Need and Desire for Improved Maternal Health Care Services in Rural Haiti

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DGHI, Family Health Ministries
MDG 5: Improve maternal health

• Reduce by three quarters, between 1990 and 2015, the maternal mortality ratio

• MMR = maternal deaths per 100,000 live births
Maternal Mortality Worldwide

Haiti

Maternal Mortality Rate in Caribbean
Causes of Maternal Mortality

Latin America and the Caribbean

- Hypertensive disorders: 26%
- Hemorrhage: 21%
- Obstructed labor: 13%
- Abortion: 12%
- Sepsis/infections: 8%
- Other causes: 20%

- Lan America and the Caribbean
WHO Recommendations

- Skilled birth attendance at every birth
- In Haiti, birth attendance by a skilled birth attendant (SBA) is estimated at only 26%
  - Worldwide average 53%
Haiti’s Situation

• Approximately 53% of Haiti’s 9.65 million people live in rural areas
• National coverage for primary health care is less than 60%
  ▫ Coverage much less in rural areas
• Little public transport infrastructure and many roads in poor condition
• Majority of rural Haitian women (up to 76%) give birth in their homes
  ▫ attended by a traditional birth attendant (TBA)
Purpose of study

• Collect data on attendance of birth, birth practices and outcomes in rural Haiti to guide the development of a Safe Motherhood Initiative

• Safe Motherhood Initiative goal: combat maternal and neonatal mortality and morbidity in the Leogane Commune by:
  ▫ 1) building a referral research and health center
  ▫ 2) creating satellite birth centers with improved methods of transportation
  ▫ 3) increasing community outreach by educating TBAs about common complications and encouraging linkage to existing medical infrastructure
Hypotheses

• In Fondwa (rural area in Leogane Commune) most births take place at home, but mothers prefer to give birth in a health center

• Majority of home births are attended by TBAs with a complication rate no worse than that of other home births
Fondwa
Fondwa
Methods

- A cross-sectional study of birth outcomes, practices, and preferences
- Randomized study design, using random walk and quota sampling
- Interviewed mothers about births in last 15 years
Results

• Of 176 births surveyed, 84% of births took place at home, 2% on the way to the health center, and 14% at a health center

• Of the 148 homebirths and the 10 births that began at home but occurred on the road or in the health center, 96% were attended by a TBA
Results

Mother's Preferred Birth Location

- Home: 40%
- Health Center: 60%
Results

• Reasons women gave for not going to the hospital for birth include: “labor came too fast,” “labor was at night,” “too far from the road,” and “economic problems.”

• Women who preferred to give birth at home gave reasons of: “God wills it,” and “I never have problems giving birth.”
Results

- Mothers living near roads accessible by motorized vehicles were more likely to deliver in a health center as opposed to their home ($p<0.005$),
- Most preferred to give birth in a health center, irrespective of the location of their home ($p>0.1$)
Results- Complications

• No association was seen between maternal complication rates and attendant presence for actual birth (p=0.70)

• No association was seen between neonatal complications and attendant presence at actual birth (p=0.39)
Reported Complications

- **Preeclampsia**: 6.3%
- **Eclampsia**: 2.3%
- **Difficulty delivering body after head was delivered**: 5.9%
- **Breech birth**: 2.4%
- **Difficulty delivering placenta**: 11.6%
- **Newborn difficulty breathing or not breathing after birth**: 6.9%
- **Cord problems**: 5.2%
- **Post-Partum infection**: 9.1%
- **Neonatal death**: 1.7%
Results - Prenatal Care

- The majority of women received at least one prenatal care visit for births (89%)

- Most received from an SBA at a health center (75%) as opposed to a TBA (5%)
Conclusions

• This study indicates that the majority of rural Haitian women prefer to give birth in a health center, but are unable to do so
• Women listed short labor times and transportation issues as factors keeping them from health centers
• Women may prefer to stay at home rather than risk giving birth on the way to the health center
• Many may utilize health centers and satellite clinics if available and accessible by reliable transportation
Future Directions

• Since most women give birth at home and are attended by a TBA, educating TBAs may be an effective strategy to reduce maternal and neonatal mortality and morbidity, and can act as a bridge to future health care solutions.

• TBA education targeting the most common complications such as hypertensive disease, infection and hemorrhage may be useful.
Future Directions

• Further studies will investigate the effect that the planned interventions of TBA education, satellite clinics, and health center development have on the community of Fondwa, Haiti
References

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Questions?

Sister Carmelle (SBA) and a newborn baby
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<thead>
<tr>
<th>Variable</th>
<th>Mean/Percent, N=64 Standard deviation (Range)</th>
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<tr>
<td>Age</td>
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<tr>
<td></td>
<td>10.7</td>
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<tr>
<td></td>
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<td>Births</td>
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<tr>
<td></td>
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<tr>
<td></td>
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<tr>
<td>Live births</td>
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<td>Stillbirths (not miscarriages)</td>
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<td></td>
<td>0.39</td>
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<tr>
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<td>(1-2)</td>
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<td>Live near road</td>
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<td></td>
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<tr>
<td>Type of Attendant</td>
<td>Frequency</td>
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<td>----------------------------</td>
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<td>TBA (Traditional Birth Attendant)</td>
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<tr>
<td></td>
<td>Frequency</td>
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<tr>
<td>Preeclampsia diagnosis</td>
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<td>Tetanus vaccination</td>
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<td>Neonatal apnea</td>
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<td>stimulation</td>
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<tr>
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<td>Mouth to mouth</td>
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<td>Resuscitator</td>
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<tr>
<td>medicine</td>
<td></td>
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<tr>
<td>Difficulty Delivering placenta</td>
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<tr>
<td>Belly manipulation</td>
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<td>Blow on bottle</td>
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<tr>
<td>Spoon in mouth</td>
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The present cross-sectional study assesses birth outcomes, health care needs and women’s use and preference of home-based versus health center-based services in the rural community of Fondwa in the Leogane Commune. Fondwa is typical of many Haitian rural mountainous zones, with houses lying clustered in varying distances from a main road [14]. Baseline qualitative data on women’s health needs in urban Leogane were collected by Peragallo (2012), which identified accessible, available and affordable health care as pressing health care needs [15].
Additionally, it has been shown that skilled birth attendants (SBAs), such as physicians and trained midwives, can reduce maternal deaths between 16% and 33% through the impact of skilled attendance on obstructed labor, hemorrhage, eclampsia, and sepsis [12]. However, in Haiti, birth attendance by SBAs is estimated at only 26%, compared to an average of 53% worldwide [7]. SBA attendance rates worldwide and in Haiti fall short of the WHO’s goal of increasing the number of births assisted by skilled attendants to 80% in 2005 and 90% in 2015 [13].
Meta-analyses and reviews of the literature have suggested that TBAs, when educated in safe delivery practices, may have an impact on reducing perinatal and neonatal mortality, and can assist in reducing maternal mortality when incorporated into existing health care networks [9, 10, 11]. Training TBAs is one possible method of improving birth outcomes and increasing referrals in homebirths, but whether rural women prefer delivering at home with a TBA or prefer health center-based treatment is currently unknown [6].
The purpose of this study was to gather data on birth practices and outcomes in rural, mountainous Haiti, and to guide the development of a Safe Motherhood Initiative by Family Health Ministries (FHM). FHM, a non-governmental organization based in Durham, North Carolina, has worked to improve the health of women in Haiti for over 10 years. The goal of the Safe Motherhood Initiative is to combat maternal and neonatal mortality and morbidity in the Leogane Commune by 1) building a referral research and health center, 2) creating satellite birth centers with improved methods of transportation, and 3) increasing community outreach by educating TBAs about common complications and encouraging linkage to existing medical infrastructure.
Based on prior studies and knowledge of the Haitian medical system, our main hypothesis was that in rural Fondwa most births take place at home, but mothers prefer to give birth in a health center. Our secondary hypothesis was that most home births are attended by TBAs, and the complication rate with TBA attendance is no worse than that of other home births.
Methods

• Investigators collected population and neighborhood data in the Fondwa area from community leaders and outlined the boundaries of Fondwa. We utilized a cluster randomized study design, as this baseline data will be further used to determine the impact of an education program for TBAs. Two clusters in Fondwa were identified for sampling, one close to where the TBAs in the program live and work, and a different location separated by a valley from these TBAs. Because of difficulty in selecting truly random households due to terrain and lack of housing stability, a random walk and quota sampling strategy was employed. Along a randomly selected path within the two clusters, every fourth house was sampled to interview. Selection criteria included a mother present who gave birth within 15 years while living in Fondwa.
Results

• Sixty-four mothers were interviewed in total (table 1) and statistical significance was achieved even though we fell short of our planned sample size of 89 based on pre-study power calculations set for beta error of 0.8 and alpha error of 0.05. The average age of mothers was 35.9 years. The average number of births for each woman surveyed was 4.7, or about 1.4 more births than the reported national total fertility rate of 3.3 [7]. This average number of births is an underestimate of the fertility rate of the region since many mothers interviewed had not finished childbearing.
Results

- When birth location and preferred birth location were investigated we discovered that a discrepancy existed between birth location and preference. We found that 84% of births took place at home, 2% on the way to the health center, and 14% at a health center, but that 60% of mothers preferred births in a health center. Reasons women gave for not going to the hospital for birth include: “labor came too fast,” “labor was at night,” “too far from the road,” and “economic problems.” Women who preferred to give birth at home gave reasons of: “God wills it,” and “I never have problems giving birth.”

- Of the 148 homebirths and the 10 births that began at home but occurred on the road or in the health center, 96% were attended by a TBA for at least part of the birth (table 2). In 38% of cases where the TBA was described as the birth attendant, the TBA arrived following the birth and only cut the cord.