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Risk factors for maternal near miss in the childbirth and postpartum hospital

Fatores de risco para o near miss materno no parto e pós - parto hospitalar

Factores de riesgo para la falta materna cercana en el parto y el hospital pós - parto

RESUMO

Objetivo: Analisar as produções científicas na área da enfermagem acerca dos fatores de risco relacionados ao Near Miss Materno (NMM) no parto e pós-parto hospitalar. Método: Revisão Integrativa da literatura, realizada em maio de 2021. A busca foi realizada nas bases de dados SciELO e PubMed, sendo encontrados 505 artigos, após os critérios de inclusão e exclusão foram selecionados 485, porém, apenas 25 artigos participaram da pesquisa. Resultados: O adoecimento materno decorrente das complicações hipertensivas, destaca-se entre os fatores que mais contribuem para a morbidade grave em mulheres, e a hemorragia foi a principal causa de mortalidade. A ocorrência de óbitos por causas hemorrágicas e ausência de pré-natal, identifica a necessidade de melhoria na qualidade da assistência prestada, podendo reduzir os casos de NMM. Conclusão: Observa-se a relevância do conhecimento sobre os fatores de risco relacionado ao NMM por parte de toda equipe de saúde.

Descritores: Near Miss; Mortalidade; Morbidade; Saúde Materna; Gravidez.

ABSTRACT

Objective: To analyze scientific productions in the field of nursing about risk factors related to Near Miss Maternal (NMM) in childbirth and hospital postpartum. Method: Integrative literature review, carried out in May 2021. A search performed in the SciELO and PubMed databases, finding 505 articles, after the inclusion and exclusion criteria, 485 were selected, however, only 25 articles participated in the research. Results: Maternal illness resulting from hypertensive complications stands out among the factors that most contribute to severe morbidity in women, and hemorrhage was the main cause of mortality. The occurrence of deaths from hemorrhagic causes and lack of prenatal care identifies the need for improvement in the quality of care provided, which may reduce cases of NMM. Conclusion: There is a survey of knowledge about risk factors related to NMM by the entire health team.

Descriptors: Near Miss; Mortality; Morbidity; Maternal Health; Pregnancy

RESUMEN

Objetivo: Analizar producciones científicas en el campo de la enfermería sobre factores de riesgo relacionados con Near Miss Maternal (NMM) en el parto y posparto hospitalario. Método: Revisión integrativa de la literatura, realizada en mayo de 2021. La búsqueda se realizó en las bases de datos SciELO y PubMed, encontrando 505 artículos, luego de los criterios de inclusión y exclusión se seleccionaron 485, sin embargo, solo 25 artículos participaron en la investigación. Resultados: la enfermedad materna resultante de complicaciones hipertensivas se destaca entre los factores que más contribuyen a la morbilidad severa en la mujer, siendo la hemorragia la principal causa de mortalidad. La ocurrencia de muertes por causas hemorrágicas y la falta de atención prenatal identifica la necesidad de mejorar la calidad de la atención brindada, lo que puede reducir los casos de NMM. Conclusión: Se observa la relevancia del conocimiento sobre los factores de riesgo relacionados con el NMM por parte de todo el equipo de salud.

Descritores: Near Miss; Mortalidad; Morbosidad; Salud maternal; El embarazo.

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INTRODUCTION

Maternal death is an event that can affect women during the physiological process of reproduction, being considered a serious public health problem that interferes with the quality and safety of women's health in the pregnancy-puerperal cycle. The debate and understanding of pregnancy as a form of guidance on women's health during this period is relevant. (1) From this scenario, we have to emphasize on the Near Miss Maternal (NMM) which, according to the World Health Organization (WHO) can be explained as: a situation, in which the woman, overcomes death, and survives the complications that started during pregnancy, childbirth or postpartum. (1)

The World Health Organization (WHO) estimates that in 2010 around 287.000 women worldwide died during pregnancy and childbirth. This number represents a 47% decline from 1990 levels. Death rates are more prevalent in developing countries and stem from the lack of access to adequate routine care and emergency care when needed. (2,3)

The criteria proposed by WHO for identifying NMM translate as failure or dysfunction of any of the vital organ systems. Some clinical criteria that allow the identification of severe cases have been identified. They are: acute cyanosis, gas-

ping, respiratory rate above 40 or less than six breaths per minute, shock, oliguria unresponsive to hydration or diuretics, coagulation disorders, loss of consciousness for more than 12 hours, lack of consciousness and lack of pulse or heartbeat. (4)

Nursing work with critically ill patients is complex and, as such, entails numerous needs for the development of care. The dynamics between professionals, the condition of patients and the use of numerous technologies demand countless nursing, enhancing the quality of care and care provided. The obstetric nurse has a fundamental role in the development of this assistance, as they are one of the first to identify any changes that occur to women during the pregnancy-puerperal cycle. (4) In this context, this study aims to identify the factors that contribute to the Near Miss Maternal in childbirth and postpartum in hospital.

METHOD

This study is an integrative literature review on Scientific Production about the NMM. The integrative literature review is one of the research methods used in Evidence-Based Practice (EBP), and consists in the construction of a broad analysis of the literature, a method that aims to gather and organize research results on a given topic in a systematic approach.(5) The data

collection period was during the month of June 2021.

To carry out this review, the following steps were established: elaboration of the guiding question; search for articles in the literature; data collect; analysis of selected data; discussion of results; and, presentation of the integrative review. In approaching the context that involves the research problem, the guiding question was elaborated: What are the risk factors that contribute to NMM in childbirth and hospital postpartum?

To survey the studies, the literature search was performed by accessing the SciELO and PubMed databases. The following crossover descriptors were used to search for articles: Near Miss, Maternal Mortality, Morbidity, Maternal Health, Pregnancy and Mortality. From the selection of articles and the criteria for selection of publications. Among the descriptors, the Boolean operator AND was used as a resource. This step resulted in a survey of 485 documents. Therefore, the following inclusion criteria were used: articles published between the years 2016 to 2021, available in full for free, with no language restrictions. As for the exclusion criteria, articles that did not answer the guiding question, the established period of the research and that presented repetition were discarded. After applying the inclusion and exclusion criteria, 485

articles were selected, and after reading the full abstracts, 25 articles were selected to participate in this review. These 25 articles were read in full and included in the survey. There was validation of the research by two researchers in the area.

RESULTS

Twenty-five articles were selected to participate in the review, characterized as follows: the main language of dissemination of these manuscripts was Portuguese (17 articles), followed by English (7 articles) and Spanish (1 article). The productions analyzed were in two databases, SciELO and PubMed.

It was found that, of the 25 publications found in the study period, the highest number of publications occurred in the year 2018 (7%), followed by the year 2016 (6%), 2019 (5%), 2020 (4%), 2017 (3%) and 2021 (1%). Surveys on NMM focused on Brazil (21%), North America (1%) and South America (2%). From the detailed reading of the articles, it was possible to identify the following most prevalent risk factors presented in (Table 1) and the most common causes (Table 2).

WHO and other institutions recommend that all births be accompanied by a trained health professional, so that correct and rapid interventions can be implemented in order to avoid and resolve any complications that may arise, hence the importance of guidance and monitoring by these professionals. The causes observed in the study can be avoided if controlled in a timely manner.

DISCUSSION

Approximately 830 women die every day from preventable and treatable causes during pregnancy and the puerperium. The General Assembly of the United Nations (UN) established the 2030 Agenda, with the Sustainable Development Goals (SDGs), with 17 global goals, where goal 3 is focused on Health and well-being, estimating that even the year 2030 can reduce the global maternal mortality rate to

TABLE 1- Presentation of scientific publications regarding risk factors for NMM in childbirth and hospital postpartum:

AUTHORS	YEAR OF PUBLICATION	MAIN NMM RISK FACTORS
Herd et al(6).	2021	Black women over 30 years old from the North and Northeast regions..
Andrade et al(7).	2020	Hypertensive syndromes.
Carvalho et al(8).	2019	Pre-existing hypertensive disorder with proteinuria.
Silva et al(9).	2018	Health care failures were associated with NMM, as well as sociodemographic factors (non-white skin color, adolescence/age≥35 years, low education).
Fernandes et al.(10).	2017	Being over 40 years old and not currently studying.
Martins, L.A(11).	2016	The number of pregnancies above three, especially for women up to 30 years of age. The insufficient number of prenatal consultations. Frequency of chronic diseases.
Rosendo et al(12).	2016	Unfavorable socioeconomic conditions and poorer quality health care, a reflection of public policies that reinforce health inequity.
Pinheiro et al(13).	2020	Hypertensive complications.
Angelini et al(14).	2019	Emotional vulnerability.
Flores et al(15).	2019	Difficulties in inadequate screening during obstetric screening.
Silveira et al(16).	2019	Use of alcoholic beverages and lack of prenatal care.
Floréz et al(17).	2018	Poor health care, lack of professional classification, precarious economic situation and emotional vulnerability.
Silveira et al(18).	2018	Use of alcoholic beverages and absence of prenatal care.
Cirelli et al(19).	2018	Drug use, low weight and unfavorable socioeconomic conditions.
Andrade; Vieira(20).	2018	Difficulties in accessing health services and deficiency in obstetric care.

Rosendo et al(21).	2017	Patients who gave birth in the public network, without follow-up during childbirth and in a worse socioeconomic situation.
Yepes et al(22).	2016	Nulliparous, hypertensive and diabetic patients.
Silva et al(23).	2016	Women from 35 to 39 years old.
Vidal et al(24).	2016	Hypertension, prematurity and cesarean delivery.
Ruas; Leão(25).	2020	Patients who mostly did not attend prenatal consultations regularly.
Carvalho et al(26).	2020	Women aged 20 to 39 years, black, hypertensive, who did not undergo prenatal care, multiparous and without a companion.
Brito et al(27).	2019	Women aged between 20 and 27 years, in vaginal delivery and in the type of single pregnancy.
Moura et al(28).	2018	Infections, hypertensive diseases and diabetes.
Lima et al(29).	2017	Women aged 20 to 34 years.
Saintrain et al(30).	2016	Acute kidney injury, respiratory syndromes, pregnancy-related hypertensive syndromes, heart disease.

Source: Research Data, 2021.

less than 70 deaths per 100.000 live births. (30) Maternal mortality is an indicator of the socioeconomic reality of a country and the quality of life of its population, since, in a developed country, this pregnant woman has access to frequent prenatal consultations, a better clarification on the evolution of her pregnancy, periodic exams, on the other hand, in developing countries, women tend to be multiparous due to a lack of guidance on contraceptive methods and family planning. (31)

In either setting, women who develop severe complications during pregnancy share many pathological and circumstantial risk factors. While some of these women die, a proportion of them barely survive. (32)

Assessing the factors associated with the variable race, the results diverge from those found in the literature, which indicate that the non-white race may represent a risk factor, since hypertensive complications represent one of the main obstetric pathologies among high-risk pregnant women. Some risk factors can interfere, causing numerous complications during pregnancy, but the literature affirms the importance and effectiveness of monitoring during pregnancy through prenatal care, as it allows for a safe pregnancy and an uneventful delivery. (33)

To Bianco and other authors (38) hypertensive syndromes are the most relevant complications of the entire obstetric team during the pregnancy-puerperal period. Hypertensive pregnant women require spe-

cial attention and differentiated prenatal care. Therefore, this research indicates that the most predisposing factor for complications is the lack of attention to blood pressure control and the signs and symptoms of complications. (7,8,24,26)

Regarding the sociodemographic characteristics of postpartum women in a situation of NMM, women aged between 20 and 35 years were highlighted. Emotional aspects, mental health and global physical and mental aspects when compared to those who underwent uneventful spontaneous vaginal delivery. NMM events of cardiovascular origin (hypertension, preeclampsia and heart disease) were the most prevalent in the studied sample (54,6%), followed by metabolic (39,3%) (obesity, diabetes mellitus and thyroid disorders), infectious (14,1%) (UTI and infectious) and hematological (9,2%) (clotting disorders and hemorrhage).(36) These data corroborate the data found in this study regarding the causes of NMM.

According to the authors Ferraz and Bordignon, (37) the clinical factors that most led to maternal death were: pre-existing maternal diseases that developed during pregnancy, childbirth and the puerperium, eclampsia and preeclampsia, arterial hypertension, postpartum hemorrhage episodes and puerperal infections associated with sepsis.

Discussions about risk factors and complications related to maternal mortality are associated with inadequate assistance to women in primary care during the prenatal period, which leads to a lack of humanization in care, lack of updating of professionals are also interconnected, it is important to put into practice continuing education for these professionals who participate in prenatal care, childbirth and puerperium. (38)

Knowing the weaknesses of health services allows identifying their causes and redesigning the process with barriers that reduce the risk of damage. In this context, incident notification is considered an important tool, capable of collecting data about incidents, providing a learning environment, capable of sharing important

TABLE 2- Presentation of scientific publications referring to the main causes for NMM in childbirth and hospital postpartum.

AUTORES	ANO DE PUBLICAÇÃO	PRINCIPAIS CAUSAS DO NMM
Herd et al(6).	2021	Preeclampsia (47%), hemorrhage (24%), and sepsis (18%).
Andrade et al(7).	2020	Intrauterine hemorrhage and post-cesarean complications and hypovolemic shock occurring in the immediate postpartum period.
Carvalho et al(8).	2019	Moderate, severe, or non-specific pre-eclampsia.
Silva et al.	2018	Hypertensive diseases and hemorrhage.
Fernandes et al(9).	2017	Eclampsia, hemorrhage, infection, hysterectomy, admission to the ICU, blood transfusion, mechanical ventilation and hospitalization for more than one week in the postpartum period.
Martins, L.A(10).	2016	Chronic diseases such as hypertension.
Rosendo et al(11).	2016	Hypertensive diseases and bleeding.
Pinheiro et al(12).	2020	Presence of sepsis, severe preeclampsia and eclampsia.
Angelini et al(13).	2019	Abortion and stress.
Flores et al(14).	2019	Severe pre-eclampsia, severe postpartum hemorrhage, sepsis and uterine rupture.
Silveira et al(15).	2019	Depression and anxiety.
Floréz et al(16).	2018	Psychic illnesses.
Silveira et al(17).	2018	Vulnerability to mental illnesses such as Depression..
Cirelli et al(18).	2018	H1N1, sepsis, cancer and cardiovascular disease.
Andrade; Vieira(19).	2018	Hemorrhages.
Rosendo et al(20).	2017	Stress.
Yepes et al(21).	2016	Pre-eclampsia, obstetric hemorrhages and sepsis.
Silva et al(22).	2016	Pre-eclampsia, severe bleeding, immune system dysfunction, severe sepsis and eclampsia.
Vidal et al(23).	2016	Hemorrhagic and systemic disorders.
Ruas; Leão(24)	2020	Pregnancy-specific hypertensive disease; circulatory system disease; neoplasms; coagulopathies and post-abortion infection.
Carvalho et al (25).	2020	Hemorrhages and with fetal distress.
Brito et al(26).	2019	Hemorrhages.
Moura et al (27).	2018	Hemorrhages and complications from hypertensive crises.
Lima et al(28).	2017	Hemorrhagic disorders, infections and hypertensive syndromes.
Saintrain et al(29).	2016	Hemorrhagic shock, respiratory failure and sepsis.

Source: Research Data, 2021.

information for the development of patient safety. (39)

Accessibility difficulties, such as scheduling appointments, were reported in a survey conducted in Brazil, where users consider access to PHC bureaucratic and time-consuming, from scheduling to waiting for the appointment. The study that analyzed the complaints of PHC users in Brazil pointed out that the delay in atten-

ding consultations corresponds to 69% of the dissatisfaction, which corroborates the data found in this research when referring to the difficulties of pregnant women in receiving quality health care. (39)

The nursing team must be able to attend to the puerperal women in their doubts and difficulties, to solve and prevent further problems through guidance, because nursing care is still centered on the biome-

dical model, such as administration of medications and techniques that only aim to solve the pain relief. (40)

As a limitation of this study, we can highlight the difficulty of finding other studies related to risk factors and causes of NMM to broaden the discussions of the data that were found, and this limitation also reinforces the relevance of this research. As a practical application, the data by

themselves reveal a recurrent event, little explored and that may indicate to the health services that are a reference for these women, the need to improve the quality of care in prenatal and postpartum care.

CONCLUSION

The risk factors most present in the NMM were hypertensive complications, hemorrhages, emotional vulnerability, lack of prenatal care and lack of education as to its importance, patients with precarious

socioeconomic conditions with lack of assistance in the public health network, therefore, reinforces the need to strengthen public policies that reduce health inequalities.

The NMM allows assessment of the quality of obstetric care, representing a tool to be used in routine obstetric practice, by identifying women who are at greater risk of evolving to serious conditions, allowing for the rapid implementation of treatment and support measures. The early identification of risk factors for NMM and the es-

tablishment of preventive strategies, such as the support of the nursing team in this screening, guidance and prevention, is of fundamental importance.

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