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OBSTETRIC FISTULA: AN AVOIDABLE OUTCOME OF THE THREE CLASSIC DELAYS

Njoroge PK¹, Olenja JM¹, Kibaru J²

¹Department of Community Health, College of Health Sciences, University of Nairobi, P.O.Box 19676-00202, KNH, Nairobi. ²Division of Reproductive Health, Ministry of Health, Kenya.

Correspondence: Dr. P.K. Njoroge, P.O. Box 20926 00202 KNH Nairobi, Kenya. Email: pknjoroge@comhlth.ac.ke

Abstract
Background: The social, cultural and health care determinants and the magnitude of obstetric fistula in Kenya is not well documented. This study was part of a wider UNFPA supported survey to map out obstetric fistula in Sub-Saharan Africa.
Objective: To assess the magnitude and determinants of obstetric fistula in Kenya.
Methodology: A rapid needs assessment of the obstetric fistula situation in selected districts in Kenya was conducted using a combination of qualitative and quantitative approaches. Four districts drawn from four provinces were studied.
Results: The first and second classic delays are particularly common in all rural settings in Kenya. Home deliveries with the assistance of TBAs, relatives or unaided are a product of cultural and structural factors. Unrelieved obstructed labor, with its disastrous consequences for the woman and her baby is a common complication of home deliveries. Access to care centers is hampered by poverty, infrastructure (roads) under-development, inadequate transport facilities and lack of communication between the peripheral and referral health facilities. Delays in receiving care while in health facilities also do occur with equally disastrous consequences to the mother and baby: obstetric fistula and peri-natal deaths. Simple and effective technology for monitoring progress of labour is readily available in health facilities but is either not used at all or not correctly used.
Conclusion: Obstetric fistula is the culmination of a wide range of contextual factors that interact synergistically to precipitate prolonged labour which unattended to lead to obstetric fistula. Delays at all levels - from deciding to seek care to provision of the necessary intervention - are therefore central to causation of a fistula. Considering the social, cultural and medical significance of obstetric fistula, it has arguably been a neglected area of Safe Motherhood. A lot needs to be done to demystify this problem at community and health workers’ levels, strengthen interventions to prevent obstetric fistula and repair existing cases.


Key words: Fistula, delays, obstructed labour, Kenya

Introduction
Kenya has made great progress in addressing maternal health since the inauguration of Safe Motherhood Initiative in Nairobi in 1987 through the formulation and implementation of the reproductive Health Strategy (1997-2010) that seeks to implement the 1994 International Conference on Population and Development
Programme of Action. These developments have been made against a backdrop of demographic milestones such as the increase in population from 9 million in 1969 to 31.5 million in 2002. Of significance is the fact that a number of young women enter childbearing and this is evidenced by the data from the KDHS where 44% and 55% of girls aged 19 years respectively had already begun childbearing. Maternal mortality ratio increased from 365/100,000 live births in 1993 to 590/100,000 in 1998 and recorded a modest decline to 414/100,000 in 2003.

Globally, an estimated 600,000 women die every year due to pregnancy related complications, 99% of them in the developing countries and for every maternal death, 30% or more women suffer disabling and humiliating injuries including obstetric fistulae. While it is a global problem, it appears to be particularly common in Africa - a low resource setting. Unrelieved obstructed labour, which has social, nutritional and health care dimensions, is the main cause of obstetric fistula. Studies in Africa have shown that 58-80% of women with obstetric fistulae are under the age of 20, with the youngest patient only 12 or 13 years of age.

It is important to recognize that these studies are largely hospital based and therefore cannot be fully indicative of the magnitude of obstetric fistula. The annual incidence in Kenya is estimated at 3,000 new cases - calculated at the rate of 1-2 cases per 1000 deliveries - with only 7.5% receiving treatment. The incidence is however a gross underestimation of the magnitude of the problem because the statistical data on the full magnitude of the problem is scanty. At the time of this study there were 20 cases on the waiting list at KNH where an additional theatre day (a Friday once in a month) had been added to cope with the demand for repair.

It is acknowledged that most pregnancy related deaths occur around the time of delivery or at postpartum, presenting themselves as emergencies. In the last ten years in Kenya, it was observed that although about 90% of pregnant women had been seen by a professional provider at least once, a much smaller proportion (41-45%) were attended at birth by a professional provider. Poor access and weak referral systems are some of the reasons why women deliver at home under unprofessional care. Obstructed labour is a common outcome of home deliveries. Fistulas occur as a result of the 3 classic delays in getting the appropriate emergency obstetric care (EmOC): delay in deciding to seek medical attention, delay in reaching a health care facility, and delay in receiving care at the facility.

Only a few studies on obstetric fistula have been done in Kenya in the last three decades and all of them have underscored the need to address the causative factors of obstetric fistula such as: malnutrition, low literacy levels, early sexuality and access to EmOC while improving access to repair services.

Since the year 2002, UNFPA has been working with partners on a global campaign to prevent and treat obstetric fistula with the aim of making fistula as rare in Africa and Asia as it is in the developed world. A study undertaken in nine African countries, noted that obstetric fistula is a pregnancy related disability affecting an estimated 50,000-100,000 women each year, and that the estimated two million women living with obstetric fistula are too few
since the estimate is based on women seeking treatment in medical facilities.14 

Observing that data on the magnitude of obstetric fistula in Kenya was scanty, the Obstetric Fistula Task Force in the Division of Reproductive Health, Ministry of Health recommended a rapid needs assessment of the obstetric fistula situation in selected districts of Kenya. The assessment focused on the magnitude of the problem, socio-cultural factors contributing to fistula incidence and hampering health seeking behavior, as well as medical aspects such as the availability of services and constraints to service provision and utilization.

**Methodology**

Data collection for this study was conducted between November 20 and December 19, 2003 in Nairobi and four selected districts (Kwale, Mwingi, West Pokot and Homa Bay) staggered across four provinces (Coast, Eastern, Rift Valley and Nyanza respectively). The methodological approach was both qualitative and quantitative. In addition to review of background documents and site visits to the selected districts, it was critical to gather information from those providing obstetric services at various levels as well as the recipients of the service. This entailed gathering data from a purposive sample of various stakeholders including policy makers, service providers, patients, community members, community based organizations (CBOs) and non-governmental organizations (NGOs). A total of four district hospitals, one sub-district hospital, one mission hospital, two health centers and two dispensaries in the four districts were visited.

**Qualitative Approaches**

An assessment of socio-cultural factors contributing to obstetric fistula incidence and influencing health seeking behaviour were conducted through a variety of participatory rapid assessment procedures applied to community members patients and service providers at the community and health facility levels. These methodologies included; focus group discussions, in-depth interviews/narratives and key informant interviews.

**Quantitative approaches**

Medical aspects of the survey addressed issues of availability, service provision and utilization of obstetric services. In each of the districts, at leased two health facilities were visited; the district hospital as the referral facility and a health center or dispensary as the referring facility. In West Pokot an additional facility, Ortum Mission hospital was visited because of its specific role in repair of obstetric fistula.

Existing records on EmOC and obstetric fistula in the sampled districts were reviewed to obtain trends and magnitude of the problem and to give an indication of the amount of resources used to manage obstetric fistula cases. The reports included but were not limited to periodic reports to the office of the District Medical Officer of Health (DMOH), reports of other health care providers in the districts, reports of the district registrar of births and deaths.

**Results**

The First and Second Delays: delay in making a decision to seek care and delay in reaching care centres. First delay was a common feature in all the four districts. Women try labour at home with TBAs for up to three days
and once a decision to seek skilled attendance in health facilities is made, long distances - going up to 60 kilometers in West Pokot - and lack of motorized transport increases the delay by up to another 24 hours. In Homa Bay it was stated that referrals from Mfangano Islands and Suba districts could delay for as long as the lake remains turbulent.

In Mwingi, much of the delays occur earlier on, right from home, as some mothers were reported to labour at home for up to 3 days before seeking care. From the peripheral health facilities, referral takes long due to transport problems. The roads are pathetic and among the peripheral health facilities, only Migwani Sub District Hospital and Ngomeni health centre have ambulances. Health facilities that have no ambulance have to call for one from Mwingi District Hospital or use vehicles from other Government departments. Not all facilities have telephones and plans to install radio communication are underway. In the very remote areas, public transport is only available on Wednesdays (market day) and alternative means of transport include using a wheelbarrow to get to the main road for distances of about 10 kilometres.

West Pokot is a special case in that women in labour have to walk an average of 50 kilometers while some (in the northern part of the district) cover as much as a 100 kilometers to reach a health facility. Late referrals are often from the lowlands where facilities are very few. Areas such as Kacheliba, Sook, Lomut and Sigor were given as examples that produce women with fistulas. A majority of patients find it easier to cross into Uganda to Amudat Hospital but since this facility do not conduct Caesarean Sections, they are referred back to Kapenguria, which is 100 kilometers away, but with the benefit of transport from Amudat hospital. Chepchumba’s case aptly illustrates how the second and second delays end up in obstetric fistula and perinatal deaths.

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**Box 1: A case of first and second delay**

Because of the cultural requirement to deliver the first baby at home Chepchumba (not her real name) aged 14 years labored at home with the TBA but surrendered after two days. They walked from Kuyao to Kacheliba taking another two days. At this point they got transport to Kapenguria District hospital, delivered a stillbirth and subsequently developed puerperal sepsis and a VVF.

All the referral hospitals visited has a functional motor vehicle cum ambulance. In Kwale, both the district hospital and the two sub-district hospitals had transport but only one health center had a vehicle. The situation was a similar in Mwingi and West Pokot where only the district hospital and one sub-district hospital and one sub-district hospitals/health center had a vehicle. In Homa Bay, only the district hospital has a vehicle. Telephone or radio communication between the referring and referral health facilities is virtually non-existent and as such the ambulances at the district hospital do not serve any significant role of evacuation emergencies. The third delay: delay in receiving care In most facilities visited the health providers had received training and updates on EmOC. However the application of these skills is sometimes hampered by staff shortage. All the sites visited were operation at 50% (or less) of the staff establishment. It is for this reason that an important tool such as the
partograph was not used as was evident in the records reviewed.

Box 2: A victim of third Delay: Maria’s story

Maria (not real name) was 18 years old when she got married in the year 2000. She became pregnant and carried it to term. She delivered at home with the assistance of the mother and unfortunately the outcome was a stillbirth. In 2003 she was pregnant again and this time she attended ANC five times, carrying the pregnancy to term. The chronology of events during labour was as follows:

- On the 1\textsuperscript{st} of November she reported at the health facility with what was then false labour and was sent back home.
- On the 2\textsuperscript{nd} of November she went back to the health facility and this time she was admitted in labour.
- On the 4\textsuperscript{th} of November she was transferred to Mwingi district Hospital where she had a C/S done immediately. Unfortunately the baby was long dead and she had developed a VVF.

At the time of the study, Maria had been in the hospital for the last 38 days nursing the wound as she coped with the continuous flow of urine; unable to comprehend it all. The case notes indicated that she was referred from one of the Sub-District hospitals at noon on 4/11/03 with a diagnosis of obstructed labor and intrauterine foetal death. At operation she was found to have a full bladder up to the umbilicus, a ruptured uterus extending through the vagina, a posterior tear of the bladder and a macerated stillbirth. At 36 days postoperatively the wound was still septic and the patient was still in the ward.

In Kacheliba the Clinical Officer in charge of the health facility was very honest in reporting that apart from the fact that most mothers come in the second stage of labour, plotting of the partograph was not done consistently due to lack of time. In Homa Bay district hospital, the partograph was attached to the case notes but more than half had not been filled. Nurses found it easier to write notes rather than to chart the partograph. In Ndhiwa health center (Homa Bay), partographs were available but were never used - progress of labour was recorded in exercise books brought by patients, which they take home on discharge leaving no records of deliveries conducted.

A sample of 193 delivery notes from deliveries conducted in the three months preceding the study were reviewed. Only 59\% of the notes had a partograph and among them only 67\% were satisfactorily charted. A partograph was said to be satisfactorily charted if contractions, cervical dilatation and head descent were charted. Figure 2 compares availability of partographs in a sample of delivery notes and correct charting among the delivery notes with a partograph. Cases of third delay can be very dramatic and lead to serious obstetric complications and death. The road to an obstetric fistula in health facilities under the care of skilled health workers is illustrated by Maria’s case. Mrs. Maria’s story depicts a classic interaction of deprivation and poverty at the individual level and delays at the health facility level. Maria is of small stature with a height of 140cm indicative of lifelong stunting. Her current economic status of unemployment and limited sources of income only compounds the problem. However, responding to her past history of pregnancy loss she had done her best to reach the health facility on
time. Her experience at the first level facility is one of neglect, with little information provided even as she asked to know the progress of labour. But the patient appreciated the speed with which she was handled at the district hospital even though it was already too late to save the baby. She was faced with the double tragedy of loosing the second baby and developing a VVF. Although she was told why she had the current problem, by the time of the study she had not been told whether it could be treated. On the brighter side of the sad story, Maria has since had the fistula repaired at the Kenyatta National Hospital.

Figure 1. Proportion of delivery notes with a Partograph and proportion of partographs correctly charted by hospital.
**Addressing the delays**

In some districts, institutional initiatives have been worked out to cope with the delays. In Kwale, TBAs advise mothers to save some money during the third trimester to cater for emergency referral while the health facility management committee has identified vehicle owners who can be called upon at the time of referral and charge a reasonable amount. The Ortum mission hospital has adopted an innovative approach to address the second delay by constructing a shelter (locally known as a Kirap) outside but next to the hospital where expectant mothers are accommodated and provided with a kitchen to prepare their own food. Some mothers come a month before the expected date of delivery and stay on, having access to ANC services at the hospital on a daily basis. The idea is to keep pregnant mothers close enough to skilled attendance to deal with emergencies in areas with poor access to EmOC. The large number of women who were already at the shelter is indication that women would be willing to deliver at health facilities and that their apparent preference for TBAs is not only a cultural but also a structural issue.

**Discussion**

It is a well known fact that the majority of births in sub-Saharan Africa still take place outside of health institutions and are attended by relatives or untrained providers\(^2\)-\(^4\),\(^15\). In an attempt to reduce maternal and perinatal complications and deaths, the three delays model was developed about a decade ago\(^16\). The first delay is occasioned by a complex decision-making process, (including whether or not to seek care and if so, where) that most times involves many different players. Once a decision to seek care has been reached, the second delay is caused by a number of factors including unavailability of means of transport, long distances and/or the poor state of the road network to reach the referral site. The third delay is purely institutional in terms of the degree of emergency preparedness and availability of appropriate staff for emergency obstetric care at the referral centers.

First and second phase delays are important because many births still occur at home and referral practices are still problematic. Poor transportation, far distances and lack of trust in the health care system are the main reasons for the delays\(^17\),\(^18\). Other factors that may be important in explaining the delays include; inequalities in the health system and poverty\(^19\),\(^20\) and situations where the parturients are not the ones who decide to go to hospital, but are influenced by relatives\(^21\).

In all the study districts, access to EmOC was a major problem due to poor road networks, long distances to be covered by patients and lack of communication. Some health facilities are inaccessible even with a four-wheel drive vehicle. In such areas women are taken to peripheral health facilities on wheelbarrows and bicycles where they may still die due to lack transport to the referral health facility. Anecdotes of harrowing experiences around transport and the various attempts made to reach a health facility were told in each of the study districts. Installation of radio communication that was ongoing in Mwingi and Kwale was expected to ease referral.

It is estimated that 15% of normal pregnancies are destined to develop life-threatening complications\(^22\),\(^23\) although country specific estimate are scarce\(^24\)-\(^26\). The situation is further
complicated by underreporting of obstetric complications which is common in many countries. However not all EmOC centers can accommodate all the patients and many women cannot reach areas of skilled care when complications arise for various reasons, including poverty and a lack of adequate transport facilities.

Although the management of obstetric complications has been well documented and it has been established that their management does not require sophisticated technologies, lack of adequate obstetric care during labour has been identified as a problem in Eastern and Western African countries and Asia. Globally, obstructed labour is one of the well known major causes of maternal death.

Most of the nurses in rural health facilities in the study districts had received training in Life Saving Skills to enable them to assess and make decisions about referral quickly in the event of obstetric emergencies. Partographs were largely available but sadly they are rarely used or charted correctly. The partograph serves as an “early warning system” that assists in monitoring the progress of a woman in labour and is also used as a management tool in the prevention of prolonged labour. Its effect in reducing the rate of prolonged labour, caesarean section and perinatal morbidity and mortality has been proven.

Obstetric fistula, a preventable and treatable condition, is one of the most serious and disabling complications of child birth which has virtually been eliminated in developed counties but is still prevalent in the developing world. Obstetric fistula usually follows prolonged obstructed labour – commonly arising from Cephalo Pelvic Disproportion (CPD) and poor obstetric care. Specifically it is due to necrosis of the anterior and sometimes posterior vaginal wall, bladder, urethra and rectum which has been compressed between the foetal head and the maternal pubis. Incontinence arises when the dead tissue slough off, usually between the 4th and 14th day post partum.

In conclusion, obstetric fistula is the culmination of a wide range of contextual factors that interact synergistically to precipitate prolonged labour which unattended to lead to obstetric fistula. Delays at all levels - from deciding to seek care to provision of the necessary intervention - are therefore central to causation of a fistula. At the community level, a fistula is considered as an inevitable accident during the prestigious event of childbirth while at the level of health care provision, very little is said and done about the problem. Obstetric fistula is therefore a neglected area of Safe Motherhood. A lot needs to be done to demystify the problem at community and health workers’ levels and strengthen interventions to prevent obstetric fistula and to repair existing cases.

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