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Exploring the Female Perspective: Culturally sensitive models for the effective use of traditional birth attendants in rural Tanzania

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Abstract

The field of maternal health is rife with literature discussing models for the reduction of maternal mortality rates, specifically in developing countries where the burden is often greatest. However, few studies consider the perspectives of those who they impact: the women. Here, I focus specifically on models for the use of traditional birth attendants, long considered the cornerstone of maternal healthcare for women in rural areas. The female and traditional birth attendant perspective is critically examined in comparison to these models in order to find solutions which both improve the state of maternal healthcare for rural women as well as respect their agency, and situation. In doing so, it was found that, while the majority of women prefer to give birth at a hospital, a significant amount continue to give birth at home due to preference, a lack of transportation or funding or a sudden delivery. In these situations, a traditional birth attendant is the preferred delivery attendant. Additionally, women prefer a traditional birth attendant who has received formal training or collaborates with the local medical facility. From these findings, the proposed model for traditional birth attendant implementation in rural Tanzania includes the deployment of non-physician surgical technicians in villages, the training of traditional birth attendants and the distribution of clean delivery kits as well as long-term change to structural barriers to care and harmful beliefs which reinforce marginality.

Introduction

In response to the Millennium Development Goals (MDG) set forth in 2000, there has been a global movement in recent years aimed at improving the state of maternal health and reducing the burden of maternal mortality (Global Health Workforce Alliance, 2013; Kvernflaten, 2019; Choguya, 2015). MDG 5, specifically targeted at maternal health, aims to have 90% of all births attended by a skilled birth attendant (SBA), a proven mechanism for reducing maternal mortality rates (Farooqi, 2009). However, with as little as 3% of births attended by an SBA in some areas of sub-Saharan Africa, this is a lofty ambition (Crowe, Utley, Costello, & Pagel, 2012). A study by Crowe and colleagues estimated that between the years 2011 and 2015, 130 to 180 million women will give birth without the presence of an SBA, 90% of which will likely occur in rural areas, posing a significant threat to the continued decrease in global maternal mortality rates. Thus, improving maternal healthcare access and the provision of available maternal healthcare systems, particularly for women in rural areas, is a critical issue in modern development studies.

One notable prospect in addressing the problem of providing accessible and effective maternal healthcare is the traditional birth attendant. Traditional birth attendants (TBAs) have a long history in sub-Saharan Africa as a socially and culturally integrated member of the community who is trusted to assist with home deliveries, deliver maternal health education and provide other types of maternal healthcare (Anderson & Staugar, 1988). Dating as far back as research done in the late 1970s, TBAs were seen as a critical part of maternal healthcare and were a crucial source for more accessible maternal and antenatal care. Because TBAs can help women circumvent many of the barriers to maternal healthcare such as lack of transportation or financial difficulties, TBAs are of particular use for providing care to at-risk or underserved women, especially in the rural communities where the need is most critical. However, there are additional problems which have been seen with

the use of TBAs as a significant provider of maternal healthcare. Primarily, because they are not fully integrated into the formal health system in Tanzania, there have been no implemented standards regarding the training or knowledge they are required to have (Choguya, 2015). Global Safe Motherhood initiatives, launched in the late 1990s, emphasized the need to provide comprehensive training to TBAs in order to reduce maternal mortality rates (Walraven and Weeks, 1999). However, while some TBAs now operate more closely with the formal health system and sometimes receive formal training following these initiatives, the role of TBAs within the formal health system and within the community is still unclear and unestablished. Thus, this research will focus on models for the use of TBAs in rural communities in Tanzania, considering both effective means for reducing maternal mortality rates as well as alignment with the preferences of the women they affect and reducing re-marginalization.

Models for TBA Usage

Models for the effective use of TBAs in sub-Saharan Africa to reduce maternal mortality rate have been extensively studied and literature provides a myriad of different models. Described below are the most prominent models from literature which have been proven effective in reducing maternal mortality rates.

Clean delivery kits

Clean delivery kits have been proposed a way to mitigate the risk of death from puerperal sepsis or cord infection from unclean birthing practices which are incredibly common for home births (Winani, et. al., 2007). They would be distributed to TBAs for use during home births and include soap, gloves, a clean razor blade, one square meter of nylon paper, pictorial instructions and clean string. Women who used the clean delivery kit were found to have a significantly reduced rate of neonatal cord infection and maternal puerperal sepsis, leading to reduced maternal mortality rates. Foreseen drawbacks include difficulty in maintaining a steady supply of clean delivery kits to TBAs.

Training TBAs

This model addresses the core of the situation: TBAs themselves. There are two models which address this and are rooted in short- versus long-term improvement respectively (Prata et. al., 2011; Farooqi, 2009). The short-term model involves providing a comprehensive training in critical skills to all current TBAs (Prata et. al., 2011). This would include skills such as recognizing and responding to complications, creating a hygienic birth environment and providing maternal health education. These skills can serve to quickly reduce maternal mortality rates if provided to all TBAs. However, challenges to this model include identifying and training all TBAs, a daunting task considering they are not officially part of the formal health system. The long-term model will not quickly reduce maternal mortality rates as would be seen with the previous model but does do an effective job overcoming the aforementioned challenge of identifying TBAs (Farooqi, 2009). This model proposes mandatory trainings for all *new* TBAs, implementing a sort of licensing process which will allow TBAs to practice maternal healthcare and is based on various effective models from Asia. While this model will not effect change in the short-term, it sets up a future where all TBAs are trained in critical skills to reduce maternal mortality.

Training community health workers

Based on a successful program from Malawi, this model suggests training community health workers, such as those who work at the local health facility, on critical skills for providing maternal healthcare (Farooqi, 2009). Pros of this model are that training community health workers, whose role is more formal within the health system, is a much simpler task than attempting to identify and train all TBAs. However, for women who prefer to obtain their maternal healthcare from TBAs rather than community health workers, this model will do little to influence the level of care their receive.

Non-physician surgical technicians

This model proposes training non-physician surgical technicians in emergency obstetric care and posting them in rural areas (Farooqi, 2009). Based on an effective model from Mozambique, this model will help provide the critical emergency care that is needed to reduce maternal mortality while not needing to rely on TBAs or medical professionals at the local medical facility to fill this role. It could serve to simplify the referral system for women with complications and provide effective emergency care. However, it may face many of the same barriers which make women more likely to use a TBA rather than a medical professional in the first place, such as financial challenges.

Community Health Agents

One of the problems with TBAs lies in the fact that they are largely unincorporated into the formal health system, leaving them with little oversight, training or resources. This model proposes recruiting and training “community health agents” (CHAs) and deploying them within their own community (Ramsey et. al., 2013). These CHAs may not specialize in maternal care but will be qualified to provide at a minimum proper delivery care to women and may provide care very similar to that of a TBA, such as home deliveries. The benefits of this model are that the CHAs are able to work more closely with the formal health system (considering they are a part of it) which makes referrals for complicated deliveries and the provision of emergency care better due to their access to resources. Additionally, because they are part of the community, they should satisfy many of the cultural or social reasons women choose TBAs. However, there still might exist financial barriers to obtaining this care as it would likely be more expensive than from a TBA.

Referral system

As mentioned previously, one of the drawbacks of TBAs is the difficulty of referring a woman to a medical professional due to their limited cooperation with the formal medical system. This model does not directly address the care that the TBAs provide but looks to simplify the referral system that TBAs use, ideally leading to more efficient provision of care during obstetric emergencies. It is unclear how this model might be implemented in the community and is something which will need to be discussed with TBAs to find the most efficient way to do this. However, drawbacks to this model are limited and the benefits include reducing the number of women who die from treatable obstetric emergencies.

Re-Marginalization

Marginalization is a complex social phenomenon whereby one group’s beliefs or views are privileged over another’s, often leading to the outgroup feel as if they lack personal value or that their views are invalid (Tucker, 1990; Lynam & Cowley, 2007). Those most marginalized in society tend to be those who do not conform to the “center”, as described by Lynam and Cowley to largely be male, heterosexual, Christian, white, wealthy and living in an urban area (2007). Thus, when looking at the population of mothers in rural Tanzania, one sees a highly marginalized population. Combined with cultural or social norms which reinforce a woman’s place of perceived inferiority in Tanzanian society, such as their inability to own land or financial assets in many clans, this creates a standard whereby women’s beliefs are largely ignored.

The process of re-marginalization, described by Kvernflaten in a study on Nicaraguan women, happens when norms in maternal health, such as facility-based deliveries, are imposed as the morally correct standard, disregarding whether or not it is accessible to the most marginalized populations (2019). The women who do not adhere to the norms, for financial challenges, preference or otherwise, are seen as non-compliant, are often disapproved of by public health officials, frequently resulting in emotional castigation or financial punishment. These non-compliers are seen as in need of direct intervention, with health officials ignoring the barriers that underpin the non-adherence. This generates a process of re-marginalization based on the discrepancy between the norms of public health officials and the realities of already marginalized women whereby women feel as if their views are inferior or lack worth. However, in addition to this impact on self-worth, forced implementation

of policies without social, cultural or economic consideration engenders resistance to what has been deemed the public health norm, usually facility-based deliveries. Thus, while it is simple to think that all programs aimed at improving maternal health create positive change, there are many negative implications of public health programs when they do not match the cultural, social or economic realities of the women that they are impacting. Thus, when examining the effectiveness of the aforementioned models, it is critical to consider whether they are in line with the wishes and realities of the women they affect.

Specification of the problem

At the core of my research is a single question: how can we use TBAs to reduce maternal mortality rates while holding true to the desires of women and acknowledging their realities? The extensive body of research in this field has produced a myriad of potential solutions for reducing maternal mortality rates, but none fully consider the women's perspective. There is a staggeringly low usage of available medical care in Tanzania, particularly in rural areas and as it pertains to maternal health (Ramsey et. al., 2013). While the reasons behind this are unclear, be it financial barriers, transportation or cultural norms, it is clear that future models need to consider the underlying cause of this lack of utilization.

Here, I explore models for the most effective implementation of traditional birth attendants from the perspective of those who they affect: women in rural areas and the traditional birth attendants themselves. Discussing maternal healthcare preferences and norms with mothers and TBAs will reveal which models women will be most likely to partake in. This is critical because if models are implemented but women are not comfortable using them, nothing will change. The goal of this is to find models which have been proven effective at reducing maternal mortality but also reduce the re-marginalization rural women face at the hands of health interventions which do not acknowledge their beliefs, desires or realities.

Research Design

Data was collected by both quantitative and qualitative measures using surveys, in-depth interviews and a focus group discussion. Data collection instruments varied between target population, those being current mothers and traditional birth attendants, all from the village of Ludilo. The individuals selected from both of these target populations were 18 years of age or older and did not exhibit any decreased mental capacities which would inhibit them from giving informed consent. Mothers were selected using cluster randomized sampling, sampling 10 from each of the three equally sized neighborhoods of the village. Five mothers from each neighborhood were selected to participate in the in-depth interview via snowball sampling. Fifteen TBAs were selected using snowball sampling to participate in the in-depth interview and/or focus group. TBAs were allowed to participate in both due to the limited number available. Additionally, one interview was conducted with an obstetric care physician at the local health facility.

All surveys, interviews and focus groups were conducted verbally and in Swahili or the local language of Kihhehe, dictated by the research assistant. No direct transcription of the interviews or focus group was made; rather, detailed notes were taken in real-time. All participants were compensated \$3,000 TZS (the equivalent of approximately \$1.50 USD) for their time. Surveys required approximately 30 minutes of the participant's time while in-depth interviews lasted approximately 1 hour, with 2 hours for the focus group.

Data Analysis

Data was analyzed using the grounded theory method which is based in an inductive framework. Specifically, patterns were sought between the preferences of traditional birth attendants and mothers to arrive at a conclusion about which models will be most effective. Some quantitative data obtained in the survey was collected using the Likert scale and coded as an ordinal 5-point system corresponding with the scale. Data collected on the Likert

scale was considered interval level data and analyzed using the appropriate statistical analyses, with means reported on a scale of 1-5, with 1 being very comfortable and 5 being very uncomfortable.

Quantitative Results

Demographic information was collected on all mothers who participated in the surveys to better understand the current state of maternal healthcare in rural areas. Of the 30 participants, all had delivered a child. Thirteen reported having given birth to 1-2 children, nine reported 3-5, four reported 6-8 and four reported having given birth to 9 or more children. When asked the delivery location of their most recent child, 21 reported delivering their last child in a hospital and 9 delivered at home. Furthermore, for their most recent child, 14 reported that their delivery was managed by a doctor, 8 by a traditional birth attendant, 4 by another health professional such as a nurse, 2 by a skilled birth attendant and 2 reported that their deliveries were managed by family or friends. On average, women indicated that they were very comfortable with the knowledge and skills of their delivery attendant ($M = 1.07$, $SD = .26$) Women were then asked to choose someone to manage their delivery if they were to give birth to another child. To this, 26 women reported that they would choose a doctor, 2 reported choosing another health professional such as a nurse, 1 would choose a skilled birth attendant and 1 reported that they did not know. Additionally, when asked where they would seek help in the case of emergency complications during delivery, 24 indicated that they would go to a hospital, 3 reported going to another health facility that provided emergency obstetric care, 2 indicated that they would rely on family or friends and 1 reported that they would rely on the help of a traditional birth attendant. Furthermore, a paired samples t -test was performed to test the hypothesis that the influence of money and transportation on one's choice in delivery attendant was not equal. The results were not significant, $t(27) = 1.25$, $p = .223$, such that the magnitude of influence of money ($M = 2.46$, $SD = 1.57$) and transportation ($M = 2.00$, $SD = 1.44$) on one's choice in delivery attendant does not differ. However, the results do indicate that both money and transportation have an average of a moderate influence on one's choice of delivery attendant.

Women were also asked to rate their level of comfortability with various characteristics of both delivery attendants and delivery facilities. Women indicated a moderate level of comfortability with a delivery attendant who is male ($M = 2.17$, $SD = 1.47$) and with a delivery facility which is not in their village ($M = 2.47$, $SD = 1.48$). They reported a moderate to neutral level of comfortability with a delivery attendant who does not speak their language ($M = 2.89$, $SD = 1.57$) and a delivery attendant who is not from their community ($M = 2.61$, $SD = 1.37$). Finally, women reported being neutral to somewhat uncomfortable with a delivery facility which does not let their family attend the delivery ($M = 3.47$, $SD = 1.63$) or is more than 50 km from their village ($M = 3.40$, $SD = 1.59$) or a delivery attendant who is not familiar with the traditional delivery practices of their culture ($M = 3.67$, $SD = 1.56$).

The goal of this analysis is to compare women's levels of comfortability across models for the usage of traditional birth attendants, assess the magnitude of the barriers to care women face and understand women's preferences for where they receive antenatal or emergency obstetric care. A paired samples t -test was conducted to determine whether there is a difference in a woman's comfortability with different antenatal care providers. The results were significant, $t(28) = -4.65$, $p = <.001$, indicating that women were significantly less comfortable receiving antenatal care from a traditional birth attendant ($M = 2.62$, $SD = 1.40$) than from a health professional ($M = 1.41$, $SD = .82$). An additional paired samples t -test was performed to determine whether there is a difference in a woman's comfortability with receiving antenatal care from a health professional versus a traditional birth attendant. The results were significant, $t(29) = 4.53$, $p = <.001$, such that women were significantly less comfortable receiving emergency obstetric care from a traditional birth attendant ($M = 2.87$, $SD = 1.67$), than from a health professional ($M = 1.47$, $SD = 1.04$).

Additional tests were performed to analyze the comfortability of women across various models for the use of traditional birth attendants. A paired samples t -test was performed to determine whether women were

more comfortable with a traditional birth attendant who has received formal training versus one who has not. The results were significant, $t(28) = -2.95, p = .006$, such that women were significantly less comfortable with a traditional birth attendant who has received no formal training ($M = 3.72, SD = 1.49$), as opposed to one who has ($M = 2.90, SD = 1.52$). Additionally, a paired samples t -test was performed to determine whether women were more comfortable with the current model of the traditional birth attendant versus one who does not specialize in maternal healthcare but is trained to provide maternal health services. The results were not significant, $t(29) = -.22, p = .831$, such that women demonstrate no difference in comfortability levels between the current model of traditional birth attendants ($M = 2.97, SD = 1.54$) and those who do not specialize in maternal healthcare but are trained to provide maternal health services ($M = 3.03, SD = 1.67$). Furthermore, a paired samples t -test was conducted to determine whether women were more comfortable with the current model of the traditional birth attendant or with a traditional birth attendant who is based out of a medical facility. The results were significant, $t(29) = 2.20, p = .036$, such that women indicate higher comfortability levels with a traditional birth attendant who is based out of a medical facility ($M = 2.27, SD = 1.26$) as compared to the current model of traditional birth attendants ($M = 2.97, SD = 1.54$). Finally, a paired samples t -test was performed to determine which model women were more comfortable with: traditional birth attendants who do not specialize in maternal healthcare but are trained to provide maternal health services or traditional birth attendants who are based out of a medical facility. The results were significant, $t(29) = 2.80, p = .009$, such that women were more comfortable with a traditional birth attendant who is based out of a medical facility ($M = 2.27, SD = 1.26$) versus those who do not specialize in maternal healthcare but are trained to provide maternal health services ($M = 3.03, SD = 1.67$).

Qualitative Results

The Female Perspective

Women generally had positive experiences with their deliveries, both at home and at a health facility. Women rated the level of knowledge and skills of their delivery attendant as very good across all delivery attendants used. However, various women noted problems that exist within the formal health system. Primarily, women indicated that health professionals were often inattentive, or facilities were critically understaffed. One woman noted that she delivered at the hospital without the help of anyone because doctors “did not care about her.” Additionally, another woman gave birth using a TBA at the hospital because the doctors and nurses were not available. Another frequent complaint of the formal health system is the need for payments to obtain good care. At many facilities, women said that in addition to the base price of care, women are also required to pay extra to the doctors in order for them to pay attention to them. If a woman is unable to do this, she might be ignored by the staff or spoken to rudely.

A traditional birth attendant, as defined by mothers in the community and TBAs themselves, is a non-medical professional who aids in the delivery of children, provision of antenatal and postnatal care and health education in their communities. The majority are elders in the community, and most have received no formal training, rather learning from their mothers in a sort of apprenticeship. Due to the increased prevalence of hospital deliveries, TBAs now are used less than they have been in the past and their role has evolved to accommodate this. The role of the traditional birth attendant now involves helping women whose deliveries come on too suddenly for them to travel to the nearest health facility or those who deliver at a time when roads are impassable, such as during the rainy season, where traveling to a health facility is not possible. Additionally, it is common for TBAs to accompany mothers to the hospital for their deliveries to ensure that women receive care even in the face of inattentive or understaffed facilities, as described previously. No woman indicated to me that using a TBA is their first choice of delivery attendant. Rather, women almost always prefer to attend a health facility to

deliver because they are more equipped to handle complications. However, as defined by both mothers and TBAs, the modern traditional birth attendant's role is to assist where medical facilities cannot or do not.

When it comes to obtaining maternal healthcare in Ludilo, women described a variety of preferences and challenges. Due to the lack of a health facility within the village, they indicated significant difficulties in obtaining maternal healthcare. They noted that finding transportation and financial resources to deliver at a health facility were both moderately burdensome, not one more so than the other. Combined with a lack of medical facility within or near the community of Ludilo, this proves to be a major barrier to obtaining maternal healthcare from a health professional. Additionally, women indicated that they were moderately uncomfortable with a delivery facility that does not allow their family to attend or a delivery attendant who is not familiar with the traditional delivery practices of their culture. For women who choose to deliver at a health facility that is not in their village, it is known that often families cannot attend due to the inability to afford lost labor time (Dodzo & Mhloyi, 2017). Additionally, many doctors at hospitals or other health facilities do not practice the traditional birth practices of the culture. Therefore, both of these preferences support a model which incorporates the traditional skills TBAs bring and allowing for deliveries in a location more convenient for families to attend.

Furthermore, women generally demonstrated a preference for delivering at a hospital or other health facility. Nearly every woman indicated that this was because of the access to emergency obstetric care that is not available when one delivers at home. They did not demonstrate a preference for delivery attendant at the hospital, saying that a doctor, nurse or traditional birth attendant would all be satisfactory. However, in general, women indicated that they preferred a doctor to be in charge of their delivery because they had formal training. Therefore, when considering a final model, it should be known that access to emergency care takes precedent over the actual delivery attendant. Furthermore, women indicated that they are significantly more comfortable seeking emergency care from a health professional as opposed to a TBA. Therefore, regarding the models for the provision of emergency obstetric care, women would be more comfortable with a non-physician surgical technician placed in the community than a TBA trained to provide emergency obstetric care. Additionally, women indicated that they would be more comfortable seeking ANC from a health professional rather than a TBA. It is unclear whether this stands true for TBAs who have received training.

There are various advantages that traditional birth attendants provide as one's delivery attendant, noted by both mothers and the TBAs themselves. Primarily, because TBAs are found within the community, they are able to assist with sudden deliveries where going to a medical facility is not possible. They indicated also that TBAs can be called at all hours of the day which is very helpful for women who go into labor in the middle of the night. Additionally, TBAs are also able to help women who may face barriers to obtaining maternal healthcare, such as money or transportation. As stated by a TBA, they help women delivery "simply and cheaply." This is a critical advantage of using a traditional birth attendant as many women struggle to find enough money to be able to deliver at a health facility. Health facilities can cost upwards of \$15,000 TZS, more if a woman required drugs, procedures or an operation, which often poses a significant burden on the woman. In contrast, TBAs do not charge a specific price but rather accept whatever a woman is able to pay, even if that is nothing.

Finally, while women did not indicate that they felt pressured to receive any type of maternal healthcare, they did indicate that they felt they'd feel judged by community members or health workers if they didn't receive proper care, here defined at delivering at a facility and obtaining antenatal care. More than once, women used the word "careless" to describe how people would describe about women who delivered at home. While women did not indicate that this had an effect on their choice of delivery facility, it is a harmful perception to have and can lead to the reinforcement of marginalization.

The Traditional Birth Attendant Perspective

One of the most crucial aspects regarding traditional birth attendants and their role in reducing maternal mortality rates is the training that they receive. As noted by the TBAs interviewed, the majority indicated that they had received no formal training. Of the two that had, they reported receiving a training from UNICEF in 1984 or 1986 on the proper provision of maternal healthcare, family planning, maternal health education and how to respond to emergency obstetric complications. The TBAs who attended this training indicated that it was very effective. One noted that it helped open people's minds about maternal healthcare, and she has used this training to become a community health educator for family planning, including educating clinics on when it's appropriate to use long-term versus short-term birth control for women. The other TBA who attended the UNICEF training similarly indicated that it was very effective in creating awareness and helping provide better maternal healthcare to the whole community. They appreciated that the training provided them with a first aid kit but wished that they would have learned more about what to do to address emergency complications when referring a woman to the hospital is not an option, such as when roads are impassable or transportation is not available. This TBA also indicated that there is an NGO in the region which currently provides seminars for community members to learn about ways to reduce maternal mortality rates and the transmission of HIV from mother to child. However, it is unclear how frequent or effective these trainings are, and it appears that the impact it has is limited due to the small number of TBAs who attend this training. During the focus group discussion, I asked the local TBAs whether or not they would be open to receiving more training and they responded with a very enthusiastic yes. When asked what could be done to improve the care that they are able to provide to women, they indicated that the most important thing is that they receive training, even if it's simply in the form of a one-time seminar. Nearly all TBAs in attendance indicated that they would attend trainings if provided and that training should be mandatory now for new TBAs. They also noted that they are willing and eager to cooperate with local health facilities, both to receive trainings and help women, particularly when the facilities are under-staffed. However, they said that the hospitals are not yet ready to cooperate due to the negative views they have of traditional birth attendants. They cited formal training as a way they could come closer to being able to cooperate better with the formal health system. This is demonstrated by one TBA who attended the UNICEF training as she is now able to more openly cooperate with the local health facility as they understand that she has received formal training.

During my focus group, I was able to discuss various models for TBA use with the local TBAs. These included receiving formal training, including the provision of emergency obstetric care, a formal referral system or cooperation with the local medical facility and the use of community-based non-physician surgical technicians. As previously discussed, TBAs are enthusiastic about the prospect of formal training. Additionally, they strongly agree that more training on responding to emergency complications is critical. They noted that since many of them have decades of experience delivering children and responding to complications, they are confident in their abilities to handle minor complications. However, they would like more formal training to address things such as postpartum hemorrhage or babies who present in abnormal positions. Additionally, as described above, TBAs are eager to create a more productive cooperation between themselves and the local medical facilities so that women can be referred more easily in case of complications. Finally, they also vigorously approved of the idea of placing non-physician surgical technicians in the community to respond to emergency complications which require surgery. The TBAs noted that transportation is a major challenge when it comes to receiving emergency care and that when transportation is not available, they have carried women who experienced complications to the nearest hospital 15 km away which takes hours. Having a resource within the community to address this, they said, would be very helpful.

The Health Professional Perspective

To understand the perspective of local health professionals regarding maternal health services and the use of traditional birth attendants, the perspective of an obstetric care clinician at Mdabulo, a local health facility, was sought. Although the results of this interview cannot be generalized to all health facilities in the area, one can assume at least a moderate similarity considering they all operate under the same district medical officer who works to create and enforce policies regarding maternal health practices.

Mdabulo is a large local dispensary approximately 15 kilometers from the community of Ludilo. They are able to offer antenatal, delivery and postnatal care to women in a number of surrounding villages. However, they are not a health center or a hospital, both of which are facilities which offer higher level care, and so women who come to Mdabulo are generally women with low risk pregnancies or women who have previously given birth. To deliver, Mdabulo charges \$15,000 TZS for an uncomplicated delivery. This does not include the price of medicine or emergency procedures and women are expected to bring their own equipment, including gloves for the doctor, nylon paper and dishes. Mdabulo is equipped to handle minor complications, such as postpartum hemorrhage for which they administer oxytocin or perineal tears which they are able to suture. However, if a woman experiences more serious complications after delivery, the hospital will arrange transportation to the larger district hospital as Mdabulo is unequipped or qualified to handle such complications. This transportation normally costs between \$50,000 and 80,000 TZS which poses a significant burden to many women.

The medical professional I spoke with cited significant benefits to women who give birth at Mdabulo or another health facility as compared to home. Primarily, they spoke of the high rates of maternal mortality in the area and noted that this is often due to women who give birth at home and then experience serious complications. They indicated that a health facility is significantly more equipped to handle these complications should they arise. They noted that during antenatal care, they provide education to the mother on these benefits, telling her that if she gives birth at home and experiences complications, she will die. Additionally, they noted that delivery practices at a health facility are more hygienic, leading to a lower risk of infection for mother and baby. For example, when delivering at home, many women cut the babies umbilical cord with unclean fabric, increasing the risk of cord infections, whereas the hospital uses a more hygienic clamp. For this, they noted that they always advise women to give birth at a health facility.

When asked about their perspective on traditional birth attendants who operate in the surrounding communities, the doctor stated that TBAs should stop their work altogether because they are unqualified and keep women from seeking proper care at a hospital. They further attributed the death of many women to the use of TBAs, citing that if women choose to deliver at home with a TBA and get delivery complications they will die. However, despite the overall very critical opinion on TBAs, they did concede that they were useful for women whose labor comes on suddenly and is unable to make it to the hospital. However, they noted that they remain unwilling to cooperate or work with traditional birth attendants, even those who have received training.

Conclusion and Recommendations

From this study, it is clear that there need to be systemic changes to the provision of maternal healthcare to women in rural areas in Tanzania. While it's true that delivering at a hospital which provides emergency obstetric care is effective at reducing the maternal mortality rate, presenting this as the only morally permissible option ignores the structural barriers that women face to obtaining this level of care, ignores women's agency to choose what care they receive and re-marginalizes women who choose not to or are unable to deliver at a medical facility. Because TBAs are the main source of delivery care for women who do not deliver at a hospital, they are equipped to fill the gaps in care. Therefore, it is critical that these TBAs receive formal training in delivery care. This is crucial not only because it will help reduce maternal mortality rates by having a skilled delivery attendant present but also because women demonstrated the preference of having a delivery attendant with formal training.

Furthermore, it is critical that these TBAs are provided with the tools they need to successfully care for the mothers they assist. This could be done most effectively in the form of a clean delivery kit which includes tools for a hygienic delivery. Not only do clean delivery kits reduce the risk of puerperal sepsis and cord infection, but women indicated that they were comfortable with their use at delivery and TBAs requested access to more hygienic delivery equipment. Finally, there is the problem of obtaining emergency obstetric care. For women who deliver at a health facility, this was cited as the main reason they chose to deliver at a health facility rather than at home. However, considering not all women can or choose to deliver there, there needs to be a formal system in place to address the provision of emergency care to women who deliver at home. TBAs were supportive of the idea of a non-physician surgical technician placed in communities to respond to these emergencies. Furthermore, women indicated that they would be more comfortable obtaining emergency care from a health professional than a TBA trained to provide emergency care. Therefore, this model seems the most effective at providing critical emergency obstetric care which is considerate of both TBAs and the desires of the mother.

However, even if these models were to be implemented, there are structural and systemic barriers which need to be addressed in the long-term to better care for mothers in rural communities. Primarily, this includes the lack of health facilities in or near many rural villages. This is challenging in large part due to the lack of transportation that many women face. Either the family does not own a proper mode of transportation, they lack the money to pay for transportation, or roads are impassible due to poor maintenance or weather conditions. Regardless, this means that women who do not have a health facility in their own community are unable to receive care. Additionally, there are barriers which exist within the health system itself. Women fear being perceived negatively by health staff if they do not receive antenatal care or deliver at a facility. While this is conducive to the hospital's goal of getting all women to deliver at a facility, it serves to re-marginalize women by ignoring their preferences or realities. Women reported going to the hospital after having complications while delivering at home and being turned away by hospital staff as punishment for not delivering at the hospital. Other women described staff being rude or inattentive to women who they feel did not obtain proper care or fining women. Multiple women used the word "careless" to describe how hospital staff perceive women who deliver at home. All of these things are very harmful to women. Scaring mothers into delivering at a facility for fear of monetary or emotional retribution is not the appropriate way to reduce maternal mortality rates. Rather, hospitals should work to understand the barriers that women face and the desires they have for their own healthcare and work to better accommodate these. While this is a process that will require substantial and systemic long-term change, the first step would be recognizing the role of the traditional birth attendant.

Limitations

While survey participants were selected randomly, it is possible that the final sample may not be representative of the larger population. No women refused to partake in the survey. However, due to the impending cultivation season, many homes were vacant as women were at their farms. An effort was made to connect with these individuals through tracking down their farm or visiting again a later day, but there were a number of individuals who could not be contacted after their home was selected for participation. While unlikely, it's possible that these women represented an important population which was left out of the sample.

Additionally, there are limitations to be found in me being an outsider. Aside from the language barrier, which was largely mitigated thanks to the efforts of my research assistant and supervisor Paulo Kateme, many women believed that I was connected to the Tanzanian government or the formal health system in some way (which I am, of course, not). While a strong effort was made to indicate this before the start of any data collection with a participant, there may have still been women who feared that they would receive punishment if they did not provide answers in line with the guidelines of the government or local health facility. In this case, answers

would have not represented the true perspectives of the women. However, it should be noted that the majority of women seemed very open and honest following an explanation of my work as a researcher.

Acknowledgements

I would like to extend a tremendous thanks to my incredible research assistant, Ezekia Kabonge, who worked tirelessly to administer all of my surveys, interviews and focus groups with me as well as helped identify traditional birth attendants and track down participants. This would not have been possible without his vast knowledge of the community and extensive expertise in field research methods. I would also like to thank my supervisor, Justin Beckham, for guiding me in many ways throughout the research process and for training my research assistant. Additionally, thank you to Paulo Kateme for translating my very extensive set of research tools into Swahili and helping in the facilitation of my focus group. Thank you to all the participants of my study for your open and honest participation. Finally, thank you to Dr. Birgit Kvernflaten for inspiring my research and providing me with guidance along the way.

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Research Narrative: Context and Methods

By Caroline Crain

The research presented here was conducted on my study abroad program where I spent a semester living in Iringa, Tanzania in 2019 and a month living in a rural village where I conducted my research independently using real research methods and participants. When we were asked to come up with research topics at the beginning of the semester that related to community development (the main focus of the study abroad program), I immediately thought about maternal health. It was something I knew that I loved, and I was itching to use all the theories and hypotheses I had to form my own ideas. During my literature review, one idea that stuck with me was from a paper written by Dr. Birgit Kvernflaten on the re-marginalization of mothers within the context of maternal healthcare. What drew me to explore this in my research was that it was a topic which had not really been explored outside of the work that Dr. Kvernflaten had done and it went beyond simply ways of reducing maternal mortality rates, which would be difficult for me to study in the month which I had to conduct my research. While exploring this idea in literature in the context of Tanzania, I came across what is known in Tanzania as the traditional birth attendant or TBA. Here, I saw an interesting dichotomy between the preference that women have for receiving care from TBAs and the models which many proposed to reduce maternal mortality rates, which often relied on medical professionals rather than TBAs. So, the idea was born to explore the preferences which women have in how they obtain their maternal healthcare, the barriers they face in doing so and the harmful perceptions surrounding TBA use which could contribute to re-marginalization.

This research project is a product of many hours of labor, including hiking all over the village to find participants and learning quite a bit of Swahili and Kichehe to facilitate more effective data collection. Data collection for this project was not particularly complex but proved demanding in the context in which I was working. In an effort to sample a population representative of the village, and ideally the community at large of mothers in the region, all quantitative data was obtained using cluster randomized sampling based on neighborhood. Lacking access to a full list of residents or any means of house identification, a bottle was spun to determine the direction in which we would turn and a dice rolled to determine the number of houses we would skip to arrive at the selected house, always on the right side of the road being walked down (ie. rolling 5 means we skip 4 houses and sample the 5th). Any selected house where a mother over the age of 18 did not live was excluded and the process was repeated. If multiple mothers lived in one household, the one to deliver most recently was chosen because her experiences provide a more accurate representation of current maternal healthcare. If the identified mother was not home at the time of house selection, my assistant and I would visit their field and, if they were not there either (many were), we would return another day at a different time. After one more time of returning, if the mother was not present, she was removed from the selected sample. While very rudimentary, the infrastructure available was not conducive to more advanced random selection methods. Additionally, all qualitative samples were obtained using snowball sampling methods. This was most effective because, as surveys generally lasted approximately one hour, few mothers or TBAs were able to take this time to speak with us. Therefore, each mother interviewed referred at least one other mother who might be interested or able. This was also important in gaining the trust of the interviewee. At first, many feared that I worked with the government, but hearing that one of their fellow villagers referred them (maintaining confidentiality, of course) seemed to make them significantly more trusting of us. Finally, with regard to TBAs, only 15 were identified in the entire village. TBAs operate in an underground network where trust is critical in order to gain access to knowledge who/how many TBAs there are, a crucial role my research assistant was able to play. Due to the small size, I sampled all TBAs in the interview and 13 of the 15 were available and participated in the focus group in order to obtain sufficient data from which to draw generalizable patterns and conclusions.

Since this research sought to identify patterns within maternal preferences and the state of maternal healthcare as identified by TBAs, a grounded theory method which is based in an inductive framework was

used to analyze the data. In doing so, particularly in the qualitative data, general themes were sought across participant responses and compared to responses given by TBAs. This overlap helped generate the final model which I proposed and explained many of the reasons behind the preferences that women and TBAs exhibited. With regard to quantitative results, all data was coded and input into SPSS where the appropriate statistical analyses were run and analyzed. As noted in the paper, Likert scale questions, which made up the majority of survey questions, were analyzed as interval level measurements for easy of statistical analysis.

I am hopeful that this research will help change the maternal health narrative, at least for the women in the area I was working in. Using my research and collaborating with a local NGO, I was also able to write a proposal and full list of necessary competencies for a training which will be provided to all TBAs in the area where I worked in the coming months. They will then be equipped with the necessary skills and equipment to help increase the level of care that women who choose to deliver at home receive. I wouldn't have been able to do any of this without my incredible research assistant, Ezekia, who lived in Ludilo where I was working and the guidance I got along the way from my professor, among others (you may notice that I thank Dr. Kvernflaten at the end of my paper. I reached out to her during the semester for advice and guidance and she was kind enough to share some wisdom with me!). Thanks for taking the time to review my paper! I'm always looking to improve and welcome any and all feedback you have for me!