

INTERPROFESSIONAL COLLABORATION PRACTICE IN POSTPARTUM HEMORRHAGE MANAGEMENT IN DEVELOPED AND DEVELOPING COUNTRIES: A SCOPING REVIEW

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ABSTRACT

Background: the main cause of death in pregnant women is postpartum hemorrhage. The application of interprofessional collaboration practice is very important in implementing PONE and referral hospitals, so that the interventions given are accurate and improve the quality of service. **Objective:** To review current evidence of interprofessional collaboration practice in the management of postpartum hemorrhage. **Method:** Scoping review using the Arksey and O'Malley framework. Researchers used three databases namely Pubmed, Science Direct, Ebsco and Gray literature (Google Scholar). Only full-text original articles published in English between 2013-2023 met the inclusion criteria. **Results:** Of the 158 relevant articles, five articles met the inclusion criteria with grades A and B. There were several themes, namely the role of midwife in managing postpartum hemorrhage, Lack of competence in clinical knowledge and skills, Inadequate health facilities, including infrastructure, Comprehensive and specific evidence-based guidelines are not yet available, Referral system, and Lack of Interpersonal communication between health workers and others, Health worker team training in HPP, and Improved effective communication. **Conclusion:** The role of health workers in the management of postpartum hemorrhage, Barriers to health workers in the management of postpartum hemorrhage, Development of IPC in the management of postpartum hemorrhage

Keywords : Interprofessional Collaboration Practices; Management; Postpartum Hemorrhage

INTRODUCTION

Postpartum haemorrhage (PPP) is the biggest contributor maternal mortality worldwide, accounting for 50-75% of all cases emergencies that occur during childbirth (Palimbo, Satriatmi and Kuntjoro, 2020). Most of the maternal deaths occur in low and middle income countries or Low Middle Income Countries (LMIC). Maternal Mortality Rate (MMR) is one indicator service success of a country. Every day, about 830 women died of preventable causes related to pregnancy and delivery (WHO, 2019). According to WHO, 99% of all deaths mothers occurred in developing countries, namely Afghanistan, 351 deaths per 1000 live births and India 253 deaths

per 1000 births life. One of the targets under the Sustainable Development Goals is to reduce the ratio of maternal deaths in childbirth globally to less than 70 deaths per 100,000 live births (WHO, 2019). Based on data obtained in 2020 AKI in Indonesia, namely 305 per 100,000 live births (Ministry of Health RI, 2021).

The predisposing factors of HPP, is namely parity, delivery interval, multiple pregnancies, large birth weight, nutritional status, history of childbirth, prolonged labour, anemia, fatigue and uterine muscle weakness, birth assistance

with action as well overdistention in pregnancy (Manuaba 2013; Priyo Wahyudi and Nurfaidah, 2014)

Delayed triage has long been known a cause the occurrence of maternal death, namely late referring, late reached the referral site, and it was too late to get help adequate at referral sites (Listyorini and Wijananto, 2019a; Simanjuntak, 2020a). Referral delay is one causes of the high incidence of AKI/IMR, such as the actions taken midwife when referring, did not explain danger signs, vehicle difficulties, was not accompanied by a referral letter, pre-referral action, nothing communication with the referral hospital before making a referral, and do not prepare blood donors.

In accordance to the Regulation of the Minister of Health of the Republic of Indonesia number 001 of 2012 concerning the health service referral system individual articles 12, 13, 14, 15 and 16 state that There are several things that the referrer needs to pay attention to before committing Referrals, namely consent from the patient or family, transportation referral, perform first aid before referring, perform communication with referral recipients, making cover letters and availability of referral health workers (Permenkes RI, 2012).

Based on the background description, it is necessary to carry out a scoping review, bearing in mind that there has not been a similar review. The importance of interprofessional collaboration in the treatment of postpartum hemorrhage and the absence of comprehensive postpartum hemorrhage management guidelines, it is necessary to review interprofessional collaboration practice in the management of postpartum hemorrhage

METHOD

A scoping review approach was adopted in this study for some reasons: to examining the scope and nature of the research activities, to determining the value of conducting a full systematic review, to summarizing and

disseminating findings, and to identifying the research gaps in the existing literature (Triceo, 2016). The study focus the husband's participation on prenatal classes that are reviewed from the latest evidence base for scoping reviews This compound was prepared by adapting the procedure used by Arksey and O'Malley The checklists from PRISMA-ScR were used as the reference for the literature in this study (Arksey, et al 2005). PRISMA-ScR (extension for scoping review checklist) has 22 assessment items, 20 reporting items, and two optional items in the scoping review.

Identify research questions

The first step in this process was to identify research question. The scoping review question was How is interprofessional collaboration in the management of postpartum hemorrhage in developing and developed countries? In identifying research question, the author applied PEOS framework (Population, Exposure, Outcome, Study Design) as described at table 1. The framework was applied to help locate articles, determine inclusion and exclusion criteria and identify relevant articles.

Table 1 PEoS Framework

	P	E	O	S
1.	Midwife	Interprofesional	1. Role of	All original
2.	General Practitioner	Colaboration Practice	health worker	and complete
3.	Nurse		2. Obstacle od health worker	text studies related to
			3. Interprofesional collaborati on developme nt	interprofessi onal collaboratio n practice in management hemorarge post partum

Identify relevant articles

The second method used to identify the topic involved identify relevant articles. The selection of articles uses several search strategies, namely using keywords, using Boolean operators (OR, AND, and NOT), and paying attention to using keywords in British English and Indonesian. This scoping review uses four databases: Pubmed, Science Direct, Ebsco and Google Scholar. The keywords used in the search for articles in this study are as follows.

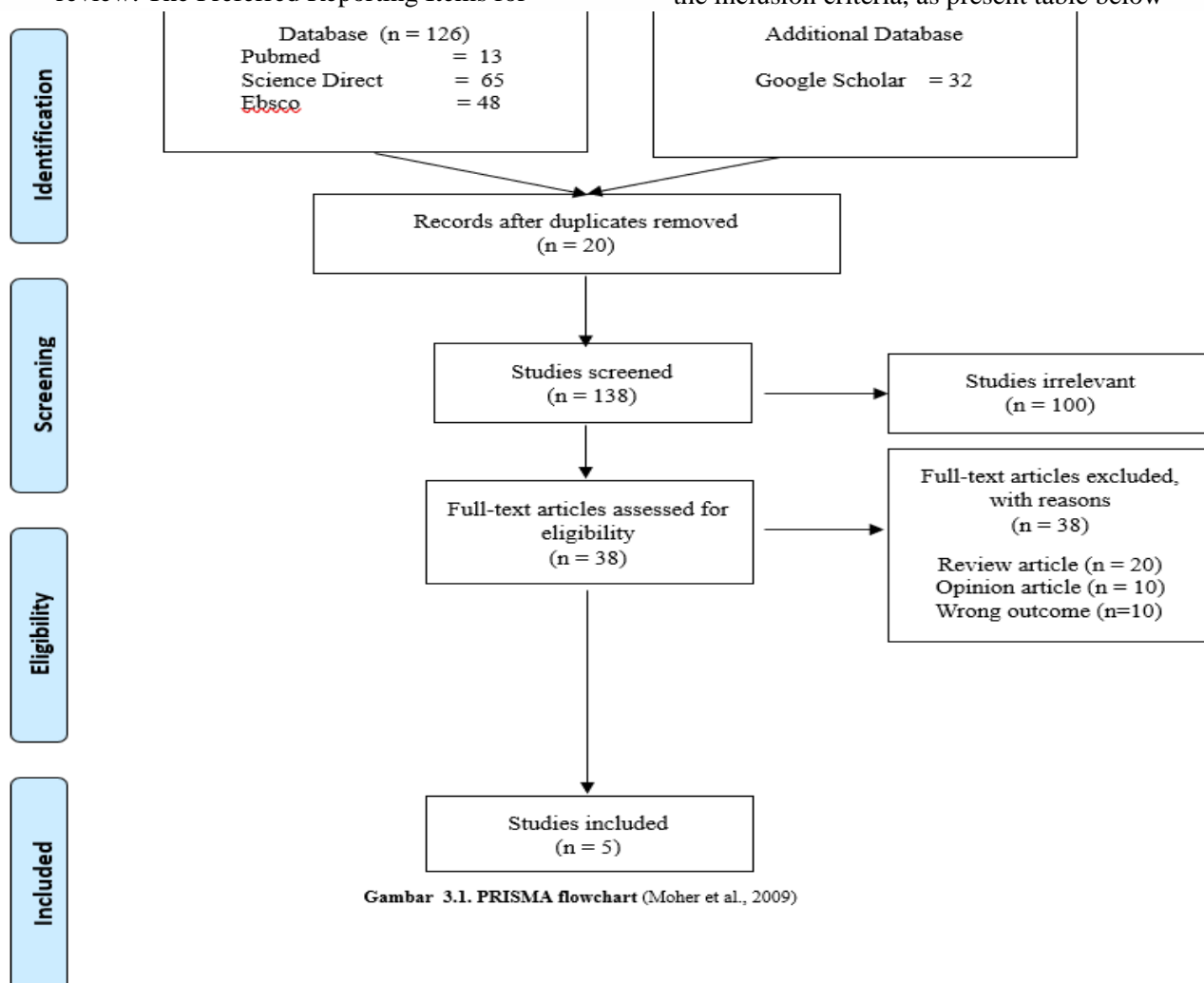
The keywords used in the search for articles were interprofessional teamwork OR

multidisciplinary OR interprofessional collaboration in healthcare OR teamwork OR health worker OR role of midwives OR role of health worker AND hemorrhagic postpartum OR postpartum hemorrhage OR Immediate Postpartum Hemorrhage OR treatment iron postpartum hemorrhage OR management postpartum hemorrhage AND pregnant woman OR pregnancy OR pregnancy OR Prenatal AND —any artistic realetd to perinatal partner participation”. After obtaining evidence, a critical appraisal is carried out using the form from the Hawker tools to assess the quality of the evidence. The data selected is in accordance with the criteria that have been determined by the researcher. The stages of data filtering are as follows:

Article selection

After the appliance was fitted, the appropriate articles selected. The selection of articles was made by checking the duplication of articles, screening titles, and abstracts, and reading the article in full to assess the suitability of the research article to be carried out scoping review. The Preferred Reporting Items for

Systematic Reviews and Meta-Analysis (PRISMA) flowchart and PRISMA checklist are used to provide an overview of the article search, write reports, and provide information about the research steps that have been carried out as well as assessing the quality of scientific articles. Data were collecting the database includes Pubmed, Science Direct, Ebsco and Google Scholar. Present the breakdown of data charting according to PRISMA Flowchart Diagram. As can be seen from the figure above, in total 164 articles were identified. All articles were included in Mendeley, and 20 articles were detected as duplicates through the article duplication. The researchers screened the titles and abstracts of 138 research articles through covidence.org. 38 articles were excluded due to did not meet the criteria. A total of 18 articles were screened for articles as a whole. Of the 7 articles that were screened, ten were excluded because the articles applied the systematic review and perinatal care research design. Therefore, four articles are relevant and meet the inclusion criteria, as present table below



Gambar 3.1. PRISMA flowchart (Moher et al., 2009)

Table 3 Charting data

No	Author(s)/ Year/ Title	Country	Research Objectives	Research Type, Participants/ Sample Size, Data Collection Method	Results
1	Abdulla Khamis Ngwali/ 2018/ Exploration of Knowledge and Practice of Nurse Midwives on Prevention and Management of Post- Partum Haemorrhage at Mnazi Mmoja Hospital, Zanzibar	Tanzania	Exploring midwife-nurse knowledge about risks, management, procedures and strategies used by midwives in dealing with postpartum hemorrhage	Qualitative study. Data collection was done through in-depth interviews with 15 midwives-nurses who monitored all antenatal, delivery and postpartum processes. Sampling technique with purposive sampling. Data analysis with thematic analysis.	The role of the midwife in handling HPP is to collaborate with doctors, giving 500 ml drip RL 20 IU Oxytocin and misoprostol from the rectum, TTV, uterine massage, catheterization and assessing the cause of bleeding and the actions taken, observing the mother's general condition for \pm 24 hours. Obstacles in handling HPP, lack of human resources/team of health workers and equipment needed in handling HPP.
2	Jogchum,et al/ 2013/ Local health workers' perceptions of substandard care in the management of obstetric hemorrhage in rural Malawi	Netherlands	Identify the factors that contribute to high postpartum hemorrhage according to health workers.	Qualitative study. Data collection by FGD was 3 groups with a total of 29 informants (8 clinic staff, 14 nurse-midwives and 7 medical assistants). Sampling technique with purposive sampling. Data analysis with thematic analysis.	The Factors contributing to the high rate of postpartum hemorrhage/obstacles in the management of postpartum hemorrhage: limited supply of tools, lack of adequate clinical skills among human resources, and inadequate referrals.
3	Fadhilun Alwy Al-beity, et al/2020/ We do what we can do to save a woman" health workers' perceptions of health facility readiness for management of postpartum haemorrhage	Sweden	To Explore the perceptions of health workers about the readiness of health facilities in handling HPP	Qualitative study. Data collection by FGD was 7 health workers. In-depth interview with health managers. Data analysis with thematic analysis	Health workers consider that the availability of resources and facilities is inconsistent and limited stock, the referral system is ineffective. In addition, there are challenges in collaboration, communication and leadership support that hinder the handling of cases in health facilities and referrals.
4	Handayani Dyan And Achadi Anhari, 2017/ "No patient should die of PPH just for the lack of training!" Experiences from multi-professional simulation training on postpartum hemorrhage in northern Tanzania: a qualitative study	Indonesia	To Explore understanding and knowledge about multiprofessional PPH among health workers	Descriptive and explanatory design with focus group discussion, consisting of 10 groups, each group consisting of 42 mindwives-nurses, doctors and medical staff. Collecting data with semi-structured interview. And data analysis with thematic aanlysis	Training in teams, skills training and realistic scenarios, repetition of scenarios with subsequent provision for reflective learning, is essential for enhancing teamwork. Informants feel an increase in rapport through increased communication and situational awareness.

Piscolla, 2017/ implementasi sistem rujukan pada kasus perdarahan post partum primer oleh bidan desa di wilayah kerja puskesmas Bayat, Kabupaten Klaten	Indonesia	To Describe the implementation of the referral system in cases of primary post partum hemorrhage by the village midwife	Qualitative approach with phenomenological descriptive design and retrospective time approach. The research was conducted in the working area of the Bayat Health Center in Klaten Regency from April 2016 to February 2017 with the village midwife as the main informant. Collecting data using in- depth interview techniques, observation and documentation studies.	Input aspects which include human resources, facilities, SOPs and policies are well implemented. Process aspects which include stabilization, communication, cover letter, transportation, equipment and medicine, referral companion, and assignment of responsibilities are well implemented. The follow- up aspect which includes clinical, administrative and procedural follow-up was also carried out well. However, the implementation of PPGDON training is still lacking and two-way communication between referrers and referral hospitals has not been implemented properly.
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Article quality assessment with the critical appraisal tool

Following the selected articles was obtained, critical appraisal was assessed. Critical appraisal is a careful and systematic assessment to assess the quality of articles (Al-Jundi, 2017). Critical appraisal is carried out in this scoping review using the Appraisal Tool (MMAT 2018). The table below illustrate the breakdown of quality assessment, 2 articles belong to quality B (A2, A6 and A7) while 2 others articles belong to quality A (A1, A3, A4 and A5).

Table 4 Article quality assessment data

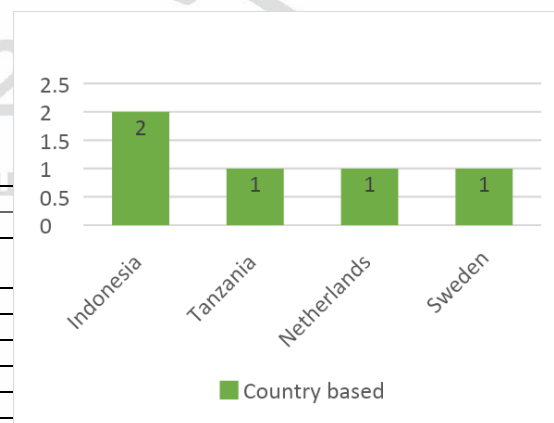
Study	A1	A2	A3	A4	A5
Abstract and title	2	2	2	2	2
Introduction and purpose	2	2	2	2	2
Methods and data	2	2	2	2	2
Sampling	2	2	2	2	2
Data analysis	2	1	2	2	2
Ethics and bias	2	1	2	2	2
Results	2	2	2	2	2
Transferability and generalization	2	1	2	1	1
Implications and uses	1	1	1	2	2
Total	19	14	19	19	19
Overall	A	B	A	A	A

husband's participation on prenatal class, the following results were obtained:

1. Based on article Characteristic

a. Study characteristic based on country

Characteristics of articles by country can be seen in the figure 2 below. The majority of countries in this scoping review article are Indonesia as many as two articles

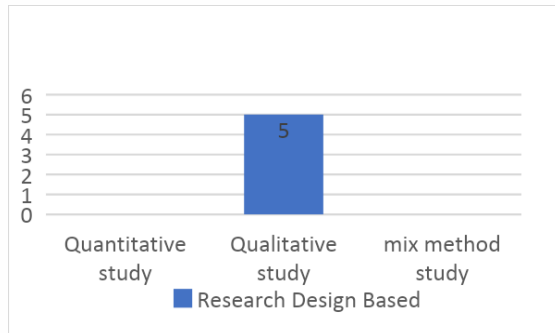


RESULTS

Based on four articles which have been reviewed in a scoping review related to

b. Study characteristic based on Article Quality

articles in the scoping review use a quantitative research design, namely seven articles. Based on the critical appraisal, there are five articles with A quality.



c. Study characteristic based on Article Quality

All articles in the scoping review use a quantitative research design, namely seven articles. Based on the critical appraisal, there are four articles with A quality and three articles with B quality. This article is valuable because it is appropriate and provides transparent information about the research's objectives, methods, and results.



Table 5. Analysis and mapping of research article themes

No	Theme	Sub Themes	Research Articles
1	The role of health workers in the management of postpartum hemorrhage	Management of postpartum hemorrhage	A1
2	Barriers to health workers in the management of postpartum hemorrhage	a. Lack of competence in clinical knowledge and skills b. Inadequate health facilities, including infrastructure c. Comprehensive and specific evidence-based guidelines are not yet available d. Referral system e. Lack of Interpersonal communication between health worker and others	A1, A2, A3, A4, A5
3	Development of IPC in the management of postpartum hemorrhage	a. Health worker team training in HPP b. Improved effective communication	A4, A5

IV. DISCUSSION

The role of health workers in the management of postpartum hemorrhage

Based on article A1, it states that the role of the midwife in handling HPP, in collaboration with doctors, is to provide 500 ml drip RL 20 IU Oxytocin and misoprostol from the rectum, TTV, uterine massage, catheterization and assess the cause of bleeding and the actions taken, observe the mother's general condition for \pm 24 O'clock. This is in line with guidelines of the world health organization which recommends Oxytocin (IM/IV, 10 IU) or misoprostol are recommended as alternatives for prevention of PPH (WHO 2009; WHO 2012). In Australia, using misoprostol in the community reduced PPH significantly (Lang, Zhao and Robertson, 2015).

Although oxytocin or misoprostol are globally recommended and used (Dahlke et al., 2015) different findings are reported from USA where they use non drug intervention (control cord traction and clamping) and uterotonic by using a skilled health care workers (Bell, 2013). The latter is a more advanced technique whose demands may not be met by Zanzibar setting at the moment. Still, controlled cord traction has been reported to be conducted by 86.4% of healthcare providers in Kenya (Mutete 2015) which suggests that this can be possible in Zanzibar as well. As it has been observed, the option of which method and drug to use is normally based on the available resources, management techniques and expertise of the given setting (Johnson et al., 2012).

b. Barriers to health workers in the management of postpartum hemorrhage

Based on articles A1, A2, A3 it states that the obstacles in handling HPP are the lack of human resources/teams of health workers and equipment needed in handling HPP, limited supply of tools, lack of adequate clinical skills between human resources, and inadequate referrals. Health workers consider that the availability of resources and facilities is inconsistent and limited stock, the referral system is ineffective. In addition, there are challenges

in collaboration, communication leadership support that hinder the handling of cases in health facilities and referrals. This is in line with article A5 that the inhibiting factors in the management of postpartum hemorrhage are human resources, facilities, SOPs and policies are well implemented. Process aspects which include stabilization, communication, cover letter, transportation, equipment and medicine, referral companion, and assignment of responsibilities are well implemented.

Meanwhile, in health center of Poned, complete facilities and facilities must be available. Facilities and facilities come from the province, while Poned operations come from puskesmas operations. (Ministry of Health RI, 2013). According to (Sayati, 2019) if the facilities or tools are supportive, but health workers do not optimize the available equipment, it will affect the services obtained by patients. By not optimally utilizing the equipment already available in health services will not guarantee patient safety, so patients are not obtain satisfaction in the services provided. This research is also in line with the results of research (Stiyawan, Mansur and Noor, 2018) that facilities and infrastructure can be interpreted as all facilities that can facilitate and expedite a business or action. An indicator of the success of the actions of health workers in providing services is the utilization of the facilities provided by the puskesmas. In service efforts, the success of competent health workers is very influential with the availability of facilities and the effective use of available facilities and infrastructure.

The facilities and infrastructure available are not only drugs and equipment, but also transportation facilities, namely ambulances, based on the results of interviews obtained from supporting

informants, namely patients and their husbands who said that an ambulance was available at the Sleman Health Center at the

line of referral. The results of this study are in line with research (Ofosu et al., 2021) that infrastructure facilities that are often considered rarely needed, namely ambulances, even though ambulances are a means of transportation that must be available at the first health facility to refer so that patients in emergencies can be referred on time to avoid from delays in referring and delays in getting further assistance. Transportation or an ambulance is a facility that must be owned by every first health facility, especially inpatient health facilities, in the Regulation of the Minister of Health number 001 of 2012 it is stated that an ambulance is a must-have facility and a requirement for health facilities to be the first place to make referrals.

c. Development of IPC in the management of postpartum hemorrhage

Based on articles A3 and A4, the development of interprofessional collaboration in the management of postpartum hemorrhage is to increase the skills and knowledge of health workers in participating in training in the management of postpartum hemorrhage. In addition, effective communication techniques must also be improved in order to improve enhancing teamwork.

In the line of Government Regulation No. 320 of 2020 it is mandatory to take part in PONEC, PPGDN training to improve capabilities in assisting emergency deliveries. The results of this study are also in line with (Naseriasl et al., 2018) stating that health workers, midwives and nurses who provide services during the referral chain need

postpartum hemorrhage is collaborating doctor to handling it. To increase communication with other health workers. The Barriers to health workers in the management of postpartum hemorrhage Lack of competence in clinical knowledge and skills, to undergo training and acquire the skills and knowledge needed to work in the referral network.

Inadequate health facilities, including infrastructure, Comprehensive and specific evidence-based guidelines are not yet available, Referral system, and Lack of Interpersonal communication between health worker and others. And the Development of IPC in the management of postpartum hemorrhage is training to Health worker team in managing HPP and Improving effective communication between others.

Researcher recommend to the head of the public health center:

- to improve quality of Human Resources (HR) in the management of postpartum hemorrhage by means attend management training treatment of postpartum hemorrhage.
- increase availability facilities, infrastructure and facilities in health center by conducting monitoring and evaluation of the implementation of Assistance Health Operations (BOK).
- The future researcher who will come to research implementation of management postpartum hemorrhage in developing country.

ACKNOWLEDGMENTS

The researcher would like to thank to STIKes Mitra Husada Medan

CONCLUSION

Based on the five article reviewed. It was found that the role of midwife in managing

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