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The Implementation of Referral System in Postpartum Hemorrhage Cases by Midwife

Ria Gustiani

Graduate Midwifery Department, Faculty of Health Sciences, Universitas Aisyiyah Yogyakarta, Indonesia
Corresponding author email: rgustiani16@gmail.com

Moh. Hakimi

Department of Midwifery, Faculty of Health Sciences, Universitas Aisyiyah Yogyakarta, Indonesia
Email: moh.hakimi@ugm.ac.id

Endang Koni Suryaningsih

Department of Community Nursing, Faculty of Health Sciences, Universitas Aisyiyah Yogyakarta, Indonesia
Email: koni@unisayogya.ac.id

Abstract---Postpartum hemorrhage (PPP) is the most significant contributor to maternal mortality worldwide, accounting for 50-75% of all emergency cases that occur during childbirth. Research on the causes, knowledge, prevention, and factors that influence the incidence of postpartum hemorrhage has been carried out previously. However, research on the referral system in postpartum hemorrhage cases done by midwives has not primarily been explored. PRISMA results showed that there were 95 articles obtained from three databases. Article selection was carried out based on predetermined criteria for inclusion and exclusion. This research has acquired five related articles. The seven articles obtained were analyzed for their critical appraisal using the Joanna Briggs Institute (JBI). This study aims to identify the in-depth literature obtained through various sources with various research methods related to the topic, which is the implementation of the referral system in primary postpartum hemorrhage done by midwives of health centers. Therefore, identifying gaps from the existing articles or synthesizing evidence through different studies can be done. Then sources of evidence that provide reference information and research on postpartum bleeding can be found. This research benefits health workers by improving the quality of Antenatal Care (ANC) and evaluating obstetric services, especially for postpartum hemorrhage in pregnancy. Moreover, this also enables midwives to promote information and knowledge about pregnancy and childbirth.

Keywords---implementation, midwife, postpartum hemorrhage, referral system

Introduction

Postpartum hemorrhage (PPP) is the most significant contributor to maternal mortality worldwide, accounting for 50-75% of all emergency cases that occur during childbirth. Most maternal deaths occur in low- and middle-income countries or Low Middle-Income Countries (LMICs). Maternal Mortality Rate (MRI) is one of the indicators to measure the success of a country's service. Each day, about 830 women die from preventable causes related to pregnancy and childbirth (WHO, 2019). According to WHO, 99% of all maternal deaths occur in developing countries, including Afghanistan with 351 deaths per 1000 live births, and India with 253 deaths per 1000 live births. Based on data obtained in 2020, Indonesia's Death Rate (IDR) has reached 305 deaths per 100,000 live births (Ministry of Health, 2021).

PPP is the consequence of excessive bleeding from placental implantation sites, and trauma in the genital tracts and surrounding structures. Uterine atony, placental retention, placental remnants, and genitalia tract laceration are the causes of most postpartum hemorrhages (Setiawan, 2015). The factors of PPP prescription, in general, are parity, delivery interval, multiple pregnancies, large infant birth weight, nutritional status, history of childbirth, length of

childbirth, anemia, fatigue, and weakness of uterine muscles, assisted delivery with actions, and over distinction in pregnancy (Wahyudi & Nurfaidah, 2014).

The delay triage has long been known to cause maternal death, including late referring, late reaching the referral place, and late getting adequate assistance at the referral place (Listyorini & Wijananto, 2019; Simanjuntak, 2020). The delay in referral is one of the causes of the high incidence of Indonesia's Death Rate (IDR) or Infant Mortality Rate (IMR), such as the actions taken by the midwife when referring, not explaining the danger signs, transportation difficulties, not accompanied by a referral letter, pre-referral actions, no communication with the referral hospital before making the referral, and not preparing blood donors. The referral service received support from EMAS (Expanding Maternal and Neonatal Survival) program to improve the quality of emergency obstetric neonatal services and strengthen an efficient and effective referral system (Yargawa et al., 2021).

Based on the results of the study by (Simanjuntak, 2020), there is an effect of the referral process on maternal mortality, which is caused by late referrals to health facilities and late handling by health workers in health care facilities. Improving the maternal and neonatal health care system is not enough by standardizing services and enhancing human resources but also by improving the maternal and neonatal referral system, which is a part of the main components of the overall service system. Some maternal and neonatal emergency cases require a referral place to get services (Puskesmas; Wintoro & Djaswadi, 2017). Based on the description of the prevalence of postpartum hemorrhage above, research on the referral system done by midwives in postpartum hemorrhage cases is needed. This Scoping Review aims to determine the implementation of a referral system that midwives do in postpartum hemorrhage cases (Newsome et al., 2017; Andrikopoulou & D'Alton, 2019).

Methodology

The scoping reviews include steps that researchers do as follows: focus on the reviews, create a PEOS (Population, Exposure, Outcome, and Study design) framework, identify relevant studies, describe the process, identify literature using PRISM flowchart, data extraction, and mapping/scoping (Arksey & O'Malley, 2005; Pham et al., 2014).

Search strategy

The PEOS (Population, Exposure, Outcome, and Study design) framework is used to help identify key concepts in the review focus and develop appropriate terms to describe the problem. The PEOS used are as follows:

Table 1
The PEOS (population, exposure, outcome, and study design) framework

<i>Population</i>	<i>Exposure</i>	<i>Outcomes</i>	<i>Study Research</i>
1. <i>Midwifery</i>	<i>Postpartum hemorrhage</i>	<i>Experience</i>	<i>Qualitative study</i>
2. <i>Womans</i>	<i>Postpartum hemorrhage</i>	<i>Experience</i>	<i>Qualitative study</i>

Article search is done using data base (Pubmed, Willey, Science Direct) and several keywords (((("woman") OR ("lady") OR ("Female")) AND ("Postpartum hemorrhage") OR ("Postpartum")) OR ("Hemorrhage")) and ("reference")) AND ("Implementation") OR ("Evaluation")).

Inclusion criteria

Articles published in English and Indonesian, Articles published in 2011 – 2021, and Articles studied in developed and developing countries.

Exclusion criteria

Articles in the form of opinions, review articles

Search results

PRISMA results showed that there were 95 articles obtained from three databases. Article selection was carried out based on predetermined criteria for inclusion and exclusion. This research has acquired five related articles. The

seven articles obtained were analyzed for their critical appraisal using the Joanna Briggs Institute (JBI). The selection stage of the research journal is presented in a PRISM diagram.

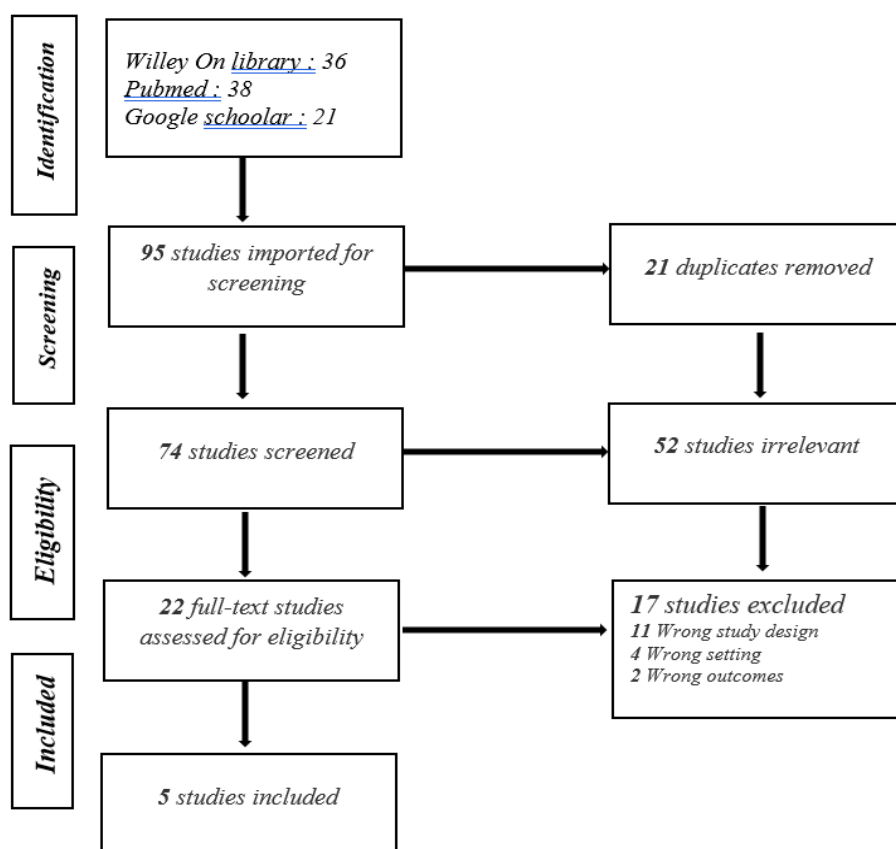


Figure 1. PRISMA flow diagram

Data extraction

The articles that have been obtained are then extracted. The articles are extracted based on the author of the article, the year of publication, the country, the number of samples used, the findings of the study undertaken, and the journal quality.

Table 2
Extraction data

No	Author / Year / Title	Country	Research Design	Participants / Sample Size	Result	Grade
1	Quality improvement in emergency obstetric referrals: a qualitative study of provider perspectives in Assin North district, Ghana	Assin North Municipal Assembly, Ghana	Qualitative	18 health workers (8 midwives, 4 community health workers, 3 medical assistants, 2 emergency room nurses, 1 doctor) at various facility levels in the district	identified critical gaps in the referral process at Assin North, with the most frequently noted including recognizing danger signs, alerting receiving units, accompanying critically ill patients, documenting referral	A

No	Author / Year / Title	Country	Research Design	Participants / Sample Size	Result	Grade
	(Afari et al., 2014).				cases and providing and obtaining feedback on referred cases.	
2	Implementation of Basic Obstetric and Neonatal Emergency Service Program (PONED) at Health Centers, Tegal(School of Health Sciences Bhakti Mandala Husada, Slawi, Central Java et al., 2016).	Indonesia, Jawa Tengah	Qualitative	A total of 10 key informants, including the Head of the Health and Family Nutrition Division of the Tegal District Health Office, the Head of the Public Health Center, the Midwife in Charge of PONED Implementation, mothers after severe preeclampsia, were selected for this study.	Judging from the context, the purpose of PONED at the Puskesmas is in accordance with the policy. The number of health workers is sufficient. However, nurses have not been involved in the PONED Health Center. There is no special fund for the operation of the PONED Health Center. The number of facilities is sufficient. In terms of input, training on emergency services has been carried out well. The planned facility improvement efforts in terms of the PONED Puskesmas service process are in accordance with the SOP. Health workers carry out their duties in accordance with the job description. Cross-sectoral cooperation and programs have been well implemented. The inhibiting factors include the long BPJS claim process, and low public awareness	A
3	Excessive bleeding is a normal cleansing process: a qualitative study of postpartum haemorrhage among rural	Uganda	Qualitative ,fenomenologis	Rural Uganda involving 15 in-depth interviews	Bleeding after delivery is considered a normal cleansing process, which if stopped or inhibited will lead to negative health consequences for the mother. Respondents used various criteria to	A

No	Author / Year / Title	Country	Research Design	Participants / Sample Size	Result	Grade
	Uganda women (Ononge et al., 2016).				identify PPH: blood flow rate, amount of blood (equivalent to two fists), fainting, feeling thirsty, fainting or losing consciousness soon after birth. As a group, respondents seem to correctly identify women at risk of PPH (those with multiple pregnancies, high parity or prolonged labour), but many individuals do not know all of the reasons. Respondents used cold drinks, uterine massage and traditional medicine to treat PPH.	
4	Women's perceptions and self-reports of excessive bleeding during and after delivery: findings from a mixed methods study in Northern Nigeria (Yargawa et al., 2021).	Nigeria	Qualitative Deskriptif	1. Mother's knowledge and public awareness about 2. PPH. The skills of the midwife in the PPH referral system.	Young and less educated rural women have difficulty measuring blood loss objectively, including when shown the amount using a vial. Respondents feel that the acceptable level of blood loss depends on the individual woman and whether her blood is 'good' or 'diseased/bad'	A
5	Influencing factors for prevention of postpartum hemorrhage and early detection of childbearing women at risk in Northern Province of Rwanda: beneficiary and health worker perspectives (Bazirete et al.,	Utara Rwanda	Qualitative	11 women who experienced PPH in the 6 months prior to the interview. In addition, focus group discussions were conducted with: female partners or close relatives (2 focus groups), community health workers (PKM) in charge of maternal health (2 focus groups) and health service providers (3	The findings of this study indicate that PPH is poorly understood by women and their partners. Family members and CHW felt that their role in the prevention of PPH was to bring the mother to the health facility on time. The main factors associated with PPH as described by participants were	

No	Author / Year / Title	Country	Research Design	Participants / Sample Size	Result	Grade
	2020).			focus groups).	<p>multiparty and retained placenta. Low socioeconomic status and delays in accessing health care were identified as major barriers to PPH prevention</p>	

Quality assessment

The selected relevant articles were critically assessed using The Joanna Briggs Institute (JBI). Joanna Briggs Institute aims to provide a comprehensive and unbiased synthesis of several relevant studies within the boundaries of a single document using rigorous and transparent methods. Thus, the decision is obtained by considering health practices' feasibility, suitability, meaning, and effectiveness with the best available evidence. According to epidemiological depictions, the credibility of the knowledge generated and the usefulness of the products produced, based on review studies, are closely related to methodological rigidity. This aspect can be qualified through guidelines from the Review Center (Amorim et al., 2001). After carrying out the stages of Critical Appraisal and Data Extraction, five articles that have been selected were assessed for quality by the author using JBI. It was found that four articles were in a good category (Grade A), and one article was in the relatively good category (Grade B).

Table 3
Joanna Briggs Institute (JBI) checklist critical appraisal qualitative research

No	Question Element	1	2	3	4	5
1.	Is there congruity between the stated philosophical perspective and the research methodology?	3	3	3	3	3
2.	Is there congruity between the research methodology and the research question or objectives?	3	3	3	3	3
3.	Is there congruity between the research methodology and the methods used to collect data?	3	3	3	3	3
4.	Is there congruity between the research methodology and the representation and analysis of data?	3	3	3	3	3
5.	Is there congruity between the research methodology and the interpretation of results?	3	3	3	3	3
6.	Is there a statement locating the researcher culturally or theoretically?	3	3	3	3	3
7.	Is the influence of the researcher on the research, and vice-versa, addressed?	3	1	3	3	3
8.	Are participants, and their voices, adequately represented?	3	3	3	3	3
9.	Is the research ethical according to current criteria or, for recent studies, and is there evidence of ethical approval by an appropriate body?	1	2	2	1	3
10	Do the conclusions drawn in the research report flow from the analysis, or interpretation, of the data?	3	3	3	3	3
Total Nilai / Grade		28 / A	27 / A	29 / A	28 / A	30 / A

Result

Geographical

After reviewing the journal quality assessment of the seven articles, it can be concluded that the articles come from various developed and developing countries. Articles from Nigeria, Uganda, Rwanda, Indonesia, and Ghana.

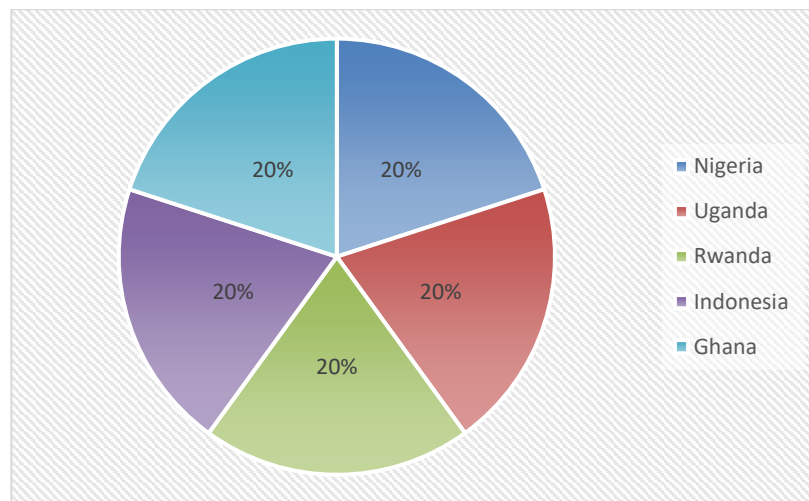


Figure 2. Geographical

Characteristics

From the review result of the five articles assessed for the journal quality assessment, it can be concluded that the articles come from various developed and developing countries. Four journals were included in the grade (A) category, and one was included as fairly good (B).

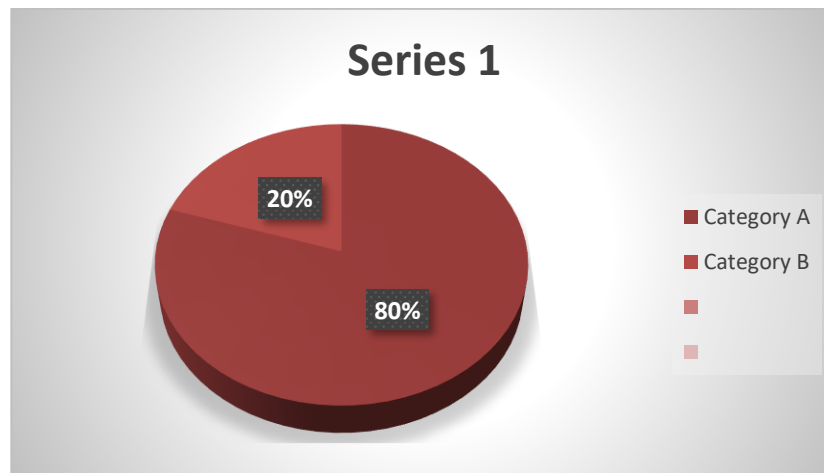


Figure 3. Characteristics

Thematic

From the results of the six articles reviewed, several themes are found to be consistent with the focus of the review, including:

Table 4
Thematic

No	Theme	Sub-themes
1	Referral Services	a. Midwifery Skills b. Interventions provided (38)
2	Inhibitory Factors	a. PONED operating funds (39) b. Mother / Community knowledge (39,93,94,96)

		c.	Transportation (39)
3	Coping	a.	Family involvement and concern (96)

Description: the number is the article code on the data *extraction*

Discussion

Referral services

Midwifery skills

A person's knowledge plays a vital role in the service's actual applications and actions. However, a person's ability in knowledge cannot necessarily answer the entire expected competency. Competence is defined as the individual's ability to perform a task or job based on three domains of competence: knowledge, skills, and work attitude, which are according to the required work performance. The result of effective and efficient service is displayed by estimating the number of staff, the type of staff needed, and the quality of staff accordingly. Moreover, equitable placement or distribution based on the needs and workload is also essential (the right man in the right place). It means that the higher staff workplaces and workloads will also require more prominent health workers (Pinto et al., 2017; Tunçalp et al., 2013; Geller et al., 2006).

Intervention

Planning of interventions based on priority issues. The expected purposes of nursing care in cases of postpartum hemorrhage are to prevent the clients from experiencing fluid volume deficiency, prevent activity intolerance, prevent inconvenience in the client's self-care, and overcome the client's anxiety.

Interventions that can be done by the midwife toward the patient are:

- 1) Explain to the patient and family the condition of the mother (patient) with postpartum hemorrhage.
- 2) Explain to the patient the actions to be taken.
- 3) Teach mothers or families to do uterine or fundal massage.
- 4) Observe the amount of blood loss from the bleeding, uterine contractions, vital signs, and general condition of the mother.
- 5) Perform the installation of condoms and catheter infusions.
- 6) Provide moral and spiritual support to the mother
- 7) Make a referral if the bleeding continues to occur (Journal 4).

Inhibitory factors

PONED operating funds

Most of the referred communities depend on the financing of Jamkesmas, Jampersal, and Jamkesprov services, and also for those who do not have a Jamkesmas participant card. The use of Jamkesmas has not been evenly distributed to the people in need. In terms of providers, many midwives complain about the lack of transportation costs to carry out referral service activities because they have to visit patients' inaccessible houses. Budgets made without reference to cost analysis will be biased, with the result that there is a possibility that the budgeted costs are different from their realization and the expected results are not realized as planned. Funds are essential for a program's smooth running, which must be appropriately allocated. Likewise, the smoothness in the preparation process and its use (Ononge et al., 2016; Sugiyono, 2017; Bazirete et al., 2020).

Mother's knowledge

The knowledge of pregnant women is influenced by the level of the mother's education. Based on the results of the study, it is (Astuti et al., 2017), said that pregnant women who have high education are classified as having high knowledge as well. In contrast, pregnant women who have low education also have insufficient knowledge about postpartum hemorrhage as early as possible. One out of three things women need to be prepared to become pregnant and give birth is socioeconomic and socioeconomic status, which is related to the level of education.

Indonesian public health problems are caused by the low level of education, which results in ignorance in various things, especially in the field of health which causes health problems and can reduce health status. In communities

with low levels of education, health maintenance is usually the last necessity. However, the education level does not always allow a person to be treated to health services. In certain situations, such as some people with chronic diseases or people who lose hope due to the lack of information or unpleasant experiences from health services, there is a possibility for them to turn away and choose alternative treatments.

Transportation

Ambulance or transportation is the third factor influencing the implementation of the referral process well. This transportation barrier is also in line with the "3 lateness", which is become the background of this study, also directly related to the constraints of funds and costs that impede the input aspects of the referral system. Government policies also strengthen the concept of management to accelerate the decrease in IDR; the earlier planning and preparation for pregnancy is carried out, the less risk will arise until the pregnant woman goes through the delivery, even until the birth control planning (Miller et al., 2004; Thaddeus & Nangalia, 2004; Kato & Kataoka, 2017).

Coping

Family involvement and concern

Family involvement includes supporting and accompanying mothers and midwives in the referral process; by being accompanied, mothers will feel the presence of people who are considered important to them, who can provide support and make them feel safe and comfortable. The companion can be the midwife, pregnant women's husband, or close family. The assistance carried out by the midwife will also foster the intensity of communication with the family. Therefore, the family can understand the midwives' explanation of the mother's condition and what actions will be carried out. The family is indispensable for its active role in implementing referrals (Fahy, 2009; Ulfa et al., 2021; Oyelese et al., 2007).

Conclusions and Suggestions

This article review concludes that there are five articles in accordance with the reference system for postpartum hemorrhage cases. Therefore, the articles obtained were used for the assessment. After the critical appraisal was found, as many as four articles were included in Grade A and one article included in Grade B. Moreover, there are three themes which include Referral Services, Inhibiting Factors, and Coping. Factors contributing to maternal mortality are postpartum hemorrhage, preeclampsia, and infection. The factors that contribute to pregnant women's postpartum hemorrhage are caused by 4T, namely tonus (uterine atony), trauma (laceration of the birth canal), tissue (placental retention or residual placenta), and thrombin (blood coagulation disorder). Referral delay is an obstacle that causes in high IDR or IMR, problems in actions taken by the village midwife when referring, not explaining danger signs, transportation difficulties, not accompanied by referral letters, preference actions, not informing the hospital, not being ready for blood donors to perform a verbal autopsy. The referral service received support from EMAS (Expanding Maternal and Neonatal Survival) program to improve the quality of emergency obstetric neonatal services and strengthen an efficient and effective referral system. Improving the maternal and neonatal health care system is not enough by standardizing services and enhancing human resources but also by improving the maternal and neonatal referral system, which is a part of the main components of the overall service system.

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