

ASSESSMENT OF FACTORS THAT MAKE MATERNAL DEATH MORE LIKELY BOTH AT THE HEALTH FACILITY AND THE COMMUNITY: A CASE STUDY OF SERERE HEALTH CENTER IV – SERERE-DISTRICT-UGANDA

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ABSTRACT

Reviewing maternal deaths and telling the story of how an individual woman died is essential in understanding why, where, and when women die. The process explores gaps within the health facility and those outside the health facility that could have contributed to the death of a pregnant or postpartum woman. Addressing these gaps subsequently lead to reduction in numbers of women dying from preventable pregnancy and childbirth related causes. This was a retrospective descriptive study on facility based and community based maternal death audit.

Given the unpredictable nature of maternal health emergencies, there are few quick fixes. However, strong emergency systems can prevent delays at critical time points. Such systems do not require massive resource allocation but rather a cost-effective, informed approach that emphasizes the proven life-saving interventions that are appropriate to the context. Improving access to emergency care, by minimizing the three main types of delay in the delivery of such care, has the potential to reduce maternal mortality in every facility, community and population

Key words: Maternal Mortality, Maternal Audits, Confidential Enquiry into Maternal Deaths, Facility Based Maternal Death Reviews, direct and indirect causes of Maternal death, Verbal Autopsy, Emergency Obstetrical Care, Basic Emergency Obstetrical Care

INTRODUCTION

Maternal death is one of the most important challenge faced by health care providers worldwide and most of these deaths occur in low income country in Sub-Sahara Africa. A large proportion of Maternal death results from poorly managed deliveries, when obstetrical complications occur Uganda, a country with a population of 7.3 million women of reproductive age (15- 49 years) which is about 20.9% of the total population, with an expected 1.5 million births at a total fertility rate of 6.2 births per woman. A projection of 3.2 growth rate does not only affect the planning and delivery of the health services; it also overstretches maternity services and thus potentially increasing obstetric risks to other mothers (UBOS and ICF International Inc. 2012).

A maternal death is a social injustice from the humanitarian rights perspective, preventable death is a human rights issue (UN, 2009, 2012). Since a mother's death is much more than an emotional crisis, often leading to long term social and economic breakdown both to her immediate family and the wider community.

Global disparities in women's reproductive health represent one of the starkest health inequities of our times and a major social injustice. Each year approximately 530,000 women die from the complications of pregnancy and childbirth. However, these deaths are not uniformly distributed throughout the world; 99% of these deaths occur within the most disadvantaged population groups in the poorest countries of the world (WHO, 2007). Recent analyses show that these deaths are increasingly concentrated in Asia and Sub-Saharan Africa, where 45% and 50% of all maternal deaths occur, respectively (Hill, 2005).

Despite the Millennium Development Goal (MDG) number 5 target where the member countries were expected to reduce their Maternal Mortality ratios by 75% between 1990 and 2015 (Ronsmans and Graham, 2006). Uganda failed to achieve this target and her Maternal Mortality ratio remained stagnantly high at 438/100,000 live birth far from 131/100,000 live birth expected by 2015 (UBOS and ICF International Inc. 2012). The attainment of the Millennium Development Goal 5 was jeopardized by a weak health system, continuing high fertility (6.2 children per woman), and poor availability of Maternal Mortality data required for evidence-based decision making, and formulation of working strategies aimed at reducing maternal death ratio (Ronsmans and Graham, 2006). Other factors like high adolescent birth rate 114.85/ 1000 women of 15-19 years of age (World Bank, 2014). Unmet need for family planning needs which was 40 % (UBOS and ICF International Inc. 2012). Low skilled birth attendants of 57% (UBOS and ICF International Inc. 2012) and the presence of chronic diseases like HIV/AIDS, Hypertension, diabetes, and anemia in pregnancy also affected the attainment of MDG 5.

The risk of a woman dying because of pregnancy or child birth during her life time is about 1 in 6 in the poorest parts of the world compared with about 1 in 30,000 in Northern Europe (Ronsmans and Graham, 2006). Inequalities in the risk of maternal death exist everywhere. The main causes of Maternal Mortality are known, and more than 80% of Maternal deaths could be prevented or avoided through actions that are proven to be effective and affordable, even in the poorest countries in the world (WHO,2004). Targeting interventions to the most vulnerable and rural poor populations is essential if substantial progress is to be

achieved. Such interventions need to be informed by an understanding of who is dying, when, where and why are they dying (Ronsmans and Graham, 2006).

Maternal death audit/review is one of the interventions that has proved to work in reducing Maternal Mortality if only the recommendations by the review team are put into action. If progress is to be realized in reduction of maternal death, low- and middle-income countries who are responsible for 98% of maternal deaths must be targeted (Bhutta, 2010; WHO,2010). Like in United States where maternal mortality is generally a rare event, MDR is used to examine the circumstances of women's deaths that occur during child birth or around the time of pregnancy and to identify gaps in services and systems that should be improved to prevent future deaths. MDR also can identify strengths in the system of care that should be supported or expanded (Bacak et al, 2006).

However, much as death reviews have become an integral part of medical care in industrialized countries, the experience in developing countries like Uganda are yet very scanty. Possible constraints for such scanty maternal mortality reviews could be the lack of interest and commitment, lack of skills to carry out MDR, Poor quality of data for MDR, inadequate staff or a combination of all.

This study was aimed at identifying evidence-based information justifying why MDR should be carried out in all health facilities offering maternal and child healthcare services. The findings of the research could be used to advocate for formulation of policies that favor maternal healthcare service provision in the region and country as whole.

A Maternal Death Review (MDR) is a general term which incorporates three approaches used to study the causes and characteristic of maternal death. It is a qualitative, in-depth investigation of the causes and circumstances surrounding a small number (1 or 2) of maternal deaths occurring at selected health facilities and communities (WHO, 2004).

Maternal death review approaches include;

Confidential Enquiry into Maternal Deaths (CEMD):

This is a systematic multi-disciplinary anonymous investigation of all or a representative sample of maternal deaths occurring at an area, regional (state) or national level. It identifies the numbers, causes and avoidable or remediable factors associated with the deaths. It calls for existence of either a functioning statistical infrastructure (vital records, statistical analysis of births and deaths, human resources, recording clerks and many others) or nominated professionals in each facility to regularly report maternal deaths to the enquiry (Bullough et al, 2005; Papworth et al, 2005).

The CEMD data is initially collected in a confidential manner at the local levels, which are health facilities providing maternal and child health care services. This data is still anonymized before collation and assessment by an independent multi-disciplinary group of health professionals. This means the name of the woman who died, the health care workers who cared for her and the institution in which she died cannot be identified. The aim is to enable those who cared for the deceased woman to have the confidence in providing an unbiased and frank account of the actual circumstances, and any deficiencies, surrounding her death without any fear of punitive action. Thus, a more realistic picture of the precise events and any

avoidable or remediable factors in the care she received can be obtained (WHO, 2010).

Confidential enquiries into maternal death are essentially observational studies, using qualitative and quantitative analysis, which take account of the medical, and sometimes, non-medical factors that led to a woman's death. They provide data on individual cases, which when aggregated together can show trends or common factors for which remedial action may be possible.

The CEMD approach report format that includes anonymous "vignettes", short case-summaries which "tell the story" is very important. These stories enable the enquiry team to appreciate the fact that each woman's death is an individual, personal and family tragedy. These case summaries also highlight that each deceased woman had a unique story to tell and tracing her path through the health care system and describing the action(s) that might have been taken to prevent her death, has a powerful effect on those who read the stories, many of whom report immediate changes in their practice as a result (Kongnyuy, 2008).

Facility Based Maternal Death Reviews (FBMDR):

Is a qualitative, in-depth investigation of the causes and circumstances surrounding maternal deaths occurring at health facilities. Deaths are initially identified at the facility level, but such reviews are also concerned with identifying the combination of factors at the facility and in the community that contributed to the deaths, and which ones were avoidable. It requires co-operation from those who provided care to the woman who died, and their

willingness to report accurately on the management of the case (WHO, 2004).

Facility based maternal death reviews is carried out by a multi-disciplinary team meeting to consider what lessons may be derived from the management of the case and how local procedures might be improved for the benefit of future patients. Involving all those who managed the case, including obstetricians, nurses, midwives, pathologists and anaesthetists, blood bank staff ensures issues related to multidisciplinary local protocol development and ownership, cross-team working, and areas of responsibility can also be clarified.

It is well known that social and environmental circumstances play a role in the causation of maternal deaths. Therefore, ideally, an attempt should be made to investigate the community factors involved in each case as well as these factors related to the care provided in the facility. Using this approach, the investigation starts by identifying maternal deaths occurring in the facility and then traces each one back into the community to ascertain the sequence of events. In this way, an attempt is made to reconstruct the story of the woman's pregnancy and labor, and uncover other relevant medical, social and service factors on her road to death (WHO, 1986). This is because a facility-based maternal deaths review will not give a complete picture of events unless information about the events in the community is available. But obtaining this information requires a much more sophisticated and expensive approach and sensitivity and, in many situations, is difficult to achieve.

Community Based Maternal Death Review (CBMDR)/

Verbal Autopsy:

This is a method of finding out the medical causes of death and ascertaining the personal, family or community factors that may have contributed to the deaths in women who died outside of a medical facility. Verbal autopsy requires co-operation from the family of the woman who died, and woman dies help identify the many barriers to women's access to and use of comprehensive obstetric services. In addition, verbal autopsies provide useful information on some of the demographic and social characteristics of the women who died like age, parity, place of residence, level of education. These findings not only sensitize policy-makers to the complex nature of maternal mortality, they may also lead to specific recommendations (WHO, 2004).

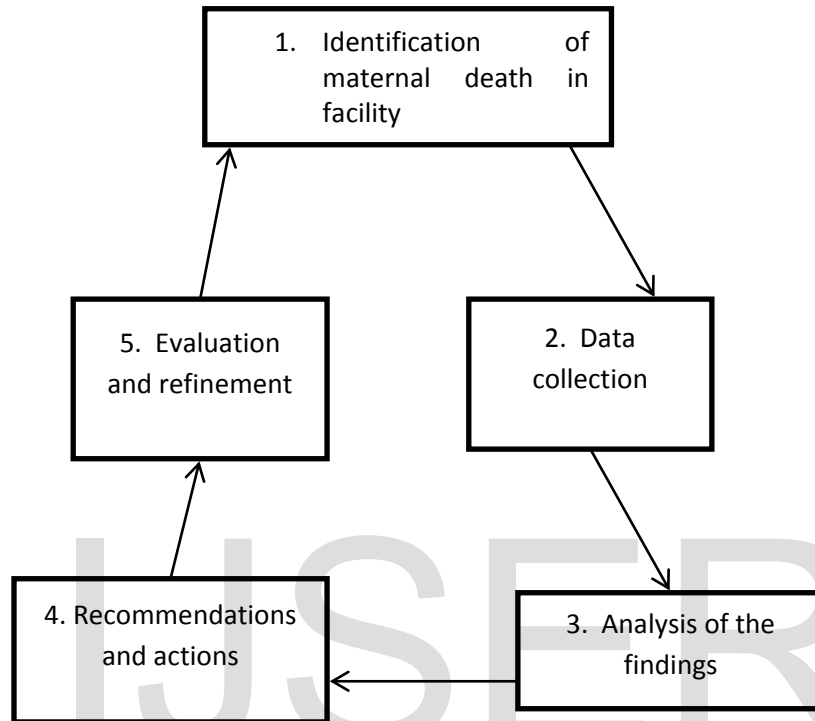
Maternal Death review process

Maternal death review process consists of five steps; Identification of maternal death, Data collection, Analysis

sensitivity is needed in discussing the circumstances of the death (Ronsmans, 2004). A description of all the events surrounding each maternal death is seen as an essential component of verbal autopsies because it serves as a basis for the development of more comprehensive strategies for prevention. The non-medical circumstances in which the

of findings, Recommendations and actions, Evaluation and refinement (WHO, 2004). Identification of maternal death can be difficult especially where it occurs outside the health facility. Sometimes even in the health facility maternal deaths can be missed if it occurs in other wards other than the maternity ward, an ectopic undiagnosed pregnancy, death due to abortion or when the pregnancy was in the early weeks of the first trimester. This challenge can be overcome by collecting data on maternal death using several sources such as hospital register, case notes, referral letters and interviews of family members and relatives

Figure. 1 ; Showing maternal death review cycle.



Source: WHO, 2004

According to several reports of the clinicians and midwives from different countries, reviewing the death of a woman known to one has a personal and long-lasting impact on one's own clinical practice and that of his or her health facility. Most of them reported that having a serious evaluation of the care given to a woman whose face they could still see and whose grieving family they could remember changed their clinical practice and subsequently saved many lives (WHO, 2004).

However, different research findings have shown that there are relatively very few maternal death reviews conducted or, at least, reported globally. This is associated with several factors such as; Support supervision which is necessary particularly in the initiation stage. During the MDR initiation stage, the maternal death review teams need technical, team building, and moral support. The MDR junior team members require guidance by the experienced doctors or obstetric consultants to develop MDR analytical skills. However, supportive supervision in most cases is sporadic, poorly organized and largely dependent on donor funding which jeopardize sustainability in time of donor withdrawal (Jan and Hauwa, 2014).

Methodology

Maternal death Audit is a "qualitative, in-depth investigation of the causes of, and circumstances surrounding, a maternal death which occurred in the health care facility." It is particularly concerned with tracing the path of the woman who died, through the health care system and within the facility, to identify any avoidable or remediable factors which could be changed to improve

maternal care in the future. The information should, preferably, be supplemented by data from the community, but this may not always be possible (WHO, 2004).

Study design

This was a retrospective descriptive study aimed at reviewing the finding of maternal mortality audit that was carried out in Serere health center IV in Serere District between 1st October and 31st December 2015.

Brief overview of the study site

Serere district is in Eastern Uganda formerly part of Soroti District. The District lies approximately between latitudes 1° 33' and 2° 23' north and 30° 01' and 34° 18' degrees east and is over 2500 feet above sea level. Serere borders Buyende to the south, Pallisa in the South East, Soroti in the North East, Kaberamaido in the North and Ngora in the East. During the period of insecurity, 1980 – 1991, the population of Serere District shrank at -0.9%, however, there was a rebounding annual population growth rate of 5.12% in 1991 –2002, one and a half times higher than the national average of 3.3 % (UBOS and ICF International Inc. 2002).

Serere District had a population density of 151 persons per sq2 km, higher than the national average of 124 persons per sq2 km and was the third most densely populated among the districts of the Teso Sub-region after Pallisa (328) and Kumi (160) (UBOS and ICF International Inc. 2002). Much of this population (89%) was rural, with 51% women. Serere registered a high dependency ratio, since 56% of the population were children of whom 46.5% were under 5 years of age. The demographic figures also indicated that women and children formed 75% of the population, a fact to have been considered in planning, support and resource

provision to properly target the needs of the population. The district is mainly composed of three major tribes, Iteso, Kumams, and Bakenye. The religious affiliations in this region are; Anglican, Catholic, Pentecostal, Muslim and others. The major source of livelihood is subsistence agriculture accounting for 76% of income (UNDP, 2014).

Serere Health Centre IV, now to be a district referral hospital is about 27 km from Soroti town, provides pregnant mothers with most health care services, including caesarean sections. Women are only referred to the main hospital -Soroti regional referral hospital if they have developed major complications that require more advanced specialized health care services. Serere health Centre IV has one ambulance and a driver who is on call 24 hours a day. Even during insurgency in 2002 by the rebels of the Lord's Resistance Army, the ambulance services remained available to every pregnant mother in the outlying villages who contacted the driver by radio call or village phones.

These women live as far as 20 kilometres away on bad to non-existent roads. This is made worse by the poor ways of directing by the clients or their relatives like 'pass the village church and the big mango tree, it is the house nearest to the lake'. Fortunately, of the hundreds of pregnant women transported from the different villages in the last five years, only two died during the journey due to excessive bleeding (HIMS, 2014).

Despite the lack of resources and shortage of skilled health workers, the principles of Making Pregnancy Safer have been embraced in outlying parts of Serere district. Serere now to be a district hospital is fed by Akoboi Community Health Centre which is run by a nurse who doubles as midwife. Akoboi serves three villages each with 25

community volunteers who scout for cases that need urgent medical attention and educate people about reproductive health, malaria and other health issues. Akoboi community health centre has no running water or electricity, but it does have a bicycle ambulance that transports pregnant mothers to Serere Health Centre. This has helped reduce maternal mortality according to community reports (HMIS, 2013).

Site selection

The site was purposively selected because this health Centre provides maternal health services and maternal mortality as a rare occurrence was reported in this health facility HIMS data. Some health facilities do not experience any maternal death in a year not because their services are above average but reportedly referring all mothers with obstetric complications before and after delivery to other facilities. Serere health centre IV had three maternal death in the last quarter of 2015, and all were referred from lower health facilities the reason it was selected.

Case inclusion criteria

The case was selected based on availability of antenatal care information, maternity record availability, full audit report, filled death notification forms. Distance from the health facility to the deceased home, willingness of the family members/community members to discuss on circumstances surrounding the death of a mother.

Ethical consideration and confidentiality

Participation consent was sought from the in-charge maternity, midwife that managed the deceased woman, and the family members of Rita. The purpose of the field visit was clearly stated, and the students properly introduced. The intent was learning with no legal implications. Pseudo names were used, and all the

information and documents generated in the health facility and community kept confidential to only the students.

LIMITATION OF THE FIELD VISIT STUDY

- Failure by the health facility staff to disclose information on maternal death due to fear for blame or possible legal implementations
- Lack of data due to poor documentation and record keeping at the health facility
- Biased information from the health personnel and relatives of the deceased.

HOW WE OVERCOME THE LIMITATIONS

- We received an introduction letter from the university
- Used community focal person to access the deceased family members
- Reassurance of both parties and good communication skills

Findings

The aim of study was to practically assess and identify factors that make maternal death more likely both at the health facility and the community. Identify the predisposing factors to maternal death were identified, and discussions about the importance of community-based care and facility-based care in relationship to safe motherhood were also made.

This is a story of the unfortunate woman "Rita" (not the real name).

Rita died on 8th October 2015 at 12: 04 am in a health Centre IV after 2 hours and 41 minutes postpartum. The doctor diagnosed her as a case of postpartum hemorrhage due to vaginal and cervical tears, which means that Rita could

have developed the tears from premature pushing of the baby because of prolonged labor or during the assisted fundal pressure given by the husband and the mother-in-law at the time of delivery.

Rita started labor at 11:00 am on 6th October 2015 at her home in the remote village. She reported to health Centre III at 1:30 pm 8 kilo meters from her home on a bad to non-existent road on a motor cycle. Rita was admitted in the health facility as a case of active labor with a dilatation of 4 cent meters. This unfortunate woman stayed in this Health Centre III for 31 hours in active labor before referral to health Centre IV at 8:00 pm on 7th October 2015 due to deteriorating condition of the unborn fetus and the mother. The only intervention that Rita received in this health facility before referral was one litre of intra venous fluids (not specified). Transport was not readily available, but the health personnel had a predetermined special hire that was imposed on them at high cost. Rita's husband paid 50,000/= to Health Centre IV 12 kilo meters from the referring Health Centre III.

On arrival at the health Centre IV on 7th October 20015 at 8: 33 pm, she was in second stage of labor with the head of the baby in the vagina. Rita was diagnosed with Intra Uterine Fetal Death (IUFD) secondary to prolonged labor. The doctor recommended intra venous dextrose 2 litres, one litre to be run fast and then slowly the second litre and catheterization was done. After Rita receiving one litre of intra venous dextrose, she was able to have a spontaneous vaginal delivery of a fresh still birth with the help of the husband and the mother in-law performing fundal pressure as the midwife was busy helping two other mothers who had delivered in the unit. The midwife then helped Rita to

deliver the placenta, cleaned her up and left her to rest. Rita asked for a cup of tea after delivery and she was given but after sitting for less than 5 minutes the attendants noticed that she was very weak and not able to sit up unsupported and called the midwife. When the midwife come check on Rita, she was in a pool of blood and immediately the doctor was called.

The doctor cleaned her up, did vaginal packing and administered rectal misoprostone (*contraction inducing drug*) 1000 micro grams and 600 micro grams sub-lingual in the bid to stop bleeding and walked away. Unfortunately, Rita continued bleeding profusely and the doctor was re-called when she was in the second pool of blood. The doctor then recommended Rita to be taken to theatre for examination and necessary intervention. This time the midwife was still helping another mother to deliver, Rita was rolled to theatre by her husband and the mother in-law.

On arrival to theatre, Rita was again in a pool of blood the third time, so the doctor requested the attendants to clean her up and change the linen before examination. When the doctor examined, he noted that she had multiple vaginal and cervical tears that were bleeding profusely and needed repair. The doctor recommended emergency haemoglobin (Hb) level, blood grouping and cross matching and two units of blood plus tear repairs. However, Hb, grouping and cross matching were not done, but emergency blood for transfusion (2 unit of blood group O+) was availed by the relatives who claim to have bought it from a nearby clinic at undisclosed price to the doctor. Rita received one complete blood unit, but the condition deteriorated. At this stage Rita was in hypovolemic shock, she was sweating and restless, her breathing had changed and was put on oxygen.

A second unit of blood was connected unfortunately Rita passed on at 12: 04 am on 8th October 2015 before this second unit of blood had even gone half way. The midwife who attended to the deceased woman said cervical and vaginal tear repairs were done but there was no documentation in the file by the doctor indicating so. Despite the interventions put forward, Rita and the baby did not go through labour and the delivery process safely. Rita died.

THE ROAD TO RITA'S DEATH

Rita's death was avoidable, if this unfortunate woman had been advised to deliver in the hospital by the health Centre III midwife during ANC visits because of her age (15 years), if she had been referred in time to a higher facility with EmOC services, and if an appropriate intervention was performed in time, a life would have been saved.

It took Rita 31 hours (the sun setting twice) in active labor in health Centre III before a decision was made to seek appropriate medical care, close monitoring of labor with a partograph required to provide evidence-based decisions was not done. The enrolled midwife and enrolled nurse at the health facility in health Centre III were busy with immunization and antenatal care. The midwife only checked on Rita when requested by her husband or mother in-law and she continuously assured them that it was a matter of time all would be well.

Rita was a woman of 15 years of age, a primary six school dropout, her reproductive system was not fully developed to accommodate pregnancy and childbirth. She had a borderline pelvis according to the midwife's examination findings. Rita had attended 3 antenatal care visits, but the

health care providers had not classified her as “a risk mother” due to her age. Teenage mothers require expert care that could have been sought earlier. If Rita had received good health education especially about her age and risks associated with it, if she had been advised to deliver at a higher health facility with Emergency Obstetric care services like Serere Health Centre IV, she would have reported to that health facility earlier and a life would have been saved.

Rita was a young house wife and her husband aged 20 years a poor agricultural laborer. She was an illiterate young woman who lived with her husband a distance away from the husband’s parents’ home in a remote village. Being a young couple separately staying away from both parents, they had inadequate food and parental guidance was cut off. A woman of Rita’s socioeconomic position has a relative risk of maternal mortality 5 times more than the average in the country and 10 times more than a woman in a higher socioeconomic position in the country in which she is living. Rita’s risk of maternal mortality was 100 times more than a woman living in a developed country like Finland (WHO, 2008).

The real reason why Rita died was because of her socioeconomic position, she died because of poverty and lack of knowledge and information, Rita died of social injustice.

There are different perspectives one could look at, as to “why Rita died”. Rita did not voluntarily go on the road to maternal death, she was led to the start of the Road by the poor socioeconomic development of the family and the community in which she was born, and in which she lived. Apart from considering the importance of the general level

of socioeconomic development, the equity with which the benefits of socioeconomic development are made available to members of the family and the community is very vital. As a female, Rita did not get an equal share of whatever little benefits of socioeconomic development that were available in her family and community.

Rita was traditionally married off at the age of 15 years ending her education carrier in primary six. If Rita had the opportunity to continue with school, she would have delayed her marriage and exposure to the risk of pregnancy and child birth. If she had not been a teenage mother, had been an educated woman, gainfully employed, and if she had had her fair share of nutrition within society (used to have irregular meals not nutritionally rich), probably she would have found her way off the road to maternal death. Unfortunately, that exit was not available to Rita and she had to continue along the road.

Rita was young and fertile, and childbearing was the only way she would be acknowledged as having contributed to the society in which she lived. A child would be the only good she could produce and the only good she could deliver. Her status as a woman in her family and community depended completely on her role as a mother. Rita’s fertility not only introduced her to the road to maternal death, but because of her young age with immature pelvis, she was at higher risk during pregnancy and childbirth. If Rita had access to family planning information, education and services (that is, if she was emancipated minor), she could have found her way off the dangerous Road. Rita was denied that exit and had to continue her match along the Road.

Rita was a teenage girl, a para 1 + 0, and was in her first years in her marriage yet staying alone with her young husband. This family did not have enough food to eat, Rita was only 50 kilo grams of body weight, she was in a poor nutritional status, and her hemoglobin level was 10.5g/dl and she was anemic. Rita had a border line pelvis, was in active labor for 32 hours and 32 minutes. These multiple factors brought her under the category of high-risk mothers. But even at this stage this unfortunate woman's life could have been saved. If the antenatal care midwife in health Centre three had enough time to analyze these findings, Rita would have been referred to the nearest hospital or higher health Centre providing emergency obstetric care services in time while she was still in a good condition or even advised to report to a higher-level health facility before or onset of labor. That exit was not open to Rita and she had to continue along the maternal death Road. This was the most critical part of the Road, she was in a life-threatening complications stage.

The known life-threatening complications include; hemorrhage, eclampsia, sepsis, obstructed labor, complicated abortion but there are others that are less common but serious conditions that expose women to maternal death like prolonged labor. Rita went into her life-threatening complication, prolonged labor but even at this stage there was a last way out. If she had been properly monitored by skilled personnel, and a decision made in time to refer her to a health facility with emergency obstetric care services a life could have been saved. This unfortunate lady was delayed accessing in time appropriate good services at first referral level so that her serious life-threatening condition could have been properly managed.

In the second referral health facility, Rita developed postpartum hemorrhage. Even at that stage a life could have been saved, that was her last chance and Rita lost that last chance too. If Rita had a midwife by her side and probably a doctor at the time of the stillbirth, the postpartum examination could have been done and intervention to stop the hemorrhage done in time. The midwife was busy helping other mothers and did not even examine her postpartum. By the time she came to check on Rita, Rita was in a pool of blood. Had the doctor been around, the blood readily available, examination and interventions done in time, no further delay could have been added.

Rita was rolled to theatre by a husband and mother in-law, blood was collected by the husband in a nearby clinic outside the health facility, by the time the doctor arrived and called the midwife to help, Rita was again in a pool of blood for the third time. The one unit of blood Rita received was not enough to replace what she had lost her condition deteriorated and a life was lost.

That was the unfortunate journey of the young lady along the slippery, dangerous Road to Maternal Death.

This field analysis experience has given us a vision of how women die in the communities and facilities and how they can be rescued. Women risk death when they step onto The Road to Maternal Death at any stage of pregnancy and childbirth. Women can be rescued if they can be helped to follow one of the ways off the Road. It may not be possible to restrict completely the access to The Road to Maternal Death. It is certainly possible to let women off the Road through its various exit, but any successful strategy for

mothers' survival will have to effectively utilize at every exit along The Road to Maternal Death.

If emphasis is put at only the earlier exits, then the women who join the Road later or who continue along it will be missed. If emphasis is on only the later exits, the medical exits, and equal emphasis are not given to the earlier social exits, the load on those medical exits will be too much for the medical services to cope with.

FINDING FROM RITA'S FILE:

The file contained the following items: Demographic characteristics, date and time of admission, history, sketchy notes from the referral health units, initial (on admission) examination findings, diagnosis, and interventions made. There was a partially filled partograph by the health Centre IV midwife which indicated that Rita came in in the 2nd stage of labor. The incomplete minutes of the Maternal death audit held on the 9th Oct. 2015 and the signed paper of members present were attached.

However, the file had a lot of missing information which included; weight, postpartum hemoglobin level results, the next of kin was not defined, age was wrongly recorded, and marital status was missing. Antenatal card was missing, and it was not easy to determine other risk factors that could have been associated to Rita's death. The reasons for referral was not indicated and interventions done like intravenous fluids given were not defined and a partograph was not attached implying it was not filled and close labor monitoring was not done by midwife of the referring facility. There were no vitals recordings like blood pressure, pulse temperature and respiration rate.

The history lacked detailed information concerning Rita's antenatal visits, general health condition, the state of her labor, and any possible risk factor. The death audit and notification forms which were missing were reported to have been sent to the district for stamping. Some of the interventions which were done such as blood transfusion reference number and Oxygen therapy to Rita were not documented but verbally reported.

The maternal death audit meeting report which was held on the 9th of Oct. 2015, did have the agenda of the meeting but lacked information generated from the maternal death audit. One would say "it was a case file discussion" and would be right to say, "there was no maternal death review carried out, but a meeting was held and a midwife who handled the deceased mother presented the information in the file". Since no other findings by this team was documented and no recommendations were put forward to prevent such a death in the future, there are no action that were taken by the care providers to prevent such a death and there would be such a death in the future in this facility.

Basing on the maternal audits carried out earlier, it was clear that the health workers do not follow the recommended cycle of facility based maternal mortality audit and neither do they follow up to find out other contributing factors in the community. Most of the data required for the audit to base on the recommendations for actions was either missing or poorly documented hence making no meaning. The MDR team member who attended to the deceased woman demonstrated a lack of knowledge to carry out the process. There was evidence of fear for by this review team member as this process has

always been used as a tool to apportion blame on those who managed the deceased women at the facility. Fear for legal actions by the community members was evidenced by the midwife who was only able to reveal vital information in absence of other team members after reassurance by the students. This implies a lack of transparency between the MDR team may be due to lack of confidentiality by some team members.

A representation of all units that are involved in providing maternal and child health services was not observed as the vital units like ANC, laboratory and blood bank members had no representatives in the MDR meeting according to the attendance signed paper.

4.4. AUTOPSY FINDINGS

The team then proceeded to the community to visit the family where Rita was married to and where her remains and that of her baby were buried. This was 25km from the health Centre IV on a bad to non-existence road. On arrival we were welcomed by Rita's great grandfather who was having lunch at 3:40pm. An old man of 90 years and a father of four sons and two daughter all married and primary drop outs. Rita's grandfather was the first born of this old man who had joined military but was shot dead in the battle between the lord resistance army and the UPDF. Rita's mother in-law is from Southern Sudan and now being concubine by the brother of the deceased husband. Rita's husband is a senior four school dropout and the first born of this family.

Rita was born outside wedlock (before marriage), her mother then married a different man and left her under the care of the grand parents who passed on in 2013. Rita's step

father did not welcome her as part of his family, having no where to stay, and trying to make a living sustained by a Boda- Boda boyfriend, she dropped out of school in primary six due to unplanned pregnancy and opted for marriage.

Rita was culturally married at 15 years of age. Being young, she did not meet the expectations of her widowed mother in-law as a strong energetic wife to contribute to the family, she was "a lazy girl". Rita is described as a tall weak girl with no appetite, Rita and the husband constructed their huts away from the main home and started their isolated life together with no food security and financial support to relay on. Rita had irregular meals, not nutritionally rich for a pregnant woman, she did all the garden and house hold cores single handed, and only rested at night if ever. Her husband worked as boda-boda and brought food home, took her to the health facility for the ANC visits and provided all that she required within his reach.

Rita and her husband were well prepared to welcome their baby. In the 3 ANC visits they had attended; the midwife had assured them that all was fine they only needed to report to the facility on the onset of labor. Indeed at 11:00am on 6th October 2015, Rita started labor and set for the health facility where she arrived at 1:30pm in the company of a mother in-law and her husband on a boda-boda motor cycle on 8 km ride.

Rita was admitted by the midwife who examined her said was 2cm dilatation.

According to Rita's mother in-law, in the health facility (Health Centre III), there were only two health workers, one midwife who was also attending to ANC women and

immunization and a nurse giving treatment to other patients. The midwife only checked on Rita when called by either her or Rita's husband but even then, no examination was done only assurance of "all will be fine soon". Rita yelled and yelled in pain until she was weak then the midwife put her on intra venous fluids 2 bottles (Unknown content). Rita continued in this state up to the following day with no medical personnel at night.

The midwife then reported on duty the following day on 7th October 2015 at 11:00pm and reassured Rita's husband that all would be well if she cooperates. The midwife is said to have called Rita a stupid attention seeker who could end up in a higher health facility dead.

By 7:00pm the same day Rita become weaker and the midwife advised the husband to transfer her to health Centre IV citing the deteriorating condition of the unborn baby.

Transport was not readily available as Rita was weak and could not sit on the motor cycle available. The midwife called a special hire man at a cost of 50,000/= and they arrived at health Centre IV at 8: 33pm.

The midwife who received them said, they had delayed, called the doctor immediately who examined her and ordered for intra venous fluids (documented 5% dextrose). They were assured Rita would deliver but the baby was already dead. At 9: 33pm after receiving 1 bottle of fluids she delivered with the help of her husband and the mother in-law giving fundal pressure as instructed by the midwife. Rita then started bleeding until she died.

According to Rita's attendant, the health Centre four health workers tried all they could to save a life, but Rita and the

baby died due to a delay in Health Centre III and the unfriendly character of the midwife in the Centre III. However, the community members fear health facilities with EmOC services because of associated theatre costs which may not be readily available. A fee of 200,000/= is quoted as a requirement before a woman is rolled to theatre in addition to omo, jik, gloves and sometimes a person to donate blood. This has contributed to the high flow of pregnant women to lower health facilities to try their luck even if there are risks associated with the pregnancy and lives lost when complications set in and referral is delayed.

Poverty in the region associated with post insurgency, orphaned children of war and HIV/ AIDS are associated with high school dropout especially of girl child leading to early marriages or sexual exposure resulting into unwanted pregnancies. These young families are associated with food insecurity, financial constrain and lack of knowledge and information on maternal health. Most often these girls require external help from experienced women in the community which is not availed to them. The communal child bringing ceased to exist and extended family care is slowly disappearing leaving the vulnerable to the mercy of God.

Rita did not enjoy her childhood life, she was pushed to a level that ended her life by social economic factors. This can be prevented if only women are empowered through education, girls are kept at school and marriage or sexual acts are delayed, and the teenage emancipation is recognized by the communities at all levels.

4.5 CONCLUSION

While prevention of maternal mortality remains critical, treatment within the context of a woman centered supportive system will be needed if we are to achieve large sustained reductions in death and disability resulting from pregnancy and childbirth complications. In maternal health, emergency care requires not only that the women or caregiver recognizes that a life-threatening or life-changing condition is occurring, and that there is a need to seek care, but also that timely access to adequate care is available. Given the unpredictable nature of maternal health emergencies, there are few quick fixes. However, strong emergency systems can prevent delays at critical time points. Such systems do not require massive resource allocation but rather a cost-effective, informed approach that emphasizes the proven life-saving interventions that are appropriate to the context. Improving access to emergency care, by minimizing the three main types of delay in the delivery of such care, has the potential to reduce maternal mortality in every facility, community and population.

4.6 RECOMMENDATION

These are based on;

1. Facility based recommendations

- There should be in-service training on maternal health, workshops and continued medical education for all health personnel providing maternal health services.
- Labour management algorithms and referral protocols should be pinned on the maternity unit and ANC notice board for reference.

- Routine support supervision by high level facilities should be regularised. This will check on time of reporting to work, discipline and quality of care in the health facilities.
- Every district must have a functional ambulance that is fully fuelled by the district and a clear communication channels to the driver (s) available to the communities and the health personnel for safe motherhood initiative like radio calls connected to ambulance and all maternity units in the region. This will help once an ambulance is called the expecting receiving facility staff get ready to receive the woman in time.
- Emergency obstetric care providing centres should have functional medical equipment, always supplies and safe blood. A blood donation campaign programme should be in place and proper blood screening should be done.
- Essential medicines for EmOC and anti-retroviral drugs for HIV positive mothers should be readily available.
- Disciplinary committee to check on conduct of all health care providers should be put in place.
- Promotion and expansion of the Family Planning programme to all levels of care with a variety of different contraceptive methods availed to the mothers. This will reduce on exposure to risk associated with pregnancy and child birth.
- Number of health care providers should be as per recommended norms and strict on duty roster followed. These should always include emergency team on standby to avoid delays in accessing appropriate care.

- Multi-tasking in the health facility where midwives are few by nurses to bridge the gap in service delivery.
- Maternal death review recommendations at the health facility should be implemented at all levels.
- Maternal death audit should be taken as a process necessary to improve on service delivery not a simple meeting to discuss the deceased file and fulfilling the ministerial requirement of 7 days. This doesn't bring any change in the service delivery and mothers will continue to die of the same causes in the same facility.
- The stages of maternal death audit cycle should be adhered to. Carrying out MDR requires trained personnel who can analyse the data and generate useful information to be recommendation and decision on. Less of that the MDR process becomes meaning less.
- In the management of labour the sun should not set down twice before a referral or an intervention decision which is lifesaving like caesarean section is made.

2. Community based recommendations

- In communities like in Teso where early marriages are a normal happening, strict age policy at marriage should be adhered to and culprits of both young boy and girl punished for marring off their children before age.
- Education of girl child should be advocated for in this communities where culture put more value on boys and girls are looked at source of wealth for the family. This will help raise the status of women in decision making about the size of their families

and improve their income for those that will be employed.

- The communities should embrace emancipation of teenage girls through family planning especially those that are sexually active and out of school to avoid unwanted pregnancies. This would delay exposure to the risks associated with pregnancy and childbirth.
- Health education to the communities to create awareness on danger signs in pregnancy, childbirth and puerperium by peer group members. This can be by use of IEC for those who can read, music, dance and drama, film shows, songs, poems all with rich information on safe motherhood.
- Involvement of cultural leaders, church leaders, traditional healers, elders in promotion of women empowerment through education, income generating programs and decision making in the community especially on maternal health and family size issues.
- Inter-sectoral / agency collaboration on issues of maternal health and girl child should be strengthened. Like agricultural sector for food security to reduce nutritional problems during pregnancy and early child development especially in girls.
- Retrieving the former communal child bringing and extended family care that are disappearing slowly especially the vulnerable children like orphans.

3. Recommendations based on the tools

- The tools are too lengthy for a busy midwife to accurately fill within the stated time. The death notification form should be filled within 24 hours by the midwife who attended to the deceased mother and handed to the in charge. Where there is only one midwife this becomes an extra burden that cannot be attained within 24 hours. There is need for data collector in the maternity unit responsible for form filling when death occurs.
- The death audit form is too lengthy and requires information right from ante natal care clinic card, this becomes difficult to fill if the deceased mother was referred without all the documents. Follow up to the referring health facility may be expensive in terms of cost and time, yet without complete information, factors that could have been associated with that maternal death that were noted on the card could be missed out. This requires the referring facility to avail all the relevant documents to every mother referred. Hence calling for standardization of required documents on referral.
- These forms require skills and knowledge that most maternal health care providers lack. It therefore calls for training of these staff on the relevance of accurately filling this form. This is because for the maternal death audit to generate appropriate information that can be used to prevent such a death from reoccurring in future the data on the forms must be accurate.
- Repetitive information can avoid shortening the form.
- The person filling the form should not be the person who handled the deceased mother

otherwise information that could have led to the maternal death can be distorted to favour the care giver.

Maternal death audit recipe:

At the health facility looks at;

- Number of trained health workforce (midwives and doctors)
- Availability medical supply, medicines and functional equipment and safe blood
- An established referral system
- Availability of BEmOC and CEmOC
- Functional transport system

At the community

- Functional administrative systems like LCs
- Established family settings like family support
- Education for girls
- Political, religious and cultural involvement on issues of girl child
- Norms and practices like female genital mutilation, early marriages
- Socioeconomic status of women for decision making
- Cultural believes and perceptions on maternal health care

At the government

Inter sectorial collaboration;

- UNRA- good network
- Agriculture - food security
- Education – women empowerment

- Strong health systems – quality health care services
- Judiciary and police - justice for all

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