

# Community Leaders' Perspectives on Barriers and Facilitating Factors to Kangaroo Mother Care in Mangochi, Malawi: A Qualitative Study

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## Research article

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## Abstract

## Background

Low-and middle-income countries widely utilize Kangaroo Mother Care (KMC) to care for the Low-Birth Weight Infants (LBWIs). Worldwide, LBWIs is the leading cause of neonatal and child mortality. In Malawi, the government and the notable non-governmental organizations coordinate and collaborate in implementing KMC interventions to reduce neonatal deaths due to LBWIs' complications. The incorporation of the community leaders' (CLs) views on KMC access and utilization is optimal in the effective KMC implementation. Therefore, this study aimed to assess CLs perspectives on barriers and facilitating factors to KMC utilization by parents of low birth weight infants (PLBWIs) in Mangochi District, Malawi.

## Methods

The study used purposive and simple random sampling to identify twelve CLs (N = 12) who participated in the two focused group (n = 6) discussions (FGD) conducted in April 2018 in Mangochi district. A structured FGD guide used to obtain the CLs' perspectives on barriers and facilitating factors to KMC access and utilization by PLBWIs. Thematic content analysis used to analyse the findings.

## Results

Four major themes and sub-themes were established from the study. These included *Access* (availability of KMC providers, place of delivery, strengthen referral systems, cost, health seeking behaviour, women empowerment and quality of obstetric care), *Buy-in* (KMC knowledge, causes of LBWIs birth, advantages/outcomes of KMC, attitude towards LBWI and KMC, stigma towards mother with a LBWI and preference of LBWI care), *Medical issues* (safety and maternal health) and *traditional/cultural norms* (social obligation and gender roles).

## Conclusions

Despite the identified facilitating and barriers to KMC utilization, the CLs indirectly supported PLBWIs access to KMC by their influential and participatory role in the Malawi National Safe Motherhood approaches, which facilitated women deliver by the skilled birth attendants and utilized KMC. As such, incorporating the CLs in KMC implementation through KMC capacity building and strengthening linkage of local government structures to health local government structures may enhance KMC access and utilization by the community, through the CLs' influential role in the communities' uptake of health services. In a way strengthening the Malawi National Community Health Strategy 2017–2022 approaches.

## Background

Kangaroo Mother Care (KMC) is a low birthweight infant (LBWI) care that involves skin-to-skin contact between the mother and the LBWI; for survival, warmth, exclusive breastfeeding, maximal observation, bonding and growth (1–5). KMC has effectively reduced LBWIs' birth complication to 50% of the global 90% LBWI incidences occurring in low and middle income countries (LMICs) that claims 60–80% of the global neonatal deaths (3, 5–8). Despite several KMC strategies including trainings, guidelines, health care initiatives, health facility renovations and funding support employed in the implementation of KMC in Malawi (3, 5, 9–11), Mangochi emerges as the district with high neonatal mortality of 40 per 1000 live births in the country (12, 13). KMC is efficient when it is well coordinated and collaborated between the implementing partners, however, KMC implementation mostly involves non-governmental organizations (NGOs), service providers, beneficiaries (mother and LBWI) of KMC and health facilities in terms of funding, attitude, knowledge, perception and experience in the implementation of KMC, of which some community key players are side-lined (5, 14–16). Nonetheless, the consistent involvement of the stakeholders, including the local community, is key in the efficiency and effectiveness of KMC outcomes (17, 18) that coincides with the Malawi National Community Health Strategy 2017–2022 which advocates for strengthening linkage of health structure to local community structure to influence community participation in health interventions (19). Studies show that the desirable results of the health intervention depend on social influencers, including community leaders (CLs)/local community structures (19–21). As such, the utilization of the service by the PLBWIs is equally affected by the cultural/traditional factors (22–24). The utilization of the service relies on access, quality of service and personal behaviour, where access is defined by the availability, affordability, accessibility and acceptability of the service (18, 25, 26). Therefore, incorporating the community structures/CLs views on the barriers and facilitating factors to access and utilization of KMC by the PLBWIs is paramount in the strengthening the linkage between the local government structures and the local health structures, which may promote community participation and facilitate the success of KMC outcomes (19). Unfortunately, few studies conducted on social influencers' perception on accessibility and utilization of KMC by the parents of low birth weight infants (PLBWIs) (21). Therefore, to assess the traditional/cultural views on KMC implementation, this study assesses the CLs' perspectives on barriers and facilitating factors to KMC access and utilization by PLBWIs. The study results may table KMC approaches to enhance effective implementation and uptake of KMC service, inform empirical evident future research and strategical updates of KMC policy and guidelines

## Methods

### Aim of the study, study design and site

The study aimed to assess the CLs' perspectives on barriers and facilitating factors to Kangaroo mother care utilization by PLBWIs. The cross-sectional study design using the qualitative approach facilitated the collection of the study data. The CLs involved in the study were those that their communities access the

health services from Mangochi District hospital, especially those from Mangochi central constituency. The participants were randomly selected, to ensure each participant gets a chance of participating in the study. Privacy during the interviews was maintained through conducting the sessions in a private room.

## Procedures and characteristics of the participants

The study involved 12 CLs; their socio-demographic characteristics are shown in Table2. Twelve community leaders participated in the study, in which two focus group discussions (FGDs) were conducted involving six CLs in each group. The sample size of this study provided the study with saturated findings relevant to understand the facilitating factors and barriers to the accessibility and utilization of KMC (27). Each FGD session averagely lasted 1 hour 50 minutes; the researcher conducted all the sessions using the FGD guide [see Additional file 1] informed by the literature review. The literature search terms included availability, accessibility, acceptability and affordability of KMC service, personal behaviour and quality of care.

The participation in the study was voluntary, where participants read the study information sheet and signed a consent form. The sessions were conducted in local languages (Chichewa and ChiYao, later on translated in English). The participants' confidentiality and anonymity were maintained by assigning and addressing them with pseudo names (Community leader 1 etc.). The themes were identified and grouped in relation to similarities and differences after data transcription. The study outcomes and emerging themes facilitated the grouping of themes. The coded themes assigned descriptive study meaning, thus, the study findings. The data was coded and thematically analysed (28)

## Results

### Facilitating factors and barriers to KMC accessibility and utilization

This study identified four major themes on facilitating factors and barriers that affected the accessibility and utilization of KMC service by the PLBWIs. The themes included; access (availability of KMC providers, place of delivery, strengthen referral systems, cost, health seeking behaviour, women empowerment and quality of obstetric care), buy-in (KMC knowledge, causes of LBWIs birth, advantages/outcomes of KMC, attitude towards LBWI and KMC, stigma towards mother with a LBWI and preference of LBWI care), medical issues (safety and maternal health) and traditional/cultural norms (social obligation and gender roles). The sub-themes for the identified four major themes grouped into availability, accessibility, acceptability and affordability of KMC service, personal behaviour and quality of care as shown in Table 2, to align to the parameters of utilization of KMC services. In this study the identified themes are described as follows; access-issues that enhanced or barred toobtain KMC service s, buy-in-issues that promoted or hindered KMC acceptance, medical issues-health factors that promoted or refrained to utilize KMC service and traditional/cultural norms-customary and/or habitually behaviours that facilitated or barred KMC utilization.

## The trustworthiness of the results

To ensure trustworthiness of the study findings, the issues of credibility, transferability, dependability and conformability abided by as shown in the table 1.

Table 1: The trustworthiness of the study findings

	Credibility	Transferability	Dependability	Conformability
Description	The research methodologies similar to the concept under study were incorporated. The participants of this study voluntarily participated to ensure recording honest information. Probing questions technique was used to ignite detailed information and, FGDs audio transcript results and notes were triangulated to verify some details	The study results based on the understanding of community leaders' perspective towards KMC utilization by PLBWIs, which ensured transferability to other settings using the methodologies of this study.	The study protocol was used to conduct this study, in order, to achieve reliable study results	The conformability of the results achieved by triangulating the FGD results and the notes

Table 2: Socio-demographic characteristics of study population (N=12)

Demographics	n (%)
<b>Age (years)</b>	
Mean $\pm$ SD (range)	41.9 $\pm$ 10.6
25-34	2 (16.7)
35-44	5 (41.7)
45-54	4 (33.3)
>55	1 (8.3)
<b>Marital status</b>	
Single	1 (8.3)
Married	11 (91.7)
<b>Education</b>	
Never been to school	1 (8.3)
Some primary school	1 (8.3)
Incomplete primary school	9 (75.1)
Complete secondary school	1 (8.3)
<b>Occupation</b>	
unemployed	1 (8.3)
Self-employed	10 (83.3)
Employed	1 (8.3)
<b>KMC knowledge</b>	
Yes	2 (16.7)
No	10 (83.3)
<b>Gender</b>	
Male	2 (16.7)
Female	10 (83.3)

Table 3: **Matrix of community leaders' perspectives on facilitating factors and barriers** affecting the accessibility and utilization of KMC service by the PLBWIs in MDH in 2018, identified themes and sub-themes grouped according to utilization<sup>[1]</sup> of KMC service.

	Availability of KMC service	Accessibility of KMC service	Acceptability of KMC service	Affordability of KMC service	Personal Behavior	Quality of care
<b>Facilitating factors</b>	<b>Access</b>  Availability of KMC providers	<b>Access</b>  <i><b>Place of delivery: Hospital delivery</b></i> ü -Short distance to health facility ü -Mandatory by CLs ü -Community support by CLs ü -Availability of hospital resources (human and material)  <i><b>Strengthen referral systems</b></i> ü -CLs encouraging the community to see the midwives after home delivery  <b>Buy-in</b>  <i><b>KMC knowledge</b></i> ü -Prior knowledge of KMC by the CLs	<b>Buy in</b>  <i><b>Knowledge on medical causes of LBWI birth</b></i> ü -accidents ü -Gender Based Violence ü -malnutrition  <i><b>Perceived advantages/outcomes of KMC</b></i> ü -warmth ü -enhance intelligence ü -positive lived experience with KMC  <b>Medical issues</b>  <i><b>Safety</b></i> ü -KMC perceived as a safe care	<b>Access</b>  <i><b>Cost</b></i> ü -KMC perceived as a cheaper service	<b>Access</b>  <i><b>Health seeking behavior</b></i> ü -Acting on health advice ü -Acceptance of any pregnancy outcome  <i><b>Women empowerment</b></i> ü -empowered in health decision making  <b>Buy-in</b>  <i><b>Attitude towards LBWI and KMC</b></i> ü -Positive attitude towards LBWI and KMC ü -Positive attitude towards mother practicing KMC	
<b>Barriers</b>	<b>Access</b>  Non-availability of KMC providers	<b>Access</b>  <i><b>Place of delivery: Home delivery</b></i> ü -Lack of ambulance services ü -lack of hospital material resources- Born before arrival <sup>[2]</sup> ü -Cultural beliefs-selling of umbilical cords by health providers ü -Health providers' attitude-hostile behaviour ü -Long distance to reach the nearest government health facility-Expensive to foot for transportation fare -Geographical location of health facility (Hard to reach areas-cross the lake) - Parents' attitude  <b>Buy-in</b>  <i><b>Lack of KMC knowledge</b></i> -No prior knowledge of KMC by pregnant women from Antenatal clinic No KMC knowledge by CLs  <i><b>Stigma towards mother with a LBWI</b></i> - Association of LBWI delivery to cultural taboos -Fear of being ridiculed  <b>Traditional/cultural norms</b>  <i><b>Social obligation</b></i> -Fulfilling gender roles  <b>Medical issues</b>  <i><b>Maternal health</b></i> -Pains after delivery	<b>Buy-in</b>  <i><b>Perceived traditional causes of LBWIs delivery</b></i> ü -promiscuous ü -extensive sexual intercourse  <i><b>Preference of LBWI care</b></i> ü -Incubator care preference over KMC  <b>Medical issues</b>  <i><b>Safety</b></i> ü -KMC perceived as a harmful care  <b>Traditional/cultural norm</b>  <i><b>Cultural beliefs</b></i> -LBWIs not considered as not yet human beings	<b>Access</b>  <i><b>Cost</b></i> ü -KMC viewed as costly to use	<b>Access</b>  <i><b>Women empowerment</b></i> ü -Lack of women empowerment in health decision making  <b>Buy-in</b>  <i><b>Attitude towards LBWI and KMC</b></i> ü -Negative attitude towards LBWI on KMC	<b>Access</b>  <i><b>Perceived poor obstetric care</b></i> ü -Slow response to community obstetric emergency ü -Nurses negligence in providing obstetric care

## Availability of KMC service

**Access:** Availability of skilled KMC providers was the only sub-theme that emerged under the availability of KMC service as a facilitating factor to KMC utilization, as narrated below by the community leaders.

*"Sometimes it depends on the way the nurse is telling the mother about kangaroo. If the mother is convinced by what the nurse is saying, the mother tends to agree to practice kangaroo, so that the child should be helped" CL 3*

## Accessibility of KMC services

**Access** (place of delivery, referral system), **Buy-in** (KMC knowledge and stigma), **Traditional/cultural norms** (social obligation and gender roles) and **Medical issues** (mother's health) were the four themes that emerged under the accessibility of KMC service.

### Access

**Place of delivery:** Hospital and home delivery came up as sub-themes under this theme.

Hospital delivery emerged as a facilitating factor to KMC utilization, which influenced by short distance to the nearest government facility, availability of hospital resources (human and material), mandatory and support by the community leaders.

*"We are also lucky that this hospital is in our village and mothers access the hospital services without walking a long distance" CL 2*

*"Sometimes the woman can fail to deliver naturally the nurses take the woman to the theatre for delivery through an operation which in the village there is no operation" CL 1*

*"Us, community leaders, we have got the mandate to punish people if they give birth in the community, they pay a penalty. Because of this, most of the women are giving birth at the hospital" CL 9*

*"We encourage mothers to give birth at the hospital; we encourage them frequently through gatherings that women should give birth at the hospital and not in the village. Because it is at the hospital where mothers get adequate care" CL 12*

Home deliveries and/or born before arrival<sup>[3]</sup> identified as the barriers to KMC utilization. The home deliveries were due to lack of ambulance services, lack of hospital material resources, long distance and geographical location of the nearest government health facility (hard to reach areas), cultural beliefs (selling of umbilical cords by health providers), health providers' attitude (hostile behaviour), and parental non-health seeking behaviour, as indicated below.

*"When they call for an ambulance they are told the ambulance does not have fuel, as such they do not give birth at the hospital due to challenges with transportation" CL 4*

*"In Mangochi, the only big government hospital we have is this Mangochi hospital. The hospitals that are around this community belong to either Roman Catholic or Anglican churches. So, what happens is mothers go to those church hospitals to giving birth. But, due to inadequate or few equipment at these hospitals, mothers are told that we don't have equipment to help you with delivery, so you should go to Mangochi hospital, as such they may give birth on their way to the hospital" CL 7.*

*"Some mothers deliver at home due to lack of transportation from the village to where the hospital is situated. The town is far away from our villages, especially the village called Bala, which is across this lake" CL 10*

*"Women think that if they go to deliver at the hospital. The health workers will take other things like baby's belly button and placenta and send them to other countries for money" CL 6*

*"Women are afraid that when they reach the hospital, sometimes, they have a warm welcome, most of the times they are shouted at in the labour ward. Female nurses insult the mother saying, 'there! you should be doing what you were doing when you got pregnant, you should deliver there'... at the end women find it so good giving birth at home unlike being shouted at by the nurse at the hospital" CL 8*

*"Some women give birth at home willingly, although the community leader sensitized its community to give birth at the hospital. As such, they fail to go in time to the hospital so they deliver at home" CL 3*

**Strengthen referral system** by referring newly home delivered mothers to the hospital identified as a facilitating factor to KMC utilization, as narrated below.

*"When the mother has given birth at home...we encourage her to wrap the baby nicely and go to the hospital for care" CL 11*

### Buy-in

**KMC knowledge:** KMC knowledge by CLs identified as the facilitating factor to KMC utilization while no prior knowledge of KMC by mothers at antenatal care clinic and lack of Knowledge by the CLs emerged as a barrier to KMC utilization, as follows.

*"When the baby is born before its time it is placed on its mother's stomach the reason being the baby's stomach and the mother's stomach should contact each other" CL 1*

*"We are puzzled that the Health Surveillance Assistants (HSAs) who conduct scale (outreach clinic) they do not explain about kangaroo, why? We do not know about the care of kangaroo, why do they not teach these mothers? There we are puzzled, because HSAs could have been the ones teaching the mothers about kangaroo when they are doing scale. Because when mothers are taught they tell their husbands what they learnt, but we were not told anything" CL 5*

*"We haven't had any education on Kangaroo, we are not interested in these children. This is our first-time hearing about these babies. In our community kangaroo for the baby born before its time is unknown and no one has no interest in kangaroo, we just stay" CL 12*

Stigma to LBWIs by association of LBWI delivery to cultural taboos by the community brings fear to the mother of been ridiculed by the community, which was identified as a barrier to KMC utilization.

*"In our village when a woman has given birth to a baby before its time, she does not publicise she keeps it a secret in fear of being ridiculed as people will be saying all sorts of things that lead to her giving birth before the baby's time. With that sometimes we cannot know when it happens" CL 6*

### **Traditional/cultural norms**

Social obligations and gender roles identified as the barriers to KMC utilization, as CLs narrated.

*"We, black people, have so many things that need to be done when the mother has given birth. The mother lies the baby on a mat and does house chores unlike baboons they can have their babies cling to them, but the human baby needs its mother's care all the time, as such it is not possible to do kangaroo the whole day" CL 3*

### **Medical issues**

Mother's health: Pain after delivery identified as a barrier to KMC initiation.

*"Mother cannot start kangaroo as soon as after delivery as the mother will be in pains due to delivery, as such putting the baby to the tummy is torture" CL 4*

## **Acceptability of KMC service**

**Buy-in** (Knowledge on the causes of LBWI birth, Advantages /outcome of KMC and preference of LBWIs care), **Medical issue** (safety of KMC on LBWIs) and **cultural beliefs** were the four themes identified under acceptability of KMC.

### **Buy-in**

Knowledge on the causes of LBWI birth: scientific based causes and traditional beliefs-based causes emerged under this theme.

Accidents, gender based violence and maternal malnutrition were identified as the scientific causes of LBWI delivery, that may facilitate the utilization of KMC,

*"When a woman is beaten or has been involved in an accident she can give birth to a baby before its time" CL 9*

*"We believe that if the woman had inadequate food in her body, during her pregnancy, she can deliver early" CL 5*

Promiscuity and extensive sexual intercourse were the identified traditional belief causes of LBWI delivery that may hinder mothers from utilizing KMC.

*"This thing of babies born before their time started a long time ago. When it happens, elders were having ideas that either the man or the woman had extra marital affairs, so, they have mixed bloods from outside their marital home and the baby got sad and came out early" CL 3*

*"Sometimes elders say that when sleeping with a woman some men would do it so hard that they can perforate the uterus and the baby would come out early" CL 6*

Preference of LBWIs care: preference of incubator care over KMC for a LBWI recognized as a barrier to KMC utilization.

*"The box care [incubator care] will be good. In the box, there is warm air when the baby is breathing that it is as if the baby is still in its mother's stomach. When the baby is on its mother's stomach, it breaths in cold air which is not good. That is why for mothers giving birth at the hospital is good so that baby should be put in a box" CL 10*

Advantages /outcome of KMC: warmth, enhance intelligence, positive lived experience with KMC on LBWI and positive outcome with KMC service were the sub-theme identified to facilitating the utilization of KMC by the PLBWIs.

*"When the baby is placed on its mother's tummy it gets warm gets energy like a baby born mature, born with completed months" ... at the end this baby, if God gives it chance to be well, it tends out to be an intelligent child more than children that were born with complete months" CL 5 & 6*

*"People tend to agree to utilize a health service if they see that the service helped someone then they have confidence to go and use it... sometimes the benefits of the care influence the decision maker to agree or to refuse the service" CL 2 & 9*

### **Medical issue**

Safety of KMC on LBWIs: KMC service perceived by some CLs as safe and some CLs perceived it as not safe for a LBWI.

Safety of KMC noted as a facilitating factor for KMC utilization, while non-safe of KMC identified as the barrier to KMC utilization.

*"There is no danger in using KMC, that's according to how the radio presenter narrated about kangaroo" CL 7*

*"There is a danger to the baby when it is on her mother's chest, because the baby is squeezed unto its mother's chest and denied of air to breath, which can cause suffocation and death" CL 5*

#### Traditional/cultural norm

**Buy-in; Cultural beliefs:** the cultural belief of not considering LBWIs not yet humans shown as the barrier to KMC utilization.

*"We think that they are good Samaritans because "According to our culture taking care of a baby born before its time will just waste mother's time as she cannot do that for four months, others will just sleep on them" CL 3*

## Affordability of KMC service

**Access** (cost of KMC service) identified as theme under affordability.

**Cost of KMC service:** some CLs perceived KMC as a cheaper service to use, while some considered KMC as an expensive service to use, as narrated below.

*"Because of poverty, some people cannot go and wait at the hospital since they will be buying firewood, food/relish, transport and more expenses...when a mother is at the hospital with the time spent, most of the things at home are stagnant. At the hospital the mother uses electricity and the nurse are on them instead of helping others" CL 1 & 4*

*"Kangaroo can be cheap if the mother takes care of the baby at home because the things that the mother uses in the hospital are also locally available at home" CL 9*

## Personal health behaviour

Access (Health seeking behaviour, women empowerment and attitude towards LBWI and KMC) identified as factors affecting KMC utilization under personal health behaviour.

#### Access

**Health seeking behaviour:** utilizing health advice and prior acceptance of any outcome of pregnancy emerged as the facilitating factors to KMC utilization, whereas parental attitude

*"When you are ignorant on anything, it is good to listen to those that have knowledge on how to deal with the health problem at hand" CL 5*

*"It can happen that these pregnant women can give birth to a baby before its time due to different reasons" CL 2*

**Women empowerment in health decision making:** Woman as a decision maker was identified as a facilitating factor in KMC utilization, whereas lack of women empowerment in decision making fell as a barrier to utilization of KMC, as reported below.

*"The mother gives the authority to do kangaroo because she is the owner of the baby and she knows the importance of the baby hence she gives the care as for a man he only has the responsibility of buying things and the one taking care of the baby is a woman" CL 4*

*"The community has a hierarchy according to tradition. On the first position is the chief then cohorts, in the cohorts there are households in each household there is ahead of a family who has authority in making decisions of each and everything happening in the family" CL 7*

#### Buy-in

**Attitude towards LBWI and KMC:** positive attitude towards LBWI on KMC and positive attitude towards mothers practicing KMC, whereas negative attitude towards LBWI on KMC emerged as a barrier to KMC utilization, as reported below.

*"I do not think of anything about an under-weight baby [LBWI] and kangaroo, although I heard the issue on radio, presented so scanty, and this Kangaroo is new to us and I cannot associate it with anything bad, maybe my friends can" CL 4*

*"When we see a woman with a baby at the front and covered, we always think that the baby is dead. We do not think that the baby is alive because it is a strange thing. In our culture putting the baby in front and covering it, it means the baby is dead, so mothers that put their babies in front and covered we think they are caring a dead baby walking around, which is a taboo" CL 11*

*"When we see mothers with babies in front, we feel pity for them and culturally if we have something to give them we do, to assist them in taking care of the babies" CL 3*

## Quality of care



Access identified as the theme on quality of care due to perceived poor obstetric care; slow response to obstetric emergency in the community and negligence in providing essential obstetric care that merged as barriers to KMC utilization as shown below.

*"When the ambulance is called to come pick up the woman in labour, the ambulance comes in late; sometimes it does not come at all. It is our plea, that ambulances should come in time so that the mother delivers in the hospital and starts kangaroo in time" CL 2*

*"The nurses leave the women struggling on their own in the labour ward. Nurses are angrily at the delivery ward, they are harsh to the pregnant women" CL 5*

[1] Utilization of a service is described as availability, affordability, accessibility and acceptability of the service, personal behaviour and quality of care (18,25,26)

[2] BBAs (Born Before Arrival) are babies that are born on the way to the health facility for an assisted delivery with a skilled health provider (35)

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## Discussion

The discussion of this study based on the themes identified by CLs as facilitators and barriers to KMC. The themes include access, buy-in, traditional/cultural norms and medical issues.

## Access

Provision of detailed KMC information by the skilled KMC providers perceived to influence KMC utilization, which may influence informed decision making in KMC utilization unlike non-availability of KMC providers.

WHO's emphasise that skilled KMC providers are the back-bone for KMC service, as such availability of the providers facilitate KMC access and utilization (2,29–31). CLs perceived putting to practice the health providers' advice and portraying a positive health attitude toward the pregnancy outcome was significant to KMC utilization. Studies agree that that health-seeking behaviour and positive attitude towards LBWIs is paramount in KMC access and utilization (15,32). In this study, health-seeking behaviour coupled with women empowerment and gender inequality in making decisions related to health issues, facilitated and hindered KMC utilization, respectively. This concedes to other studies that women who are empowered to make informed health decisions access health services in time, unlike those that depend on their husbands to make decisions they may access the services later or not at all (2,15,33).

CLs perceived that hospital delivery promoted KMC access and utilization in cases where government health facility are close by, hospital health providers and material resources are available. Besides the availability of resources, influential role of the CLs mandated women to deliver at the health facility in fear of punishment, which facilitated KMC access and utilization. Studies have shown that short distance to the health facility, availability of resources at the health facility and influential role of the CLs facilitate accessibility of KMC service prompt women to access health services (2,17,29,30).

Some pregnant women delivered at home and/or on their way to the hospital, however, the CLs supported and referred mothers and new-borns to health facilities to ensure they access health professional care, this promoted KMC accessibility and utilization when there is a LBWI birth.

Malawi national? safe motherhood policy is against home and BBA<sup>[1]</sup> delivers, promotes hospital deliveries and hospital check-ups after home deliver (34). WHO and previous studies note that referral system facilitate accessibility and utilization of the health services (29,33,35). Nonetheless, home delivery and born before arrival were barriers to KMC utilization, due to lack of ambulance services, lack of material resources, long distance and some communities' geographical location to the nearest health facilities, hostile behaviour of the health workers, cultural beliefs, non-urgency in implementing obstetric essential services and parental non-health seeking behaviour.

Studies concede with our finding that long distance and geographical location deter mothers from accessing KMC (10,36), unfriendly health facility environment, attitude of the health workers and lack of resources promote home deliveries and inaccessibility of health services (14,37,38). Studies further explain, health delivery systems (ambulance services and provider's attitude) play a role in influencing decision making in utilizing health services, where there is health seeking behaviour and women empowerment in health issues (38).

Some CLs viewed KMC as a cheap service and that promoted its utilization, unlike, other CLs perceived KMC as an expensive care to use despite no fee attached, this deterred KMC utilization. Several studies viewed KMC as an affordable service over incubator care (39,40), although, some studies pointed out that its demand for long hospital stay makes it an expensive service to use (16,41).

## Buy-in

Buy-in (KMC knowledge, causes of LBWIs birth, advantages/outcomes of KMC, attitude towards LBWI and KMC, stigma towards mother with a LBWI and preference of LBWI care),

Some CLs perceived that prior knowledge on KMC prompted them to support PLBWIs to access and utilize KMC; other CLs felt lack of knowledge deterred them from supporting KMC. This finding correlated with the influence knowledge on causes of LBWI delivery had on KMC support, access and utilization. CLs that had knowledge on medical causes of LBWI delivery exhibited act of KMC support than those who had knowledge that LBWI delivery was due to

traditional beliefs. Studies show that influential leaders who have knowledge in a phenomenon are able to influence utilization of the health service and cultural/traditional beliefs prevent access and utilization of a health service (17).

This study also found that lack of KMC message dissemination at antenatal clinic hindered pregnancy woman from making decision on KMC and access the service in time when deliver a LBWI. Empirical evidence concedes to our finding that antenatal care clinic is an equally important service delivery point to disseminate KMC message to pregnant women, for an informed decision making (21). Positive outcome of KMC found to be a propeller for the PLBWI in utilization of KMC, this finding is similar to several studies done that have proven KMC as an effective intervention on LBWIs lives' outcomes (42–48).

Asides notable KMC outcomes, this study found that positive attitude towards LBWI and KMC practice influenced KMC access and utilization unlike associating KMC and LBWIs to act of cultural taboo, this influenced fear of being judged and stigmatised, which brought fear of ridicule to mothers practicing KMC, hence, the preference of incubator care over KMC. Several studies pin cultural/traditional norms on beliefs that LBWIs existence is an outcome of a taboo, and KMC positioning is a diversion of cultural practice that subjects PLBWI to ridicule and it prevents KMC utilization (12,14,22,23,49).

## Medical issues

This study found KMC as a safe intervention to use, which facilitated PLBWIs access and utilization of KMC. Although, some CLs viewed placing LBWIs on KMC position as unsafe for the infant and that maternal health soon after delivery may not permit her to practice KMC, these hindered KMC utilization. Several studies indicate that mothers feel safe using KMC than incubator care, this finding promotes KMC utilization (50), although, some studies found mothers feeling a sense of safety in utilizing incubator care over KMC (32,33,49) and maternal ill-health is a culprit in preventing KMC utilization (38). Nonetheless, World Health Organization (WHO) declares KMC as a safe intervention to use for the LBWIs survival (39).

## Traditional/cultural norms

KMC practice was pinned down as an act of refraining women from fulfilling gender roles, as CLs felt women are socially obliged to perform household chores, as such, practicing KMC meant diverting from cultural norm of been a woman. Therefore, a sense of abiding to cultural norms bars women from accessing and utilizing KMC. Studies agree to our finding that gender roles, gender inequality and lack of support in prevents mothers from accessing and utilizing KMC (2,37,38).

[1] BBAs (Born Before Arrival) are babies that are born on the way to the health facility for an assisted delivery with a skilled health provider (35) .

## Conclusion And Recommendations

Despite the challenges faced by the pregnant women to deliver with skilled birth attendants, most of the mothers deliver at the hospital due to the Malawi National safe motherhood policy and the community bi-laws against home delivery. In a way, these measures promoted access and utilization KMC service. However, continuity of community KMC is a challenge due to lack of KMC knowledge by the CLs that hindered the CLs to support the community with KMC issues. The community leaders have displayed an influential role in promoting hospital delivery in support of the National safe motherhood policy, if equipped with KMC knowledge the CLs may support KMC implementation at home/community without prejudice. Furthermore, the study has provided essential information about the barriers and facilitating factors for KMC, which may explain the high neonatal deaths.

### *Policy implications*

The findings of this study contribute to the MNCHS 2011–2022 by strengthening and planning of preventive strategies incorporating them to the existing approaches in Malawi. As such, studies have to be conducted to assess CLs' views on KMC recommendations to promote KMC accessibility and utilization by the PLBWIs.

## Abbreviations

BREC: Biomedical Research Ethics Committee

CLs: Community Leaders

FGDs: Focus Group Discussions

HSAs: Health Surveillance Assistants

KMC: Kangaroo Mother Care

LBWI: Low Birthweight Infant

MNCHS-2017-2022: Malawi National Community Health Strategy 2017-2022

NGOs: Non-governmental organizations

NHSRC: National Health Sciences Research Committee

PLBWIs: Parents of Low Birth weight Infants

WHO: World Health Organization

## Declarations

### Ethics approval and consent to participate

The UKZN Biomedical Research Ethics Committee [BREC] (Ref no: BE080/18) and Malawi's National Health Sciences Research Committee [NHSRC] (Ref no: 18/01/1964) reviewed and approved the protocol and consent form for the study. The information sheet furnished the participants with the aim of the study, risk of the study, inclusion and exclusion criteria. Upon agreeing to participate, the participants read and signed the consent form and took part in the FGDs

### Consent for publication

Not applicable

### Availability of data and materials

Data from this study is the property of the Government of Malawi and University of KwaZulu-Natal and cannot be made publicly available. All interested readers can access the data set from Malawi's National Health Sciences Research Committee (MNHSRC) and the University of KwaZulu-Natal Biomedical Research Ethics Committee (BREC) from the following contacts: THE CHAIRMAN, MINISTRY OF HEALTH (RESEARCH DEPARTMENT), P.O BOX 300377, Lilongwe 3, Tel: (+265) 6017 26422, Fax: (+265) 017 26418, Email: cmwansambo@malawi.net or rmajamanda@gmail.com. The Chairperson BIOMEDICAL RESEARCH ETHICS ADMINISTRATION Research Office, Westville Campus, Govan Mbeki Building University of KwaZulu-Natal P/Bag X54001, Durban, 4000 KwaZulu-Natal, South Africa Tel.: +27 31 260 4769 Fax: +27 31 260 4609 Email: BREC@ukzn.ac.za

### Competing interests

The authors declare that they had no competing interests in the study.

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### Authors' contributions

CTM designed the study, collected data, carried out the analysis and wrote the paper. SM and TGG supervised the study and analysis, wrote the paper, reviewed and modified their contributions to the original manuscript. All authors read and approved the final version of the manuscript.

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