



www.figo.org

Contents lists available at [SciVerse ScienceDirect](#)

International Journal of Gynecology and Obstetrics

journal homepage: www.elsevier.com/locate/ijgo

CLINICAL ARTICLE

A community-based continuum of care model for the prevention of postpartum hemorrhage in rural Ghana

Chisina T. Kapungu ^{a,*}, Joseph Mensah-Homiah ^b, Eric Akosah ^b, Gloria Asare ^c,
 Leslie Carnahan ^a, Mavis A. Frimpong ^b, Paulina Mensah-Bonsu ^b, Seth Ohemeng-Dapaah ^b,
 Lydia Owusu-Ansah ^b, Stacie E. Geller ^a; for the Ghana PPH Study Group ¹

^a Department of Obstetrics and Gynecology, University of Illinois at Chicago, Chicago, USA^b Millennium Villages Project, Bonsaaso, Ghana^c Ghana Health Service, Accra, Ghana

ARTICLE INFO

Article history:

Received 24 April 2012

Received in revised form 8 August 2012

Accepted 25 October 2012

Keywords:

Ghana

Maternal mortality

Misoprostol

Postpartum hemorrhage

ABSTRACT

Objective: To report on Phase 1 of an operations research study designed to reduce postpartum hemorrhage (PPH)-related morbidity and mortality in rural Ghana. **Methods:** Phase 1 of the study—which included a needs assessment, community sensitization, implementation of blood collection drapes, training of service providers, and baseline data collection—comprised preliminary work to prepare for misoprostol distribution in Phase 2. Seventy-four primary healthcare providers were trained on safe-motherhood practices, use of blood collection drapes, and data collection. Baseline data were collected from 275 women regarding home deliveries, who attended the deliveries, incidence of PPH, and use of blood collection drapes. **Results:** Blood collection drapes were used at 67.6% of deliveries, increasing to 88.5% over the final 6 months of Phase 1. Community health extension workers (CHEWs) were present at 57.1% of all deliveries but attendance increased to 86.9% during the last 6 months of Phase 1. Overall, 96.0% of deliveries resulted in healthy outcomes for the mother; 4.0% of births had complications. **Conclusion:** The preliminary work conducted in Phase 1 of the study was crucial in guiding misoprostol distribution in Phase 2. However, challenges existed, including inadequate community sensitization, low home-birth attendance by CHEWs, and data collection problems.

Published by Elsevier Ireland Ltd. on behalf of International Federation of Gynecology and Obstetrics.

1. Introduction

WHO estimates that 358 000 women worldwide died in pregnancy or childbirth in 2008: a 34% decrease in global maternal mortality since 1990 [1]. Despite this decrease, low-resource countries continue to account for 99% of maternal deaths. The most common cause of maternal mortality and morbidity in these countries is postpartum hemorrhage (PPH) [2] but much of this mortality and morbidity is preventable [3–6].

There are many challenges to the prevention and treatment of PPH in low-resource settings. Many births still occur at home with an unskilled birth attendant owing to economic reasons, poor-quality services at facilities, or services being difficult to access [7–9]. Socio-cultural beliefs and women's lack of decision-making power in

families may also serve as barriers that prevent women from receiving lifesaving healthcare. These factors and others put women at increased risk of PPH-related morbidity and mortality.

Traditional birth attendants (TBAs) and community health extension workers (CHEWs) can have an important role in decreasing maternal morbidity and mortality in settings where most births take place in the home. These providers can offer education, facilitate access to services, and provide minimal medical care at home when needed [10]. In 2009, Ghana Health Service (GHS) and the Millennium Villages Project (MVP), in collaboration with the University of Illinois at Chicago, developed a community-based project to decrease PPH-related morbidity and mortality in the Bonsaaso cluster in the Amansie West district of the Ashante region in rural Ghana. Between 2005 and 2007 at the tertiary-level Komfo Anokye Teaching Hospital in Kumasi, Ghana, the maternal mortality ratio ranged from 800 to 1000 per 100 000 live births [11]; PPH accounted for 22.8% of maternal deaths in 2007 [12]. In the Bonsaaso cluster, 30% of women deliver with midwives at clinic facilities and 70% deliver at home [13].

The project in Ghana comprised a multifaceted strategy to decrease PPH, including community sensitization on safe motherhood, early diagnosis of excessive blood loss, distribution of misoprostol to

* Corresponding author at: Department of Obstetrics and Gynecology, University of Illinois at Chicago, 820 S. Wood Street, M/C 808, Chicago, IL 60612, USA. Tel.: +1 312 413 5772; fax: +1 312 413 7423.

E-mail address: ckapungu@uic.edu (C.T. Kapungu).

¹ Group members not listed as authors: Joseph Adamako, Samuel Afram, Suellen Miller, Amadou Niang, Maame Nketsiah, Sonia Sachs.

delivering women, and transfer to a higher-level facility as needed. The present paper reports on the first phase of the project, which comprised preliminary work to prepare, inform, and guide community-based misoprostol distribution in Phase 2. Challenges are highlighted and solutions that proved to be feasible and effective are discussed.

2. Materials and methods

In the Bonsaaso cluster, which has a population of 35 000, the MVP works with 30 contiguous communities. The MVP intervenes in severely deprived villages to provide support in the areas of agriculture, environment, infrastructure, health, education, and business development. There are 7 primary healthcare clinics, each serving 5–7 communities. Each clinic is staffed with 1 midwife, 1 community health nurse (CHN), 1 health facilitator, and at least 1 CHEW. Each community in the cluster is geographically dispersed and served by a CHEW who is responsible for 150–200 households. Travel from the primary healthcare clinics to the district referral hospital can take up to 3 hours and is weather dependent. The MVP also has 2 ambulances that serve the 30 communities in the cluster.

A situational analysis and feasibility needs assessment was conducted in April 2008 before project implementation. The needs assessment contributed to understanding the current medical and referral practices for pregnancy and delivery, and assisted in identifying important gaps and opportunities for project design and implementation [14].

The project was divided into 2 phases. Phase 1, which took place from July 10, 2009, to January 10, 2011, included a needs assessment; community mobilization and sensitization; training of CHEWs, TBAs, and health providers; distribution and monitoring of the use of blood collection drapes to assess blood loss; and baseline data collection for women delivering at home in the MVP communities. The blood collection drape is a funnel-shaped, plastic bag-like device calibrated with lines to indicate blood loss amounts of 350 mL and 500 mL. Phase 2 (January 19, 2011, to June 30, 2012) included continued use of blood collection drapes, and distribution and monitoring of misoprostol among women in the third trimester of pregnancy for use if delivering at home. The results of Phase 1 are presented here.

The research team, in collaboration with key opinion leaders, developed community sensitization messages to increase knowledge of PPH and the importance of delivering at a skilled facility, in addition to use of blood collection drapes to help diagnose excessive blood loss. Educational materials such as pamphlets, brochures, posters, and pictorial flipcharts were developed for use by health workers in clinics and in the communities to provide education about PPH and the danger signs related to hemorrhage. As part of the strategy to get communities more engaged with the health system, women were asked to involve CHEWs in their delivery plans. Community health extension workers could assist women in developing birth plans and could facilitate attendance at primary health centers (PHCs) for delivery. However, if women delivered at home, they and attending TBAs were asked to invite CHEWs to be present. Traditional birth attendants were also educated and encouraged to send women to PHCs for delivery.

The primary responsibilities of CHEWs in Phase 1 were to provide health education, distribute blood collection drapes at home births, and observe and collect data regarding deliveries. They completed a delivery record form for every home delivery, and a referral form if the mother was transferred with obstetric complications to the nearest PHC or hospital. They also supervised the disposal (burning) of every used blood collection drape by family members within 24 hours of use. Monetary incentives were provided to CHEWs; TBAs were given delivery supplies—including soap, bleach, and gloves—to increase their motivation to participate in the project.

Fifty-four primary healthcare providers—including midwives, CHNs, CHEWs, 31 TBAs, and field staff working at MVP and GHS—were trained on maternal mortality and morbidity, safe-motherhood practices, use

and disposal of blood collection drapes, emergency referrals, data collection methods, and project implementation. Data collection methods focused on form completion, data accuracy, and record keeping using logbooks. The training also focused on risk factors for PPH, how to recognize complications of pregnancy, the role of the community in emergency obstetric care, and strategies to address the 4 delays that prevent women from accessing appropriate care.

Participants were asked to demonstrate appropriate use of drapes via role play, and staff directly observed CHEWs placing the drapes during home deliveries. Refresher training was conducted after the first 3 months of data collection to reinforce CHEWs' and TBAs' skills in data accuracy and project management. Participants completed a pre-test knowledge, attitudes, and practices (KAP) survey to assess their knowledge of PPH and use of blood collection drapes.

The research team collaborated with key stakeholders, health providers, and community members in Ghana to refine the data collection tools and study procedures. The delivery record form was designed to gather information such as who attended deliveries, incidence of PPH, and use of blood collection drapes.

Preliminary data collection was carried out for 2 purposes: to collect baseline data on numbers of women delivering at home, rates of PPH, transfer, and other PPH-related factors; and to familiarize CHEWs with careful monitoring and data collection procedures. Field data checks were conducted for data quality, accuracy, and consistency.

The baseline data collected in the Bonsaaso cluster included the following: characteristics of women delivering at home (age, gravidity, parity, and number of prenatal visits); characteristics of delivery (outcome of mother, who assisted with the delivery, and number of infants delivered); information regarding the blood collection drape (whether it was used, reasons for non-use, and amount of blood loss after delivery); and transfer information (reason for transfer, mode of transfer, diagnosis at referral facility, and discharge condition).

3. Results

Findings from the needs assessment revealed that many home births were attended by self-trained TBAs or family members, despite initiatives that sought to increase the number of births at PHCs. Traditional birth attendants often used traditional practices such as herbal concoctions, leaves, and foods as remedies for delivery complications, including PPH. Women were at risk for PPH because home deliveries were unavoidable in the Bonsaaso cluster owing to limited access to healthcare facilities related to transportation issues, flooding during rainy season, and long distances. The results of the KAP questionnaire in July 2009 indicated that 29 (55.8%) health providers did not know the function of the blood collection drape. Overall, 40 (76.9%) health providers were aware that misoprostol was used to control bleeding from PPH; however, they were unaware of the specific dosage and the associated adverse effects, and that it did not require refrigeration.

In Phase 1, 275 home deliveries occurred in the Bonsaaso cluster. Table 1 presents the characteristics of women delivering at home during Phase 1 of the project. The mean age of the women was 26.4 ± 6.4 years, the mean gravidity of the cohort was 3.88 ± 2.39 , and the mean parity of the cohort was 2.47 ± 2.03 . In total, 212 (77.1%) women had 4 or more prenatal visits.

Table 2 shows the delivery characteristics of women during Phase 1. Of the 275 home births, 264 (96.0%) resulted in healthy outcomes for the mother; 11 (4.0%) women experienced maternal complications. Community health extension workers were present at 157 (57.1%) deliveries; CHEW attendance fluctuated between 0.0% and 82.0% in the early months of the study but it increased to 86.9% over the last 6 months of Phase 1 (August 1, 2010, to January 10, 2011). Seventy-six (27.6%) deliveries were attended by a TBA only; 38 (13.8%) births were attended by a family member or the mother only. By the end of Phase 1 in January 2011, home deliveries decreased from 70% to 30%.

Download English Version:

<https://daneshyari.com/en/article/6187291>

Download Persian Version:

<https://daneshyari.com/article/6187291>

[Daneshyari.com](https://daneshyari.com)