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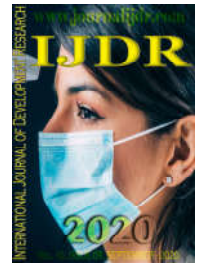
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RESEARCH ARTICLE

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PROFILE OF MATERIAL DEATHS FOR OBSTETRIC CAUSES

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ABSTRACT

Objective: To describe the maternal mortality profile of a high-risk maternal and child hospital in the Northeast. **Methods:** This is a quantitative, descriptive, retrospective and cross-sectional study, carried out at Hospital Dom Malan, located in Petrolina, Pernambuco Brazil, with secondary data from medical records of women who died due to direct and indirect obstetric causes, during pregnancy or up to 42 days postpartum, with an investigation completed by the Hospital Commission for a study on Maternal Mortality at the same institution, during the period from 2013 to 2017. **Results:** 29 medical records of pregnant women attended in the aforementioned period were analyzed, there is a prevalence of female farmers (24.2%), brown (55.2%), between 20 and 30 years old (48.3%) who had more than 6 prenatal consultations (17.3%), experiencing the 3rd gestational trimester (55.2%), with cesarean section (41.3%), the main cause of death being infection / sepsis (34.5%), classified as direct maternal death (75.9%), with the Maternal Mortality Ratio per 100,000 live births more prevalent in 2017 with 182.8. **Conclusion:** A high maternal mortality rate is perceived in women of unfavorable socioeconomic conditions, pointing out the need to adopt strategies to reduce these statistics.

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INTRODUCTION

Maternal mortality is considered a serious violation of women's human rights and can be avoided in 92% of cases¹. Maternal death is the extreme result of a sequence of serious events related to pregnancy, childbirth or postpartum. Maternal mortality is further classified by the WHO as direct maternal death (resulting from obstetric complications, whether from interventions, omissions or incorrect treatment) and indirect maternal death (resulting from a previous disease or disease that developed during pregnancy and that was not due to direct obstetric causes, but which was aggravated by its physiological effects)^{3, 4}. For each maternal death, there are an average of 100 women with severe maternal morbidity due to life-

threatening obstetric complications^{3,5}. The gestational period itself carries physiological changes that can contribute to a pregnant woman with the presence of pre-pregnancy comorbidities, being at high risk, which could result in maternal death⁶. One factor that should be considered when assessing the severity of these patients is admission to the Intensive Care Unit during the postpartum pregnancy period^{5,7}. It is known that reducing maternal mortality is the 5th of the eight Millennium Development Goals proposed by WHO. Thus, considering the current scenario and knowing the inclusion of Brazil among the countries that seek to reach the 5th goal of the millennium proposed by the WHO, this study sought to answer the following question: what is the maternal

mortality profile of a high-profile maternal and child hospital risk of the interior of the Northeast? E As a general objective to describe the maternal mortality profile of a high-risk maternal and child hospital in the interior of the Northeast.

MATERIALS AND METHODS

It was a descriptive, retrospective and cross-sectional study, of a quantitative nature. Held at Dom Malan Hospital (HDM), whose institutional mission is to assist pregnant women at high obstetric risk. Despite the high-risk classification, this maternity hospital also attends parturients of usual risk. The unit is located in the municipality of Petrolina, a pole city in the Pernambucano hinterland, in northeastern Brazil. HDM works under the management of the Instituto Medicina Integral Professor Fernando Figueira (IMIP) and belongs to the state health network in Pernambuco. It is the only reference center for high obstetric and neonatal complexity in the Interstate Health Care Network of the Middle São Francisco, which brings together 55 municipalities in the states of Pernambuco and Bahia, reaching a population of 1.8 million inhabitants. It performs approximately 620 deliveries and 1400 monthly visits in obstetric screening. The population and sample of this study was constituted by convenience, adopting the following inclusion criteria: women who died from direct and indirect obstetric causes, during pregnancy and / or up to 42 days postpartum, with an investigation concluded by the Hospital Commission of study on Maternal Mortality at HDM-IMIP, from January 2013 to December 2017. Excluding cases of death due to gynecological causes, deaths after the 42nd day postpartum, deaths not investigated and incomplete, illegible or medical records not accessible. It is noteworthy that this research had some limitations, such as the lack of records in the medical records of relevant information and thus were classified as "Ignored" in the tables presented above, exchange of employees in the epidemiology sector of the institution causing loss of information necessary for the conducting the study and absence of physical records. Data collection was carried out by identifying the cases of maternal deaths recorded in the death book of the Epidemiological Surveillance Nucleus (NEPI) and investigated by the HDM-IMIP Maternal Mortality Study Committee. After this stage, the medical records of the respective cases (electronic and physical) were evaluated, in search of the study variables, as well as the analysis of the cases recorded in the Death Statements (DO's) contained in the physical medical records, where an adapted instrument was used. by the researchers based on the Maternal Death Investigation Form of the Mato Grosso Ambulatory Health Service, the Maternal Death Form of the Hospital Health Service in the city of São Paulo and the Ministry of Health's Epidemiological Surveillance Guide¹. To create the study variables, which in turn, sought the sociodemographic profile with information related to occupation, race / color, age group, education and information related to pregnancy, such as the number of prenatal consultations, gestational age and final outcome of pregnancy, other information was also collected to complement the results of this research and meet the proposed objective, such information refer to gestational risk factors, main cause of death, death classification, severe maternal mortality criteria and based on the data collected, the Maternal Mortality Ratio (RMM) was identified in the period described, according to the following formula expressed by the Ministry of Health: Number of direct and indirect maternal deaths divided by the number of Live Births, multiplied by 100 thousand. Recalling that RMM is only related to the cases of

the institution mentioned in this research, as well as the number of live births, which was collected at the aforementioned hospital. Data analysis was performed through the construction of a database, using descriptive statistical analysis, through absolute and percentage distributions of the information collected. Thus, the data were organized in Microsoft Office Excel 2010 and presented using tables created in Microsoft Office Word 2010.

RESULTS AND DISCURSIONS

Table 1 describes the sociodemographic data and information related to the pregnancy of the research participants, where it can be seen that related to occupation, most were farmers (24.2%), predominantly brown (55.2%), a fact that may have contributed to this finding is the fact that during the initial care of this woman in the obstetric emergency, the attendants automatically register them in the hospital system as pardo without even questioning the woman about her ethnicity, between 20 and 30 years old (48.3 %) and unidentified education (55.2%).

Table 1. List of sociodemographic data of cases of Maternal Mortality at HDH-IMIP from 2013 to 2017. Petrolina, Pernambuco, Brazil, 2018

OCCUPATION	Nº	%
Farmer	07	24,2%
Home Professional	03	10,3%
Student	03	10,3%
Others	04	13,8%
Ignored	12	41,4%
Total	29	100%
BREED/COLOR		
White	02	6,9%
Brown	16	55,2%
Black	03	10,3%
Ignored	08	27,6%
Total	29	100%
AGE RANGE		
< 20 years	07	24,1%
20 a 30 years	14	48,3%
31 a 40 years	05	17,3%
>40 years	03	10,3%
Total	29	100%
SCHOOLING		
1 a 3 years	00	0%
4 a 7 years	07	24,1%
8 a 11 years	06	20,7%
Ignored	16	55,2%
Total	29	100%
PRENATAL		
< 3 Consultations	03	10,3%
De 3 A 6 Consultations	03	10,3%
> 6 Consultations	05	17,3%
Ignored	18	62,1%
Total	29	100%
GESTATIONAL PERIOD		
1º Quarter (up until 13 weeks)	02	6,9%
2º Quarter (from 14 to 26 weeks)	03	10,3%
3º Quarter (from 27 to 40 weeks)	16	55,2%
Puerperium	01	3,4%
Ignored	07	24,2%
Total	29	100%
PREGNANCY OUTCOME		
Caesarea	12	41,3%
Peri-Mortem Cesarean Section	03	10,3%
Abortion	02	6,9%
Normal birth	05	17,2%
Ectopic pregnancy	01	3,5%
Death before delivery	01	3,5%
Intrapartum Stillborn	01	3,5%
Ignored	04	13,8%
Total	29	100%

Source: The author, 2018. Ignored: Data not found or unreadable

As for prenatal care, most of them had 3 to 8 consultations (20.7%), in relation to the gestational period, most women were in the 3rd trimester (55.2%), regarding the outcome of the pregnancy, many were found, however, the most prevalent were Cesarean (41.4%), Normal Delivery (17.2%) and Cesarean Peri-Mortem (10.3%). Most women (55.1%) had at least one risk factor during pregnancy. Table 2 presents the risk factors found, where there is a predominance of heart disease (25%) and kidney and / or urethral disease (12.5%), it should be noted that the total number is higher than the number of medical records analyzed, as a patient may have more than one risk factor, which justifies such data.

Table 2. Description of maternal risk factors, presented in the sample population of the HDH-IMIP in the period from 2013 to 2017. Petrolina, Pernambuco, Brazil, 2018

RISK FACTORS	N	%
Renal and / or urethral diseases	04	12,5%
Liver diseases	01	3,1%
Cardiovascular diseases	08	25%
Endocrine Diseases	03	9,4%
Respiratory diseases	03	9,4%
Hemolytic Diseases	02	6,3%
Ignored	11	34,3%
Total	32	100%

Source: The author, 2018. Ignored: Data not found or unreadable.

Table 3 describes the main causes of death, where we can identify a higher prevalence related to Infection / Sepsis (28.57%), Hemorrhagic Syndrome (21.42%) and Liver Complications (14.28%).

Table 3. Description of the main cause of maternal death at HDH-IMIP from 2013 to 2017. Petrolina, Pernambuco, Brazil, 2018

MAIN CAUSE OF DEATH	N	%
Hypertensive Syndrome	02	6,9%
Hemorrhagic Syndrome	06	20,7%
Infection / Sepsis	10	34,5%
Hepatic Complications	04	13,8%
Others	06	20,7%
Ignored	01	3,4%
Total	29	100%

Source: The author, 2018. Ignored: Data not found or unreadable.

Regarding the classification of deaths, a higher prevalence was identified in those classified as direct maternal death (75.86%) and consequently indirect maternal death (20.69%), as shown in Table 6.

Table 4. Classification of Maternal Death at HDH-IMIP from 2013 to 2017. Petrolina, Pernambuco, Brazil, 2018

TYPE OF DEATH	N	%
Direct Obstetric	22	75,9 %
Indirect Obstetric	06	20,7%
Ignored	01	3,4%
Total	29	100%

Source: The author, 2018. Ignored: Data not found or unreadable.

Table 5 presents the criteria for defining severe maternal morbidity. Most presented some of the established criteria (82.8%) according to the data collected. Such criteria are severe postpartum hemorrhage (20.9%), severe preeclampsia (25%), eclampsia (0%), sepsis or severe systemic infection (50%) and uterine rupture (4.1%). Regarding the Maternal Mortality Ratio (RMM) in HDH-IMIP in the period studied, described in Table 6, it was found that the years 2016 and

2017 had the highest rates, respectively, 166.1 and 183.8 per 100 thousand live births.

Table 5. Criteria for defining extremely severe maternal morbidity at HDH-IMIP in the period from 2013 to 2017. Petrolina, Pernambuco, Brazil, 2018

SERIOUS MATERNAL MORBITY	N	%
Yes	24	82,8%
No	05	17,2%
Total	29	100%
CRITERIA FOR SERIOUS MATERNAL MORBITY		
Postpartum Hemorrhage	05	20,9%
Uterine rupture	01	4,1%
Severe preeclampsia	06	25%
Eclampsia	-	-
Sepsis or Severe Systemic Infection	12	50%
Total	24	100%

Source: The author, 2018. Ignored: Data not found or unreadable.

Table 6. Distribution of the number of live births, maternal deaths and Maternal Mortality Ratio per 100 thousand live births, in HDH-IMIP in the period from 2013 to 2017. Petrolina, Pernambuco, Brazil, 2018

YEAR	NV* N	MOTHER'S DEATH N	RMM**
2013	7.341	08	108,9
2014	7.411	12	161,9
2015	7.481	04	53,4
2016	7.221	11	152,3
2017	7.113	13	182,8
2013-2017	36.567	48	131,2

Source: n = 48 The author, 2018. * Born alive (NV) ** Maternal Mortality Ratio (RMM).

Regarding the main cause of reported deaths, there was a predominance of infection / sepsis (34.5%), hemorrhagic syndrome (20.7%) and liver complications (13.8%). As for the classification of deaths, most were classified as direct obstetric (75.9%) and approximately one fifth as indirect obstetric (20.7%). There is a significant percentage of deaths due to direct obstetric cause, corroborating with a study carried out in some municipalities in the interior of Bahia, Brazil, where the occurrence of 22 cases of maternal mortality, with greater predominance during the puerperium (54.55%), however, during pregnancy, childbirth or abortion there was a considerable number of deaths (31.82%) 16. Thus, such data becomes important to know the main causes of these problems and to seek more satisfactorily the appropriate interventions to try to consistently reduce the number of cases and promote more appropriate assistance.

Final Considerations

It is noticed that the high maternal mortality presented in this study prevailed with women in unfavorable socio-economic conditions, reaching marjoritly women farmers, brown, with an average age between 20 and 30 years, in the 3rd gestational trimester who ended up terminating the pregnancy through cesarean sections. , presenting cardiac, renal and / or ureteral diseases as the main risk factors, with infections / sepsis, hemorrhagic syndrome and liver complications as the main causes of death. RMM was higher in 2014, 2016 and 2017 with 161.9, 152.3 and 182.8 cases per 100,000 live births, respectively. The study presents as a limitation the absence of some data, not found in the analyzed medical records, which are extremely important to clearly and objectively detail the mortality profile in the institution and the analyzed period.

Thus, the study presents an index similar to what the national literature has brought in recent years and points out the need for strategies to reduce these statistics.

REFERÊNCIAS

- Aguiar CA, Tanaka ACD. Memórias coletivas de mulheres que viveram o *near miss* materno: necessidades de saúde e direitos humanos. *Cad. Saúde Pública*, Rio de Janeiro. 2016;32(9):e00161215. DOI: <http://dx.doi.org/10.1590/0102-311X00161215>.
- Brasil, Ministério da Saúde. Manual dos Comitês de Mortalidade Materna [Internet]. 3rd ed. Ministério da Saúde, editor. Brasília: Ministério da Saúde; 2009. Available from: http://bvsm.sau.gov.br/bvs/publicacoes/manual_comites_mortalidade_materna.pdf
- Brasil, Ministério da Saúde. Saúde Brasil: uma análise da situação de saúde e os desafios para o alcance dos objetivos de Desenvolvimento Sustentável [Internet]. Ministério da Saúde, editor. Brasília: Ministério da Saúde; 2018. 446 p. Available from: http://bvsm.sau.gov.br/bvs/publicacoes/sau_brasil_2017_analise_situacao_saude_desafios_objetivos_desenvolvimento_sustentavel.pdf
- Brasil. Ministério da Saúde. Secretária de Vigilância em Saúde. Departamento de Análise de Situação em Saúde. Guia de vigilância epidemiológica do óbito materno. Departamento de Análise de Situação em Saúde, Brasília: Ministério da Saúde, 2009, 84p. Disponível em: http://bvsm.sau.gov.br/bvs/publicacoes/guia_vigilancia_epidem_obito_materno.pdf>Acesso em: 20/08/2017.
- Chestnut HD, Wong CA. Anestesia obstétrica: princípios e práticas. 5^o ed. Elsevier; 2016.
- Coelho VC, Andrade MS, Sena CD De, Costa LEL, Bittencourt IS. Caracterização dos Óbitos Maternos em três Regiões de Saúde do Centro-Norte Baiano. *Cogitare Enferm*. 2016;21(1):01–8.
- Digamos L, Souza JP, Pattinson RC. Maternal near miss – para uma ferramenta padrão para monitorar a qualidade da saúde materna. *Clin Obstet Gynaecol*. 2009;23(3): 287–96. Disponível em: [http://www.bestpracticeobgyn.com/article/S1521-6934\(09\)00008-X/abstract](http://www.bestpracticeobgyn.com/article/S1521-6934(09)00008-X/abstract)>. Acesso em: 24/08/2017.
- Faria DR de, Sousa RC de, Costa T de JNM da, Leite ICG. Mortalidade materna em cidade-polo de assistência na região Sudeste: tendência temporal e determinantes sociais. *Rev Med Minas Gerais* [Internet]. 2012;22(1):18–25. Available from: <http://rmmg.medicina.ufmg.br/index.php/rmmg/article/view/485/472>
- Filho GL de M, Ferreira MaHT da SL, Silva RS da, Rocha RC da S, Mendes PR da C, Barros RP. Perfil epidemiológico da mortalidade materna no Brasil. *Rev Saúde*. 2016;10(1):17.
- Juiz de Fora, Prefeitura Municipal, Secretaria Municipal de Saúde. Plano de Saúde de 2014-2017 [Internet]. Juiz de Fora: Juiz de Fora; 2017. Available from: <https://www.pjf.mg.gov.br/conselhos/sau/plano.php>
- Kasahun AW, Wako WG. Predictors of maternal near miss among women admitted in Gurage zone hospitals, South Ethiopia, 2017: A case control study. *BMC Pregnancy Childbirth*. *BMC Pregnancy and Childbirth*; 2018;18(1):01–9.
- Khan KS, Wojdyla D, Say L, Gülmezoglu AM, Van Look PF. WHO analysis of causes of maternal death: a systematic review. *Lancet* [Internet]. 2006 Apr;367(9516):1066–74. Available from: <https://linkinghub.elsevier.com/retrieve/pii/S0140673606683979>
- Leite RMB, de Araujo TVB, Albuquerque RM, Andrade ARS, Neto PJD. Fatores de risco para mortalidade materna em área urbana do Nordeste do Brasil. *Cad Saúde Pública*, Rio Janeiro [Internet]. 2011;27(10):1977–85. Available from: <http://www.scielosp.org/pdf/csp/v27n10/11.pdf>
- Lima MRG de, Coelho ASF, Salge AKM, Guimarães JV, Costa PS, Sousa TCC de, et al. Alterações maternas e desfecho gravídico- puerperal na ocorrência de óbito materno. *Cad Saúde Colet*. 2017;25(3):324–31.
- Lozano R, Wang H, Foreman KJ, Rajaratnam JK, Naghavi M, Marcus JR, et al. Progress towards Millennium Development Goals 4 and 5 on maternal and child mortality: an updated systematic analysis. *Lancet*. 2011;378(9797):1139–65.
- Martins ACS, Silva LS. Perfil epidemiológico de mortalidade materna. *Rev Bras Enferm* [Internet]. 2018; 71(supl1):725–31.
- Mascarenhas PM, Silva GR da, Reis TT, Casotti CA, Nery AA. Análise da mortalidade materna. *Rev enferm UFPE line, Recife*. 2017;11(Supl. 11):4653–62.
- Menezes MLN, Bezerra J de FO, Bezerra J de FO. Perfil epidemiológico dos óbitos maternos em hospital de referência para gestação de alto risco. *Rev Rene* [Internet]. 2015;16(5):714–21. Available from: http://www.revistarene.ufc.br/revista/index.php/revista/article/view/2138/pdf_1
- Morse ML, Fonseca SC, Gottgroy CL, Waldmann CS, Gueller E. Morbidade Materna Grave e Near Misses em Hospital de Referência Regional. *Rev Bras Epidemiol*. 2011;14(2):310–22.
- Nakamura-Pereira M, Mendes-Silva W, Dias MAB, Reichenheim ME, Lobato G. Sistema de Informações Hospitalares do Sistema Único de Saúde (SIH-SUS): uma avaliação do seu desempenho para a identificação do *near miss* materno. *Cad. Saúde Pública*, Rio de Janeiro. 2013;29(7):1333–1345. DOI: <http://dx.doi.org/10.1590/S0102-311X2013000700008>.
- Nakimuli A, Nakubulwa S, Kakaire O, Osinde MO, Mbalinda SN, Nabirye RC, et al. Maternal near misses from two referral hospitals in Uganda: a prospective cohort study on incidence, determinants and prognostic factors. *BMC Pregnancy Childbirth*. 2016;16(24):02–10. DOI: 10.1186/s12884-016-0811-5.
- Oliveira EC de, Barbosa S de M, Melo SEP. A importância do acompanhamento pré-natal realizado por enfermeiros. *Rev Cient FacMais* [Internet]. 2016;7(3):24–38. Available from: <http://revistacientifica.facmais.com.br/wp-content/uploads/2017/01/Artigo-02-A-importancia-do-acompanhamento-pre-natal-realizado-por-enfermeiros.pdf>
- OMS. The WHO near-miss approach for maternal health. 2011.
- Pacheco AJC, Katz L, Souza ASR, Amorim MMR. Factors associated with severe maternal morbidity and near miss in the São Francisco Valley, Brazil: a retrospective, cohort study. *BMC Pregnancy Childbirth* [Internet]. 2014;14(1):02–8. Available from: <http://bmcpregnancychildbirth.biomedcentral.com/articles/10.1186/1471-2393-14-91>
- Pattinson R, Say L, Souza JP, Broek NVD, Rooney C. WHO maternal death and near-miss classifications. *Bulletin of the World Health Organization*, 2009;87(10):733–804. DOI:10.2471/BLT.09.071001.

Pereira LM. Mortalidade materna: como o descaso com a saúde da mulher impede a igualdade de gênero. *Sau Transf Soc*, Florianóp. 2016;6(1):70–8.

Rosendo TMSs, Roncalli AG. Prevalência e fatores associados ao Near Miss Materno: inquérito populacional em uma capital do Nordeste Brasileiro. *Ciência & Saúde Coletiva*, 2015;20(4):1295-1304. DOI: <http://dx.doi.org/10.1590/1413-81232015204.09052014>.

World Health Organization. Evaluating the quality of care severe pregnancy complications: the WHO near-miss approach for maternal health. 2011, 34p. Disponível em: https://www.k4health.org/sites/default/files/WHO_near%20miss%20guide.pdfAcesso em: 20/08/2017.
