Barriers to Midwifery Protocols for the Management of Postpartum Hemorrhage

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Abstract

Postpartum hemorrhage (PPH) is a leading cause of maternal morbidity and mortality worldwide. This is true despite the availability of uterotonic medications and standardized protocols of active management of third stage labor (AMTSL). There is a lack of universally accepted definitions of terms related to PPH and AMTSL. Additionally, conflicting research exists on the safety and efficacy of these medications among specific populations, which has led to great variation in protocol recommendations. Finally, there are concerns among scholars and practitioners that PPH prevention practices are informed by decades of research solely focused on pharmacologically influenced birth. These factors preclude thorough understanding of PPH risk factors, prevention techniques, and treatment practices for physiological births. The midwifery profession needs access to quality PPH research for physiological birth in order to form comprehensive, evidence-based protocols. This evidence is crucial as it could bolster efforts to lower morbidity and mortality rates in childbirth worldwide.

Keywords: postpartum hemorrhage, physiological birth, active management of third stage labor, uterotonic, midwifery, maternal mortality

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Postpartum hemorrhage (PPH) is a leading cause of maternal morbidity and mortality worldwide; this is true despite the availability of uterotonic medications and widespread employment of active management of third stage labor (AMTSL) techniques, as recommended by key maternal health organizations (Erickson, Lee, Grose, & Emeis, 2017). A review of the current literature suggests that a major obstacle to improving PPH-related outcomes is the absence of defined protocols relevant to a range of birthing populations. Current barriers to the development of midwifery-specific protocols for PPH include a lack of universal definitions for terminology around PPH, conflicting research on uterotonic efficacy and safety, and an overwhelming emphasis on AMTSL research in pharmacological settings. Midwives primarily attend physiological births; therefore, quality research on PPH management in physiological births is needed for the development of appropriate protocols within the midwifery profession.

Researchers note that definitions of key terms related to the study of PPH, such as “active management of third stage labor (AMTSL)” and “low-risk,” are often unclear and not universally agreed upon (Erickson et al., 2017; Erickson, Lee, & Emeis, 2018). An important definition in need of clarification is the objective measurement value for assessing immediate postpartum hemorrhage. Historically, PPH has been defined as total blood loss at birth equal to or greater than 500mL. However, the American College of Obstetricians and Gynecologists announced revised guidelines in 2014 defining PPH as a total blood loss at birth equal to or greater than 1000mL (Erickson et al., 2018). There is also evidence from outside the U.S. to indicate that researchers and professionals currently consider 1000mL blood loss the standard definition of PPH in high-resource areas (Stolp et al., 2015).

Despite shifting standards in the U.S. and beyond, a Cochrane review on AMTSL published a year after the ACOG amendment still utilized the traditional definition of PPH in its report. In fact, the authors further classified blood loss equal to or greater than 1000mL at birth as the definition of severe PPH (Begley, Gyte, Devane, McGuire, & Weeks, 2015), even though studies show that most birthers in high-resource areas of the world can tolerate 1000mL of blood loss without negative consequence (Erickson et al., 2017). Discrepancies such as these may cause confusion for practitioners. One provider may choose to apply the traditional values to their clients’ births after while another applies the revised values, leading to disagreements among professionals about the efficacy of various third stage protocols.

In addition to these definition issues, there is no consensus from researchers on preferences of uterotonic medications within AMTSL protocols. For instance, the World Health Organization recommends oxytocin as the ideal uterotonic for all birthers, yet oxytocin is not readily accessible in many disadvantaged areas of the world (Haver, Ansari, Zainullah, Kim, & Tappis, 2016). This has led to researchers pursuing alternatives, such as misoprostol, for ease of storage, dissemination, and usage needs; more than a dozen trials around the globe have been conducted in recent years to identify the efficacy of prenatal distribution of misoprostol for self-administration (Smith, Gubin, Holston, Fullerton, & Prata, 2013). Though there is some indication that misoprostol is linked to an increased risk of uterine rupture (Smith et al., 2013) the results of these trials generally support misoprostol as a safe and effective alternative to oxytocin in the prevention of PPH (Haver et al., 2016). Moreover, Begley et al. (2015) provide meta-analyses data that reveals significant variation in practitioner preferences regarding choice of uterotonic, dosages, and method of administration. Prophylactic oxytocin, ergotamine (and its synthetic forms), misoprostol, and various combinations of these agents are all being utilized in AMTSL approaches; these differences among practitioners contribute to the ambiguous and complicated quality of current AMTSL research (Begley et al., 2015).

Perhaps a more pervasive problem than preference variation, Erickson et al. (2017) assert that AMTSL studies are designed with pharmacological birth in focus, primarily taking place in settings where labor induction and augmentation are routine. These medical interventions are associated with creating a higher risk for PPH from the outset, so the data on the protocols most effective in these births would not be applicable to physiological, undisturbed birth (Erickson et al., 2017). Another example of this issue, the 2015 Cochrane review on AMTSL included only studies that occurred in hospitals. The authors of the review do incorporate discussion around a need for further exploration of AMTSL for physiological births and point to trials occurring in the Netherlands, New Zealand, and Holland as future sources for quality evidence on low-risk births (Begley et al., 2015).

Addressing the need for further analysis of PPH as it relates specifically to physiological birth, Erickson et al. (2018) cite multiple observational studies that dispute the efficacy of routine AMTSL protocols in low-risk birthers. These studies indicate that AMTSL may increase the incidence of PPH when applied at otherwise normal, healthy births because physiological processes of the third stage of labor are disturbed by intervention. This is in alignment with recent research from the Netherlands suggesting there is not enough data to recommend one PPH protocol over another for low-risk birthers who have uncomplicated first and second stage labors (Stolp et al., 2015). Moving forward, randomized controlled trials are needed to answer questions of protocol efficacy for those meeting the low-risk requirements of midwifery care (Erickson et al., 2018).

This immense gap in the research around PPH can only be combatted with further study that accounts for the experiences and outcomes of physiological birthers. Combined with the lack of universal definitions related to PPH, as well as inconsistent findings on uterotonic efficacy, the current emphasis in the literature on pharmacological birth creates substantial barriers to the development of midwifery-specific protocols. Midwives need relevant, updated research on how PPH interacts with physiological birth in order to create comprehensive, applicable protocols for their clients. These evidence-based protocols could result in management techniques that positively impact current mortality and morbidity rates in birthers around the globe.

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