

Male involvement in utilization of emergency obstetric care and averting of deaths for maternal near misses in Rakai district in Central Uganda

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Abstract

Although studies have assessed male involvement in birth preparedness and complication readiness, little is known about their involvement after the onset of maternal near miss complications. This information is important in developing appropriate strategies for male involvement in accessing emergency obstetric care (EmOC) in order to reduce Uganda's high maternal mortality ratio. The study examined the roles played by men after the onset of maternal near miss complications in Uganda. A qualitative study using narratives of 40 purposively selected maternal near misses and in-depth interviews of 10 randomly selected men was conducted. Results showed that men were involved in postpartum uptake of long term contraceptive methods, management of obstetric complications, decision making, social support, transport arrangements and provision of financial support to access EmOC. Therefore, men should be sensitized on the recommended haemorrhage medication during home births, the need for supervised deliveries and prompt referral of their wives to health facilities.

Keywords Maternal near miss, men, mortality, emergency obstetric care, Uganda

Résumé

Bien que les études aient évalué l'implication des hommes dans la perspective de la préparation à l'accouchement et aux complications, on en sait peu sur leur participation après l'apparition de complications liées aux décès maternels évités de justesse. Cette information est importante dans l'élaboration de stratégies appropriées pour l'implication des hommes dans l'accès aux soins obstétricaux d'urgence (SOU) afin de réduire les taux élevés de mortalité maternelle de l'Ouganda. Cette étude a examiné le rôle joué par les hommes, après l'apparition de complications de décès maternelles évités de justesse en Ouganda. Une étude qualitative à l'aide de récits 40 cas de décès maternelles évités de justesse, judicieusement sélectionnés et l'entretiens approfondis avec 10 hommes choisis au hasard a été réalisée. Les résultats ont montré que les hommes étaient impliqués dans l'absorption des méthodes de contraception à long terme après l'accouchement, gestion des complications obstétricales, la prise de décision, le soutien social, la mise en place des modalités de transport et l'appui financier pour accéder aux SOU. Par conséquent, les hommes devraient être sensibilisés sur le traitement recommandé hémorragie pendant les accouchements à domicile, la nécessité d'accouchements supervisés et le renvoi rapide de leurs épouses aux établissements de santé.

Mots-clés: décès maternelle évitées de justesse, mortalité, hommes, soins obstétricaux d'urgence, Ouganda

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Introduction

The need for male involvement in reproductive health was brought to the forefront during the International Conference on Population and Development (UNFPA 1994) in Cairo. Since then, maternal health policies and programmes in low and middle income countries have advocated for male involvement in maternal and child health. The importance of male involvement in maternal health is two-fold. First, men are partners or husbands of the women (UNFPA 2007) and are affected by maternal outcomes. Secondly, men's role in maternal health arises from a socio-economic and cultural dimension. These dimensions are informed by the recognition of the patriarchal system, societal gender and power dynamics, which emphasize the central role played by men as household heads and decision makers in all household spheres including health care utilization in sub-Saharan Africa (Nwokocha, 2008; Roth & Mbizvo 2001).

Male involvement in maternal health is associated with several benefits including increased family planning uptake, couple testing of HIV/AIDS and utilization of maternal health services (Ditekemena et al. 2012; Kinanee & Ezekiel-Hart 2009; Mullany et al., 2007; Nwakwuo & Oshonwoh 2013; Okechukwu et al., 2007; Roth & Mbizvo 2001; Shahjahan et al. 2013). In addition, documented evidence (Barua et al., 2004, Dudgeon & Inhorn 2004, Kinanee & Ezekiel-Hart 2009) shows that male involvement in maternal health is generally crucial in reducing maternal mortality. However, little is known about men's role in women's access and utilization of emergency obstetric care (EmOC), yet access to EmOC is the overriding factor in averting maternal deaths in Uganda (Mbonye et al., 2007) and elsewhere (Paxton et al., 2005), especially in areas with a high proportion of home births (McCord et al., 2001). With Uganda's maternal mortality ratio stalling at a high level of 438 / 100,000 live births and a high proportion of home births (43%) (UBOS & ICF 2012), the roles of men in women's access to EmOC need to be assessed. This is a necessary requirement for developing appropriate strategies on male involvement in women's utilization of EmOC and ultimate reduction of maternal mortality.

Previous studies on birth preparedness and complication readiness (Iliyasu et al., 2010; Kakaire et al., 2011) have assessed couples' plans and readiness in the event that women experience severe pregnancy complications. Studies in Nigeria (Odimegwu et al., 2005, Odimegwu 2002) and Uganda (Kaye et al., 2014) have examined the roles played by men during their wives' emergency obstetric conditions. These authors found that men

were involved in roles such as decision making about when and where to access EmOC; offered financial support enabling access to EmOC; in addition to playing supportive roles such as escorting their wives to health facilities after the onset of severe pregnancy complications. However, the Nigerian studies (Odimegwu et al., 2005, Odimegwu 2002) considered a limited set of obstetric conditions and majorly focussed on key pregnancy danger signs rather than life-threatening pregnancy conditions or complications. While the Ugandan study (Kaye et al., 2014) considered only partners of maternal near misses admitted to the national referral hospital. This sample is not representative of the bulk of partners of maternal near misses who deliver at home, reside in rural areas, and experience numerous challenges in accessing EmOC. Therefore, this study extended the existing research by examining the roles played by women's partners in utilization of EmOC and averting maternal deaths after the onset of maternal near miss events, by including a wide range of life-threatening obstetric complications and taking into consideration place of residence, and place of delivery.

Literature review and theoretical frameworks

This paper is conceptualized based on three theoretical frameworks or models including: the Health Belief Model (Janz & Becker 1984), the Behavioural Model of Health Service Use (Andersen 1995) and the Three Delays Model (Thaddeus & Maine 1994). With regard to the three delays model, focus is paid to the three types of delay that often manifest after onset of obstetric complications which may hinder access or utilization of EmOC. The first delay occurs at household level and is characterized by delay to seek health care. Several reasons account for delays at household level including lack of autonomy in decision-making by women, poverty, lack of knowledge or failure to recognise onset of disease, cultural perceptions about pregnancy and child birth, and negative attitudes about biomedical health service utilization by women or their household members (Filippi et al., 2009; Hirose et al., 2011; Kabali et al., 2011). The second delay relates to impediments in accessing health facilities which is attributed to the inaccessible roads, long distances, poor referral mechanisms, lack or inadequate finances for transport, complications occurring at night or weekend, and or lack of transport to health facilities (Filippi et al., 2009; Hirose et al., 2011; Kabali et al., 2011), while the third delay relates to delays in receiving medical care at health facilities. There is extensive empirical literature on the role of the three delays in access to emergency obstetric

care. Based on the premise of this model, men may play a role in addressing the delays at household level and in accessing EmOC hence influencing women's utilization of EmOC.

Similarly, based on the three dimensions of the Health Belief Model (Janz & Becker 1984), it can be conceptualized that men's perceived severity of pregnancy complications, and perceived benefits less barriers determines their role in women's access to or utilization of emergency obstetric care and aversion of maternal deaths. Similarly, men's perceived severity of maternal near miss events may be influenced by their demographic characteristics or stimulus for action. In addition, "beliefs about the threat of illness and efficacy of medical care are consistently related to the use of services" (Janz & Becker 1984) hence men's perceived threat to the consequences of maternal near miss events such as death or disability may influence their involvement in women's access to emergency obstetric care.

The Behavioural Model of Health Service use is based on the premise that predisposing factors (health beliefs, demographic factors), enabling factors (community and personal) and the perceived need respectively, influence the use of health services (Andersen 1995). In the study context, it can be postulated that after the onset of maternal near miss events, the perceived severity of the woman's condition necessitates the need for utilization of emergency obstetric care and hence the possible involvement of men in a bid to improve the woman's health status.

Data and Methods

The study was undertaken in Rakai district in the south western part of the Central region of Uganda. Specifically, data was collected from Kalisizo town council and Lwamagga sub-county.

This study was part of a larger retrospective, cross-sectional maternal near miss study employing both quantitative and qualitative methods of data collection. Rakai district was purposively selected because of its poor maternal health indicators as shown in the district league table (MoH 2012). The two sub-counties, stratified as rural – urban, were also purposively selected based on highest proportion of pregnancies in the preceding survey year. A complete household listing was then undertaken in the two sub-counties to determine households with women aged 15 – 49 years who had a pregnancy in the last three years. A total of 19 enumeration areas were then randomly selected using STATA software. Lastly, all households with eligible women were enumerated. Using the Kish sample size estimation method (Kish 1965), design effect of 2.5 and a non-response rate of 10%, a total of 1,566 respondents

were interviewed with reference to the last pregnancy in the three years.

The sample for this qualitative study was then drawn from the quantitative sample. Qualitative data was collected through narratives and in-depth interviews (IDIs). A total of 40 maternal near misses and 10 partners were studied. Maternal near miss was defined as any woman who almost died after experiencing any of the following life-threatening pregnancy complications: severe haemorrhage, retained placenta, puerperal sepsis, abortion complications, obstructed labour, prolonged labour, ectopic pregnancy, pre-eclampsia or pregnancy-induced hypertension and severe malaria. Each woman who reported experiencing complications leading to maternal near miss was asked to narrate her ordeal and circumstances surrounding the complications. Purposive sampling was used to select maternal near misses. In addition, in-depth interviews were conducted with 10 randomly selected partners of these maternal near misses. This selection was based on the assumption that partners are more likely to be concerned and responsible about their wives' pregnancy state as compared to other male relations (Barua et al., 2004). The data obtained was transcribed and analysed using Atlas-ti software (version 7). Content analysis was then used to generate the emerging themes on partner involvement during EmOC.

Ethical clearance for the study was obtained from North West University and Uganda National Council of Science and Technology. Informed consent was obtained from all participants and the confidentiality of the study results was maintained.

Results

All the study participants were married, majority of whom, were poor, resided in the rural areas, had primary or no education, and were engaged in subsistence farming. In addition, most of the women reported their last pregnancy as unwanted or mistimed and had home deliveries or went to the health facilities after manifestation of complications leading to maternal near miss.

In this study, male involvement was analysed in the context of positive male involvement in women utilization of obstetric care. Results from the study generated six broad themes of male involvement in access to emergency obstetric care and averting of maternal deaths. The emerging themes included: uptake of permanent or long term contraceptive methods, management of obstetric complications, provision of financial support to access emergency obstetric care, decision making; transport arrangements, and social support.

Uptake of permanent or long term contraceptive methods

Postpartum uptake of contraceptives was one of the key roles played by the men. The results showed that men consented to their wives' uptake of permanent and long-term contraceptive methods after the maternal near miss events occurred. Below is an excerpt in which a male partner of a woman who experienced obstructed labour consented to sterilization as a family planning method.

"The doctor checked her and said she had to be operated because the arm had come out. I was counselled on child bearing and the operation. I stopped child bearing and before the operation, I was counselled about sterilization and I accepted my wife to be sterilized. She also accepted to be sterilized. I, then, signed the forms." (IDI – Male partner aged 40 years with a wife who experienced obstructed labour)

In other cases, men advised their wives to use long-term family planning methods after the occurrence of maternal near miss events. This scenario was best illustrated by an HIV positive woman who experienced multiple complications resulting from a spontaneous abortion including severe haemorrhage and a retained placenta. The husband, who had not disclosed his HIV status for three years, later advised the wife to use a long-term family planning method. With additional counselling from the village health team, the woman was given an injection protecting her from pregnancy for five years.

Management of obstetric complications at household level

The data showed that at household level, men were involved in managing life threatening pregnancy complications such as postpartum haemorrhage and retained placenta. Management of these complications was done in three main ways: administering of intramuscular haemorrhage medication (presumed to be oxytocin), provision of haemorrhage oral medication (presumed to be misoprostol) and abdominal or fundal massage in case of retained placenta.

Overwhelming evidence emerged from the study which showed that husbands administered essential obstetric medication used in the management of haemorrhage complications. Men were reported to have administered both intramuscular injectable and oral medication to wives who experienced postpartum haemorrhage. By doing this, men ensured that their wives had access to essential obstetric medicines used in the management of postpartum haemorrhage. Several women who had home births and experienced postpartum

haemorrhage reported that their husbands had injected them with postpartum haemorrhage medication (presumably oxytocin injectable) while a few women reported to have received oral medication (presumably misoprostol tablets) from their husbands. Below are some of the excerpts from the narratives of maternal near misses who were treated by their partners.

"I gave birth from my house by myself. After two hours, bleeding became severe and my husband went somewhere at a drug shop in the trading centre and brought some medicine and injected me. Then the bleeding reduced." (Narrative: Rural respondent, aged 31 years)

Men also administered injections to their wives while at home following insufficient management of postpartum haemorrhage conditions at health facilities as illustrated below.

"After giving birth, I was taken back to the ward. ...The bleeding was too much. I called the nurse and she gave me an injection. I was discharged but when I got home, the bleeding was too much. My husband went back to Lwamaggwa and back with medicine and injected me. After, the bleeding reduced." (Narrative: Rural respondent, aged 39 years)

In addition to managing postpartum haemorrhage complications, men were also involved in managing retained placenta complications during home births. The excerpt below shows attempts by a husband to expel a retained placenta from the wife's uterus.

"Labour started and within 2 hours, the baby had been born but the placenta did not come out within the first 30 minutes. I decided to take a concoction of local herbs as my husband kept on massaging my stomach until it came out. It came out after 3 hours." (Narrative: Rural respondent, aged 23 years)

Decision making

Decision making was another role exhibited by men regarding their wives' access to EmOC. Although several women made the decisions to seek urgent medical care after onset of life-threatening complications, a considerable proportion of women relied on their husband's decision to seek emergency medical attention. In many instances, the men made the decisions regarding when and where their wives sought EmOC, especially in situations where complications started from home or during home births. Men made decisions on a wide spectrum of issues which determined their wives' utilization of EmOC including: place sought for emergency care (health facility or traditional birth attendant); type of health facility visited (hospital or lower level health facility, government or private); whether the woman was referred to a health facility or a health worker was brought home; and the timing of seeking EmOC

especially if complications started at night among other decisions. Notably, in most situations where men decided the type of health facility to be visited, they opted for a hospital as compared to when the women made the decision to seek EmOC as demonstrated by a 34 year urban respondent who suffered from an ectopic pregnancy.

“While at home, I started hurting and I decided to go to Gyaviira clinic. I had a pregnancy test and I was told that I was pregnant yet I was using family planning. It reached a time when I could not handle the situation. My husband decided to take me to Kalisizo hospital where I was taken into the scan and I was told that the pregnancy was ectopic.”

In some situations where husbands were absent, all efforts were made to contact and inform them, who in turn decided the course of action taken. This scenario was best illustrated by a rural respondent who experienced severe malaria leading to abortion complications and postpartum haemorrhage who exclaimed as follows:

“So that very night at around 11.00pm, the abdominal pains were very serious and by 1.00am, the bleeding had become serious. My neighbour called my husband that night and he came and took me to the government health centre.”

Financial support

Provision of financial support was another emerging theme observed from the data. Both maternal near misses and their partners highlighted the pivotal financial role played by men in ensuring their wives' utilization of EmOC after onset of maternal near miss events. Results from the in-depths interviews showed that men believed that they had a financial obligation to enable their wives' access to emergency medical services, such that even in cases where men lacked money, they made all efforts to either borrow money or to sell some of their assets so that they could enable their wives to urgently access medical attention as shown below.

“The doctor told me to buy certain things that are needed for the operation. The cost was 70,000 Uganda shillings and I did not have the full amount as I had only 20,000 Uganda shillings. So I decided to borrow from a friend.” (IDI – male partner)

Finances were mainly required to buy essential obstetric drugs, pay for transport and emergency obstetric care services such as caesarean section operations. Notably, the financial role was intertwined in almost all forms of male involvement in women's utilization of EmOC and averting of maternal deaths. This assertion is best illustrated by extracts from women's narratives such as: “My husband was not at home. He works in Sudan but he sent me money”; “My husband rushed back from

Sudan and brought tablets”; and “After a day, he sold his shamba of coffee and someone advised us to go to Lwamaggwa

Social support

From the data, it emerged that men were instrumental in providing social support to their wives through several ways. Social support was illustrated by men by accompanying their wives to health facilities, offering emotional support to their wives, and caring for the sick mothers. Majority of the women acknowledged and were grateful for the social support shown by their husbands during the maternal near miss events which they believed was also key in their recovery process. One woman was quoted as saying: “I lost the pregnancy. My husband was supportive but he just did not have money to take me to hospital. But he really wanted to take me, that is why we finally went to the government health centre leaving the Lwamaggwa German private health facility because we had no money. Although we are two women, he cares about me”; while another woman asserted that “My husband and mother took care of me. I stayed in hospital for a week.”

In other cases, men offered social support by acting as the linkage between the health system and their wives during emergencies. Rather than men taking their wives to the health facilities when complications arose, they, either, went to the health facilities and returned home with a health worker to treat their wives or they went to the health facilities and drug outlets in the communities and bought drugs which they administered to their wives. In doing this, men still ensured that their wives utilized skilled medical personnel or accessed essential obstetric drugs to manage the complications.

Transport arrangements to access EmOC

Results showed that men were involved in making transport arrangements after onset of maternal near miss events, thus enabling their wives to access EmOC. This role was mainly evident when women needed to be urgently referred to a health facility and also during referrals from one health facility to another. Excerpts from women's narratives affirm men's role in making transport arrangements.

“At around 6:00 am, I got three contractions and with the third contraction, the baby came out. However, the placenta refused to move out and I started bleeding heavily and I lost consciousness. So my husband hurried and went to call his brother who had a car to take us to the hospital. On reaching the hospital, luckily and even though we got immediate attention and they removed the placenta, I was still put on drip and was also injected to stop the

bleeding.” (Narrative: Rural respondent, aged 40 years)

Discussion

Male involvement comprised roles that addressed the proximate causes of maternal deaths through uptake of postpartum permanent or long term contraceptives and management of obstetric complications at community level. Other roles addressed the underlying causes of maternal deaths and included: decision making, social support, financial support and making transport arrangements. All roles enabled the maternal near misses to utilize EmOC and averted maternal deaths.

Pregnancy is the key risk factor for the occurrence of maternal near miss events and maternal mortality. In their model, McCarthy & Maine (1992) stated that prevention of pregnancy is paramount in prevention of severe maternal morbidity and mortality. Overwhelming scientific evidence exists on the role of contraceptive usage in averting maternal mortality in low income countries through reducing the risk of pregnancies (Ahmed et al., 2012; Campbell & Graham 2006; Cleland et al., 2012). Men’s role in uptake of permanent or long term contraceptive methods is important for the prevention of maternal deaths. Men’s influence in effective uptake of contraceptives is well articulated by Dudgeon & Inhorn (2004), who also noted the challenges sociological research has pointed out towards understanding the circumstances under which men accept or refuse to use contraception. However, Ilyasu et al. (2010) asserted that men’s perception of a high risk pregnancy and the preceding conditions influenced postpartum uptake of contraceptives while Miller et al. (1991) noted that motivation of a couple among other reasons was key in choosing the sterilization contraceptive method.

In light of our study findings, the wives’ near miss experiences “motivated” and influenced the husbands to opt for permanent and long term contraceptive methods. Studies in Nepal (Kamal & Lim 2010) and Bangladesh revealed that husband approval was a strong determinant of use of sterilization and long term contraceptives methods. Men’s involvement in uptake of sterilization method is a result of the need for written spousal permission and logistical support (Kamal 2000). These findings give credence to our study results where sterilization of women in Uganda too requires spousal permission and is a paid-for service in health facilities which could partly explain the role of spouses in uptake of permanent methods. Hence with the uptake of permanent and long term contraceptive methods during the postpartum period, couples greatly reduce the risk of pregnancy

thereby reducing the women’s lifetime risk of maternal deaths.

Overall, although the maternal health benefits of contraceptives and men’s role in contraceptive usage are well researched, not much is documented on men’s role in postpartum uptake of permanent or long term contraceptive methods after occurrence of complications leading to maternal near miss. Thus this study contributes to knowledge on men’s involvement in postpartum uptake of long term and irreversible contraceptive methods after occurrence of maternal near miss events. However, there is still need for future studies to explore the linkage between occurrence of maternal near miss events and postpartum uptake of long-term or irreversible family planning methods.

With postpartum haemorrhage as the leading cause of maternal mortality in Uganda (MoH 2012) and a high proportion of unskilled deliveries, male involvement in the management of haemorrhage at community level is important in averting maternal deaths. In this study, men were involved in administration of oral postpartum haemorrhage medication (misoprostol). Previous studies (Prata et al., 2005; Sanghvi et al., 2010) have shown that oral administration of haemorrhage drugs was effective in treatment of postpartum haemorrhage in the absence of a skilled health worker and injectable (oxytocin). These authors have noted that oral postpartum medication (misoprostol) can easily be accessed by a woman or any of her family members in the community and that she has the ability to correctly adhere to the dosage. Particularly, our study findings are in conformity with a study undertaken in Afghanistan (Sanghvi et al., 2010). This study showed that oral medication for haemorrhage can be correctly administered by semi-literate persons, which is characteristic of our study population, and that involving the husbands or other family members through educative messages on postpartum haemorrhage was key in ensuring that at least such a knowledgeable person was present during a home delivery and could take steps to manage or refer the patient. Furthermore Prata et al., (2005) advocated the use of misoprostol especially in low resource areas where most births occur in homes and several delays could hinder utilization of emergency obstetric care.

In addition, men’s efforts to administer intramuscular injectable (oxytocin), though inappropriate showed that men made frantic efforts to save their wives during emergency conditions. No previous studies have reported such findings where men administered injectable to their wives, possibly because it was done by non skilled health professionals. Researchers (Flandermeier et al.,

2010; Oladapo et al., 2012; Souza 2013) have noted that oxytocin medication needs to be administered by a health professional and has to be stored in a refrigerator. Thus, our study findings highlight a critical gap in the country's health care system and national drug distribution and storage guidelines of essential medicines. These drugs (oxytocin) were sold over-the-counter in drug outlets with no refrigeration facilities and were easily accessible to the end users, while in other cases, men got the injectable from the health facilities. Self-administering of such injectable drugs may have adverse health implications on the women. As it was out of scope for this study, it is unknown how men were able to correctly administer intramuscular postpartum haemorrhage medication (oxytocin) or the possible health implications resulting from administration of intramuscular injectable by non-skilled health professionals.

Men were also involved in fundal massage of the uterus to allow expulsion of the placenta. By doing this, men exhibited knowledge of basic skills in managing a retained placenta which skills, most probably, have been acquired from traditional birth attendants during home deliveries of their wives. Anecdotal reports show that men whose mothers were traditional birth attendants acquired skills to deliver women and thus have the basic skills to enable them deliver a woman and expel the placenta. This assertion could explain their ability in helping their wives to expel the placenta by massaging the uterus.

Men are the households head and the main decision makers at household level. Hence their role in decision making processes is important in averting maternal deaths through reducing the delays that cause maternal deaths. Ideally, every woman should be able to make a prompt decision to seek emergency obstetric care at the onset of complications during home births. However, in this study, some of the maternal near misses waited for their husbands before seeking medical attention. This is in conformity with previous studies (Odimegwu et al., 2005; Okechukwu et al., 2007) which showed that majority of the women would decide to seek emergency obstetric care in the absence of the husband while only a few women and men reported the need to wait for husbands before seeking medical attention. A study in Uganda (Kaye et al., 2004) also revealed that maternal near misses had a low decision making power in seeking health care. Furthermore, other scholars (Essendi et al., 2011; Odimegwu et al., 2005) argued that such women who delay to seek emergency obstetric care in the absence of their husbands may be financially constrained and thus have to rely on the financial

support from their partners, who in turn decide the course of action taken to manage the severe complications. The decisions that men made at this critical time saved women's lives after the onset of life-threatening pregnancy complications, hence averting maternal deaths. In addition, in cases where the men took the decisions to seek care, they chose higher health facilities as compared to the lower health facilities opted for by women. This could possibly be as a result of men's higher earning or financial power over that of the women who may be hindered to seek emergency obstetric care at health facilities that offer comprehensive emergency obstetric care.

Men's role in financing their wives' access and utilization of maternal health services is well known (Odimegwu et al., 2005; Okechukwu et al., 2007; Thapa & Niehof 2013). In addition, studies on birth preparedness and complication readiness (Iliyasu et al., 2010; Kakaire et al., 2011) showed that men saved money to cater for obstetric emergencies or complications. However, it remained unclear if they actually provide financial support during their wives' need to access or utilize emergency obstetric care, as only scanty information exists. This study affirms that men continue to provide financial support to facilitate their wives' access to emergency obstetric care, which extends beyond the financial support given in an uncomplicated pregnancy period (prenatal, delivery and postpartum) towards access and utilization of maternal health services. The study results are in conformity with previous studies in Nigeria and Uganda (Iliyasu et al., 2010; Kaye et al., 2014) which showed that men paid for emergency obstetric care services for their wives.

Male involvement in providing social and emotional support corroborates previous research which showed that men were more likely to accompany their wives to health facilities during emergencies as compared to non-emergency antenatal, delivery and postpartum periods (Barua et al., 2004; Thapa & Niehof 2013). In addition, a study in Egypt (Huntington et al., 1995) showed that men's display of emotional support was important in post abortion care patients' speedy recovery while a study in Uganda (Kaye et al., 2014) showed that men were also keen on providing social support to their partners who were critically ill. Anecdotal reports show that lack of social support is a barrier to utilization of EmOC. Hence, husbands' role in providing social and emotional support plays an important role in enabling women's utilization of EmOC.

Lastly, men endeavoured to make transport arrangements to enable their wives' utilize emergency medical care. This is in conformity with

findings from a Nigerian study (Odimegwu et al., 2005). By making transport arrangements, men were able to reduce delays associated with accessing health facilities, hence averting maternal deaths associated with transport delays.

Conclusion

Overall, men's involvement or role in averting maternal deaths was majorly three-fold. First, it involved roles that prevented occurrence of maternal deaths by reducing the risk of pregnancy through long term or permanent contraceptive uptake. Secondly, it involved roles that averted direct causes of maternal deaths by managing obstetric complications at household level through administering or provision of essential haemorrhage medication and management of retained placenta. Lastly, it involved supportive roles including decision making processes during emergencies, financial support to access emergency obstetric care, transport, social or emotional support during the emergency period. The supportive roles address the underlying causes of maternal deaths by reducing the barriers or delays at household level and in accessing emergency obstetric care.

Based on these findings, we recommend the following:

Tailor-made counselling on uptake of permanent or long term contraceptive methods for maternal near misses and their partners during the postpartum period offers a window of opportunity for couple discussion and increased uptake of contraceptives among high risk women.

Men should be trained in home-based-life-savings skills (HBSLSS) so as to equip them with emergency life saving measures. These skills will equip men with home management of life-threatening complications, prompt decision making and referral of women to the health facility.

Community sensitization of men on the dosage and administration of the recommended oral medication for management of postpartum haemorrhage at community level should be done.

Maternal health programmes should consider community distribution of postpartum haemorrhage drugs (misoprostol) during pregnancy through village health teams and men as partners of women, in administering these drugs in case of haemorrhagic complications.

Men should also be sensitized on the benefits of health facility or supervised deliveries and the need for prompt referral of their wives at the onset of complication in lieu of buying drugs from outlets.

Men's supportive roles during emergency obstetric care should be enhanced through counselling on couple decision making; having a birth

plan and emergency fund for accessing emergency obstetric care; and increased social support for their wives.

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Authors Contributions

EN conceptualized the research problem, collected and analysed the data. NA participated in the interpretation of results and write-up of the paper.

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