PREVENTION AND TREATMENT OF POST-PARTUM HEMORRHAGE**PREVENÇÃO E TRATAMENTO DA HEMORRAGIA PÓS-PARTO****PREVENCIÓN Y TRATAMIENTO DE LA HEMORRAGIA POSPARTO***Rita de Cássia de Oliveira¹, Rejane Marie Barbosa Davim²***ABSTRACT**

Objective: to identify the evidence on the prevention and treatment of postpartum haemorrhage in health care. **Method:** this is a descriptive and quantitative bibliographical study of the type integrative, with temporal delimitation from 2007 to 2017, with a search in the databases LILACS, MEDLINE and SciELO Virtual Library, and the results are presented in figure, analyzed by the technique of Content Analysis in the Thematic Analysis modality. **Results:** totaling 100 articles, which, after refinement, totaled 11 eligible for discussion with the literature. **Conclusion:** the correct management of the third stage of labor with the prophylaxis of postpartum haemorrhage was fundamental, based on the use of uterotonic drugs, controlled cord traction and uterine massage in place of clamping of the cord. **Descriptors:** Pregnant women; Pregnancy; Bleeding; Maternal Mortality; Puerperal infection; Women's Health.

RESUMO

Objetivo: identificar as evidências sobre a prevenção e o tratamento da hemorragia pós-parto em cuidados no campo da saúde. **Método:** trata-se de um estudo bibliográfico, descritivo e quantitativo, do tipo revisão integrativa, com delimitação temporal de 2007 a 2017, com busca nas bases de dados LILACS, MEDLINE e Biblioteca Virtual SciELO, e os resultados se apresentam em figura, analisados pela técnica de Análise de Conteúdo na modalidade Análise Temática. **Resultados:** totalizaram-se 100 artigos que, após refinamento, totalizaram 11 elegíveis para discussão com a literatura. **Conclusão:** evidenciou-se que é fundamental o manejo correto no terceiro estágio do trabalho de parto, com a profilaxia da hemorragia pós-parto, tendo como base o uso de drogas uterotônicas, a tração controlada de cordão e a massagem uterina em substituição ao clameamento do cordão. **Descritores:** Gestantes; Gravidez; Hemorragia; Mortalidade Materna; Infecção Puerperal; Saúde da Mulher.

RESUMEN

Objetivo: identificar las evidencias sobre la prevención y el tratamiento de la hemorragia posparto en cuidados en el campo de la salud. **Método:** se trata de un estudio bibliográfico, descriptivo y cuantitativo, del tipo revisión integrativa, con delimitación temporal de 2007 a 2017, con búsqueda en las bases de datos LILACS, MEDLINE y Biblioteca Virtual SciELO, y los resultados se presentan en figura, analizados por la técnica de Análisis de Contenido en la modalidad Análisis Temático. **Resultados:** se totalizaron 100 artículos que, después de refinamiento, totalizaron 11 elegibles para discusión con la literatura. **Conclusión:** se evidenció que es fundamental el manejo correcto en la tercera etapa del trabajo de parto, con la profilaxis de la hemorragia posparto, teniendo como base el uso de drogas uterotónicas, la tracción controlada de cordón y el masaje uterino en sustitución al clameamiento del cordón. **Descriptores:** Mujeres Embarazadas; Embarazo; Hemorragia; Infección Puerperal; Salud de la Mujer.

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INTRODUCTION

The purpose of this academic work is to study the prevention and treatment of Postpartum Hemorrhage (PPH) in health care. It is known, according to data from the World Health Organization (WHO), that PPH reaches 2% among all women who give birth, representing approximately one-quarter of maternal deaths globally and is also the main cause of maternal mortality (MM) in most developing countries.¹

According to the WHO, specific evidence for bleeding, such as the management of maternal anemia with iron, the prevention of PPH through active maneuver in the third stage of labor, and treatment from more acceptable highlights.²

It is estimated that the MM rate in Brazil has been 52 to 75/100 thousand live births, while data from 2007 suggest that 23% of MM is due to hypertensive diseases and 8% to hemorrhage.³

It has been observed that, in Brazil, despite the expansion of access to medical services and the improvement of maternal health indicators, hemorrhage continues among the three main groups of causes of death in the pregnancy-puerperal cycle, with uterine atony and placental abnormalities more frequent specific etiologies.⁴

The diagnosis and treatment of uterine atony is defined when it is identified early and in a correct way, in good conditions of hospital infrastructure and medical competence in the conduct of the case, contributing greatly to the decrease in the rates of complications and deaths.⁵

It is understood that the most common etiologies of PPH are uterine atony, which occurs as a complication every 20 deliveries, and risk factors such as multiple gestation, polyhydramnios, fetal macrosomia, precipitated or prolonged labor, chorioamnionitis or inability to contract by the use of tocolytics or general anesthesia.²

The prophylactic administration of oxytocin in the third period, usually 10 IU boluses, intravenously or intramuscularly, reduces the incidence of PPH by 40%.⁶

Basic prenatal care is recommended as appropriate identification and treatment of risk factors for PPH, as well as the delivery schedule for these women in Basic Health Units (BHU) with adequate resources to treat a possible complication, these being of major relevance.⁷

It is suggested that, in PPHs, significant care should be taken as an evaluation every

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30 minutes during the first hour, depending on the needs of each patient, notes on the uterine fundus, muscle tone, vaginal secretions, bleeding, perineal hematoma, blood clots, capillary hemoglobin and hematocrit levels, monitoring of fluid intake and urinary output.⁸

It is necessary, from the team that assists the woman in the prepartum, delivery and postpartum, knowledge and skills in managing the actions of the care, directing itself to the promotion of health and the prevention of diseases.⁹ It is also of paramount importance that there be training and encouragement for the training of obstetrical nurses to work in basic care, in the outpatient and hospital network of the Unified Health System (UHS), and in this way, it is possible to detect the existing complications in the pregnancy-puerperal cycle, contributing to the reduction of MM in Brazil.¹⁰

The motivation and the interest in developing this research are justified when reflecting on the prevention and treatment of PPH, with the identification and the aid in the treatment of risk factors. It is therefore sought to understand the issues that involve PPH risks, in view of actions to promote women's health.

It is evidenced the importance of the study for professionals in the field of Obstetric Nursing, especially in relation to the recognition of the woman's parturient in labor, aiming at the prevention of severe maternal hemorrhages, which may contribute to the reduction of the MM, in view the health promotion of these patients. The research becomes relevant and consistent by offering subsidies that allow reflections on the risks of hemorrhagic syndromes and nursing care.

OBJECTIVE

- To identify the evidence on the prevention and treatment of postpartum hemorrhage in health care.

METHOD

It is a descriptive bibliographical study of the type integrative review.¹¹ The following steps were taken as drivers for this review: elaboration of the theme; establishment of criteria for inclusion and exclusion of studies; definition of the information to be taken from the chosen studies; evaluation of those included in the integrative review; interpretation of results; review submission.

It was defined as a guiding question: "What types of prevention and treatment are indicated for postpartum haemorrhage?". The

following inclusion criteria were listed for the study: articles in Portuguese, English and Spanish, indexed and collected in the LILACS, MEDLINE and SciELO Virtual Library databases in a temporal view between 2007 and 2017, which addressed the PPH, obtaining a sample of 100 articles. It was considered that, after refinement and extensive reading, 11 articles responded to the objective and inclusion criteria of the study by thematic analysis, excluding 89, determining the final sample represented in figure 1.

Theses, theses, abstracts, repeated articles and those that did not respond to the guiding question and the purpose of the study were excluded. The search was made between

September and October 2017, which was decisive for the analyses and interpretations of the results. We analyzed the 11 scientific articles with the best levels of evidence using, as descriptors, Pregnant Women, Pregnancy, Hemorrhage, Maternal Mortality, Puerperal Infection, Women's Health.

For the systematization of the collected data, an instrument for the analysis was used, considering the guiding question, focusing on aspects such as author / year / place, study design, title, periodical, objectives and results of the eligible, represented in figure 2.

The authors of concepts, discussions and ideas presented by the authors in the articles consulted were respected in the research.

Figure 1. Flowchart of articles identified and selected for inclusion in the review. Natal (RN), 2018.

Author/Year/ Location	Study Design	Title	Journal	Objectives	Results
Alves ALL et al. (2014)4 Belo Horizonte-Minas Gerais	Bibliographic research using the MEDLINE database, available from PubMed and Cochrane.	Use of intrauterine balloons in patients with postpartum hemorrhage.	Femina July/ August 2014, 42(4)	To present a review of the use of intrauterine balloons in hemorrhagic control with emphasis on types, applicability and chronology of invention and publications.	It has been shown that intrauterine balloons appear to be a simple, safe, effective, inexpensive, easily available and potentially applicable method even by professionals with little experience. It has been observed that they are a potential life-saving and interesting alternative to prevent laparotomy or hysterectomy.
Baggieri RAA et al. (2011)6 Vitória-ES	Systematic review on prevention and treatment of postpartum bleeding.	Postpartum hemorrhage: prevention and treatment	Arc Med Hosp Coll Scienc Med Santa Casa São Paulo 2011;56(2):96-101	The present study aims to establish a protocol to prevent ducts from postpartum hemorrhage.	It was found that, for prevention, the most important measures are: to correct prenatal anemia, eliminate routine episiotomies and early clamping of the umbilical cord, and treat it in a gentle manner, in addition to the routine use of 10 IU of oxytocin in the third period of labor. It was evident that, once the hemorrhage was installed, in addition to investigating the cause, treatment was started based on sequential measures, such as uterine massage; use of uterotonic medications such as oxytocin, ergot alkaloids and prostaglandins; uterine balloon tamponade,

							Taxe maneuver for uterine repositioning in cases of inversion; use of oxytocin in the umbilical cord when there is placental retention. In the event of failure of these ducts, surgical treatment can be performed, from simple curettage, in cases of placental retention, to hemostatic sutures such as B-Lynch, uterine and iliac ligation, catheterization of pelvic vessels, puerperal hysterectomy.
Bonomi et.al. (2012)7 Belo Horizonte-Minas Gerais	IBA	Literature review in the MEDLINE / PubMed database, LILACS / SciELO, Cochrane Library and the website of the Royal College of Obstetricians and Gynecologists.	Prevention and management of postpartum hemorrhage	Journ Minas Gerais 2012; 22 (Supl 2): S1-S173	Med	Define the best strategy for the prevention and treatment of postpartum haemorrhage emphasizing active management in the third stage of labor.	It was found that the active management of the third phase of labor is of fundamental importance for the prevention of postpartum hemorrhage. It was pointed out that the use of uterotonics, such as oxytocin, the first-line drug for this purpose, and controlled traction of umbilical cord with uterine massage are the basis of this treatment. It was observed that surgical treatment may also be necessary and should have a precise indication and according to the experience of the surgeon.
Costa ML et al.		Integrative review, with	Episiotomy in normal	Carpe Diem: Cultural and		To describe the incidence	It was established that

(2015)9 Natal-Rio Grande do Norte	searches in the databases of LILACS, in the virtual library in Health SciELO, and database of Nursing (BDENF).	delivery: incidence and complications.	Scientific Journal UNIFACEX. (13)1, 2015. ISSN: 2237 - 8685.	and complications of episiotomy in normal delivery and to know the actions of Nursing in the puerperium submitted to episiotomy.	the nurse practitioner should continually reassess his / her technical- scientific knowledge in order to seek measures that will enable and replace the episiotomy at the time of delivery and thereby strengthen the good experiences of the maternity from which the puerpera will return to the residence to carry out their own care and that of the newborn.
Martins HEL. (2014)2 Florianópolis- Santa- Catarina	Epidemiological study of the descriptive- retrospective study, historical series with population data about maternal deaths occurring in the period from 1997 to 2013 in the State of Santa Catarina; integrative review of published studies on evidence-based Nursing practices in the prevention and control of PPH; theoretical study on the observation concept of Florence Nightingale.	Nursing observation: technology for the prevention and control of postpartum hemorrhage	Thesis (Doctorate) - Federal University of Santa Catarina, Health Sciences Center. Post- Graduate Program in Nursing.	To present a historical series of maternal mortality associated with PPH, from 1997 to 2013, in the State of Santa Catarina; identify in the literature nursing practices in the prevention and control of PPH; present observation as nursing technology for the prevention and control of PPH; to systematize a nursing observation instrument for the prevention and control of PPH.	The reviewed studies showed that the delivery should be monitored and monitored, taking into account its different dimensions, so that women are guaranteed the best interventions, with favorable results, avoiding outcomes such as postpartum haemorrhage and death the woman and the newborn. Complications of PPH with consequent increase in maternal deaths are associated with delay in accurate recognition of the amount of blood loss, delay in deciding to seek help in obstetric referral services, and

							delays in the delivery of the required care. The active management of childbirth is an intervention that Nursing must be competent to implement in order to reduce the rates of PPH. The practice of active management of the third stage of childbirth substantially shortens the third stage of childbirth and, thus, Nursing can prioritize care for other needs of the mother and newborn. Reducing the incidence of PPH benefits the health of women, decreases demand on the health system and the economic and social impact.
Martins et al. (2013)2 Florianópolis-Santa-Catarina	HEL	A descriptive study in which 491 maternal deaths occurred in the period from 1997 to 2010. Of these, 61 were related to bleeding, corresponding to 12.42%, postpartum haemorrhage being the most prevalent cause, with 26 deaths, followed by detachment of placenta, with 15 occurrences, representing 67.21% of cases.	Maternal mortality due to hemorrhage in the State of Santa Catarina, Brazil	Schol Journ 2013; 47(5):1025-30	Nurs USP	To analyze the maternal deaths related to hemorrhages occurred in the State of Santa Catarina, Brazil.	The analysis of maternal deaths due to hemorrhage in the State of Santa Catarina revealed that this is a clinical manifestation whose occurrence is linked to regional conditions. The highest percentage (25.53%) in the Itajaí macroregion may be associated with difficulties in identifying pregnant women at risk of pregnancy, lack of referral services and early intake,

					with appropriate referral of pregnant women to Primary Care services. The results of studies with a historical series represent contributions to health professionals so that they can reflect on the reality in which they work. They reveal the need for the adoption of protocols that integrate clinical and social observation in such a way that women are offered timely care.
Periard AM et al. (2011)5 Belo Horizonte- Minas Gerais	Literature review	Uterine atonia and postpartum hemorrhage	Journ Med Minas Gerais 2011; 21(4 Supl 6): S1-S143	To analyze postpartum hemorrhage (PPH) as a major cause of postpartum maternal-fetal morbidity and mortality and relatively common affection as its main cause.	Uterine atony is the main cause of PPH, responsible for expressive maternal morbidity and mortality. It is a preventable condition as long as the prophylaxis is used correctly. Early and adequate diagnosis and treatment, as well as good hospital infrastructure and medical competence in the conduct of the case, result in a significant decrease in the rates of complications and deaths.
Reganassi C et al. (2015)10 Bebedouro-São Pau	Review of Literature in the databases of Bireme, LILACS and SciELO Virtual Library.	Maternal mortality: challenges for nursing in coping with care	Fafibe On-Line Journ, Bebedouro SP, 8 (1): 319-331, 2015.	To identify the factors that contribute to the increase of maternal death and attributions of the nursing team in facing	It has been shown that social health policies need to be effective and resolute. It is fundamental that there is regional care

					the problem for pregnant women, considering the socio-demographic aspects as an important revealing factor in the degree of vulnerability of each region. Therefore, identifying risk factors to establish early diagnosis in the face of maternal mortality is indispensable for the reduction of maternal mortality.
Souza ML et al. (2013)3 Florianópolis -Santa Catarina	This is a descriptive and populational study, with a retrospective record of a time series, using data provided by the Ministry of Health through the Mortality Information System (MID) and the Information System on Live Births (Sinasc).	Maternal mortality due to hemorrhage in Brazil	Latin-Am. Nurs Journ. maio-jun. 2013;21(3):[08 telas]	To analyze the maternal mortality ratio due to the hemorrhage identified in Brazil during the period from 1997 to 2009.	During the study period, 22,281 maternal deaths were identified in the Mortality System, of which, 3,179 were due to hemorrhage, accounting for 14.26%. The maternal mortality ratio was higher in the North and Northeast regions of Brazil. It was revealed that the Brazilian scenario shows regional inequalities in relation to maternal mortality. Hemorrhage is presented as a symptom and not as a cause of death.
Gabrielloni MC et al. (2013)12 Florianópolis -Santa Catarina	A cross-sectional study of 328 vaginal deliveries divided into: spontaneous, with and without episiotomy, and forceps delivery, with stratified	Analysis of hemorrhage in vaginal delivery by erythrocyte and hematocrit indices	Acta Paul Nurs. 2014; 27(2):186-93.	To analyze the hemorrhage in the vaginal delivery through the erythrocyte and hematocrit indices.	The analysis of bleeding in vaginal delivery through the erythrocyte and hematocrit indices showed that there were variations in the three types of vaginal delivery

random sampling by type of vaginal delivery.							studied, with bleeding being higher in forceps and lower in the spontaneous vaginal delivery. In the puerperium, in cases of forceps births, these indices remained lower than those of hospitalization.	
Rezende et al. (2009)13	FB	Single study.	case	Postpartum hemorrhage due to uterine atony: case report	Journ Minas Gerais	Med 2009; 19	To analyze a case report of a patient with uterine bleeding in the immediate postpartum, submitted to subtotal hysterectomy due to uterine atony refractory to clinical treatment.	It was found that the severity of uterine atony results in hysterectomy as the last measure of preservation of life, despite physiological and psychic amputations.

Figure 2. Articles of the final sample represented by the indicators author / year / local, study design, title, periodical, objectives and results. Natal (RN), 2018.

DISCUSSION

It has been identified in the studies surveyed that hemorrhages involving obstetric emergencies appear in four to six percent of deliveries, constituting one of the main causes of maternal death. It is known that the main etiology is uterine atony followed by lacerations of the birth canal, retention of placental debris and coagulation disorders. It is also recommended measures that can be adopted to minimize the risk of PPH, such as: treating anemia during pregnancy; frequency of childbirth classes; exercise during pregnancy in order to obtain more resistance so that normal labor occurs more quickly.¹³

Evidence provided by the DATASUS information system that reveals the high incidence of obstetric deaths; direct, indirect and non-specific maternal death; per period of maternal death during pregnancy, childbirth or abortion; during the puerperium, up to 42 days; during the puerperium, from 43 days to less than one year and deaths not reported or ignored; schooling level; age group; color / race and marital status were detected, in a descriptive, quantitative and cross-sectional study.¹³

There are risk factors for the occurrence of PPH, such as: uterine hyperdistension, more

evident in polyhydramnios, twin pregnancy and fetal macrosomia; conditions that compromise uterine contraction and retraction, such as the presence of uterine fibroids, hypoproteinemia and multiparity; obesity; postpartum haemorrhage in previous gestation and maternal age above 35 years. It was also observed in all the cases studied that maternal mortality is presented in unequal scenarios throughout Brazil, with PPH being a very considerable cause of maternal death.⁶

It was identified that maternal deaths in Brazil account for about six percent of deaths among women between ten and 49 years of age due to direct obstetric causes, accounting for 66% of these deaths.⁷

It is mentioned that the existence of technologies to intervene in obstetric hemorrhage has not led to positive results in Brazil, and there is a need to change the clinical practice and management of PPH by providing greater attention to women's health in general. In this way, the need for clinical innovation in order to reduce the problem of MM in Brazil.³

The results showed that hemorrhage in vaginal delivery, confirmed by erythrocyte and hematocrit indices, appears more frequently in the delivery of forceps and less in the spontaneous vaginal.¹²

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A case-control study was developed to identify risk factors for severe PPH in a cohort of women who gave birth at one of three hospitals in Norway between 2008 and 2011. One of the cases considered to be a serious PPH was classified as a loss estimated blood $\geq$ 1500 ml or the need for blood transfusion due to excessive postpartum bleeding. Logistic regression was used in this case, and a pragmatic strategy was applied to identify independent risk factors for severe PPH. A total of 43,105 deliveries occurred between 2008 and 2011 were identified, with 1064 cases and 2059 randomized controls, registering a frequency of severe PPH of 2.5%. It was established that the most common etiologies for severe PPH were uterine atony (60%) and placental complications (36%). The following risk factors were listed: history of severe PPH; anticoagulant medication; anemia at the time of booking; severe pre-eclampsia or HELLP syndrome; uterine fibroids; multiple pregnancy and assisted reproduction technologies. On the basis of the findings, it was verified that women with a history of severe PPH are at greater risk of developing bleeding, as are other established clinical risk factors for this morbidity.¹⁵

A cross-sectional study developed at the National Hospital of Liaquat, Karachi, considered tertiary care, was carried out from June 2011 to July 2012, comprising 26 cases of women diagnosed with PPH, the main cause of maternal morbidity and mortality is certainly PPH. It is recommended that in order to avoid this disease, in most cases fatal, it is necessary to assess risk factors and blood loss during childbirth. A strict follow-up of the authorized management plan is indicated as an action capable of preventing complications and maternal death. It is emphasized that patients diagnosed with PPH should receive active treatment in the third stage of labor and should adhere to guidelines protocols to improve outcomes of PPH treatment.¹⁶

Data was collected by means of medical records in a descriptive and retrospective study of the cohort type, developed at Mpilo Central Hospital, public, tertiary referral and with few resources, in Bulawayo, Zimbabwe, Africa, in women diagnosed with PPH, in the period from January to June 2016. It was identified in this study that the incidence of PPH was 1.6%, lower than other studies, and pregnancy-induced hypertension was listed as risk factors prolonged delivery. Obstetric emergency exercises with stored material to deal with emergency cases are carried out regularly in this hospital, thus contributing to the low incidence of PPH in this health

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institution. The primary cause of PPH is uterine atony, whose treatment with rapid administration of extrauterotonic doses prevents women from having exaggerated blood loss, thereby reducing maternal mortality. It was found that, of the women diagnosed with PPH, none were hysterectomized in the study period and 94.6% survived with rapid and efficient treatment. Through the study, clinical awareness and regular obstetric emergency exercises were verified through this study, which can make a difference with a reduction in the number of deaths achieving positive results and saving more lives.¹⁷

It is confirmed that, in most of the studies selected, the maternal death caused by PPH is still alarming in the country reaching, above all, the most deprived population and representing a major public health problem. It is observed that nurses have training to act on complications in cases of PPH, although there are no protocols for interventions in this area, aiming at ensuring adequate care for the puerperium.

It is evidenced that PPH has a set of causes that lead to direct obstetric maternal death due to complications during pregnancy, childbirth or the puerperium due to interventions, omissions, incorrect treatment or a chain of events resulting from any of these causes.

CONCLUSION

This research aimed to reveal that there is a global concern to implement health actions that can adequately prevent and treat the complications of PPH, which in many cases causes maternal morbidity and mortality, according to the studies of authors cited in this review.

It is also essential that the health team, especially obstetrical nurses, carry out practices and exchanges of experiences regarding PPH cases and, thus, contribute to the dissemination of new promotion and prevention strategies in with the objective of preventing and treating this serious public health problem.

It was verified, on the theoretical and practical implications of the results, that the causes of PPH are related to labor that goes on for more than 12 hours; to uterine atony; loss of contraction capacity of the uterus; distension of the uterus too much during multiple pregnancies; fibroids that impair the contraction of the uterus; the use of too much muscle relaxant or magnesium during pregnancy; to the wound in the uterus caused

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by spontaneous labor and difficulty in blood coagulation.

It was concluded that the correct management in the third stage of labor for the prophylaxis of PPH is fundamental, based on the use of uterotonic drugs, controlled cord traction and uterine massage to replace cord clamping.

It is determined as contributions of the study to the advancement of scientific knowledge that health professionals can intensify proposals for interventions aimed at reducing the real and / or potential risks to the patients affected by PPH for the early diagnosis, practice of obstetrics in the care of women's health.

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