Appendix: Characteristics of the twenty-four peer-reviewed studies included in the scoping review

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1.	Smith (2014).[32]	Developing countries N = 37 countries	To provide a global snapshot of how indispensable policies and programs for the prevention and management of Postpartum hemorrhage and pre-eclampsia/eclampsia (PE/E) were in place.	Mixed method study. Survey with a key informant in each country was conducted to collect qualitative and quantitative data.	Most countries surveyed have many of the important policies and elements of the program to prevent and manage PPH and PE/E, but shortage of medications especially misoprostol, limited scope of work for Midwives, and lack of maternal health indicators in the national health data systems have hindered efforts to expand programs nationally.	The study highlights absence of Misoprostol in some developing countries and limitation in scope of practice of Midwives for the prevention of PPH
2.	Priya. (2015). [33]	India N = 500 women randomized to two groups	To evaluate misoprostol as a safe, effective, easily administered non-parenteral drug in PPH prevention PPH.	A Randomized Control Trial (RCT) with a total of 500 women randomized into two groups, one group either to receive 400 mcg misoprostol sub-lingual or intramuscular-IM injection of oxytocin 10 units at the delivery.	A statistically significant difference in blood loss (p = .04) between the groups was observed. For Misoprostol group the mean of blood loss was 70 ml while for oxytocin it was 75 ml. Sub-lingual misoprostol was as effective as IM oxytocin as oxytocic for prophylaxis to actively manage the third stage of labor for PPH prevention.	Sublingual use of Misoprostol and Intramuscular Oxytocin are both effective for PPH prevention.
3.	Dao (2015). [34]	Rwanda N = 220 Skilled birth attendants; 1994 Community Health Workers and 4074 women	To assess coverage, acceptability, and feasibility of a program to prevent PPH at the community and facility levels	A longitudinal observational study using mixed research methods. Quantitative and qualitative data were gathered through existing government health systems and program data collection.	Uterotonic coverage was 82.5%: 85% of women who gave birth at a facility were given a uterotonic for PPH prevention; 76% of women gave birth at home by an ASM, ingested misoprostol (44.3% coverage rate). For home deliveries, administration of misoprostol achieved a moderate uterotonic coverage.	The active management of third stage of the labour (AMSTL)is connected with the prevention of PPH for facilities deliveries and promoting Misoprostol distribution during antenatal care services which could further increase uterotonic coverage in home deliveries.
4.	Elbohoty (2016) [35]	Egypt N= 324 patients	To compare the effectiveness and safe use of carbetocin, misoprostol, and oxytocin for PPH prevention following cesarean deliveries	RCT-A prospective randomized double-blind trial was conducted to collect data from clients who were under treatment of carbetocin, misoprostol, or oxytocin to prevent PPH	Additional uterotonics were needed less repeatedly by clients treated with carbetocin. This medication was similar to oxytocin and greater to misoprostol in the prevention of uterine atony after a repeat cesarean section. Carbetocin seems to be a striking alternative	Oxytocin is a cost effective medication for PPH prevention after cesarean section.

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					Compared to oxytocin and misoprostol for the prevention of PPH due to atony after a cesarean delivery	
5.	Widmer (2018) [31]	10 countries (3 developed and 7 developing) N=29,645 women	To analyse the heat-stability of Carbetocin versus Oxytocin used for the prevention of excessive blood loss after vaginal delivery	An International Randomized, double-blind, no inferiority trial using Carbetocin.for the prevention of PPH (CHAMPION)	Noninferiority of carbetocine compared to oxytocin The interventions implemented to stop postpartum bleeding, the use of extra uterotonic agents, and side effects did not vary significantly among the two groups	Oxytocin is the recommended medication for PPH prevention but it requires to be refrigerated, which may be missing in many countries. Carbetocin stable with temperature was noninferior to oxytocin for PPH prevention or the use of extra uterotonic medications.
6.	Lubinga, (2015) [36]	Uganda N= cohort of pregnant women from the prenatal period, labor to delivery	To assess the potential cost effectiveness of prenatal distribution of misoprostol in Uganda from both governmental (the relevant payer) and modified societal perspectives	Cohort study: decision analytic model that tracked the delivery pathways of a cohort of pregnant women from the prenatal period, labor to delivery without complications or delivery with excessive blood loss, and effective treatment or death	Misoprostol distribution lowered the expected incidence of PPH. Prenatal distribution of misoprostol is cost-effective potentially in Uganda and should be considered for advance distribution nationally for prevention of PPH	Prenatal distribution of Misoprostol prevents PPH Stock out of Oxytocin in some settings Heat sensitivity of oxytocin affects its effectiveness for PPH prevention
7.	Prata, (2013).[19]	Low resource settings	To provide a review of PPH prevention interventions, with a particular focus on misoprostol, and the challenges and opportunities that preventing PPH in low-resource settings	Review of literature. The search was done via PubMed for randomized controlled trials of interventions for PPH prevention and via PubMed and Google Scholar for non-randomized field trials of interventions to prevent PPH	Though oxytocin is the recommended uterotonic, it is noted that it is not always available in highest risk settings for mortality and morbidity due to postpartum bleeding, due to its heat-sensitivity need for administration by a skilled provider.	Lack of oxytocin Heat sensitivity of oxytocin Need for skilled health care providers
8.	Sittiparn (2017)[8].	Thailand (*Chonburi Hospital*) N=650	To develop a risk score based on maternal clinical characteristics and medical history for	Retrospective cohort study was conducted using the review of medical charts for normal labor. Before	A assessment tool, simplified and effective in clinical practice for the prediction of PPH in normal labor and during the	Identification of maternal factors influencing PPH prevention are: - Elderly women,

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		women	prediction of PPH in normal labor in the antepartum period	the study, a pilot investigation on retrospective cohort study of labor record data was performed.	antepartum period.	- Pregnancy BMI prior to pregnancy, - Hypertension induced by pregnancy, - Diabetes type 2.
9	Natakorn (2019)[37].	Thailand (Chiang Rai Regional Hospital) N= 72 cases: 432 controls	To develop an assessment tool for the prediction of postpartum blood loss over 300 mL and 500 mL after vaginal deliver.	Retrospective case-control study was conducted (72 cases: 432 controls). To identify risk factors for Post-delivery PPH, the tool was developed through 7 steps, and the validation of clinical prediction model followed an ABCD Approach. The predictors were selected using the method of "Sign OK" selection	Eight predictors incorporated into the PPH Risk Score Record form have been identified to be risk factors of causes of PPH, commonly referred to as the "four Ts": uterine atony, trauma of genital organs, retained tissues and thrombin. These risk factors could predict postpartum bleeding of 500 ml or above after vaginal delivery with sensitivity of 88.1%, specificity of 54.6%, and the ROC curve equivalent to 0.71 at the optimal cut-off score of three points or above.	Identification of the following predictors influence PPH prevention: Maternal age of 35 years old or above, -Pregnancy over 40 weeks, -Nulliparous women, -Curettage in previous pregnancy, -Hypertensive disorders in pregnancy, - hemoglobin level equal to or less than 10 g/dL, -fundal height equal or more than 38 centimeters, - Received pethidine for pain relief in the 1st stage of labor.
10	Vogel (2019)[38].	Settings implementi ng WHO recommend ations.	To develop WHO recommendations guide on use of uterotonics for the prevention of PPH	Editorial on WHO recommendations on use of uterotonics for the prevention of PPH	WHO urge stakeholders, national & local health entities to review and reassess their country health policies and protocols on Postpartum prevention in consideration of contextual factors. The new recommendations guide health care providers and other stakeholders on the use of uterotonics to prevent PPH. Oxytocin (10 IU, administered intravenously or intramuscularly) is still the suggested uterotonic of choice for all deliveries	Need of a well-functioning supply chain to ensure permanent availability of uterotonics for the prevention of PPH. Oxytocin needs all the time be stored refrigerated, irrespective of labelling, to prevent its degradation and to safeguard its quality. Skilled heath personnel require competency-based in-service training and supportive supervision. Need for health facilities to review their own PPH prevention protocols.

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11	Hobday (2018)[39].	Mozambique. N=16 Traditional Birth Attendants (TBAs); 11 women	To explore the role of TBAs in the misoprostol program and the views of women who used misoprostol to prevent PPH	A phenomenological qualitative approach using in-depth interviews and focus group discussions was used	TBAs expressed their primary responsibility to get the women to the hospital. Three main themes about community use of Misoprostol: a) Understanding of the Misoprostol b) Traditional Birth attendant's identity and role c) Operations of the Program	Successful antenatal distribution of Misoprostol at community level for home birth deliveries to prevent PPH
12	Tenaw (2017)[40].	Ethiopia N= 528 participants	To evaluate knowledge, practice and associated factors of obstetric care providers on managing actively the third stage of labor in South Ethiopia	A quantitative cross sectional study design was used. Structured interviewer administered questionnaires were used to collect sociodemographic characteristics, personal characteristics and knowledge data, while an observational checklist was used to collect data on skills assessment.	The study results show that knowledge and practice among health care providers towards active management of third stage of labor (AMSTL) is unsatisfactory. Appropriate interventions like in-service trainings were recommended.	Unsatisfactory knowledge and practice of health care providers for PPH prevention
13	Charles (2019)[41].	Egypt N= 4913 women	To assesses the effectiveness and safety of 10 IU oxytocin administered as intramuscular (IM) injection versus intravenous (IV) infusion and IV bolus immediately after birth for PPH prophylaxis	RCT- Pregnant women presenting for vaginal birth in two tertiary hospitals from Egypt were assessed for participation in the open-label, three-arm, parallel, randomized controlled trial.	IV oxytocin is more effective than IM injection for PPH prevention in managing the third stage of labor. Oxytocin administered through IV bolus was safe and recommended to be for PPH prophylaxis	IV oxytocin is more effective than IM for prevention of PPH
14	Natarajan (2016)[42].	Sierra Leone N= 134 providers	To describe health care provider current practices and determinants to the use of prophylactic uterotonics	Mixed methods study using descriptive cross-sectional study and qualitative interviews in health facilities	Thirty-nine percent of participants reported an unreliable supply of oxytocin. Oxytocin was Stored at room temperature in most of the facilities (64%). The use of prophylactic uterotonic was significantly associated with provider level,	The following factors were found to affect PPH prevention: Supply of uterotonics which is inconsistent, Inadequate knowledge about well-timed administration, Health care provider

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					in-service training, and leadership role.	attitude with importance of uterotonics following normal deliveries
15	Ononge (2016)[6].	Uganda N=1188 women	To evaluate the occurrence of, and risk factors for Postpartum hemorrhage among rural women in Uganda	Prospective cohort study. Women were administered a questionnaire to ascertain PPH risk factors.	Incidence of PPH was high in Uganda despite the use of uterotonics. To ensure objectivity in measuring blood loss, calibrated under buttocks drapes were used. Extra vigilance during labor and getting prepared for management PPH in women giving birth was recommended.	The risk factors for PPH were identified to be HIV positive, multiple pregnancy, delivery by cesarean section and delivering a macrosomic baby
16	Sheldon (2014)[43].	Developing countries N= 29 countries	To explore the clinical practices, risks, and maternal outcomes associated with PPH	Secondary data analysis using quantitative methods. Data from the cross-sectional survey were derived from the WHO Multicountry Survey on Maternal and Newborn Health	The findings indicate that the provision of uterotonics for the prevention and management of PPH is widely available among the health facilities. There has been much progress in implementing recommendations from clinical guidelines for the prevention and management of PPH.	Factors associated with PPH diagnosis included age, parity, gestational age, induction of labor, caesarean section, and geographic region. The use of visual assessment of postpartum bleeding may influence findings and yet it is the clinical way and most likely the principal method used for PPH recognition among different health facilities.
17	Rajbhandari, (2017)[44].	Nepal N= 2070 women and 270 female community health volunteers (FCHVs)	To present findings from the first large-scale assessment of the effectiveness of the advance distribution program	Mixed methods study was conducted. To assess the knowledge, receipt and use of Misoprostol, household interviews were conducted with women who were given it. To assess distribution and administration of Misoprostol. Interviews were conducted among FCHVs and staff	Client receiving in advance misoprostol during the third trimester of pregnancy are basically willing and capable to use it properly for the prevention of PPH during home births. The assessment demonstrated a general gap in the reserve of misoprostol among FCHVs and within different health facilities across all the regions under study.	Success in auto administration of Misoprostol among women for PPH prevention. Gap in supply of Misoprostol.
18	Samnani (2017)[45].	Developing countries	To identify barriers/gaps in the use of misoprostol	Systematic review of qualitative and quantitative literature	Thematic areas of identified gaps in using misoprostol: -inconsistency in stock and	Inconsistencies in supplies and provision of Misoprostol for the

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		N = 721 search articles	for the prevention of Postpartum hemorrhage and management of post-abortion care services.	on Misoprostol in developing countries. To assess the quality of the systematic review, a checklist was used.	provision; - inadequate staffing; - Inadequate knowledge among health care providers and end users, - absence of the registration of drug and fear and anxieties associated with its use at provider and policy level. -Creating enabling environment is recommended to address those gaps	prevention of Postpartum hemorrhage Lack of clear guidelines, unavailability of misoprostol labelled for PPH. Limited community knowledge regarding dosage and timings Fear among health care providers to distribute Misoprostol.
19.	Than (2017)[46].	Myanmar N= 10 key informants; 15 midwives 33 auxiliary midwives, 36 community members and 29 women	To explore community and provider perspectives on the roles of auxiliary midwives and community-level distribution of oral misoprostol by auxiliary midwives	A qualitative inquiry using focus group discussions with midwives, auxiliary midwives, members of the community and women.	The results suggest the feasibility of shifting of the task of distribution of misoprostol to Auxiliary midwives as an important intervention for PPH prevention.	Trust in task shifting for administration of oral misoprostol to auxiliary midwives. The identified barrier to task shifting was the lack of clear written permission from the government to distribute the drug.
20.	Webber (2014)[47, 48].	Tanzania N= 642 women for the quantitative study N= 32 women, 17 nurses, and 13 TBA for Qualitative survey	To assess the feasibility of misoprostol and erythromycin distribution by TBAs to rural Tanzanian women to prevent PPH and puerperal sepsis.	Mixed method design composed of both quantitative and qualitative methods.	The study concluded that women were capable to auto-administer misoprostol for the prevention of PPH in areas where injectable uterotonics are not available. The qualitative survey revealed that participants from rural areas (women, nurses, and traditional birth attendants) strongly support the community distribution program of medications to prevent postpartum hemorrhage.	Prohibition from policy to distribute Misoprostol by TBAs. Successful auto administration of misoprostol by women for PPH prevention.
21	Gallos (2018)[30].	Different settings including developing countries. 196 studies	To identify the most effective uterotonic agent(s) to prevent Postpartum hemorrhage with the fewest adverse	Meta-analysis: searched the Cochrane Pregnancy and Childbirth's Trials Register, clinicalTrials.gov, the World Health	All drugs under analysis are effective for prevention of postpartum blood loss equivalent or exceeding 500 mL when compared with no routine uterotonic treatment.	For PPH prevention, combinations of regimens are associated with significant side effects. Carbetocin may be

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		involving 135,559 women	effects, and generate a ranking according to their effectiveness and side-effect profile	Organization (WHO) International Clinical Trials Registry Platform (ICTRP), and reference lists of retrieved studies	The three best drugs for this outcome were a combining ergometrine plus oxytocin, carbetocin, and combining misoprostol plus oxytocin.	more effective than oxytocin for the prevention of postpartum hemorrhage without Increasing adverse effects.
22	Ndirangu (2015)[49].	Kenya N= 192 participants	To assess whether the young mothers Club strategy (YMC) could be useful to advance knowledge about PPH	Cross sectional quantitative study (Pre & Post-test quizzes)	Knowledge about safe motherhood and family planning units was improved among YMC participants. It is suggested that material and approach used contribute to improving knowledge among participants. These clubs provide opportunities to recognize obstetric complications like PPH.	Education session on PPH prevention for young mothers clubs improve their knowledge.
23	Oliver (2018)[50].	Ethiopia, India and Myanmar. N= 158 healthcare providers and 40 key informants	To investigate the perspectives and practices of stakeholders in low- and lower-middle income countries towards oxytocin, its storage requirements and associated barriers, and the quality of product	Explorative qualitative study. Focus Group Discussions, In-Depth Interviews and direct observations at healthcare facilities were used to collect data.	Inadequate knowledge of the sensitivity of oxytocin to heat and the possible impacts of changing cold storage on the quality of the product among involved people: healthcare providers, policy makers and experts of the supply chain. This can impede the medication efficacy	Lack of knowledge about oxytocin stability affect the prevention of PPH
24	Kapungu (2013)[51].	Ghana N= 74 Health care providers and 275 women	To report on the first phase of the project, which comprises preliminary work to prepare, inform, and guide community based misoprostol distribution for the prevention of PPH	Intervention Research-Phase 1: A quantitative approach was used to collect data during the needs assessment, community sensitization, implementation of blood collection drapes, training of service providers, and to collect baseline data	There is a need for more education and training among health providers regarding the use of blood collection drape and misoprostol. Traditional birth attendants and CHEWs were using properly the blood collection drape and its distribution within the community. They were able to accurately diagnose PPH, properly document information and make referral to higher-level facilities if needed.	Need for proper training of health care professionals for PPH prevention. Conflict between TBAs and community Health Workers; Need of monetary incentive to motivate team work.