

## ORIGINAL RESEARCH

# Barriers to hospital delivery in a rural setting in Coast Province, Kenya: community attitude and behaviours

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## ABSTRACT

**Introduction:** A minority of births in sub-Saharan African regions are conducted with the supervision of skilled birth attendants. With among the highest world-wide maternal mortality ratios and the majority of the deaths being associated with a lack of trained supervision at delivery, changing delivery practices is a major priority in this world region. This study identified attitudes to and beliefs about the uptake of hospital services for birthing.

**Methods:** Data were gathered using a combination of individual interviews and group discussions. Twelve discussion groups were held with participants who included hospital staff and general community members (36 males and 54 females). In addition, individual interviews were carried out with 26 mothers who chose not to deliver their babies in hospital.

**Results:** Qualitative analysis identified a number of barriers to seeking skilled attendants at birth including: lack of resources (monetary, transport and access), customer care (lack of partnership between mother and health professional), and knowledge and beliefs (lack of knowledge about pregnancy and maternal health).

**Conclusions:** The community must be better informed about the costs and benefits of hospital deliveries, while medical services must be more sensitive to community needs and preferences. These findings prompted the initiation of consultation groups on health and maternal issues between health service providers and community organisations.

**Key words:** Africa, community attitudes, maternal mortality, rural health service delivery, safe motherhood practices.

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## Introduction

In contrast to the principles of WHO's *Safe Motherhood Initiative*<sup>1</sup>, hospital deliveries only account for a minority of births in many regions of Sub-Saharan Africa (SSA). As a consequence, maternal mortality rates (MMR) are among the highest in the world, comparing unfavourably with other regions that have relatively constrained resources, such as South-East Asia and South America<sup>2</sup>. In Kenya the 2008 MMR was estimated at 413 deaths per 100 000 births. In common with other regions of Africa, the minority of births are in Kenya hospital deliveries. The Kenya Demographic and Health Survey reported that children born in rural areas are twice as likely to be born at home than urban children<sup>3</sup>. The national average for hospital deliveries is 40%, while in Msambweni District, the rural area where the present study was conducted, only 18% of children are born in clinical facilities. The MMR for the District is 650 per 100 000 births<sup>4</sup>.

The majority of maternal deaths in SSA are associated with birth complications related to lack of trained supervision at delivery, with only 10% of maternal deaths attributable to infection or disease<sup>2</sup>. Factors associated with unsupervised deliveries include the education level and wealth of the mother, with 84% of children whose mothers have no education being born at home, compared with 30% of those whose mothers have secondary education.

Controlled hospital environments, hygienic conditions, skilled personnel and the availability of resources to manage possible complications are considered corner-stones for the achievement of safe motherhood. Despite support for this health message by Ministry of Health guidelines and international programs such as the United Nations Development Programme (UNDP), United Nations Children Fund (UNICEF) and the Centres for Disease Control and Prevention (CDC), there is little evidence of fundamental change in Kenyan maternal health statistics in the past decade<sup>3</sup>.

Identifying community attitudes and current practices are an important starting point for behaviour change<sup>5</sup>. The purpose of

this study was therefore to identify perceived and actual barriers to the uptake of hospital care at community level, in order to identify points of intervention to improve the use of safe motherhood services in area studied and similar communities.

## Methods

### *Study site*

The current study took place in 2008 and 2010 in the catchment area of Msambweni District Hospital (MDH), the main tertiary care facility in Msambweni District. There are 12 other health centres with delivery facilities in the district, but no community-based midwife service; all skilled-attended births take place in health facilities. Msambweni District is located on the south coast of Kenya on the Tanzanian border. It has an estimated population of 283 658, with a doctor : population ratio of 1:76 741 and a nurse/population ratio of 1:2047<sup>6</sup>. Healthcare professionals are often posted from areas outside the community in which they serve and may not, therefore, belong to the same ethnic or language group as their patients.

Fourteen of the 65 nurses working in MDH are assigned to the 40 bed maternity ward, amounting for 1–2 nurses on duty per shift. Delivery charges at the hospital are comparatively low, with a normal delivery costing KES 850 (US\$11) compared with private hospitals in the region that charge KES 6,000 (US\$75). Mothers who come for antenatal care are given information on reproductive and child health in daily health talks at the mother–child health clinic. Families attending are also provided with insecticide treated mosquito nets free of charge.

The community is largely rural with the main income source being cash crops (coconuts, bixa, oranges, cassava, mangoes and cashew nuts) grown beside food crops for family consumption. Employment opportunities are limited and include tourism, transport, and animal husbandry. While the majority religion is Islam (75%), the population also includes a significant Christian minority, as well as those who believe in ancestral gods. Alternative health care is widely accessible



from various types of medicine men<sup>7</sup>, with traditional birth attendants (TBA) present at most home deliveries.

## **Procedures**

The current study was conducted in the context of a larger program sponsored by the National Institutes of Mental Health entitled *HIV, Malaria and Neurobehavioral Development in Early Childhood* (MH80601). The larger program is an observational study investigating the link between features of maternal health in pregnancy and infant outcome at the age of 2 years. To facilitate sample collection, mothers volunteered to deliver in hospital and were provided with financial and logistical support to do so (including payment of hospital fees and provision of transport to hospital delivery in a project vehicle). This sub-study carried out a situational analysis of factors affecting participation in the main study program.

## **Data source**

Data for the study were obtained from group discussions (2–21 August 2008), and structured interviews (24 May to 7 June 2010). Participant observations involved attending health management team meetings at MDH. Notes taken at the meetings helped obtain a clear understanding of healthcare provision system in the district and hospital.

A total of 12 group discussions were held. The first six meetings were held with 12 hospital staff of mixed sex and cadre. A facilitator and two note-takers attended each meeting. Each group was asked to discuss the question: *What factors do you think prevent mothers from delivering in hospital?*

Meetings were then held with six community groups, attended by a total of 90 community members (36 males, 54 females) aged between 20 and 60 years. Meetings were of both mixed- and single-sex participants. The purpose of these meetings was to sensitize the community to the forthcoming study. Each group was presented with the main question for discussion. The group was then asked to consider the responses of the hospital staff groups, and community agreement or disagreement with each potential barrier was

established. Other potential barriers were also elicited. Responses from the groups were recorded by hand and summarised by two team members [GB & PH].

Subsequently, structured interviews were conducted with individual mothers who had been recruited to deliver in hospital but had failed to do so. The interview sought to obtain the reasons for expectant mothers failing to take advantage of a supervised delivery, despite the opportunity provided by study membership.

## **Tool and interview**

A structured interview schedule was developed through an iterative process. A sociology student independent of the study team devised the initial interview schedule and modified it according to discussion with the study team. The schedule was piloted on 10 mothers. The interview was carried out in Kiswahili; however, for mothers who preferred to respond in the local language Kidigo, a member of the local community acted as interpreter. Of the 298 participants identified as having delivered by end of May 2010, 39 deliveries (13%) occurred at home. Data collected was collated to identify common responses among respondents, and underlying themes.

## **Analysis**

Themes were sought that: (i) summarised the nature of the barrier; and (ii) identified the target for an intervention to overcome the barrier. Two authors [FK & PH] independently derived themes from responses, and final themes were reached by consensus. Finally, the experience of mothers who had failed to deliver in hospital was summarised by all authors, and compared to these themes.

## **Ethics approval**

Ethical Approval was obtained from The Kenya Medical Research Institute National Ethics Committee, and written, informed consent was obtained from study participants.



## Results

Responses to the group discussions are summarized in thematic categories (Table 1). While economic barriers were a major concern for all groups, other issues were also commonly raised, forming the basis for identified themes. These themes have been labelled 'resources' (individual and community); 'customer care' (aspects of care within the hospital setting); and 'knowledge and beliefs' (understanding and perceptions of treatment alternatives).

For comparison, enquiries were also made within the community about the cost of home deliveries, the primary charge being payment to a TBA. This typically involved payment in-kind, including food items and *lesso* (printed cotton cloth used as clothing). The combined cost of these required items was found to exceed the KES 850 (US\$11) required by the hospital for delivery.

Contra to the 18% level of district hospital deliveries<sup>1</sup>, hospital deliveries among the study mothers was 86.5%. A total of 24 mothers (of 39 possible from the main study) who failed to deliver in hospital completed individual interviews. It was not possible to trace the 13 mothers who had changed address, and two mothers lived on islands and so were impossible to contact for interview.

Most mothers identified more than one reason contributing to their failure to deliver in hospital despite the support provided. The mothers' responses are summarised (Table 2). Seven main reasons were elicited, the most common relating to access to resources and knowledge about the stages of delivery. Financial constraints included having insufficient funds to telephone for the project vehicle, or to find alternative transport when the vehicle was unavailable. Despite having been advised at several points during the study of the value of supervised delivery, some mothers reported they did not see a need to come to the hospital because they expected an 'easy' delivery. Some women experiencing their first pregnancy had not understood their symptoms indicated that they were in labour. Two mothers had no family support

at the time of delivery and were unable to leave children alone at home.

## Discussion

The majority of women in Kenyan rural areas similar to the study district do not deliver under supervision of trained medical attendants. The attainment of the core principle of 'safe motherhood' is thus a distant goal<sup>1</sup>. However the consultation with community members and local medical staff did identify potential barriers and suggested relevant interventions to overcome them.

The main concern of all groups was the *lack of resources* within families to meet the cost of a hospital delivery, despite this being relatively low. Although the payment to the TBA exceeded the hospital delivery charge, the hospital requires payment in full before the mother can be discharged. Payment to the TBA occurs in instalments, lessening the perception of cost burden. Regardless, the cost of hospital delivery is major concern for those of low income, as is the difficulty of finding a sustainable solution<sup>8</sup>, and the MDH management team has highlighted this as a key issue for urgent action<sup>4</sup>.

A second resource-related barrier was the lack of access to transport to hospital, as has been raised in a number of studies<sup>9,10</sup>. This barrier includes not only the cost of the transport, but also problems of accessibility and distance that limit the potential role of emergency vehicles.

The real effect of these two barriers was observed in the four-fold increase in hospital deliveries among study participants who had both the cost of services covered, and access provided to transport to hospital. Nonetheless, distance to medical facilities and lack of adequate transport services remained the primary barriers, even when participants' economic burdens were lifted. As a senior hospital administrator stated:

*...the problem of remoteness and geographic challenges threatens the lives of expectant mothers not only in Msambweni District but also in the whole region of Coast Province. . . .*



**Table 1: Themes derived from group discussions**

Healthcare professionals	Community members	Themes	
		Barrier	Intervention
1. Lack of finance for hospital bills	Agree Stated home deliveries are more affordable	Resources	Economic
2. Poor access to hospital (bad roads and few transport vehicles)	Agree		
3. Lack of support from somebody known to you during deliver	Agree	Customer care	Changes in policy and practice
4. Hospitals do not allow women to deliver in their preferred way (eg squatting)	Agree		
5. Hospital staff slow to respond to patient needs	Agree		
6. Negligence by some nurses	Agree Reported stories of mothers being left and fear of falling off the delivery bed		
7. Fear of being verbally abused and beaten by the maternity department nurses	Agree Reported incidents involving females nurses		
8. Fear of Caesarean delivery	Agree Hospitals perceived as too willing to carry out operations so fear Caesarean may be unjustified	Knowledge and beliefs	Community education
9. Fear of being attended to by male staff (from any hospital department)	Disagree Reported a preference for male nurses because men were more respectful		
10. Cultural/religious beliefs in conflict with hospital delivery (eg new Islamic mothers may not appear in public for 40 days post-delivery).	Disagree Reported no clashes of cultural mores with giving birth away from home		
11. Believe that hospital equipment is dangerous	Agree (eg placing a baby in an incubator is associated with neonatal death)		
12. Believe that hospital is a place for complicated deliveries	Agree Expressed belief that if the first birth was straightforward, subsequent births can be safely carried out at home		
13. Fear of being tested for HIV	Agree Concern that a positive result would lead to abandonment by the baby's father		
14. Pressure from others' beliefs	Agree Relatives with negative attitudes to hospital services discourage new mothers from delivering in hospital		

**Table 2: Reasons given for home deliveries**

Reason for home deliveries	Frequency n (%)
Distance, poor roads	18 (75)
First pregnancies/deliveries (lack of awareness of meaning of symptoms)	16 (67)
Financial constraints	14 (58)
The expectation of an 'easy birth'	7 (29)
Late arrival of the project's car	6 (25)
Lone mothers	2 (8)
Perception of poor quality of care at the centre	2 (8)



Regarding the barrier of remoteness, it has been suggested that improving access to centralised services may be inadequate<sup>11</sup>. Until and unless the transport infrastructure is improved, community based interventions may be required in order to significantly improve maternal and child outcomes at delivery.

Another theme in the category of *customer care* related to the care women wished to receive while delivering their baby. Poor interaction between medical staff and the pregnant mother can influence the maternal choice to remain at home. Both medical personnel and community members recognised the mothers' preference for social support during the delivery, as well as their wish for strategies to enable pain relief. Hospital regulations, however, did not allow the presence of family members in the delivery room, and mothers were required to remain on the hospital delivery bed throughout their labour.

Despite awareness of the negative community perceptions of these regulations, medical personnel followed hospital protocol rather than meeting the mothers' social and other care needs. In view of this and the low number of available staff, the perception that home may provide better support than hospital care during delivery may be well founded. In a study of urban Kenyan mothers, the participants questioned the safety record of hospitals with regard to maternal and neonatal deaths, as well as expressing fears about 'baby snatching'<sup>12</sup>. While neither of these issues was raised in the community part of the present study, nor was it suggested that hospital staff lacked medical expertise, it was clear from the participants that hospital staff must balance technical knowledge with good clinical practice and supportive emotional care.

Among the present study mothers, only two referred to 'quality of care' as the reason for not delivering in hospital. The support provided throughout participants' pregnancy by the study staff, such as escorting them to different MDH departments, and following-up to ensure timely access laboratory investigations, clinical reviews and ultrasound

services, may have increased the mothers' satisfaction with hospital services. While study mothers were not provided with support during delivery itself, their experience within the study may have de-mystified procedures and lessened the perception of the hospital as an unfamiliar environment. This extra psychosocial support may have accounted for the large increase in hospital deliveries, rather than other interventions that merely covered costs<sup>8</sup>.

The third theme, *knowledge and beliefs*, included the issue of cultural practices and beliefs. While medical personnel were aware of the importance of these issues, they did not seem to be aware of the implications of community beliefs for behaviour. For example, hospital staff knew of the '40 day rule' requiring mothers to stay at home post-delivery, and suggested it might discourage delivery in a public facility. The community disagreed, clarifying that this rule impacts movement and travel only after mother and baby return home.

Another discrepancy between the two groups concerned attitudes to being attended by male staff. Hospital staff believed the presence of male staff members could be a deterrent to mothers from the Muslim community. Two religious leaders (Imams) attending a group meeting clarified that there was no such constraint in the Koran, and community members expressed a *preference* for male staff, perceiving them to be more sympathetic and less abusive to mothers than female staff. Whether this is so, and determining the skill-sets of highly rated staff require further investigation.

Thus, the differences between staff and community perceptions were most evident in responses relating to community beliefs. This highlights the importance of community consultation and the limitations of gathering community information by proxy through staff members. Policy-makers must, therefore, be aware of 'levels' of community membership when gathering representative opinions.





The individual interviews with mothers who failed to attend hospital generally supported the barriers described in earlier group discussions. In addition to underscoring the importance of resource constraints, these interviews also expanded on the problems encountered by women who are not well prepared for delivery. Over half these mothers stated they began their journey to hospital too late, or were unwilling to make the journey to hospital for what they anticipated would be an uncomplicated delivery. These decisions, based on low knowledge or awareness, suggest a need for more detailed education and expanded antenatal information programs.

The discussion groups also identified that information/education on safe motherhood practices and the stages of pregnancy should be provided not only to pregnant women, but also to the family members who control access to health care. Also highlighted was the need for awareness of family support structures when planning for individual birth experiences. The preferred support structures may differ according to sociocultural context<sup>9</sup>, and specific family circumstances. For example, even with the small number of participants, there were indications from the present study that single mothers should be targeted for special support.

## **Limitation**

While the present study interviewed women who attended clinic for antenatal care, the results may not provide an accurate profile of all women who deliver at home. Future investigations should explore the beliefs and attitudes of a community based sample to better identify the background factors that contribute to choices made for delivery<sup>13</sup>.

## **Recommendations**

The discussions held support the need for a constructive, collaborative approach to promoting change. None of the suggested strategies listed below is unique to the context of the study. The need for a multi-level, multi-pronged approach to overcoming barriers to hospital delivery was clear. The recommended interventions target improved

access to resources (economic), within the context of a national policy of cost-sharing for health services:

- payment for hospital services by instalment
- provision of ambulance services for pregnant women
- decentralization of delivery services
- improved road network
- higher hospital staffing levels
- provision of shelters for vulnerable mothers prior to delivery
- consideration of free maternal health facilities.

Recommended interventions that target knowledge and attitude change (information):

- links with community groups closer to homes to provide conduits for more regular information, advice and support to all family members
- individual 'birth plans' to meet individual needs, through partnership between mothers and medical staff
- improved staff training in good clinical practice and interpersonal skills
- introductory visits to delivery facilities prior to due dates for expectant mothers
- changes to hospital protocol to incorporate evidence-based strategies for delivery, including accompanied deliveries.

## **Conclusion**

The community needs to be better informed about the true costs and benefits of hospital deliveries, while medical services must be more sensitive to community needs and preferences. These findings have already prompted the initiation of consultation groups on health and maternal issues between health service providers and community based organisations; however, continued efforts are required to increase the proportion of rural births conducted with the supervision of skilled birth attendants in hospitals, and so address the currently high MMR in Kenya.



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