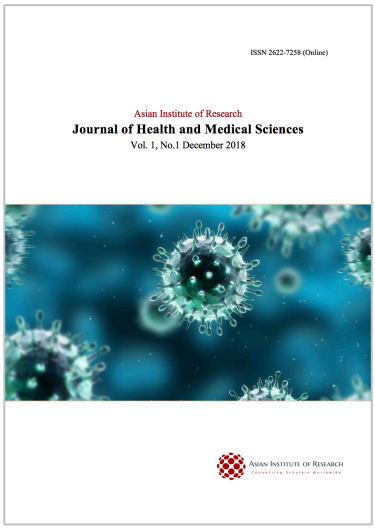

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A Situational Analysis of Home Delivery among Maasai Communities of Orkesumet, Northern Tanzania: The Qualitative Evidences

Bernard Mbwele[1,2,3], Uswege K. Mwaitebele[4], Alem Kahsay[2], Othniel P. Kihako[1], Samuel J. Luhunga[1], Mohamed A. Zuberi[1], Juhudi R. Athumani[1], Pauline L. Sylvester[1], Elinda G. Kuhoga[1], Zebadia M. Ramadhani[1], George R. Jonas[5], Lillian Kavishe[5,6]

[1]University of Dar es Salaam-Mbeya College of Health Sciences, P.O Box 608, Mbeya Tanzania. Email: benmbwele@gmail.com (Corresponding author)
[2]Vijiji International, Tanzania Office, Kilimani Plaza, Ground Floor, Mawenzi, Road Moshi, Tanzania. P.O Box 7823, Moshi, Tanzania Telephone: +255 689 591199. Email; info@ vijiji-international.org
[3]Kilimanjaro Clinical Research Institute KCRI, P.O Box 2236, Moshi Tanzania
[4]Peace Aged Volunteer Social Support Organization (PAVOSSO), P.O Box 6515, Mbeya, Tanzania
[5]Vijiji International, USA Branch, 2209 83rd Dr. NE, Lake Stevens, WA 98258, USA
[6]Whiteriver IHS Hospital, P.O Box 860, Whiteriver AZ 85941, USA

Abstract
Background: Maternal mortality rates and Neonatal Mortality rates have remained to be unexpectedly high in sub-Saharan Africa. High magnitude of pregnancy and childbirth complications mainly due to home delivery. Identifying and solving barriers to facility delivery has remained to be a challenge. Methods: A descriptive cross sectional study to assess the cultural barriers impeding facility based delivery in the Maasai communities of Orkesumet ward of Simanjiro district, Northern Tanzania was conducted. Expert opinions from Maasai leaders, in-depth interviews, focused group discussion and observations were applied. Results: Expert opinions presented historical and current traditional practice in herbal medicine commonly used during child-birth in the remote Maasai Orkesumet ward. In-depth interview reported five main themes of "home delivery is safe", "Traditional medicine is better", "Giving birth is a blessing from God", "Bleeding can be controlled by traditional medicine" and "There is no hope from hospitals". FGD reported four main themes that "Female attendants are better", "Migration, transport cost and quality of care at health facility disturbs the continuum of care", "It is risky to be treated at the hospitals" and "Husbands are the key and mislead the communities". Observations provided evidences for herbal products that are commonly used. Conclusion: The Maasai present a strong trust and beliefs on their cultural, customs and traditional for home delivery while using innovative herbal medicine. They have negative attitudes towards a facility based delivery due to facility reported maternal deaths, quality of care for supplies and hygiene, distance and health care workers gender and attitudes.

Keywords: Child birth, Skilled Birth Attendance, Maasai Ethnic groups, Rural Health, Traditional Medicine, Maternal Health

Introduction

Maternal mortality rates and Neonatal Mortality rates are high in sub-Saharan Africa due to high prevalence of pregnancy and childbirth complications (WHO, UNICEF, UNFPA, The World Bank and the United Nations Population Division, 2015). The main attributes being chronic practice of home delivery diversified by socio-economic determinants (Doctor, Nkhana-Salimu, & Abdulsalam-Anibilowo, 2018). Interventions to reduce maternal complications and improve maternal and newborn survival including strengthening of political accountability exists (ten Hoope-Bender et al., 2016), but their utilization has been very low in most sub-Sahara African countries (Martin et al., 2016). Different cultural barriers that are inclined with non-skilled birth

attendants (World Health Organization, 2008) offer some limited explanations with limited evidences (Atuoye et al., 2017).

Tanzania is one of the sub-Sahara African countries that has a low utilization of skilled birth attendants which does vary by in-country regions and districts (Pfeiffer & Mwaipopo, 2013). The Maasai communities of Northeastern Tanzania have a low experience for skilled birth attendants (Magoma M., et al). They are Nilotic ethnic group of semi-nomadic people thought of as archetypical pastoralists with unique traditional birth practices (Stephens J, 2017). Due to their distinctive customs and beliefs, their traditional practices presents gender inequalities and cultural practices that do not present birth preparedness (Karanja et al., 2018), with an ultimatum undesired impact for facility based child birth.

The Maasai are culturally conservative people living in *Inkajijik* (Maasai word for a house), loaf-shaped houses made of mud, sticks, grass, cow dung and cow's urine of which a traditional health concerns influence a construct (Saitoti, 1990). Their core cultural lifestyle involves seasonal migration over large distances for pastures and water (Jennings C, Falola T, 2003) which disrupts the continuum of health services (Heaney AK, Winter SJ, 2016), particularly antenatal visits, facility delivery and postnatal visits (Lawson DW et al.,).

Women serve the families for food, housekeeping and child care at large. The Maasai women responsibilities pose a socioeconomic challenges to health access and have implications for the promotion of quality of maternal and newborn heath with effective facility delivery (Heaney AK, Winter SJ, 2016). A concern for the social determinant towards improving the proportion of child birth at health facility with skilled birth attendant (Reynolds J, 2011).

The Maasai women present a high preference for home birth delivery (Magoma M et al.,2010). Culturally, husbands typically serve as gatekeepers for women's attendance at health facilities for antenatal session's child birth and postnatal care. Repeatedly, husbands have been targeted to participate in different programs for facility delivery but majority of the Maasai community has not shown a desirable response (Ensor T, Cooper S, 2004). This means a lot has to be done to identify underlying factors influencing home based delivery and limited facility based delivery.

Repeatedly, the Maasai of remote communities have been known for their expertise in traditional medicine. They believe it is a sacred cultural heritage to sustain their health in all times (Ibrahim F, Barbara I, 1998). They use trees, *olchani*, (plural *ilkeek)*, as a source for medicine (Bussmann RW et al., 2006). Their seasonal pastoral practice for survival is dependent on the skills of herbal trees that are available in most of Northern Tanzania. On the other hand, the practice is bound with beliefs that affects the access for health services (Heaney AK, Winter SJ, 2016). Doubtfully, pregnant mothers and children appear to be the victims of the culturally bound traditional medicine practices (Vasan et al., 2014).

Little is known from the Maasai of Tanzania. We therefore conducted a cross sectional situational analysis aiming at assessing the cultural barriers towards facility child birth among the remote Maasai of *Orkesumet, Simanjiro, in Northern Tanzania*.

Methods

Study design, Settings and Duration.

A descriptive cross sectional study using a mix of qualitative approach was conducted in Langai division, *Orkesumet* ward, in Simanjiro District of Manyara region North-east Tanzania (see Figure 1). Study was conducted from 24th January to 29th January 2011, The National Bureau of Statistics of Tanzania reports the population of the *Orkesumet* ward to be around 5,325 people (National Bureau of Statistics, NBS, 2012).

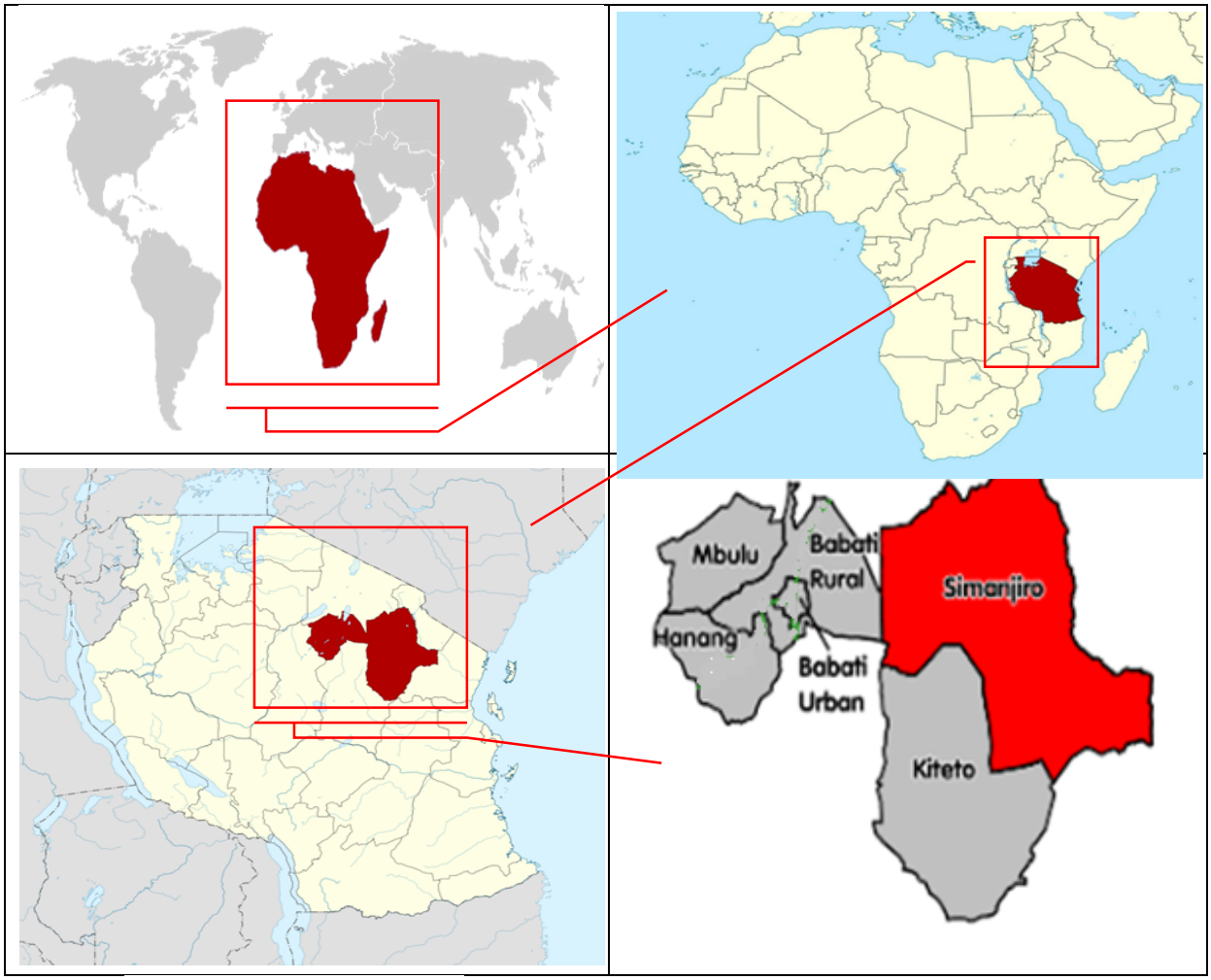

Figure 1. Location of Simanjiro District.

Sampling

The ward leader (See Figure 2) volunteered to offer expert opinions and assisted the identification and the selection of most eligible women with a clear history of pregnancy complications. Purposively, mothers with more than 4 children and an experience of pregnancy complication were identified as eligible. A sample size of 24 mothers (three mothers from each of eight villages of Langai division that includes *Orkesumet* ward) were recruited. A quarter of the sample, 7 women were selected for Focused Group Discussion (FGD).

Figure 2. The Langai division leader in Orkesumet ward, Simanjiro District, Manyara, Tanzania. Consent Obtained. (©Vijiji-International, Langai ward in Simanjiro District. January 2011)

Data collection methods

Data were collected using expert opinions, in-depth interviews for mothers with high parity and experience of pregnancy complications, then focused group discussions (FGD) from a quarter of mothers with new striking information regarding choice of place of birth during in-depth interviews. Observations were done during the interviews using anthropological skills.

Data collection Techniques

The informants were asked on the number of children and their place of birth. Informants were asked to report a place of birth for all children. If they were giving birth at traditional birth attendants, they were asked what motivates them, what demotivates with reasons why and how. These initial questions aided further probing to allow the exploration of relevant themes during in-depth interviews. The use of FGD, followed the in-depth interviews where a quarter of mothers expressed their individual perceptions, arguments and during discussions regarding their options for the place of delivery, the challenges and support if any.

Data management and Data analysis

Data in a digital sound was stored in the data manager's server. Then all the discussions were narrated in word documents. Then the narratives were translated and then transcribed into different themes by color coding, then all codes were summarized in the excel sheet. Inductively and deductively thematically analyzed information were set into different layers. Each layer with main codes. Then codes were further coded and arranged into sub-codes in accordance with COREQ guidelines (Tong, Sainsbury, & Craig, 2007). A basic coding network was created, extended and altered with the emergence of further themes as analysis progressed. A final set of themes and sub-themes were created upon refinement and completion of analysis.

Ethics

The ethical approval was given by the Kilimanjaro Christian Medical University College – College Research Ethical Committee (CREC) on participant's rights and safety. The Manyara Regional Council Health Management Team (RHMT) and the Council Health Management Team (CHMT) of Simanjiro District gave permission to collect data limited to maternal, Newborn and Child health with a final feedback after a situational analysis.

Written informed consent written in Swahili was obtained from all participants and translated whenever required by a participant. All interviews were done in Maasai language after being translated by the Langai division lenders from the Swahili versions.

Results

A total of 24 mothers gave their experience throughout the in-depth interviews, 7 mothers discussed their experience with argument in focused group discussed, ward leader gave his expert opinion and observations were made anthropologically, without drawing a shocking attention.

From expert opinions

There were four main themes from expert opinion discussion.

Culture and Tradition is a way of life

The Maasai live with culture and beliefs in Maasai own culture a blessing and respect. Maasai believes in orders from elders and it is a norm and way to survive in with a pastoral life. The ward leader insisted that he attended secondary school but he is one of the cultural ambasadossor. He was well aware of herbal practice in *Orkesumet*. In his opinion he mention two out of three children were home delivery and he do not regret as it was clean and safe.

The of use herbal drugs for reproductive health is common and historical.

The ward leader explained: *"We have community healers, called the Laiboni, who are are deeply experienced in the medicinal plants from our surroundings as a heritage from generation to generation. They offer knowledge of olchani, plural ilkeek, (for medicine). The leaves, roots or bark can be used to treat a wide variety of diseases. For pregnant women they have a wide variety of herbal products used to control of women bleeding and inducing labor for pregnant women. Historically, the Laiboni are needed to do sacrifices and communicate to God Ngai (The almighty God) in a special vision and dreams".*

The knowledge is transgenerational.

He elaborated; "*The Ndorobo (hunter-gatherers) contributed a great deal in the discovery. We have other leaders called olaiguenani, chosen before circumcision who are used to lead the youths in peer groups until they attain old age they support cultural sexual and reproductive health issues".*

Community Key actors offer a guide for pace of child birth.

He explained *"The other leaders called Elders, they lead a clan with multiple Maasai defined roles, one of these being officiating and directing cultural ceremonies. They remind families about ethical approaches and making sensitive decisions on whether the husbands have a key role or otherwise the family can make a choice for a pregnant mother. The Elders also offer counseling and moral support on health matters and child health. They also update the clans on the availability of medical products and methods of application as guided by the Laiboni"*

From the in-depth interviews

There were five themes from in-depth interviews as follows;

Home delivery is safe.

Nineteen out of twenty four mothers reported that home delivery is safe as shown in the following narratives.

Mother ASL 35 years old, a mother of 7 said "*I think I don't have to be bothered by going to the health facility because we have well trained elders to offer a safe traditional delivery*".

Mother AKK, 33 years old, a mother 6 explained "*All of my children are delivered at elders, they are very skilled and offer service with a passionate care*" When asked if she ever tried hospital delivery she said "*The bed sheets are not clean in the hospital*".

Traditional medicine is better

Twenty one out of twenty four mothers reported that Traditional medicine is better as shown in the following narratives. MNK who was 28 years of age a mother of 2 children said "*I have never been to the hospital since when I was born, I have been taking Ormukutan herbs for abdominal pain, diarrhea, fever and headache. I think the Maasai medical drugs are very effective".* Mother AOL said *"Ohh… if you refuse herbal medicine you refuse life because all hospital drugs are from us"*

Giving birth is a blessing from God.

All twenty four mothers reported that Giving birth is a blessing from God as shown in the following narratives. Mother NTS, who was a mother of 11 children said; *"I feel happy to have eleven children and this is a good blessing from "Ngai" (God)".* "*I want two more children*". Mother MNK who was 28 years of age a mother of 2 children said "*Yes… (Laughed..!) …when… when… I will be forty years old I will have seven or eight more children. It is a blessing from God*"

Bleeding can be controlled by traditional medicine.

Thirteen mothers out of twenty four mothers said Bleeding can be controlled by traditional medicine as reflected by Mother NTS who explained; *"Bleeding is common and we have Maasai herbs to prevent bleeding as you know even my mother had 14 children and never lost blood during labor. We do believe that a mother can lose more blood at the hospital than with a support from traditional healer."* Mother ATT a mother of 5 elaborated "*Well it all depends on skills of the elder, the traditional birth attendant. The way you remove placenta matters a lot. Our elders are experts. When it fails they use herbal medicine and it never fails*". Mother MNK who was 28 years of age a mother of 2 children said "*I believe bleeding can be controlled only at the hospital because they can give blood when you have bled too much*"

There is no hope from hospitals.

Twenty one mothers out of twenty four mothers showed no hope with health facilities.

Mother SMN presented most of shocking complaint; "*We have heard a lot that women die in hospital and they bleed a lot. Their nurses have been telling us that hospital has a blood reserve but we are shocked that six times we sent mothers who have been bleeding excessively but they said they don't have any blood too give from their reserve*."

Mother AKK, 33 years old, a mother 6 complained "*The bed sheets are not clean in the hospital. No, No way every mother sleep in the same bed sheets. I have no hope."*

Themes from FGD members

There were four main themes from focused group discussion. These are; "*Female attendants are better", "It is risky to be treated at the hospital" and "Husbands are the key".*

Female attendants are better.

Majority of mothers presented confidence on traditional practice because female attendants are used. Mother PKS "*Yes, the presence of woman relative nearby to assist the elder creates more trust".* Mother AOT who is assistant Traditional birth attendant complained *"We don't understand why you have male doctors during child birth in the hospitals".* Mother JSS who had a history of stillbirths twice and has been assistant to traditional birth attendant complained elaborated *"We are happy that we are treated well with women elders. We have our free Ormumunyi used by women elders and it has a blessing from Ngai and our ancestors, why shall we walk for 60 Km to access hospital care?*" Mother DOO said" *I am free with women attendants. They are free to listen and we talk many things after child birth*". Mother STT argued "*I think male are more polite to pregnant women than women attendants to pregnant women*."

Transport cost is a problem

Mother NMO said "*we will go to antenatal clinic to check the status but we don't think that it will be necessary to deliver in the hospital. It is too far and sometimes we move to other areas to find grazing land. It is better to deliver at home"* When probed on the importance of traveling with RCH Card for attending a different facility, another mother, STT with 9 children said "*Yes, we heard a lot stories from nurses about family plaining and giving birth at the hospital but we have noticed more charges for travelling to hospital and disturbance with bad language at the hospital*"

Sub-theme: Migration is a barrier

Another mother VTO with 6 children explained *"Sometimes we have to move with our cattle and the distance becomes an issue*". A mother PKS aged 52 years old, a mother of four she elaborated further "*You know it is much safer at home wherever we go. Additionally, here is a lot of respect and privacy. An adult mother is serving an adult mother, but in hospital there is no respect. A young girl want to serve me for birth service!? Wait a minute, this is not possible. Are you guys serious*?"

Sub-theme: information given is not complete

Mother DOO complained "*I have noticed that repeatedly hospital workers were telling us the importance of agreeing with family planning. I have seen mothers in my village travelling long distance for family planning. I think it is good but I don't like that some of them have gave birth to only one child. Additionally, some of hospital workers said it will improve our family economy. I don't agree with them on money for household"*.

It is risky to be treated at the hospital

Mother JSS complained "*We have been visited many times by nurses from organization saying we need to refer women to hospital but 2 mothers who were bleeding died at hospital although we referred them. No we are not ready at all"*.

Mother AOT elaborated "*You know women comes to us for service. They trust us. They always want us to start serve them before referring to the hospital*"

Husbands are the key.

When asked about availability of husband support, Mother PKS explained "*Yes, my husband has been supportive but never trusted the facility based health care*."

Sub-theme: husband support traditions

There were six women in FGD supported PKS by saying "*yes, husbands involvement is important they are aware but they consider to be respectful to be attended traditionally*"

Mother NMO declined said "*No, I am surprised we have seen a lot of people discussing with men in village and they escort them to hospital services. In the past there were many occasions where men didn't follow up what is happening when a wife is giving birth"*.

Observational findings

The Langai leader stated that the use of herbal medicine was shared by the informants in *Orkesumet* ward. Some of the products extracted from the bark of trees called *Orbukoi* were widely used for treating febrile illnesses among pregnant women (Figure 3).

Figure 3. The used medicinal tree of Orbukoi for febrile illness. (©Vijiji-International, Langai ward in Simanjiro District. January 2011)

Another traditional product was the *Ormukutan* which is a well-known pain killer and wound remedy in the *Orkesumet* ward (Figure 4). *Ormukutan* has been commonly used as analgesic for both reproductive and non-reproductive complications. For controlling infections before child birth, the tea made from the bark of *Ormukutan* is used to treat multiple infections with fever and abdominal pain disturbing pregnant women.

Figure 4. The Ormukutan herbal medicine for relieving pain and treating infections during pregancy. (©Vijiji-International, Langai ward in Simanjiro District. January 2011)

The product called *Ormumunyi* tree is used to induce labor given when a woman begins to sense labour pain and sometimes assist the removal of the placenta after birth (Figure 5).

Figure 5. The Ormumunyi herbal medicine which used to induce labor. (©Vijiji-International, Langai ward in Simanjiro District. January 2011)

When a woman in labor pain would drink the juice from the *Ormumunyi* and will help to push during labor. The product of *Orkelelwet* is a famous abdominal pain remedy *Orkesumet* ward believe all types of abdominal pain after birth can be alleviated by *Orkelelwet* (Figure 6).

Figure 6. The bark of *Orkelelwet* medicinal tree is used to treat abdominal pain. (©Vijiji-International, Langai ward in Simanjiro District. January 2011)

The uses of *Oltepesi, the* herbs that are commonly used to treat sexual transmitted infections by boiling the small particles and apply them in the wounds around the genitalia (Figure 7).

Figure 7. Oltepesi the herbs that is commonly used to treat infected wounds and sexual transmitted diseases with wounds at the genitalia at *Orkesumet* ward (©Vijiji-International, Langai ward in Simanjiro District. January 2011)

Discussions

Repeatedly, the lifestyle that the Masaai have involved innovative cultural health practices that have been shown to enable survival in scrublands (Ibrahim F, Barbara I, 1998). The expert opinion from ward leader reflected a pride to their culture that is not shaken by western influences. They present a rigid cultural practice that is resistant to foreign concepts of development like agriculture (Jennifer Hatfield, 2012) has affects food security (Galvin KA, Beeton TA, Boone RB, BurnSilver SB, 2015), (Forstater M, 2002). They also present food restrictions that pose malnutrition (Lawson DW et al, 2014) with ultimate unintended undesired impact on maternal and newborn health (Chege PM, Kimiywe JO, Ndungu ZW, 2015). Their seasonal migration (McCabe JT, Smith NM, Leslie PW, Telligman AL, 2014) for pastoral water and grazing land (Amin M,

Willetts D, Eames J, 1987) contributes to unstable regular hospital visits especially the antenatal visits and postnatal care.

The social life is built in discipline to the community leaders, *Laiboni*, *Olaiguenani*, as the main actors for herbal practice and traditional medicine. It is through *Laiboni* and *Olaiguenani*, educational heritage of using plants *olchani*, (plural *ilkeek)* to heal (Bussmann RW et al, 2006) is inherited from one generation to generation. The elders, choose the families to treatment and promote the culture (Thikra Sharif, 2015). They present a social role to disease controls, support social accountability (Bussmann RW et al., 2006) and safe reproductive health practices (Liu J., 2012). A study in Ngorongoro, Tanzania (Lennox, Petrucka, & Bassendowski, 2017) described them as a potential community actors (Terry PE, 2018) necessary for effective health promotion in Maasai communities (Roggeveen Y et al., 2016).

The Maasai knowledge, attitudes and practice towards a culture present a number of qualitative evidence to support home delivery (Rollinger JM, Langer T, Stuppner H, 2006) and oppose facility based practice (Magoma M, Requejo J, Campbell OM, Cousens S, Filippi V, 2010). In the in-depth interview, we found 5 main themes which are "*Home delivery is safe", "Traditional medicine is better", "Bleeding can be controlled by traditional medicine", "Giving birth is a blessing from God",* and *"There is no hope from hospitals"*. These attitudes and practice evidences might be perpetuated by structural and process quality challenges in the hospital facilities as similarly reported in rural Zambia (Sialubanje, Massar, Hamer, & Ruiter, 2015).

The theme *"Giving birth is a blessing from God"* has a faith attribute but pose a challenge for family planning and as well institutional delivery. This finding is sensitive, it has to be addressed carefully as described by Srikanthan and Reid (Srikanthan & Reid, 2008) and Adewuyi in 2017 (Adewuyi, Zhao, Auta, & R, 2017).

From our FGDs, we found four main themes namely: "*Female attendants are better", "Transport cost is a problem"*, *"It is risky to be treated at the hospital" and "Husbands are the key"*. All themes present worries in the hospital practice despite availability of skilled birth delivery. The FGD theme *"It is risky to be treated at the hospital"* gave more insight for quality challenges in the hospital facilities. Other mothers different from those documented in the in-depth interview narratives gave similar messages elaborating "*Home delivery is safe", "Traditional medicine is better", "There is no hope from hospitals"* themes in same way as it was reported by the Maasai communities of Kenya (Karanja et al., 2018) that prestige of TBAs in community, community trust, and confidence in TBAs is the issue (Caulfield et al., 2016). We believe that these women's experiences and beliefs can offer a starting points for the design of quality maternal and newborn health interventions as described by Sialubanje and colleagues in 2015 (Cephas Sialubanje et al., 2015).

There were three new themes from FGD, these are; "*Female attendants are better", "Transport cost is a problem"*, *and "Husbands are the key"*. Although the themes supported their traditional practice they provided learning areas for improving facility based skill birth attendance. For example, the informants showed their worried for men attendants but others demanded more trained male attendants. They presented a need for effective counseling of distance by birth preparedness and the importance of husbands for supporting facility birth attendance. The same finding was reported in Sierra Leone in 2014/2015 where staff attitudes, undefined fear. Logistic issues, transportation problems were the main barriers to facility based delivery (Theuring, Koroma, & Harms, 2018).

In our observation methods, we found evidences of traditional herbal products with a pictorial evidences. These findings echo another study in Kilimanjaro region showing wider application of the herbal discoveries (Stanifer et al., 2015) that contains effective antimicrobial agents (Ibrahim F, Barbara I, 1998). In our case we have demonstrated the practical use of few herbal items (Bussmann RW, Gilbreath GG, Solio J, Lutura M, Lutuluo R, Kunguru K, Wood N, Mathenge SG, 2006) for home delivery and bleeding control. The use of these products is supported by cultural norms and other practices conducted with respect. The Maasai of *Orkesumet*, do not have statistical evidences on outcomes of care from home delivery versus facility delivery. They are not aware that most referred women and those who dies at the facility presented as referral cases with complicated pregnancies. Physically they see what they believe and they practice traditional during and after pregnancy (Roulette CJ et al., 2018).

The traditional practice among the Maasai of Tanzania present a potential pharmacological and biomedical discovery in the near future. Their customs and beliefs shall not be criticized but further respected and integrated thorough their community actors. The community based health promotion for Basic Emergency Obstetrics and Newborn Care, BEmONC (Pasha et al., 2010), can be further deigned using the traditional barriers to enhance facility delivery.

We have learned that the amount of information given to the community regarding quality BEmONC is doubtfully not sufficient. The ongoing Socio-Behaviour Change Communications (SBCC) (Mosdøl A, Lidal IB, Straumann GH, Vist GE, 2017) must use traditional actors (Kumbani L, Bjune G, Chirwa E, Malata A, Odland JØ, 2013) while evaluating relevance, evidence, intervention, ethnicity comments, and trends (Davidson EM et l., 2013).

Limitations

This research was a situational analysis conducted on student and health care workers from Kilimanjaro Christian Medical University College under voluntary action work. Time and funding was limited for time quantitative data using relatively large sample size. The investigators wanted to have an insight for qualitative reasons and determinants affecting the facility base child birth.

Conclusion

The construct of culture, traditional medicine and customs for home delivery carries a practical evidence with better outcome of care for years. There is a strong belief in their traditions and negative attitude for facility based delivery due to facility based maternal deaths, quality of care for supplies and hygiene, distance and health care workers gender and attitudes.

Authors' contributions

BM developed a concern and mobilized students and volunteers OPK, SJL, MAZ, JRA, PLS, EGK and ZMR to collect data through UKM. BM, UKM, LK, OPK, SJL, MAZ, JRA, PLS, EGK and ZMR and AK performed the analysis. LK and AK performed interpretations, BM, UKM AK LK, and GJ participated writing of the initial manuscript. All authors approved the final manuscript.

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Competing interests

The authors declare that they have no competing interests.

Availability of data

The data is available at Kilimanjaro Clinical Research Institute and the Vijiji International Moshi office.

Consent for publication

Applicable.

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