

# PROFILE OF OBSTETRIC PATIENTS ADMITTED TO THE INTENSIVE CARE UNIT OF A PUBLIC HOSPITAL

## PERFIL DE PACIENTES OBSTÉTRICAS ADMITIDAS NA UNIDADE DE TERAPIA INTENSIVA DE UM HOSPITAL PÚBLICO

## PERFIL DE PACIENTES OBSTÉTRICAS INGRESADAS EN LA UNIDAD DE CUIDADOS INTENSIVOS DE UN HOSPITAL PÚBLICO

Djailma Cinthia Ernesto Silva<sup>1</sup>  
Laryssa Grazielle Feitosa Lopes<sup>2</sup>  
Marília Gabrielle Santos Nunes<sup>3</sup>  
Maria Aparecida Farias de Souza<sup>4</sup>  
Rebeca Nascimento de Moura<sup>5</sup>  
Hortência Héllen de Azevedo Medeiros<sup>6</sup>

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**Objective:** to analyze the profile of obstetric patients admitted to the Intensive Care Unit. **Method:** quantitative, descriptive and retrospective study, developed through searches and retrieval of data referring to socioeconomic and clinical profile of pregnant or postpartum patients' records admitted for obstetric cause, between January 2017 and December 2018, in the Intensive Care Unit of a public hospital in Pernambuco, Brazil. The results were analyzed using the Statistical Package for the Social Sciences. **Results:** most women were between 19 and 29 years (56.1%), and *pardas* (88.6%). The majority was hospitalized in the postpartum (75.6%), the most prevalent delivery type was cesarean section (87.2%), hypertensive syndromes were the major cause of hospitalization (61.8%). The main hypertensive disorder was pre-eclampsia (39.8%). **Conclusion:** the young adult puerperal patients, whose delivery route was cesarean section, with hypertensive syndromes are hospitalized more frequently in the Intensive Care Unit.

**Descriptors:** Pregnancy, High-Risk. Intensive Care Unit. Obstetrics.

*Objetivo:* analisar o perfil de pacientes obstétricas admitidas na Unidade de Terapia Intensiva Adulto. *Método:* estudo quantitativo, descritivo-retrospectivo, desenvolvido por meio da busca e obtenção dos dados referentes ao perfil socioeconômico e clínico dos prontuários das pacientes gestantes ou puerperas internadas por causa obstétrica, entre janeiro 2017 e dezembro de 2018, na Unidade de Terapia Intensiva de um hospital público de Pernambuco, Brasil. Os resultados foram analisados pelo programa Statistical Package for the Social Science. *Resultados:* as mulheres

<sup>1</sup> Nurse. Specialist in Women's Health Nursing. Nurse Intern at the Hospital Barão de Lucena. Recife, Pernambuco, Brazil. cinthianesto@gmail.com. <http://orcid.org/0000-0001-7700-4999>.

<sup>2</sup> Nurse. MSc in Gerontology. Professor at the Faculdade Maurício de Nassau. Caruaru, Pernambuco, Brazil. <http://orcid.org/0000-0002-0709-5378>.

<sup>3</sup> Nurse. MSc in Collective Health. Nurse at the pediatric emergency at the Hospital Barão de Lucena. Recife, Pernambuco, Brazil. <http://orcid.org/0000-0003-1764-9810>.

<sup>4</sup> Nurse. Specialist in Women's Health Nursing. Nurse Intern at the Hospital Barão de Lucena. Recife, Pernambuco, Brazil. <http://orcid.org/0000-0002-8743-2011>.

<sup>5</sup> Nurse. Specialist in Women's Health Nursing. Nurse Intern at the Hospital Barão de Lucena. Recife, Pernambuco, Brazil. <http://orcid.org/0000-0002-0281-6850>.

<sup>6</sup> Nurse. Specialist in Women's Health Nursing. Nurse Intern at the Hospital Barão de Lucena. Recife, Pernambuco, Brazil. <http://orcid.org/0000-0003-4662-4372>.

*tinham, em sua maioria, idade entre 19 e 29 anos (56,1%), e cor parda (88,6%). A maioria foi internada no pós-parto (75,6%), o tipo de parto mais prevalente foi o cesáreo (87,2%), as síndromes hipertensivas foram a maior causa do internamento (61,8%). O principal distúrbio hipertensivo apresentado é pré-eclâmpsia (39,8%). Conclusão: as pacientes adultas jovens, puérperas de parto cesáreo, com síndromes hipertensivas são internadas com mais frequência na Unidade de Terapia Intensiva.*

*Descritores: Gravidez de Alto Risco. Unidade de Terapia Intensiva. Obstetrícia.*

*Objetivo: analizar el perfil de las pacientes obstétricas ingresadas en la Unidad de Cuidados Intensivos. Método: estudio cuantitativo, descriptivo y retrospectivo, desarrollado por medio de la búsqueda y la recuperación de los datos del perfil socioeconómico y clínico del registro médico de pacientes embarazadas o en posparto ingresadas por causa obstétrica, entre enero de 2017 y diciembre de 2018, en la Unidad de Cuidados Intensivos de un hospital público en el estado de Pernambuco, Brasil. Los resultados fueron analizados mediante el Statistical Package for the Social Sciences. Resultados: las mujeres tenían, en su mayoría, edades comprendidas entre los 19 y 29 años (56,1%), y pardas (88,6%). La mayoría fue hospitalizada en el posparto (75,6%), el tipo de parto por cesárea fue el más frecuente (87,2%), síndromes hipertensivas fueron la principal causa de hospitalización (61,8%). El principal trastorno hipertensivo presentado es la pre-eclampsia (39,8%). Conclusión: las pacientes adultas jóvenes, puérperas, cuyo parto fue cesárea, con síndromes hipertensivos son hospitalizadas con mayor frecuencia en las Unidades de Cuidados Intensivos.*

*Descriptorios: Embarazo de Alto Riesgo. Unidad de Cuidados Intensivos. Obstetricia.*

## Introduction

Pregnancy is a physiological phenomenon whose evolution occurs without complications for the most women. However, some pregnant women, who are bearers of comorbidities, have suffered some trauma or developed any complication, are more likely to evolving to unfavorable outcome for both the fetus and the mother. In the case of a borderline situation, pregnancy brings with it risks for the mother-child dyad. The women who have higher risks for particular characteristics are called as high-risk pregnant women. The so-called high risk is when the life and/or health of the mother, and/or the fetus and/or newborn are more likely to be affected by complications<sup>(1)</sup>.

In Brazil, approximately 92% of maternal deaths are considered preventable, and occur, mainly, for reasons such as hypertension, hemorrhage or puerperal infections. The World Health Organization (WHO) considers that these causes are preventable, either through actions related to monitoring in pre-natal care, care during childbirth, or actions during the puerperium. According to the Ministry of Health (MOH), Brazil did not reach the target established in the millennium development goals to reduce

maternal mortality in 75%, between 1990 and 2015. The Maternal Mortality Ratio (MMR) in the country, in 2016, was 64 maternal deaths for every 100 thousand live births<sup>(2)</sup>.

Aiming to improve the quality of care and reduce maternal mortality, the Ministry of Health created and established the *Rede Cegonha* in 2011, which brought advances to attention to the health of women and children. Among the guidelines governing this ordinance, there stand out: the guarantee of embracement of complications of pregnancy; access to a timely high-risk prenatal care; execution of usual- and high-risk pre-natal examinations; and access to the results with timeliness<sup>(3)</sup>.

In developed countries, whose prenatal care is efficient, the number of obstetric admissions in Intensive Care Unit (ICU) and maternal mortality are low. However, despite the technological, scientific and social advances, the risk factors still have an impact on the maternal health care. Unlike the other patients admitted to the intensive care unit, the pregnant women represents a challenge for the multiprofessional team working in this sector, taking into account the changes that occur in the gravid body<sup>(4)</sup>.

In the case of pregnant women, there are two types of circumstances of hospitalization in the ICU: those related to pregnancy and those not related. The obstetric causes are: hypertensive syndromes (preeclampsia with or without signs of severity, chronic arterial hypertension, arterial hypertension and superimposed preeclampsia), the hemorrhagic syndromes, and sepsis related to obstetric cause. The non-obstetric causes are: respiratory failure, cardiovascular diseases, the use of illicit/licit drugs and trauma<sup>(5)</sup>.

Pregnancy is a period that requires specific attention and care. In this way, there becomes essential to know the comorbidities and the problems that lead a pregnant woman to be admitted to the intensive care unit, in order to perform effective interventions and differentiated care aiming to prevent maternal mortality.

The relevance of this research is to produce information on the comorbidities and complications that influence the hospitalization of pregnant and postpartum women in the intensive care unit, contributing to increasing the knowledge in this area.

In addition, the study was conducted by the guiding question: What is the profile of women admitted for obstetric causes to the Intensive Care Unit? And aims to analyze the profile of obstetric patients admitted to the Intensive Care Unit.

## **Method**

Quantitative, descriptive and retrospective study, carried out in a public hospital of maternal-child reference, located in the metropolitan region of Recife, Pernambuco, Brazil. The data were obtained through secondary data from 123 medical records of obstetric patients who were hospitalized in the ICU, in the period from January 2017 to December 2018.

Of the 205 medical records, there was a random draw of 123 records that met the inclusion criteria, thus composing the sample: pregnant and postpartum women admitted for clinical or surgical cases to the general ICU by obstetric causes, referred from the following

sectors: Obstetric Triage (OT), Obstetric Center (OBC), In-Rooming (IR) and High-Risk Infirmery. There was exclusion of the medical records of women who had hospitalizations for non-obstetric causes and with absence of data or filled unreadably.

The data were collected in the period from August to October 2019. The data were obtained initially from the book of records of admission of all pregnant and puerperal women of the general ICU, referred to hospitalization in this sector by the obstetric triage, obstetric center, in-rooming and high-risk infirmery.

Subsequently, there were the search and review of medical records in the Medical Files Service of the hospital. A structured form, developed by the researchers and previously validated by experts, was used, extracting the following information: age, race/ethnicity, marital status, origin, phase of the pregnancy-puerperal cycle at hospitalization, number of pregnancies, births and abortions, gestational age, type of delivery in case of puerperal woman, personal history, number of prenatal consultations, cause of hospitalization, diagnosis and complications, hypertensive disorders, invasive procedures during hospitalization and outcome.

After collection, the data were tabulated and stored in Excel spreadsheet for Windows 2010. The results were analyzed using the Statistical Package for the Social Sciences (SPSS), version 20, through descriptive statistics presented in frequencies, with absolute and relative numbers.

The study followed the standards established by Resolution n. 466 of December 12, 2012, of the National Health Council of the Ministry of Health, which regulates the guidelines and norms regulating researches involving human beings. It is necessary to highlight that, in accordance with this resolution, the research involving humans always brings some kind of risk. To minimize the risk of possible embarrassment and dispute, the confidentiality of data and their anonymity was preserved. The results will be disseminated only for academic purposes. As for the benefits, it aims to disseminate the results to the manager of

the institution and the team of the intensive care unit, in order to carry out actions that aim to improve the quality of the nursing care with pregnant and puerperal women admitted. Data collection was started after approval by the Research Ethics Committee (REC) of the Health Sciences Center of the Federal University of Pernambuco (CCS/UFPE), under Opinion n. 3.431.709.

## Results

Most of the women admitted to the ICU of the hospital are between 19 and 29 years (56.1%), *pardas* (88.6%), uninformed marital status (77.2%), and are usually from cities of Pernambuco, but outside the Metropolitan Region (56.1%). In relation to schooling, 59.7% have until the incomplete secondary education (Table 1).

**Table 1** – Sociodemographic characteristics of the obstetric patients admitted to the adult Intensive Care Unit. Recife, Pernambuco, Brazil – 2019 (N=123)

Variables	n	%	% valid
<b>Age group</b>			
Up to 18 years	22	17.9%	-
19 - 29 years	69	56.1%	-
30 - 49 years	32	26.0%	-
<b>Race/Color</b>			
White	12	9.8%	-
<i>Parda</i>	109	88.6%	-
Black	2	1.6%	-
<b>Marital status</b>			
Married	12	9.8%	-
Stable union	1	0.8%	-
Unmarried	14	11.4%	-
Widow	1	0.8%	-
Uninformed	95	77.2%	-
<b>Origin</b>			
Cities in other states	2	1.6%	-
Other cities in Pernambuco	69	56.1%	-
Recife and Metropolitan Region	52	42.3%	-
<b>Education</b>			
Illiterate	4	3.3%	5.6%
Incomplete elementary school	21	17.1%	29.2%
Complete elementary school	9	7.3%	12.5%
Incomplete high school	9	7.3%	12.5%
Complete high school	26	21.1%	36.1%
Higher education	3	2.4%	4.2%
Uninformed	51	41.5%	-
<b>Total</b>	123	100.0%	100.0%

Source: Created by the authors.

Note: Conventional signal used:

- Numerical data not applicable.

The women were mostly hospitalized in the post-partum phase (75.6%), and among pregnant women, 71.4% the gestational age was below 32 weeks. Approximately half of the women had only one pregnancy (45.5%) and one delivery (49.6%). Only 3 in every 10 women treated at the hospital had already aborted and the main

type of delivery was by cesarean section (87.2%). Most women did not have any type of personal history (52%), and 28.5% were diagnosed with arterial hypertension. A little more than half of women (51.8%) attended at least 6 prenatal consultations (Table 2).

**Table 2** – Clinical data of obstetric patients admitted to the adult Intensive Care Unit. Recife, Pernambuco, Brazil – 2019 (N=123) (continued)

Variables	n	%	% valid
<b>Cycle phase</b>			
Pregnancy	21	17.1%	-
Post-abortion/ Ectopic pregnancy	9	7.3%	-
Post-partum	93	75.6%	-
<b>Gestational age</b>			
< 32 weeks	15	12.2%	71.4%
32-36 weeks	5	4.1%	23.8%
> 37 weeks	1	0.8%	4.8%
Not applicable	102	82.9%	-
<b>Number of pregnancies</b>			
1	56	45.5%	-
2	22	17.9%	-
3	15	12.2%	-
4 or more	30	24.4%	-
<b>Number of deliveries</b>			
0	10	8.1%	-
1	61	49.6%	-
2	23	18.7%	-
3	14	11.4%	-
4 or more	15	12.2%	-
<b>Number of abortions</b>			
0	89	72.4%	-
1	24	19.5%	-
2	7	5.7%	-
3	1	0.8%	-
4 or more	2	1.6%	-
<b>Type of delivery</b>			
Normal	12	9.8%	12.8%
Cesarean section	82	66.7%	87.2%
Not applicable	29	23.6%	-
<b>Personal history*</b>			
Diabetes <i>Mellitus</i>	9	7.3%	-
Pneumopathies	4	3.3%	-
Heart Diseases	3	2.4%	-

**Table 2** – Clinical data of obstetric patients admitted to the adult Intensive Care Unit. Recife, Pernambuco, Brazil – 2019 (N=123) (conclusion)

Variables	n	%	% valid
<b>Personal history*</b>			
Others	13	10.6%	-
None	64	52.0%	-
<b>Pre-natal consultations</b>			
< 6 consultations	30	24.4%	35.3%
≥ 6 consultations	44	35.8%	51.8%
Unattended	11	8.9%	12.9%
Uninformed	38	30.9%	-
<b>Total</b>	123	100.0%	100.0%

Source: Created by the authors.

Note: Conventional signal used:

- Numerical data not applicable.

\* The sum in columns can exceed 100% because each patient could present more than one answer.

Table 3 shows that the main sector of origin is the Obstetric Center (81.3%) and has hypertensive syndromes as the main cause of hospitalization (62.6%). The mean hospitalization length is four days, but the majority of women remained hospitalized for up to three days (58.7%). The main complications during hospitalization are the hypertensive syndromes and anemia, with 61.8% and 25.2%, respectively. The main hypertensive disorder presented is

the pre-eclampsia (39.8%), followed by HELLP Syndrome (hemolysis, elevated liver enzymes and low platelet count) (23.6%), and eclampsia (22.8%). In relation to invasive procedures, the most used is the blood transfusion, used in 59.4% of cases reported, followed by the use of vasoactive drugs with 43.5%. Among the patients observed, only 1 (0.8%) death occurred, and 81.3% of hospitalizations occurred in 2017.

**Table 3** – Admission data of the obstetric patients admitted to the adult Intensive Care Unit. Recife, Pernambuco, Brazil – 2019 (N=123) (continued)

Variables	n	%	% valid
<b>Causes of admission</b>			
Hypertensive Syndromes	77	62.6%	-
Hemorrhagic Syndromes	12	9.8%	-
Puerperal infection	4	3.3%	-
Other causes	28	22.8%	-
Other infections	13	10.6%	-
<b>Days of hospitalization in the Intensive Care Unit*</b>			
Up to 3	61	49.6%	58.7%
4 to 6	29	23.6%	27.9%
7 to 9	7	5.7%	6.7%
10 or more	7	5.7%	6.7%
Blank	19	15.4%	-
<b>Diagnosis and main complications during hospitalization**</b>			
Hypertensive Syndromes	76	61.8%	-
Anemia	31	25.2%	-
Sepsis	13	10.6%	-

**Table 3** – Admission data of the obstetric patients admitted to the adult Intensive Care Unit. Recife, Pernambuco, Brazil – 2019 (N=123) (conclusion)

Variables	n	%	% valid
<b>Diagnosis and main complications during hospitalization**</b>			
Hemorrhagic shock	11	8.9%	-
Acute lung edema	9	7.3%	-
Acute breathing insufficiency	9	7.3%	-
Heart disease	8	6.5%	-
Acute Renal Failure	6	4.9%	-
Puerperal infection	3	2.4%	-
Other infections	18	14.6%	-
Others	15	12.2%	-
<b>Hypertensive disorders**</b>			
Preeclampsia	49	39.8%	-
HELLP syndrome	29	23.6%	-
Eclampsia	28	22.8%	-
Chronic Arterial Hypertension	15	12.2%	-
Superimposed preeclampsia	12	9.8%	-
Gestational Hypertension	4	3.3%	-
Not applicable	43	35.0%	-
<b>Invasive procedures**</b>			
Blood transfusion	41	33.3%	59.4%
Use of vasoactive drugs	30	24.4%	43.5%
Mechanical ventilation	21	17.1%	30.4%
Central catheter insertion	21	17.1%	30.4%
Orotracheal intubation	20	16.3%	29.0%
Hemodialysis	7	5.7%	10.1%
Cardiopulmonary resuscitation	2	1.6%	2.9%
Tracheostomy	1	0.8%	1.4%
Blank	54	43.9%	-
<b>Total</b>	<b>123</b>	<b>100.0%</b>	<b>100.0%</b>

Source: Created by the authors.

Notes:

HELLP = hemolysis, elevated liver enzymes, low platelet count.

\*Mean = 4 days.

\*\* The sum in columns can exceed 100% because each patient could present more than one answer.

Conventional signal used:

- Numerical data not applicable.

## Discussion

The pregnant and puerperal women admitted to the Intensive Care Unit are mostly young adults, a result similar to that found in a study conducted in the state of Pará, in 2016, in which 60.18% of adult patients admitted to the ICU were between 20 and 34 years. This finding can

be related to the fact that this age group is in reproductive period and has active sexual life<sup>(6)</sup>.

The probability of a woman, during pregnancy, being hospitalized in an intensive care unit is much greater than that of a not-pregnant woman of reproductive age. Studies estimate that approximately 0.1% through 0.9% of pregnant women develop some complication

that requires hospitalization in the ICU. In general, the prognosis of those women is favorable, requiring few interventions, with low mortality rates, and represents less than 3% of cases<sup>(7)</sup>.

In relation to race/color, the majority were *pardas*. This result is similar to that found in a study carried out in a public maternity hospital of reference, in Piau , in the year 2014, with 139 patients, of whom 60.4% were *pardos*<sup>(8)</sup>. A literature review, which analyzed the stigmatization of black women in prenatal and childbirth in the UHS, unveiled that the black women and *pardas* have a greater index of pilgrimage of childbirth, lack of institutional bond, greater chances of post-term birth, and a smaller number of prenatal consultations, which contribute to pregnancy complications and hospitalization in an intensive care unit<sup>(9)</sup>.

In relation to origin, most of the patients in the study are from cities in the countryside of the state; this datum was already expected, since the hospital where the research was conducted is a maternal-child reference in the state of Pernambuco. Corroborating this fact, a study<sup>(10)</sup>, when studying the clinical-demographic profile of patients in pregnant- puerperal cycle in the ICU, noticed that 50% of the admitted patients were from countryside cities<sup>(10)</sup>.

Most of the women admitted to the intensive care unit, within the period established in this study, have complete secondary education, which is similar to a study carried out in Fortaleza, in the year 2017, with 106 patients, of whom 35.8% had complete secondary education, however, differs from that observed in another study, in which 44.8% of the patients had only complete elementary education. Despite these differences, the data still show that women with low schooling have higher probability of complications in pregnancy and, consequently, hospitalization in intensive care<sup>(11-12)</sup>.

A study conducted aiming to analyze the differences in prenatal care and childbirth in the UHS, according to race/skin color, observed that the black/*pardo* women appear in worse conditions in socioeconomic characteristics in the assistance to childbirth and pre-natal. This

fact demonstrates the situation of vulnerability to which this population is exposed, making clear that the social conditions, the level of schooling, among other factors, directly influence the demand for health care services<sup>(13)</sup>.

Concerning the phase of the gravid-puerperal cycle at admission to the ICU, the majority of was in the puerperium, which corroborates the study<sup>(14)</sup> with 70 patients, on the epidemiological profile of patients hospitalized in a maternal Intensive Care Unit, in which 56% were hospitalized in the postpartum period. In a retrospective cohort study, conducted in a University Hospital, in Italy, 86% of patients admitted to the ICU were in the postpartum period at the time of hospitalization<sup>(15)</sup>.

In relation to the parity, approximately half of the women had only one pregnancy and were also primiparous, corroborating a retrospective study, performed in a Tertiary Hospital, in Portugal, with a sample of 93 patients, of whom 56.8% were primiparous<sup>(16)</sup>.

The cesarean section was the main route of delivery observed in a study on maternal morbidity and mortality in the intensive care unit in a hospital in Cuba, in which 53.3% were submitted to cesarean section<sup>(17)</sup>. Another study on the profile of admissions to intensive care unit obstetric uncovered that, in 65.4% of the cases, the delivery route was by cesarean section<sup>(7)</sup>. Taking into account that the majority of patients were hospitalized for hypertensive syndromes, and that childbirth is the only definitive treatment for pre-eclampsia, the vaginal delivery is the most indicated for women with pre-eclampsia and eclampsia, aiming to avoid the stress brought by a surgery in an altered body in different ways<sup>(1)</sup>.

Of the total sample, the majority had no personal history, similar to that found in a study<sup>(6)</sup> about the epidemiological profile of obstetric patients in an intensive care unit of a reference maternal-child hospital, in which 42.48% of patients denied the presence of personal history. This finding corroborates a study in which 65.5% of the patients had no personal history<sup>(8)</sup>.

With the interpretation of the data in this study, a little over half of the patients attended at



least six prenatal consultations, differing from a study carried out in São Luís, Maranhão, with 58 patients, in which 60.3% had no pre-natal care<sup>(12)</sup>. The Ministry of Health recommends at least 6 pre-natal medical and nursing consultations interspersed, monthly, until the 28<sup>th</sup> week, biweekly from the 28<sup>th</sup> until the 36<sup>th</sup> week, and weekly from the 36<sup>th</sup> to the 41<sup>st</sup> week of pregnancy<sup>(17)</sup>.

The pregnancy-related hypertensive syndromes (pre-eclampsia, HELLP syndrome and eclampsia) were the main cause of hospitalization in the ICU, which corroborates other national<sup>(8-9)</sup> and international<sup>(15-16)</sup> studies. This fact is important and confirms what the literature brings: hypertension is the leading cause of maternal death in Brazil, being a treatable complication and quality of care can be decisive in the outcome of these cases.

The mean of the item "hospitalization length" was four days, which is similar to that found in a study<sup>(14)</sup> performed in Alagoas, in the year 2015, in which the mean length of hospital stay was four days, and also approached another study<sup>(7)</sup>, which identified an average of five days of stay in the ICU.

The most common complications were the hypertensive syndromes and anemia. The main invasive procedure was the transfusion, which corroborates the study<sup>(7)</sup> performed in the obstetric ICU in Recife, in which the complication of 88.9% of patients hospitalized was pregnancy-related hypertensive syndromes, 58.4% had anemia, and 17.1% required blood transfusion. In Portugal, evaluating the obstetric admissions in a hospital, 57.0% needed blood transfusion<sup>(15)</sup>.

In a study that observed that the hypertensive syndromes were the main diagnosis (53%), the preeclampsia was the main complication, corresponding to 17.7% of the cases, followed by pre-eclampsia (17%), and HELLP syndrome (12.1%)<sup>(19)</sup>. In the present study, the pre-eclampsia stood out, followed by HELLP syndrome and eclampsia. There was only one death (0.8%), positive datum, since, in other studies, the rates of deaths ranged between 4%<sup>(11)</sup> and 10.3%<sup>(12)</sup>.

The main limitations that arose during the accomplishment of this study were the impossibility of collecting data from all selected records in the medical files service, lack of registration of relevant information on the records, and even divergent data in the various forms standardized by the institution.

In this way, there should be more rigor and attention in completing the forms, emphasizing the importance of the role of continuing education for those professionals and clarifying the importance of correctly completing the forms. It is necessary to have a copy of the pre-natal card with the records, since this instrument is of utmost importance and contains crucial data in the history of the current and previous pregnancy, as well as the socioeconomic data and results of examinations.

## Conclusion

The data analyzed in this study reveal a panorama of the current profile of obstetric patients admitted to the intensive care unit in a reference maternal-child hospital in the state of Pernambuco. The hypertensive syndromes had a prominent role as the main cause of hospitalization in the ICU. The patients, in their majority, are young adults, *pardas*, with a relatively low level of schooling, and from the countryside of the state. They were primiparous and also primigravidas, admitted to the ICU in the postpartum period.

The main complications were the hypertensive syndromes and anemia; the blood transfusion was the invasive procedure most often used, and of the hospitalized women, only one died.

Therefore, young adult puerperal women who underwent cesarean section, with hypertensive syndromes are hospitalized more frequently in the ICU. There is a need to improve the quality of obstetric care in order to reduce the number of maternal deaths, especially in pre-natal care, since the causes of hospitalization, when timely diagnosed, are avoidable and treatable. Nursing professionals need to be trained and able to

deal with pregnant and puerperal women in the intensive care unit, implementing the necessary interventions before the complications that led to their hospitalization in this critical sector, collaborating with other professionals who help them, so that they can recover and return to their everyday life without sequelae.

### Collaborations:

1 – conception, design, analysis and interpretation of data: Djailma Cinthia Ernesto Silva, Maria Aparecida Farias de Souza, Rebeca Nascimento de Moura and Hortência Héllen de Azevedo Medeiros;

2 – writing of the article and relevant critical review of the intellectual content: Laryssa Grazielle Feitoza Lopes and Marília Gabrielle Santos Nunes;

3 – final approval of the version to be published: Djailma Cinthia Ernesto Silva.

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