ, Brazil, 2023

| Title                                                                                                                                                                      | Author                                                                                                                                                                                                   | Publication                                                                                             | Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Atuação do enfermeiro a pacientes portadoras de síndrome hipertensiva específica da gestação <sup>8</sup>                                                                  | Abrahão, Ângela Caroline Martins; Santos, Raimunda Fernanda; Viana, Sílvia Regina de Gois; Viana, Sueze Moraes; Costa, Christina Souto Cavalcante.                                                       | Rev. Cient. da Esc. Estadual de Saúde Pública de Goiás "Candido Santiago"; 6(1): 51-63, jan.-abr. 2020. | Effective prenatal care provided by professionals reduces the incidence of preeclampsia in pregnant women and removes them from the risk group, especially those with predisposing and etiological factors. Therefore, it is possible to describe the nurse's role in addressing this pathology, noting the need for collaborative work with a multidisciplinary team to ensure effective care for the pregnant woman.                                                                                                                                                                                                                                                                         |
| Síndromes hipertensivas na gestação: perfil clínico materno e condição neonatal ao nascer <sup>6</sup>                                                                     | Moraes, Lhayse dos Santos Lopes; França, Alba Maria Bomfim de; Pedrosa, Aldrya Ketly; Miyazawa, Ana Paula.                                                                                               | Rev. baiana saúde pública; 43(3): 599-611, 2011.                                                        | The maternal clinical and obstetric profile is considered to be impaired; however, the neonatal outcome was considered positive in the face of this pathology. Therefore, the importance of qualified prenatal care is highlighted, minimizing risks and avoiding complications through preventive measures.                                                                                                                                                                                                                                                                                                                                                                                   |
| Prevalência das síndromes hipertensivas específicas da gestação (SHEG) <sup>9</sup>                                                                                        | Brito, Karen Krystine Gonçalves de; Moura, Jorge Roberto Pessoa de; Sousa, Merifane Januario de; Brito, Josinalva Vieira de; Oliveira, Simone Helena dos Santos; Soares, Maria Júlia Guimarães Oliveira. | Rev. Pesqui. (Univ. Fed. Estado Rio J., Online); 7(3): 2117-2125, jul.-set. 2015.                       | The results highlight the need for prenatal care planning, aiming to reduce maternal and perinatal morbidity and mortality rates.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Cuidado do enfermeiro às mulheres com síndromes hipertensivas na gestação em maternidade <sup>10</sup>                                                                     | Santos, Sinderlândia Domingas.                                                                                                                                                                           | Curitiba; s.n; 2022                                                                                     | In conclusion, this study led to the development of a care protocol that did not previously exist in the institution and that took into account the institution's reality, the competencies and weaknesses perceived by the maternity ward nurses, thus contributing to its effective use. The developed technology can contribute to the improvement and standardization of nursing practices, not only in one sector but in various areas of the maternity ward regarding the care of women with hypertensive syndromes, so that the best evidence-based care is offered and standardized within the institution, providing safety for patients and prospects for better obstetric outcomes. |
| O papel da enfermagem nas síndromes hipertensivas da gravidez: revisão integrativa <sup>11</sup>                                                                           | Damasceno, Ana Alice de Araújo; Cardoso, Marly Augusto.                                                                                                                                                  | Nursing (Ed. bras., Impr.); 25(289): 7930-7939, jun. 2022.                                              | The studies analyzed demonstrate the interfaces and challenges of nursing in the care of pregnant women with hypertensive syndromes during pregnancy, highlighting the primary role of nursing in the health care of pregnant women.                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Fatores de risco e elementos primitivos no desenvolvimento de síndromes hipertensivas no pré-natal: revisão integrativa <sup>12</sup>                                      | Cruz Neto, João; Santos, Paula Suene Pereira dos; Oliveira, Joseph Dimas de; Cruz, Rachel de Sá Barreto Luna Callou; Oliveira, Dayanne Rakelly.                                                          | Rev. enferm. UFSM; 12: e18, 2022.                                                                       | The literature presents relevant factors regarding the development of hypertensive syndrome, clarifying the primary elements and risk factors. Furthermore, it supports care and points towards the development of research that creates instruments geared towards the studied population.                                                                                                                                                                                                                                                                                                                                                                                                    |
| Análise de padrão da razão de mortalidade materna por hipertensão <sup>13</sup>                                                                                            | Oliveira, Emanuel Thomaz de Aquino; Cavalcante, Antônio Eduardo Osório; Santos, Luisa Chrisdayla Macedo; Balduino, Ana Christina de Sousa; Penha, Jardeliny Corrêa da; Rodrigues, Jailson Alberto.       | Rev. Pesqui. (Univ. Fed. Estado Rio J., Online); 12: 609-615, jan.-dez. 2020.                           | Managers and professionals must be committed to developing actions to promote women's health during the pregnancy-puerperal cycle in various health services, in a decentralized manner, through qualified, humanized, and comprehensive care.                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Desfechos perinatais em gestantes com síndromes hipertensivas: revisão integrativa <sup>14</sup>                                                                           | Cassiano, Alexandra do Nascimento; Vitorino, Ana Beatriz Ferreira; Oliveira, Samara Isabela Maia de; Silva, Maria de Lourdes Costa da; Sousa, Núbia Maria Lima de; Souza, Nilba de Lima.                 | Rev. enferm. UFSM; 10: 23, 2020.                                                                        | Research analyzing fetal/neonatal exposure to maternal conditions such as severe pre-eclampsia and chronic hypertension superimposed on pre-eclampsia represents a knowledge gap.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Gestantes em Cruzeiro do Sul, Acre: características demográficas e socioeconômicas, ocorrência e fatores associados aos distúrbios hipertensivos na gravidez <sup>15</sup> | Damasceno, Ana Alice de Araújo.                                                                                                                                                                          | São Paulo; s.n; 2023.                                                                                   | Our results reinforce the importance of understanding the characteristics of pregnant women and their newborns, as well as the adverse outcomes affecting their health in the Brazilian Western Amazon. These results may contribute to the planning and improvement of maternal and child health care programs at various levels of care, constituting an important tool, based on scientific evidence, that encompasses several reflections on maternal and neonatal health.                                                                                                                                                                                                                 |
| Relação entre risco gestacional e tipo de parto na gravidez de alto risco <sup>16</sup>                                                                                    | Antunes, Marcos Benatti; Rossi, Robson Marcelo; Pelloso, Sandra Marisa.                                                                                                                                  | Rev. Esc. Enferm. USP; 54: e03526, 2020.                                                                | Identifying the relationship between gestational risks and the type of delivery and abortion can contribute to the development of strategies and assist in planning actions within women's health care networks, developing specific and individualized care pathways for each gestational risk.                                                                                                                                                                                                                                                                                                                                                                                               |

## Discussion

Based on the analysis of the presented data, it was possible to organize two categories: HELLP Syndrome and Nursing Care in HELLP Syndrome. The studies were predominantly descriptive. Descriptive studies aim to inform about the distribution of an event and are used to achieve the main objectives: identifying risk groups based on the disease and nursing care, which informs about the needs and characteristics of the follow-ups, and suggests explanations for variations in frequency, serving as a basis for further research on the subject.

### HELLP syndrome

Studies conducting epidemiological assessments of the severity of HELLP syndrome highlight the high rate of maternal mortality resulting from it. During pregnancy, certain pre-existing or current conditions can constitute risk factors. A family history of hypertension, diabetes, or even the presence of these conditions in previous pregnancies can serve as a warning sign for healthcare professionals<sup>6,9</sup>. Research has shown that pregnancy-specific hypertensive syndrome (PSHS), diabetes mellitus, and pre-eclampsia are potential complications during pregnancy. When eclampsia develops, the woman is at imminent risk of developing HELLP syndrome. Hypertension is the main complication in pregnancy and the leading cause of mortality. The causes of gestational hypertension are not yet fully understood, but several predisposing factors exist, such as maternal age (early or advanced), nulliparity, multiple pregnancies, and diabetes<sup>12,13</sup>.

Furthermore, hypertension in pregnancy is defined as an alteration of the pregnant organism that has as a symptom blood pressure levels higher than 140 x 90 mm Hg or an increase of 30 mm Hg and 15 mm Hg in systolic and diastolic pressures, respectively. Chronic hypertension is when elevated blood pressure already existed before pregnancy. It can be diagnosed retrospectively when pre-eclampsia or gestational hypertension does not return to initial blood pressure levels. Women with chronic hypertension have an increased risk of pre-eclampsia<sup>15</sup>.

According to studies, pregnancy-induced hypertension is also one of the factors that lead to the birth of classic high-risk premature infants, defined as those born before completing 37 weeks of gestation. The risk of premature birth and the associated economic burden are enormous. Neonatal mortality and morbidity are higher among premature infants; each day of prematurity can trigger a financial deficit, altering the state's budget for medical care and significantly reducing the chances of a positive outcome<sup>14,16</sup>.

### Nursing care in HELLP syndrome

Nursing professionals must be attentive throughout the entire gestational period to prevent undesirable occurrences during this event. Actions to promote health and prevent risks during pregnancy should be the focus of care for this clientele. From this perspective, prenatal care, as recommended by the Ministry of Health, is the path and the safety that both clients and healthcare professionals

Nursing consultations, prenatal care, attention to the appearance of adverse clinical manifestations, and counseling are highlighted as important points to be monitored during the care of women during nursing consultations. On the other hand, attention is drawn to complications related to hypertension, the presence of hemorrhages, bleeding, and signs of pre-eclampsia and eclampsia, as indicators of more serious complications and mortality<sup>8,11</sup>.

The outcome of eclampsia treatment depends on nursing care. Among the nursing care measures that should be provided to women during eclampsia and HELLP syndrome are: elevating the head of the bed to a 30° angle with the horizontal; placement of a rubber pharyngeal tube which, in addition to protecting the tongue, allows for easy aspiration of mucus from the mouth and nose; permanent bladder catheterization to assess fluid volume and urine output; continuous oxygen therapy according to the degree of cyanosis; monitoring blood pressure levels; and observation for signs and symptoms of clinical complications. When coma is prolonged, the patient's position should be changed five to six times a day to reduce the risk of pressure ulcers, and liquid nutrition should be provided via a gastric tube to reduce acidosis and meet caloric needs<sup>10</sup>.

Nursing plays an important and fundamental role in the prevention and control of symptoms that may affect women during pregnancy. This responsibility makes the nursing professional one of the main agents in monitoring pregnancy and preventing complications. They can perform the following care: offering emotional support to the pregnant woman, providing guidance to the pregnant woman and her family, assessing uterine dynamics, assessing fetal well-being, checking for signs of headache and scotomas, installing and managing drains, as well as administering appropriate medication<sup>11</sup>.

### Final Considerations

The publications analyzed were mostly from medical journals, although nursing articles were also represented, contributing to the assessment of nursing care to be provided to women with HELLP syndrome. Without a doubt, HELLP syndrome encompasses a wide range of clinical impairments, and its diagnosis can be confused with various pathologies, which complicates treatment.

Studies have shown that among the main risk factors for HELLP syndrome are pregnancy-specific hypertensive syndrome (PSHS), severe hypertension and its complications (pre-eclampsia and eclampsia), diabetes mellitus, and other predisposing factors such as maternal age (early or advanced), nulliparity, and multiple pregnancies. These factors can trigger or worsen HELLP syndrome. The clinical manifestations of HELLP syndrome are multiple and complex. Several vital organs are affected, making the syndrome difficult to diagnose and treat, thus constituting a serious health problem. In this scenario, the nurse plays an important role in the assessment of the



pregnant woman, despite the preventive interventions performed during prenatal consultations. It is known that inadequate prenatal care reflects high morbidity rates. The nursing care to be implemented ranges from minimal to maximal complexity, since the woman in this situation often presents total dependence on nursing care. Thus, we

conclude that the elaboration of this research, in addition to showing important aspects about HELLP syndrome, was of paramount importance for expanding our academic knowledge, as we had the opportunity to carry out an in-depth analysis of the proposed topic.

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