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NURSING CARE IN THE PREVENTION OF MATERNAL DEATHS DUE TO POSTPARTUM HEMORRHAGE

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REVISÃO

RESUMO

A hemorragia pós-parto é a principal complicação que ocorre durante o parto, podendo levar ao choque e consequentemente à morte, sendo imprescindível a realização de tratamento adequado. É caracterizada pela perda de grandes quantidades de sangue após o parto devido à falta de contração do útero após o nascimento do bebê. Considera-se hemorragia quando a mulher perde 500 mL de sangue após o parto vaginal ou 1000 mL de sangue após a cesárea e as principais causas da hemorragia pós-parto são: tônus, trauma, tecido e trombina. O objetivo da pesquisa foi reunir evidências sobre as características, prevenção, tratamento e fatores que contribuem para a hemorragia pós-parto. Foi realizada revisão de literatura do tipo narrativa com levantamento de dados na Biblioteca Virtual de Saúde (BVS), *Medical Literature Analysis and Retrievel System Online* (Medline) e na *National Library of Medicine* (Pubmed), utilizando os seguintes descritores em inglês: Postpartum hemorrhage, Prevention and control, Maternal death. O estudo evidenciou a importância da prevenção e tratamento da doença, incluindo rastreios de fatores de risco mediante a realização do pré-natal.

Palavras-chave: hemorragias, pós parto, complicações obstétricas.

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ABSTRACT

Postpartum hemorrhage is the main complication that occurs during childbirth, and can lead to shock and consequently death, and appropriate treatment is essential. It is characterized by the loss of large amounts of blood after childbirth due to the lack of contraction of the uterus after the birth of the baby. Hemorrhage is considered when a woman loses 500 mL of blood after vaginal delivery or 1000 mL of blood after cesarean section and the main causes of postpartum hemorrhage are: tone, trauma, tissue and thrombin. The objective of the research was to gather evidence on the characteristics, prevention, treatment and factors that contribute to postpartum hemorrhage. A narrative literature review was carried out with data collection in the Virtual Health Library (BVS), Medical Literature Analysis and Retrieval System Online (Medline) and the National Library of Medicine (Pubmed), using the following descriptors in English: Postpartum hemorrhage, Prevention and control, Maternal death. The study highlighted the importance of preventing and treating the disease, including screening for risk factors through prenatal care.

Keywords: hemorrhages, postpartum, obstetric complications.

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INTRODUCTION

Considered an obstetric emergency, postpartum hemorrhage (PPH) is the cause of many maternal deaths, one of the main ones in general occurring in low-income countries, and has a very significant number at the global level (WHO, 2012).

Early identification determines the patient's prognosis, since most PPH can be prevented through timely identification, which makes treatment efficient. Through this timely discovery, it is difficult for other complications to occur, such as hypovolemic shock, hemorrhagic shock, coagulopathy, renal failure, and respiratory distress syndrome (Da Silva Matos et al., 2022; Barros et al., 2022).

PPH is classified into two types: primary or early hemorrhage, which typically occurs up to 24 hours after delivery, while secondary or late hemorrhage is that which occurs 24 hours after delivery or up to 12 weeks, and is considered more difficult to occur because it is always associated with other factors that can be determining factors such as placental retention, coagulation problems and lacerations in the birth canal (Montenegro & Rezende, 2017; Carlos and Macedo et al, 2020; Betti et al., 2023).

The issue of maternal mortality led the World Health Organization to define it as the death of a woman during pregnancy or up to 42 days after the end of pregnancy, and this classification goes on to explain that only deaths from direct or indirect obstetric causes should be included in this classification, some of which can be related to biological, economic, social and cultural factors (Teixeira et al., 2021; Alves et al., 2023).

Maternal mortality is a public health problem (Andrade et al., 2019; Bento et al., 2021). Regarding births per 100,000, it is 210 deaths. Due to these data, regulatory agencies have the goal of reducing maternal mortality to less than 70 deaths per 100,000 live births by the year 2030 (BIENSTOCK JL, et al., 2021; FEDERSPIEL JJ, et al., 2023). And we need to take into account that PPH contributes to these high numbers, along with hypertensive syndrome and puerperal infections (PAHO/WHO Brazil, 2018b; Pinto et al., 2022).

Therefore, the objective of this work is to describe risk factors for PPH and its main causes, also addressing the role of nursing professionals as a prophylaxis measure before childbirth and later in the puerperium.

According to the literature, the main causes of PPH have a particular characteristic involving the 4-T Rule: tone, trauma, tissue, thrombin with uterine atony underlying most cases. However, risk factors include pre-partum hemorrhage, induced or prolonged labor, cesarean section, fetal macrosomia, chorioamnionitis, polyhydramnios, thrombocytopenia, obesity, pre-eclampsia, placentation anomalies, hemostatic disorders. and history of PPH in a previous birth (Li Yt et al., 2022).

It is very common to find reports that PPH is more frequently linked to uterine atony (Soares, 2023). In PPH caused by uterine atony, trauma, uterine rupture, early coagulopathy is uncommon. If PPH is diagnosed late and the volume of loss is underestimated, it is considered that it may be associated with an early onset of coagulopathy (Costa, 2023).

Coagulopathies aggravate PPH and can cause hemorrhage known as massive. These conditions can be caused by an impaired state of hemostasis, which may or may not be linked to pre-partum problems or during or after delivery. Coagulopathies in massive hemorrhages are included in hyperfibrinolysis/dilutional coagulopathy (Da Silva et al., 2021). Also associated with risk factors, cesarean delivery is one of the major complications that can cause PPH, with the literature highlighting a higher incidence than normal delivery. Parity (0 and >4) are considered additional factors. When it comes to hereditary or non-hereditary hemostatic disorders and a previous history of PPH, the possibility of PPH increases (Linde et al., 2022; Hofer et al., 2023).

Bienstock et al., (2021) estimates that 40% of PPH cases occur in women who do not have risk factors, which leads to the importance of prophylaxis and surveillance in all pregnant women.

Gallos et al., (2018) and Hoffer et al., (2023) mention that premature placental abruption (PPD) and amniotic fluid embolism (AFE) are precursors continuously associated with early disseminated intravascular coagulopathy and hyperfibrinolysis (Van et al., 2021).

PPH becomes more complicated when there is an obstetric laceration during operative vaginal delivery, necessitating the presence of unnecessary episiotomy and sometimes the placental tissue is retained through pathologies such as placenta accreta. These disorders form a spectrum of placentation disorders: placenta accreta, increta or percreta , and which leads to previous uterine surgery (Brito et al., 2024). When there is

the possibility of the placental tissue being retained, it is an incomplete delivery of the placental membranes, and this complication leads to PPH (Linde Le et al., 2022).

Maternal coagulopathy leading to postpartum hemorrhage can be a complication of severe preeclampsia and eclampsia, HELLP syndrome (hemolysis, elevated liver enzymes, and low platelet count), intrauterine fetal death, placental abruption (Bienstock et al., 2021; Linde Le et al., 2022).

For there to be a good response time in treatment, the professional needs to recognize the causes of postpartum hemorrhage and use the correct assistance, one of which is the Hamilton maneuver, a strategy aimed at the main etiology, atony, establishment of venous access and drug infusion, such as: oxytocin and prostaglandins (misoprostol) (Shakur et al. 2017).

The nursing team has essential technical and scientific knowledge and are professionals capable of observing an abnormal situation, thus being, in most cases, the professional who first identifies and takes the first measures to control PPH (Mesquita, 2019). According to Massoni, Leão and Ruver (2020), investigating the effectiveness of nursing interventions in the prevention and management of Postpartum Hemorrhage (PPH) promotes safe and quality care for postpartum women by reducing maternal morbidity and mortality rates related to this obstetric complication.

The treatment of choice is most often oxytocin, administered at a dose of 10 IU intramuscularly or at a dose of 20 IU diluted in 500 or 1000 mL of saline solution. Intravenous administration is a fast-acting route, but it does not have a long-lasting effect, whereas intramuscular administration lasts for three to seven minutes and the effect lasts for more than 60 minutes. When this is not available, other uterotonics should be administered, such as ergot-derived alkaloids, methylergometrine, misoprostol, and carbetocin (Rabêlo et al., 2021).

Rangel et al., (2019) found in their work that the administration of oxytocin in the third stage of labor had a reducing action on the risk of PPH complications. This type of approach to controlling PPH works well with uterine massage, gas or balloon tamponade, drug treatment and surgical procedures.

METHODOLOGY

An integrative review was conducted, which consists of a broad type of research on a phenomenological aspect, integrating theoretical or practical (empirical) studies in order to determine concepts, theories and evidence (Souza et al., 2010).

After identifying the theme, inclusion and exclusion criteria were established, and thus the articles that comprised this review were selected, analyzed and presented in a sample table.

The guiding question of the work was: "What are the main risk factors for postpartum hemorrhage and what nursing interventions can prevent maternal deaths?"

Mesh terms (Medical Subject Headings) and DeCs (Health Sciences Descriptors) were used as descriptors in the search strategy. The search strategy followed the criteria of the Boolean operator “AND” that combines terms. The terms used were postpartum hemorrhage “AND” risk factors “AND” nursing care, which were applied to the PubMed, Scielo and Lilacs databases, in their respective languages, with a time frame of the last 5 years during the months of January to November 2024.

By applying the inclusion criteria, regarding the availability of the full article, 1,343 studies were selected, 467 in the established languages, of which 12 articles were pre-selected for further reading, resulting in 7 articles for analysis in this database.

Therefore, articles that effectively answered the guiding question were included, and those that did not identify the established descriptors were excluded, because even though the descriptors were applied, studies that addressed other pathologies were still obtained.

A critical analysis was carried out to identify patterns, gaps and trends in Nursing Care for Postpartum Hemorrhages. To this end, the data synthesis was presented in a descriptive manner with the aim of capturing the evidence available in the literature.

RESULTS AND DISCUSSIONS

Postpartum hemorrhage is responsible for approximately 14 million maternal deaths in the global context, standing out as responsible for a large proportion of maternal deaths in middle-income countries (Almeida and Carvalho, 2022)

Bonfim et al., (2022), highlight postpartum hemorrhage as a specific pathology as an obstetric emergency, physiological factors, mainly the inability of the uterus to

return to its initial conformation after delivery, preventing the specification of the vessels that irrigated the placenta, consequently leading to excessive bleeding. In this context, the authors associate postpartum hemorrhage with blood loss of 500 ml occurring in the first 24 hours after vaginal delivery, classifying it as severe if the loss is greater than or equal to 1000 ml in cesarean sections, also in the first 24 hours after delivery.

The occurrence of PPH may culminate in various outcomes. Nevertheless, early diagnosis and management are essential to prevent complications and even maternal mortality. The risk stratification applied in this study was conducted at the time of hospital admission and is not linked to the PPH diagnosis. (Brito et al., 2024).

According to Da Cunha et al., (2024), it's important to emphasize that the progression of labor, along with complications during childbirth, can lead to PPH. By recognizing new risk factors early, it becomes possible to develop updated care plans that allow for the timely implementation of preventive measures against PPH.

On the other hand, Freitas et al., (2021) indicate the predisposing causes for PPH, morbid obesity is directly linked to the increase in exsanguination during childbirth. Furthermore, the full amount and duration of administration of oxytocin for the purpose of stimulating labor has been linked to the extensive use of supplemental interventions in order to arrest postpartum hemorrhage.

PPH remains the leading preventable cause of maternal morbidity and mortality worldwide. Its prevention involves the early identification of risk factors, proper prenatal care, the intramuscular administration of 10 units of oxytocin immediately after delivery, and the active management of the third stage of labor. The treatment of PPH requires a multidisciplinary approach, with the assessment of maternal blood loss being a cornerstone. Conservative management includes hemodynamic resuscitation, blood transfusion, the use of uterotonic agents such as oxytocin and prostaglandins, and mechanical interventions like uterine compression and intrauterine balloon tamponade. (Dos Santos et al., 2024).

Gomes and Ferraz (2024) highlight the need for improvements in the Unified Health System, aiming to improve the approach and conduct in the context of postpartum hemorrhages, such as training for nursing teams, with the objective of updating knowledge about PPH care. In addition, the authors suggest the

implementation of a more updated protocol, as well as the implementation of a hemorrhage kit to facilitate access to medications in emergency cases.

FINAL CONSIDERATIONS

Representing a hemorrhagic and potentially fatal complication, PPH requires an agile and effective approach. A thorough understanding of risk factors, implementation of prevention protocols and prompt intervention are crucial to minimize adverse consequences. Prenatal care is of great importance for the prevention and treatment of possible complications during this period. This allows screening and prevention of diseases, increasing safety for mother and baby and reducing the incidence of deaths. Although maternal deaths are decreasing, the rates are still high, increasingly requiring standardization of effective approaches for the care and prevention of PPH.

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