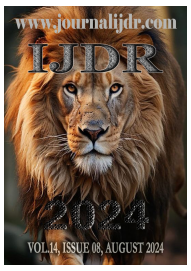
ISSN: 2230-9926

Available online at http://www.journalijdr.com

IJDR

International Journal of Development Research
Vol. 14, Issue, 08, pp. 66389-66393, August, 2024
https://doi.org/10.37118/ijdr.28597.08.2024



RESEARCH ARTICLE **OPEN ACCESS**

INTENSIVE CARE UNITS ADMISSIONS FOR HYPERTENSIVE DISORDERS IN PREGNANCY AND THE PUERPERIUM: AN EPIDEMIOLOGICAL ANALYSIS IN PERNAMBUCO FOR A PERIOD OF ONE DECADE

Simone Souza de Freitas[1]*, Ronaldo Leite de Lima[2], Jussara Passos de Almeida[3], Alexsandra Maria Bezerra[4], Carla Fernanda Emídio de Barros[4], Flavia Rejane de Souza[4], Larisse Calou Pinheiro de Melo[4], Jussara de Lucena Alves[4], Flávia Gonçalves do Nascimento[5], Bárbara da Silva Rocha[6], Kamila Pereira de Barros Almeida[7], Joana D'arc Assis Camelo[8], Tânia Cristina Justino da Silva[9] , Deborah Galdino Costa dos Santos[10], Claudia Necia Oliveira Damascena Costa[8], Raphaela Maria Araújo de Souza[11], Analia Maria de Arruda Neri[12], Cristiane Rodrigues da Silva Machado[13], Taciana Cristina Lima da Silva[14], Laisa Darlem da Silva Nascimento[15], Ellen Camila Gomes da Silva[16], Cecília de Oliveira Marinho Silva[17], Sandra Alves de Assis[18], Carla Thais Marques Ferreira[19] and Kilma Kely Gonçalves de Souza[20]

[1]Master's Student in Nursing at the State University of Pernambuco (UPE); [2]Nurse at Centro Universitário Brasileiro – UNIBRA; [3]Nursing at Centro Universitário Estácio do Recife; [4]Nurse at HC/UFPE/EBSERH; [5]Nurse specialist in orthopedics and traumatology HGV – UFP; [6]Nurse at Faculdade Pernambucana de Saúde –FPS; [7]Nurse from the Federal University of Pernambuco-UFPE; [8]Nurse from UNINASSAU; [9]Nurse for the Universality of Pernambuco – UPE; [10]Nurse from the Integrated Faculty of Vitória de Santo Antão-FAINTVISA; [11]Specialist in Auditing Health Systems and Occupational Nursing from Estácio de Sá University; [12]Radiologist at Faculdade Maurício de Nassau; [13]Nurse from the Federal University of Pernambuco-UFPE; [14]Specialization in Hospital Management in Health Services from the Metropolitan Faculty of Sciences and Technology; [15]Master in Health Management and Economics – UFPE/Nurse Supervisor of the EBSERH Network; [16]Nursing at the Brazilian University Center-UNIBRA; [17]Specialist in Social Gerontology from UFPE; [18]Specialization in Quality and Patient Safety by FIOCRUZ; [19]Nursing at the Brazilian University Center-UNIBRA; [20]Nurse at Faculdade Estácio do Recife-FIR

ARTICLE INFO

Article History:
Received 19th May, 2024
Received in revised form
17th June, 2024
Accepted 07th July, 2024
Published online 30th August, 2024

Key Words:

Intensive Care Units, Pregnancy-Induced Hypertension; Eclampsia; Pre eclampsia.

Corresponding Author:
Simone Souza de Freitas

ABSTRACT

Introduction: Hypertensive disease of pregnancy represents the most common complication during pregnancy, presenting significant risks to maternal and fetal health. This condition is characterized by clinical and laboratory impairment, with elevated blood pressure levels that can range from mild to severe. ***Objective:*** To analyze the prevalence of epidemiological aspects and the main causes of ICU admission due to the treatment of proteinuria and hypertensive disorders during pregnancy and the postpartum period in Pernambuco. ***Methodology:*** Ecological, observational, retrospective and cross-sectional study, carried out using information obtained from the databases of both systems of the Department of Informatics of the Unified Health System (DATASUS) about hypertension in pregnancy in both search systems: Hospital Information System3 (SIH) and Hospital Morbidity System (SMH) over a 10-year period, between January 2014 and December 2023. ***Results:*** There were 93,650 ICU admissions due to pregnancy-specific hypertensive disease in Pernambuco. AI Geres accounts for the largest portion of ICU admissions for women for the treatment of proteinuria and hypertensive disorders during pregnancy, childbirth and the postpartum period, totaling 68,946 cases, which represents approximately 73.6% of the total. ***Conclusion:*** It is a disease with a low mortality rate, more prevalent in brown women.

Citation*: *Simone Souza de Freitas, Ronaldo Leite de Lima, Jussara Passos de Almeida, Alexsandra Maria Bezerra, Carla Fernanda Emídio de Barros, Flavia Rejane de Souza et al. 2024. *"Intensive care units admissions for hypertensive disorders in pregnancy and the puerperium: an epidemiological analysis in pernambuco for a period of one decade". International Journal of Development Research*, 14, (08), 66389-66393.

INTRODUCTION

The hospitalization of patients with obstetric causes in intensive care units (ICU) is a challenge for the health system, being considered a public health problem (Pimenta, 2021). Pregnancy, with its specific physiological changes, differentiates patients in relation to other ICU care, aggravating clinical conditions and affecting the interpretation of diagnostic and laboratory tests (Amorim, 2017). According to data from the Pan American Health Organization (PAHO), the "Zero Maternal Deaths" campaign was launched in 2023. Prevent the Preventable" to encourage countries in Latin America and the Caribbean to reduce maternal mortality, which increased by 15% between 2016 and 2020 (WHO, 2023). An important indicator of

maternal morbidity is the transfer rate of women in the pregnancy-puerperal period to an ICU in a specific region (MS, 2023). The chances of ICU admissions for women during the pregnancy-puerperal cycle are greater than those of non-pregnant women (Martins, 2017). Approximately 90% of births in Brazil occur in hospitals, and 67.1% of deaths are a consequence of direct obstetric causes, represented mainly by pre-eclampsia and eclampsia, chronic hypertension of any cause, chronic hypertension with overlapping pre-eclampsia and hypertension gestational (Peraçoli, 2005). Gestational hypertension (HG) is considered a diagnosis of exclusion, determined when chronic hypertension and pre-eclampsia have already been ruled out during clinical evaluation (Pimenta, 2021). It is defined as an increase in blood pressure after 20 weeks of pregnancy, without signs of proteinuria or pre-eclampsia, and may be transient if blood pressure (BP) returns to normal after 12 weeks of delivery (Santos, 2023). Chronic hypertension is diagnosed in women with hypertension preceding pregnancy or identified before 20 weeks of gestation (MS, 2023).

Pre-eclampsia is characterized by generalized clinical impairment and heterogeneous laboratory changes, being classified from mild to severe. To diagnose pre-eclampsia, it is necessary to observe hypertension with levels lower than 160/110 mmHg in at least two measurements after the 20th week of pregnancy in patients not previously hypertensive, accompanied by proteinuria of 300 mg or more in 24 hours (MS, 2023; Xiong, 2018). Pre-eclampsia can also be considered when, even in the absence of proteinuria, there is a manifestation of imminent eclampsia, eclampsia, HELLP syndrome, or other maternal dysfunctions, including uteroplacental dysfunctions. The severe form is characterized by symptoms and laboratory changes such as: SBP > 160 and/or DBP > 110 mmHg in two measurements ten to fifteen minutes apart at rest; renal failure with serum creatinine > 1.2 mg/ dL in patients with previously normal renal function; persistent visual or brain disturbances; pulmonary edema or cyanosis; myocardial ischemia or infarction; persistent epigastric or right upper quadrant pain; HELLP syndrome (hemolysis, elevated liver enzyme levels and low platelet count); and fetal growth restriction (MS, 2023).

While eclampsia is characterized by the appearance of tonic- clonic seizures in patients with pre-eclampsia or gestational hypertension in the second or third trimester and/or immediate puerperium, with rare episodes in the first two trimesters and late puerperium (Santos, 2023). Thus, chronic hypertension with superimposition of pre-eclampsia is diagnosed when, after the twentieth week of gestation, significant proteinuria appears in previously hypertensive patients, accompanied by an acute increase in blood pressure (Sampaio, 2018). Data regarding ICU admissions due to hypertensive disorders during pregnancy and the postpartum period, as well as the epidemiological characteristics of these patients, are scarce (Pereira, 2017). Based on the assumption of the need to know epidemiological data on obstetric hospitalizations, morbidity and mortality of these ICU patients, the present study was carried out with the aim of analyzing the prevalence of different epidemiological aspects and the existing information on the main causes of ICU admission for treatment of proteinuria and hypertensive disorders during pregnancy and the postpartum period in Pernambuco.

METHODOLOGY

Ecological, observational, retrospective and cross-sectional study, carried out using information obtained from the databases of both systems of the Department of Informatics of the Unified Health System (DATASUS) about hypertension in pregnancy in both search systems: Hospital Information System3 (SIH) and Hospital Morbidity System (SMH) over a period of 10 years, between January 2014 and December 2023. The SIH/SUS made data available on the selection filter “treatment procedure for edema, proteinuria and hypertensive disorders in pregnancy, childbirth and the postpartum period” and, on the SMH/SUS, under the selection filter “ICD-10 morb list edema, proteinuria and hypertensive disorders in pregnancy, childbirth and the postpartum period”. In SIH/SUS, the variables of hospitalizations, days of hospitalization, average days of hospitalization, deaths, maternal mortality rate (MMR) and cost were analyzed, per year, during the 10 years studied and by health region. In the SMH/SUS system, the number of hospitalizations, deaths, age group, ethnicity/color, type of hospitalization (urgent or elective), by Brazilian region in the evaluated period were evaluated. The bibliographical review of the introduction was carried out based on the keywords used in the Health Sciences Descriptors (DeCS): Intensive Care Units, Pregnancy-Induced Hypertension; Eclampsia; Pre eclampsia. The data were analyzed using absolute numbers, percentages, through the interpretation of spreadsheets created by the Excel 2016 program. There was no submission to the Research Ethics Board due to DATASUS being a public domain database, without identification of registered patients.

RESULTS

In Pernambuco, between January 2014 and December 2023, a total of 93,650 (100%) women were admitted to the ICU for the treatment of proteinuria and hypertensive disorders during pregnancy, childbirth and the postpartum period, according to data from SIH/SUS. The analysis was conducted by regional health departments in the state, divided into 12 headquarters located in the municipalities of Recife, Limoeiro, Palmares, Caruaru, Garanhuns, Arcoverde, Salgueiro, Petrolina, Ouricuri, Afogados da Ingazeira, Serra Talhada and Goiana. When analyzing by region, it is highlighted that the I Regional Health Management (I Geres) concentrates the largest portion of ICU admissions for women for the treatment of proteinuria and hypertensive disorders during pregnancy, childbirth and the postpartum period, totaling 68,946 cases, which represents approximately 73.6% of the total. This management is recognized as a medical assistance center with the capacity to deal with medium and high complexity cases, meeting daily demands from other Regional Health Managements. AI Geres covers the entire Recife Metropolitan Region (RMR), made up of 19 municipalities and the island of Fernando de Noronha. The VIII Regional Health Management, based in Petrolina and covering seven municipalities, was responsible for 17,606 hospitalization cases, corresponding to approximately 18.8% of the total. In relation to the years with the highest number of hospitalizations, 2022 with 10,726 cases, equivalent to approximately 11.4% of the total, followed by 2019 recorded 10,018 cases, representing approximately 10.7% of the total (Table 1).

The total occupancy of hospital beds represented 426,207 (100%) days, with the highest number of beds occupied in 2018, with 48,497 days, and the lowest number of beds occupied in 2015, with 39,367 days. (Table 2). The average length of stay, in the total population studied, was 4.6 days, being the highest in 2018 and 2019, with 5 days, and the lowest in 2017 and 2020, with 4.6 days (Table 2). When SIH/SUS data on deaths due to proteinuria and hypertensive disorders during pregnancy, childbirth and the postpartum period were analyzed by health regions, it was observed that cases were recorded in six of the twelve health regions. The highest percentage of deaths was recorded in the I Regional Health Management, with 45 deaths (59.2%), followed by the VIII Regional Health Management, with 25 deaths (32.9%). The III and VII Regional Health Departments recorded two deaths each (2.6% each), as well as the IV and XI Regional Health. Departments, which had one death each (1.3% each), totaling 76 deaths (Table 3). Pernambuco's TXM, for the period analyzed, was 0.08, representing a total of 76 deaths. The lowest mortality rates occurred in 2017 and 2020, with 0.1 and 0.05, the highest in 2014, with 0.14 (Table 4). When evaluated by color, it was found that 37 (48.7%) were brown, followed by 3 (3.9%) white and 2 (2.6%) yellow, with 33 (43.4%) not being informed. The prevalent age group was 35 to 39 years old, with 21 cases (27.6%), followed by 30 to 34 years old, with 16 cases (21.1%); 20 to 24 years old and 25 to 29 years old, with 10 cases each (13.2% each); and 15 to 19 years old, with 9 cases (11.8%). The nature of care for these patients, according to SIH/SUS records, showed that all 76 hospitalizations that resulted in death were urgent (Table 5).

Table 1. Stratification of hospitalizations by Health Region (CIR) using the SIH/SUS filter "edema, proteinuria and hypertensive disorders in pregnancy, childbirth and the postpartum period", in Pernambuco

Year	Drowned from Ingazeira	Arcoverde V I	Caruaru IV	Garanhuns V	Goiana X II	Lemon Tree II	Ouricuri IX	Palmares III	Petrolina V III	Recife I	Willow V II	Serra Talhada	Total
2014	47	40	507	5	1	1	72	10	1323	6477	120	23	8626
2015	56	44	500	3	3	-	15	14	1569	5943	154	20	8321
2016	17	34	380	6	1	-	21	48	1751	5955	161	38	8412
2017	29	41	346	10	two	two	51	8	1979	6935	158	49	9610
2018	43	63	354	1	1	-	46	14	1894	7054	130	37	9637
2019	14	41	313	7	-	-	42	7	2156	7178	182	21	9961
2020	20	30	250	-	1	-	28	two	2039	6017	219	30	8636
2021	6	27	285	-	3	4	37	9	2051	7014	260	36	9732
2022	16	162	274	4	3	-	53	-	1518	8656	157	31	10874
2023	6	189	257	4	3	3	49	3	1326	7717	181	103	9841
Total	254	671	3466	40	18	10	414	115	17606	68946	1722	388	93650

Source: Ministry of Health - SUS Hospital Information System (SIH/SUS)

Table 2. Stratification of hospitalizations, average length of stay and days of hospitalization using the SIH/SUS filter "edema, proteinuria and hypertensive disorders in pregnancy, childbirth and the postpartum period", in Pernambuco

Year	Hospitalizations (n/%)	Average of stay (days)	Days of hospitalization (n/%)
2013	536 (0.6%)	6.4	3416 (0.87%)
2014	8426 (9.0%)	4.9	41149 (10.46%)
2015	8409 (9.0%)	4.7	39367 (10.00%)
2016	8174 (8.7%)	4.9	39753 (10.12%)
2017	9645 (10.3%)	4.6	44554 (11.32%)
2018	9737 (10.4%)	5	48497 (12.33%)
2019	10018 (10.7%)	4.8	47971 (12.18%)
2020	8631 (9.2%)	4.6	39851 (10.14%)
Total	93,650	4.6	426,207

Source: Ministry of Health - SUS Hospital Information System (SIH/SUS)

Table 3. Stratification of deaths by Health Region (CIR) using the filter "edema, proteinuria and hypertensive disorders in pregnancy, childbirth and the postpartum period" from SIH/SUS, in Pernambuco

Year	Caruaru IV	Palmares III	Petrolina V III	Recife I	Willow V II	Serra Talhada	Total
2014	-	-	6	8	-	-	14
2015	1	-	two	9	-	-	12
2016	-	-	1	3	-	-	4
2017	-	-	5	3	-	-	8
2018	-	1	1	8	-	-	10
2019	-	-	-	4	1	-	5
2020	-	-	3	5	-	-	8
2021	-	1	two	1	1	-	5
2022	-	-	two	3	-	1	6
2023	-	-	3	1	-	-	4
Total	1	two	25	45	two	1	76

Source: Ministry of Health - SUS Hospital Information System (SIH/SUS)

Table 4. Stratification of the mortality rate by the filter "edema, proteinuria and hypertensive disorders in pregnancy, childbirth and the postpartum period" of the SIH/SUS, in Pernambuco

Year	Hospitalizations (n/%)	Deaths n/%	Rate of mortality
2013	536 (0.6%)	14	0.16
2014	8426 (9.0%)	12	0.14
2015	8409 (9.0%)	4	0.05
2016	8174 (8.7%)	8	0.08
2017	9645 (10.3%)	10	0.1
2018	9737 (10.4%)	5	0.05
2019	10018 (10.7%)	8	0.09
2020	8631 (9.2%)	5	0.05
Total	93,650	76	0.08

Source: Ministry of Health - SUS Hospital Information System (SIH/SUS).

Table 5. Stratification of color, race, age group and type of care using the SIH/SUS filter "edema, proteinuria and hypertensive disorders in pregnancy, childbirth and the postpartum period", in Pernambuco

Color/Race	Track will be	Service character
White (3)	15 to 19 years old (9)	Urgency
Black (1)	20 to 24 years old (10)	
Brown (37)	25 to 29 years old (9)	
Yellow (2)	30 to 34 years old (16)	
No information (33)	35 to 39 years old (21)	
Total	40 to 44 years old (10)	
	45 to 49 years old (1)	
Total		76

Source: Ministry of Health - SUS Hospital Information System (SIH/SUS)

Table 6. Stratification of the value of hospital services, value of professional services, average value of AIH by Health Region (CIR) using the filter "edema, proteinuria and hypertensive disorders in pregnancy, childbirth and the postpartum period" of the SIH/SUS, in Pernambuco

Year of service	Drowned from Ingazeira	Arcoverde V I	Caruaru IV	Garanhuns V	Goiana V III	Lemon Tree II	Ouricuri IX	Palmares III	Petrolina	26010 Recife	26011 Willow	26012 Serra Talhada	Total
2013	522.66	1516.86	9379.32	-	-	-	1711.21	-	28436.62	509006.1	1343.02	218.48	552134.3
2014	16336.22	29039.53	483451	1663.24	1227.84	673.11	13165.77	7640.08	2012884	7312176	54275.78	7891.21	9940423
2015	3874.9	39153.74	462558.2	1701.47	677.13	-	2039.3	9875.65	2293608	7086525	70392.44	10135.91	9980542
2016	4796.39	30745.84	312513.3	6461.46	109.24	-	3113.5	28051.21	2405501	6415974	74956.57	19538.67	9301762
2017	4015.53	26440.46	324092.5	12071.33	278.66	1369.22	8458.86	6133.05	2722740	7041808	84750.59	22377.07	10254535
2018	24206.27	47799.84	318971.4	2032.88	109.24	-	6262.17	6967.43	2421806	5993040	72827.84	12589.62	8906613
2019	2271.9	25871.03	267465.3	5600.51	-	-	4878.51	3697.52	2541375	6032052	107860.8	7260.81	8998334
2020	4012.57	16452.32	214540.1	-	109.24	-	4469.01	716.15	2410129	5210519	133960.7	23324.14	8018233
2021	1109.07	7684.23	275493.3	-	1304.08	2336.22	4990.39	3522.39	2348145	6006163	152123.8	9343.02	8812214
2022	2026.19	23798.44	246607	3022.25	1297.08	-	9384.85	-	1723751	8013016	96645.66	20400.27	10139949
2023	608.65	15408.53	221502.9	5460.78	1847.73	2067.33	19892.26	446.42	1452037	7143220	92395.44	57704.63	9012591
Total	63780.35	263910.8	3136574	38013.92	6960.24	6445.88	78365.83	67049.9	22360412	66763499	941532.7	190783.8	93917330

Source: Ministry of Health - SUS Hospital Information System (SIH/SUS)

The total cost of hospital services was R$93,917,329.58, with 2017 being the year with the highest value, with R$10,254,535.29 recorded, and 2020 being the year with the lowest value, with R$8,018 ,232.60. The value of total professional services in the same period was R$63,850,980.10. The average value of total AIH was R$ 1,002.85, being the highest in the year 2015 (R$ 1,186.89) and the lowest in the year 2021 (R$ 905.40) (Table 6).

DISCUSSION

Patients with obstetric causes, despite constituting a small group within intensive care units (ICUs), play a significant role that cannot be neglected. This group requires specialized care due to the physiological particularities of pregnancy. According to the study carried out by Santos (2023), the physiological changes characteristic of the gestational period can make the decision-making process more complex for health professionals. Therefore, the presence of obstetric patients in the ICU not only demands special attention, but also highlights the importance of an adapted and well-informed approach to ensure the best possible care for both mother and fetus. The study carried out by Pereira (2017) emphasizes that the course of a pregnancy is seen as a complex moment by most women, due to the profound physiological changes that occur in the body, often resulting in feelings of distress. Several disorders can surprise a pregnant woman, with hypertensive disorders standing out among them. Lack of information and adequate care is often associated with maternal mortality and fetal complications. A study carried out in China by Xiong (2018) revealed that pregnant women who received little prenatal care were at increased risk for hypertensive disorders during pregnancy. This highlights the importance of adequate and well-informed prenatal care, essential to prevent serious complications and ensure the health of both mother and baby. Therefore, it is considered that, when women gain knowledge about the hypertensive disorders that can affect pregnancy, there is an important contribution to self-care. However, based on the data obtained by DATASUS, it can be inferred that there is a mismatch between information and self-care, given the number of hospitalizations and urgent care.

One of the main risks associated with pregnancy is advanced maternal age, especially in a context where the number of women postponing their first pregnancy is increasing. According to the data, the most affected women are in the age group of 35 to 39 years old, followed by those aged 30-34 years old, which is in agreement with the literature from the Ministry of Health, which considers high-risk pregnancies when the age mother is over 35 years old. These data highlight the need for better alignment between information dissemination and self-care practices, as well as greater awareness of the risks associated with advanced maternal age. The result of this research also reveals a greater number of cases related to brown skin color, contradicting the literature that identifies black skin color as the main risk factor related to skin color. This discrepancy can be justified by the great miscegenation present in Brazil, especially in the state of Pernambuco. This genetic diversity may influence the prevalence of health conditions and complications, suggesting that regional and demographic factors play a significant role in maternal health outcomes.

In the study carried out in the northeast region by Pereira (2023), hypertensive disorders of pregnancy, especially pre-eclampsia and eclampsia, were identified as significant contributors to maternal and perinatal mortality. These disorders are responsible for approximately 10.0% of maternal deaths annually. Pre-eclampsia continues to rank among the top four causes of maternal mortality and morbidity in high-, middle- and low-income countries. These findings underscore the importance of early surveillance, diagnosis, and appropriate management of these conditions during pregnancy to mitigate their negative impacts on maternal and fetal health. In the study by Peraçoli (2005), it was observed that eclampsia, a severe form associated with generalized tonic- clonic seizures, has a variable incidence depending on the level of health care: approximately 1/2,000 in developed countries and up to 1/100 in countries under development. As highlighted in the literature, the number of maternal deaths in a region is an excellent indicator of its social reality, often inversely related to the degree of human development. This indicator not only reflects the socioeconomic level of the population, but also the quality of medical care and political commitment to promoting public health. The data obtained in this study showed the predominance of hypertension during pregnancy among adult pregnant women of mixed race and from the state of Pernambuco, with a higher

incidence in the I Regional Health Management (GERES), which recorded the highest number of hospitalizations (73.6%). In 2022, there was a peak in hospitalizations in Pernambuco for the treatment of proteinuria and hypertensive disorders during pregnancy, childbirth and the postpartum period, with 11.4% of the total. The maternal mortality rate for the period analyzed was 0.08, highlighting the continued importance of preventive interventions and appropriate care to improve maternal and child outcomes in the region. Based on the findings of this study, the high prevalence of hospitalizations and emergency care stands out, reinforcing the importance of preventive measures in this population. The identification of risk factors, early diagnosis and appropriate clinical management are essential to minimize harm to maternal and child health. The implementation of effective prevention and treatment strategies can significantly contribute to reducing complications associated with hypertensive disorders in pregnancy, improving outcomes for pregnant women and their babies. However, these findings should also serve as a basis for organizing future studies, aimed at monitoring these cases and evaluating the performance of obstetrics and ICU services that offer support to patients with greater severity. Studies of this nature are scarce in our region, making it essential to promote more research to improve the quality of care and, consequently, maternal and child health.

CONCLUSION

After a comprehensive epidemiological analysis throughout the state of Pernambuco over the course of a decade, the present study revealed that, despite the high number of ICU admissions, the significant costs associated with these admissions and the majority of care occurring on an urgent basis, the maternal mortality rate remained low in the state. AI Regional Health Management stood out for the highest number of hospitalizations, consequently, the highest number of deaths and the highest mortality rate due to hypertension during pregnancy in Pernambuco. In relation to ethnicity, brown women were those who had the highest number of hospitalizations and deaths, despite the underreporting of this data, since a third of the information was not recorded. These findings highlight the importance of continuing to invest in preventive measures, early diagnosis and appropriate clinical management, in addition to serving as a basis for future studies and continuous monitoring of these cases, aiming to improve the quality of obstetrics and ICU services in the region.

REFERENCES

AMORIM FCM, et al. Profile of pregnant women with pre-eclampsia. rev nurse UFPE on line . 2017;11(4):1574-1583. Accessed on July 10, 2024.

FEITOSA-ASSIS AI, Santana VS. Occupation and maternal mortality in Brazil. Rev Saúde Pública. 2020;54:64. https://doi.org/ 10.11606/s1518-8787.2020054001736. Accessed on July 10, 2024.

MINISTRY OF HEALTH. High-risk pregnancy manual [Internet]. Department of Programmatic Actions. Brasília: Ministry of Health; 2022. Available at: High Risk Pregnancy Manual (MS, 2022) (fiocruz.br). Published in 2023 May. Accessed on July 10, 2024.

MARTINS ACS, Silva LS. And epidemiological profile of maternal mortality. rev Bras Enferm [Internet]. 2018;71(Suppl 1):677-83. [Thematic Issue : Contributions and challenges of nursing practices in collective health] DOI: http://dx.doi.org/ 10.1590/0034-7167-2017-0624. Accessed on July 10, 2024.

WORLD HEALTH ORGANIZATION (WHO). Maternal health - PAHO/WHO *[*Internet]. 2017. Available at: Maternal health - PAHO/WHO | Pan American Health Organization (paho.org). Published in 2023 May. Accessed on June 10, 2024.

PERAÇOLI JC, Parpinelli MA. Hypertensive syndromes during pregnancy: identification of serious cases. rev Bras Ginecol Obstet. 2005;27(10):627-634. Accessed on July 10, 2024.

PIMENTA FERREIRA DE OLIVEIRA, T.; CRISTINE MARQUES DOS SANTOS, S. .; AMORIM FRANÇA, D. .; DE OLIVEIRA SILVA SANTOS, R.; RODRIGUES BRAGA NETO, A.; PICONE BORGES DE ARAGÃO, I. Hypertensive Disorders in Pregnancy and the Postpartum Period: An Epidemiological Analysis in National Territory for a Period of One Decade. Health Magazine, *[S. l.]*, v. 12, no. 3, p. 60–65, 2021. DOI: 10.21727/rs.v12i3.2471. Available at: https://editora. univassouras.edu.br/index.php/RS/article/view/2471. Accessed on: 5 Jul. 2024.

PEREIRA GT, Santos AAP, Silva JMO, Nagliate PDC. Epidemiological profile of maternal mortality due to hypertension: situational analysis of a northeastern state between 2004-2013. rev Search Online. 2017:11;9(3):653.

SANTOS IMD, Almeida-Santos MA. Epidemiological Profile of Maternal Mortality due to Gestational Hypertensive Syndromes. Res Soc Dev 2023 Apr 15;12(4):e21712441307. Accessed on July 10, 2024.

SAMPAIO AFS, da Rocha MJF, Leal EAS. High- risk pregnancy: Clinical- epidemiological profile of pregnant women attended at the prenatal service of the public maternity hospital of Rio Branco, Acre. rev Bras Health Maternity Infant. 2018;18(3):559–

XIONG T, Mu Y, Liang J, Zhu J, Li X, Li J, et al. Hypertension disorders in pregnancy and stillbirth rates: A facility-based study in China. Bull World Health Organ. 2018; 96(8):531–9.

****