



FACTORS AFFECTING POSTPARTUM HAEMORRHAGE ON POSTPARTUM MOTHER

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ABSTRACT

Background: Postpartum haemorrhage in general is defined as blood loss from the body in the amount of 500 ml after vaginal delivery or 1000 ml after cesarian section. Every year it is estimated that there are 140.000 mother's death caused by PPH or every 4 minutes 1 death occurs worldwide caused by PPH. According to WHO 99% of all maternal deaths occur in developing countries due to postpartum hemorrhage. Based on data obtained in 2020, the MMR in Indonesia is 305 per 100,000 live births.

Purpose: to find out the factors affecting haemorrhage occurrence on postpartum mother based on the results of previous research.

Method: Scoping review using databases: Google Scholar, PubMed, and ProQuest. The keywords used in the literature search are "Factor", "Postpartum haemorrhage", "maternity". The searching results were 7 articles which fulfilled the criteria. The 7 articles then were analyzed by using The Joana Briggs Institute and synthesis method using PEOS modification.

Results: Out of 99 articles with relevant title and abstract, obtained 7 articles which fulfilled the inclusion and exclusion criteria. Four factors were found, which are; perineal tear, anemia, placental complications, and uterine atony which affects the haemorrhage on postpartum mother.

Conclusion: There are four most frequent factors occurring which affect the occurrence of postpartum haemorrhage namely birth canal tear, anemia factor, placental complication, and uterine atony. Those factors can cause and continuously increase haemorrhage which can lead to maternal mortality rate.

Keywords: *Factors, postpartum haemorrhage, postpartum mothers, maternity, scoping review*

INTRODUCTION

Maternal health has been a global concern. In some countries, especially developing and underdeveloped countries, mothers face various risks during childbirth. This situation has prompted the international community to make greater efforts in addressing this issue. The World Health Organization (WHO) has estimated that 800 women die every day due to pregnancy and childbirth complications. It is estimated that 99% of maternal mortality occurs in developing countries, 88% of which is due to complications that occur during pregnancy, delivery and after delivery (post-partum)¹.

Maternal mortality remains a major challenge to the global health systems. The World Health Organization (WHO) reported that nearly 295,000 women die from pregnancy complications every year, while most of the complications are actually preventable and curable. Maternal mortality in low- and middle-income countries reaches 94, 25% of which occurred due to postpartum haemorrhage, and almost 20% of all maternal deaths are caused by postpartum haemorrhage (PPH). Maternal mortality is caused by direct causes and postpartum haemorrhage is one of the main direct causes of maternal death with 22.7% of all documented cases². Maternal mortality from low- and middle-income countries reaches 94. More than 25% of these deaths are caused by postpartum hemorrhage, almost 20% of all maternal deaths are caused by postpartum hemorrhage (PPH). Maternal mortality is caused by direct causes and postpartum hemorrhage is one of the main direct causes of maternal death with 22.7% of all documented cases².

Postpartum haemorrhage is generally defined as blood loss that exceeds 500 ml after vaginal delivery or 1000 ml after section-caesarean delivery. Each year, 140,000 maternal deaths occur due to PPH or 1 mother dies every 4 minutes worldwide (Nur et al., 2019).

PPH rate also increases in recent years in several high-income countries; the United States, Canada, Australia, Norway, and Ireland³.

Postpartum haemorrhage is further divided into early postpartum haemorrhage (EPH) and late postpartum haemorrhage (LPH). EPH refers to blood loss of at least 500mL after vaginal delivery (VD) or 1000mL after caesarean section (CS) within 24 hours postpartum. Late postpartum haemorrhage (LPH) occurs after 24 hours postpartum and 0.23% of which leads to complications during delivery. The American College of Obstetricians and Gynecologists stated that EPH is often characterized by hypovolemia that occurs within 24 hours postpartum. The blood loss in EPH can be divided into dominant (500-1000mL), moderate (1001-2000 mL) and severe (>2000 mL). These complications significantly affect global maternal health as they are most common causes of maternal death worldwide⁴.

WHO reported that less than 50% of childbirth in some low- and middle-income countries is assisted by trained midwives, doctors or nurses. Whereas, in most high- and middle-income countries, 90% of childbirth is handled by trained traditional birth attendant. Factors associated substandard childbirth care have been identified based on 61.1% of maternal mortality cases. Recommendations should be provided for trained health care providers in high, middle and low income countries².

WHO also urges different partners to review their respective national health policies and protocols on the prevention against PPH as indicators of maternal care quality in terms of timeliness and appropriateness that meet the professional knowledge and mothers' demands. Every country is obliged to develop certain policies and programs that specifically adjust to local context and incorporate a

variety of approaches in preventing and addressing PPH issue².

Service efforts that can be carried out by midwives are a form of health effort to always improve the health status of the community. indicators of community status can be seen from the number of AKI and IMR. Because until now the MMR and IMR are still high, so it becomes a problem of priority in the health sector. several efforts to reduce MMR and IMR can be done such as prevention, early observation, and therapy. Based on the description of the prevalence of postpartum haemorrhage which is still very high, it is necessary to conduct a study of the results of several previous

studies regarding factors that can affect the incidence of postpartum hemorrhage in mothers. Prevention against PPH is explained in the Essential Public Health Operations (EPHO) which can be adapted by WHO to assess and plan for sustainable public health services and capacities. EPHO-five focuses on disease prevention through three levels of disease prevention: primary, secondary and tertiary levels. Almost all measures of the disease prevention are under the responsibilities of health care providers, hospital and the community².

METHOD

This study use the Framework and Research Question which classify the keywords into some classification which are Population, Exposure, Outcome, and Study Design.

Table.1 *Table of Research Questions*

Population	Exposure	Outcome	Study Design
Postpartum mothers	Haemorrhage	Perineum rupture, anemia, placental complication, atony uteri placenta	Quantitative and Qualitative

Inclusion and Exclusion Criteria

1. Inclusion Criteria
 - a. Articles were published between 2011 to 2021.
 - b. Articles were written in English.
 - c. Articles discuss the factors that influence the prevalence of postpartum haemorrhage.
2. Exclusion Criteria
 - a. Opinion articles, review articles, and commentary articles.
 - b. Book review.

Article Selection

Three databases; Science Direct, ProQuest and Google Scholar were the sources of articles being reviewed in this study. Some keywords were used in Medical Subject Headings (MeSH) including: (“Haemorrhage” OR “Bleeding” AND “Postpartum” OR “After giving birth” AND “Factor” OR “Element”).

Article Extraction

The articles obtained in this study were then extracted. The extraction was based the writer, nation, year of publication, the number of samples, the types of scales, results of the research and the database.

Article Selection

There were 99 articles obtained from the databases. These articles were then screened based on the abstracts, full text, inclusion and exclusion criteria using covidence. Further screening was performed to select only seven articles that contained the complete information about factors influencing the prevalence of postpartum haemorrhage.

RESULTS

There were initially 99 articles retrieved from Science Direct, ProQuest and Google scholar that were then screened based on the similarities of data type and titles.

Inclusion criteria were set to select only articles that discuss factors influencing the prevalence of postpartum haemorrhage. Seven articles matched both inclusion and exclusion criteria. In-depth analysis (critical thinking) was performed to obtain the clear factors affecting the prevalence of postpartum haemorrhage from high-quality articles. The results of seven articles are regarded credible and trusted. The Scoping Review identified the factors that include perineum rupture, anaemia, placental complications, and uterine atony factor.

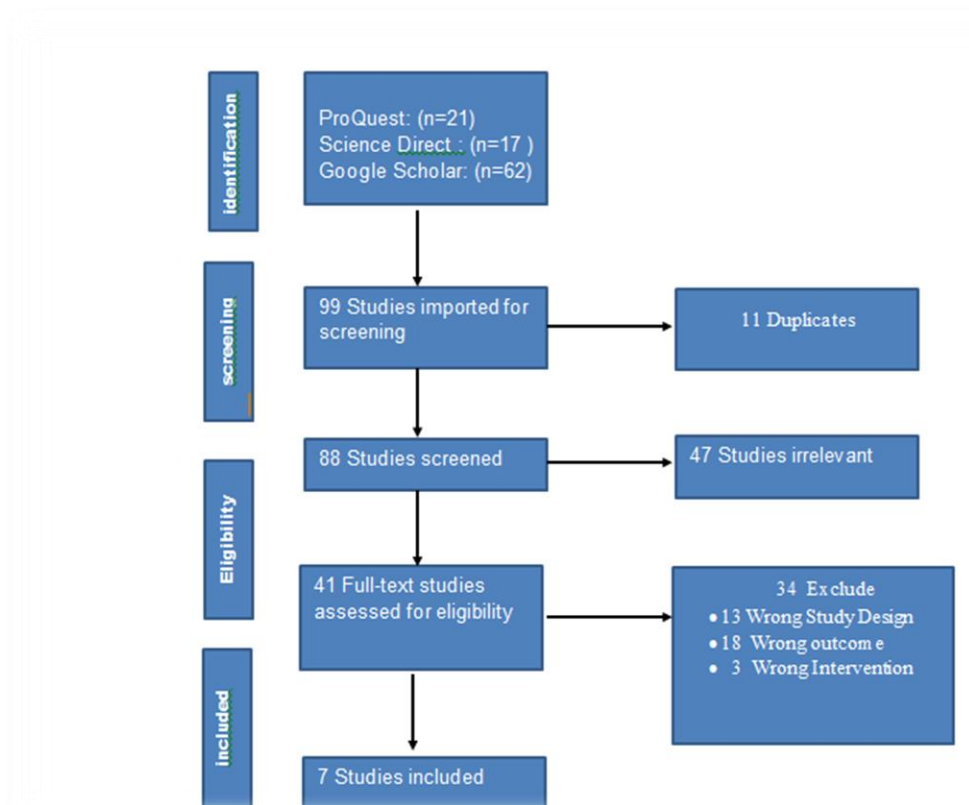


Figure 1. PRISMA flowchart

Table 2. Article Extraction

Author	Nation	Year	Sample	Results
Chee et.al	Scotland, English	2012	62	Themes obtained: VWD factor, age, and parity
Torth et.al	Sub – Sahara – Africa (SSA)	2015	3.278	Themes obtained: age, chronic co-morbidity, severe anaemia, use of forceps or vacuum, Giant baby, blood transfusion, living far from hospital.
Buzaglo et al.,	Israel	2015	56.394	Fertility treatment, post-term pregnancy, shoulder dystocia, perineal rupture grade 2 & 3.
Biguzzi et al.,	Milan, Italia	2012	6011	Nulliparity, episiotomy, placental retention, neonates weight
Davey et al.	Melbourne, Victoria, Australia	2020	364.706	Superfetation, geriatric pregnancy, over weight/obesity, placental complications, macrosomia, instrumental perineum birth, perineal laceration grade three and four, and c-section birth.
Nyfløt et al.	Metropolitan Oslo and Kota Buskerud	2017	1064	Uteri atony, placental complications, severe anaemia, uteri fibroma, and superfetation.
Ngwenya	Bulwayo, Zimbabwe	2016	4.567	Hypertension, uteri atony and C-section birth.

DISCUSSION

Perineal Rupture

A study by Buzaglo (2015) showed that perineal rupture can cause postpartum haemorrhage during vaginal delivery at hospitals as well as at midwife clinics. All women who deliver their babies through vaginal delivery with episiotomy or perineal rupture grade 2, 3 and 4 are at risk of postpartum haemorrhage that reaches 1000 ml of blood loss⁶. Postpartum haemorrhage takes up to 25% of the total maternal death, with perineal rupture grade 3 and 4 dominating due to inappropriate way of pushing during the delivery and due to midwives' negligence in helping the delivery⁷.

Anaemia

It is stated by (Buzaglo et al., 2015) that anaemia is the strongest risk factor of postpartum haemorrhage (PPH) since anaemia is a significant contributor to bleeding cases. Some factors can increase the risk of bleeding during childbirth; co-morbidities such as anaemia, hypertension, and macrosomia [8]. 64.7% of all patients experienced at least one complication during their pregnancy. The most common complication is anaemia (<100 g/dl until 28 weeks) which mostly occurs due to improper integrated antenatal care examination. As the consequence, the increasing need of iron is not fulfilled by nutritional intake problems. Many pregnant women from cannot afford to undergo antenatal check-ups.

Placental Complications

Abnormal placenta contribute to 26.6% of the total cases. Disproportionate number of women who received massive blood transfusions increases the risk of severe maternal morbidity. This conditions explains why abnormal placentation is a major concern in obstetrics. In our study, we identified placental problems (placental retention, retained placental tissue, and abnormal placentation) as the cause of severe PPH in almost 36% of the total cases. 4.4% of the total abnormal placentation cases was diagnosed after birth⁴.

Uterine Atony

Postpartum haemorrhage is often caused by uterine atony. It is important to note that nearly a quarter of women have no identifiable risk factors for developing PPH. It demands doctors to have the ability to anticipate this condition. Misoprostol has been found effective in reducing the mortality rate with concurrent use with uterotonics. Misoprostol is still affordable among the communities in underdeveloped countries. Safe and effective maternity care should be provided in underdeveloped countries and the prevention against PPH in underdeveloped countries should be prioritized to prevent maternal mortality⁹

CONCLUSION

This study has identified the factors that influence the prevalence of postpartum haemorrhage. Four factors were found dominating; perineal rupture, anaemia, placental complications and uterine atony.

SUGGESTIONS

1. For Health Care Workers

It is necessary to disseminate the information about threats and complications that can be examined in early pregnancy in order to prevent or suppress maternal morbidity and mortality rates. Health care workers can also help expecting mothers from poor families to receive the integrated antenatal care that will help them deliver their babies safely.

2. For Families.

Family members should also learn about pregnancy and childbirth. They are expected to provide emotional and psychological supports, give appreciation and provide valid information for pregnant women.

3. For Mothers

Mothers are expected to be more proactive in learning about pregnancy, signs and symptoms of danger in pregnancy, labour process, complications during labour, breast milk, and exclusive breastfeeding. Information about those aspects can be obtained from health care workers, cadres, printed media and television.

4. For Future Researchers.

Future researchers are encouraged to conduct research on factors that influence postpartum haemorrhage and analyse risk factors of mothers which include age, parity, and other factors.

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