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SUPPLEMENT ARTICLE

Community perceptions towards the new role of traditional birth attendants as birth companions and nutrition advocates in Kakamega County, Kenya

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Abstract

Delivery with skilled birth attendants is important for reducing maternal mortality in developing countries. However, traditional birth attendants (TBAs) are abundant in such settings, managing deliveries without the skills and resources necessary to prevent mortality in this situations. Interventions that have been proposed to mitigate the situation include redefining the role of TBAs to nutrition advocates and birth companions for pregnant women to health facilities. We thus explored community perceptions on these new roles of TBAs, as birth companions and nutrition advocates, and their influence on health facility deliveries in Kakamega County, Kenya. Qualitative data was collected through key informant interviews with health workers and focus group discussions with lactating mothers, pregnant women, husbands, community leaders, community health volunteers, and TBA. Content analysis was conducted; data was organized into subthemes and conclusions made from each subtheme using Atlas.ti software. TBAs adopted their birth companion role as the majority offered companionship to mothers delivering at health facilities. Mothers were happy with this role as TBAs continued providing companionship even after delivery. The community members were happy with the new role of TBAs and reported increased deliveries at the health facilities. In contrast, TBAs did not adopt the nutrition advocacy role sufficiently. We found that redefining the role of the TBAs into birth companions to support facility-based delivery is thus feasible and acceptable. Nutrition advocacy by the TBAs should be strengthened to maximize on the opportunity provided by the close association between TBAs and mothers and the community.

KEYWORDS

birth companion, nutrition, nutrition advocate, pregnant women, skilled birth atttendant, traditional birth attendant

1 | BACKGROUND

Maternal and neonatal mortality continue to be high priority on the health agenda of less developed countries (Mfrekemfon & Okere, 2015; Oshonwoh, Nwakwuo, & Ekiyor, 2014; WHO, 2005). Contributors include suboptimal maternal and neonatal health practices such as inadequate uptake of antenatal care (ANC) and poor delivery and postnatal care (PNC) (Say, 2008; Sheela, 2008; UNICEF, 2007; Zupan, 2005). These suboptimal practices are partially attributed to limited public health resources in developing countries where childbirths mostly occur at home, unattended by skilled birth attendants (SBAs) (Montagu, Yamey, Visconti, Harding, & Yoong, 2011). Experts promote delivery at health facilities with SBAs as one of the main priorities for reducing maternal and neonatal mortality in developing countries (UNICEF, 2016; World Health Organization, 2004).

Community-based intervention strategies employing locally accessible personnel and resources to deliver key maternal and neonatal health and nutrition interventions are now widely recognized (Bhutta et al., 2013b; Costello, Azad, & Barnett, 2006; Renfrew, McCormick,

Wade, Quinn, & Dowswell, 2012) and can be critical to reducing mortality. Traditional birth attendants (TBAs), alongside other community based personnel are now increasingly recognized as important stakeholders in delivering these interventions and therefore could contribute significantly to improving health and nutrition outcomes of mothers and neonates in developing countries (Bhutta et al., 2013a; Sibley et al., 2007). The World Health Organization (WHO) developed community health strategy recommendations which emphasize the optimization of health worker roles to improve access to key maternal and newborn health interventions through task shifting (WHO, 2008). One key focus is reorientation of TBAs to non-delivery community-based roles such as birth companions, thus engaging them positively in the health care system (Ribeiro Sarmento, 2014; Tong, Sainsbury, & Craig, 2007). Utilizing TBAs in the formal health care system, however, continues to elicit mixed views with most encouraging cautious incorporation of trained TBAs into primary care systems (Tong et al., 2007).

The Community-based Maternal and Neonatal Health and Nutrition (CBMNH-N) project in Kakamega County, located in Western Province of Kenya, was created to demonstrate how to integrate nutrition into health programmes at community level with proven interventions (Kung'u et al., 2018). As one component of the project, an innovative approach to integrating TBAs into the formal health care system with a view of increasing deliveries by SBAs was implemented. TBAs were re-oriented to become birth companions and nutrition advocates, and their basic roles were to provide companionship during pregnancy, delivery, and postpartum; advise women to attend ANC and PNC; advocate for consuming nutritious diets before, during, and after pregnancy; and watch for and counsel on danger signs during pregnancy.

There is limited evidence on the role of TBAs as birth companions and their place in improving demand for delivery services at the health facility. This paper, thus, establishes the community's perceptions on the new role of TBAs by documenting the experiences of re-oriented TBAs, mothers who received care from these re-oriented TBAs, community members, and key health facility providers who worked with them; and also observes whether the re-oriented TBAs influenced demand for health and nutrition services at primary health facilities. Lessons learned from this study can inform the scale up of this reorientation in Kakamega, County and beyond.

Key messages

- Trained TBAs have the capacity to disseminate knowledge of beneficial maternal practices to the community and have the potential to influence the uptake of primary health care services during pregnancy and after delivery.
- As TBAs are re-oriented to become birth companions, their complementary capacity for nutrition advocacy should also be strengthened to maximize the opportunity provided through their close associations with mothers.
- Effectively linking re-oriented TBAs with skilled birth attendants in existing health system through community based collaborative models has the potential to increase the number of women accessing skilled care and thus increase facility-based deliveries.

2 | METHODOLOGY

The CBMNH-N project equipped TBAs in the intervention group through training using a guideline for birth companions developed during the project. This training addressed maternal nutrition, potential risks during pregnancy and appropriate referrals, and their roles when admitting and providing companionship for pregnant women during facility deliveries. This training also involved facility health care providers to allow both TBAs and providers to recognize each other's value and role. For the analysis of the perceptions on the new role of TBAs, we used the endline data of the CBMNH-N project (Kung'u et al., 2018). This paper focuses only on the qualitative results of the project. Qualitative data were collected targeting different stakeholders using focus group discussions (FDGs) and key informant interviews (KIIs). Study participants were purposively selected with the help of local community members for all the FGDS, which were conducted in the selected sub-counties in central identified venues where respondents were assured of privacy of their discussions. The KIIs were conducted in selected health facilities in participating health facilities, targeting facility-based health workers directly involved in the provision of frontline maternal and neonatal healthcare services in the health facility, in all cases they were nurses. Those eligible for FGD participation in the study were as follows:

1. TBAs: TBAs without formal training who acquired their skill from apprenticeship at home; and formally trained TBAs who had received training outside the home through a local health centre and/or hospital;
2. Mothers with children between 0 and 11 months of age;
3. Pregnant women: women from 1 month to 9 months gestational age;
4. Influential persons to a mother: husbands/father (men with wives who were pregnant or have at least a child under 5 years) and mothers-in-law;
5. Community leaders: identified and official leaders in the community such as the village elders, teachers, and religious leaders and youth leaders; and
6. Community Health Volunteers: volunteers who are trained on health and work within a geographical area in their community and are attached to a participating health facility.

2.1 | Data collection

Twenty-nine FGDs were conducted in the selected intervention and control sub-counties. Each of the FGDs was composed of 8–12

participants. Each FGD session was recorded and lasted between 45 and 90 min and had a moderator and an assistant who took short notes during the discussions and noted the non-verbal cues. The FGDs were conducted by local research assistants in local languages, *Luhya* and some in *Kiswahili* which were later transcribed and translated into English. The local research assistants were trained on the study aim and objectives and how to undertake qualitative data collection including moderation, note taking, and how to use a recorder. In addition, each had prior experience with qualitative research methods, had to have a minimum of completed tertiary (college or university) education, and could comprehend the local dialect *Luhya*. Participation by respondents was voluntary and informed consent was confirmed by signature or thumb print from each participant. Participants were assured of confidentiality and their anonymity has since been maintained by replacing names with numbers in all references.

Fifteen KIIs were conducted with frontline maternal and neonatal health workers at the selected health facilities within the intervention sub-counties, whereas 10 KIIs were conducted in the control sub-counties. The sessions were audio taped for each KII and lasted 45 to 60 min. All the KIIs were conducted in English. The questions asked in all sites were similar, but there was divergence when exploring the roles of TBAs. In the control sites, the questions focused on the roles of TBAs, whereas in the intervention sites the questions focused on reorientation of TBAs as birth companions and nutrition advocates (Table 1).

2.2 | Data analysis

All FGDs and KIIs from both the intervention and control groups were audio recorded and the notes were taken in English. Each transcript was then cross-checked for accuracy by listening to the audio while going through the transcripts to ensure no data was omitted. Additionally, field notes complemented audio tapes to assist researchers in documenting impressions, environmental context, behaviours, and non-verbal cues not captured in audio tapes. The transcriptions were inductively and deductively analysed into key themes, concepts, and categories using *Atlas TI* software. These key themes formed the basis for further data analysis. In this paper, a comparative analysis was undertaken through triangulation of data sources and methods. This comparison was done by reviewing the information from different methods of data collection (KII and FGDs), different categories of respondents (i.e., TBAs and CHVs), and different areas of study sites, reviewing similarities and differences across the intervention and control groups.

2.3 | Ethical considerations

The survey received ethical approval from a nationally recognized ethical review committee in Kenya. Additionally, permission to conduct the survey was obtained from MoH at national and county level. Informed consent by signature or thumbprint was sought and obtained from each participant before being enlisted in the study.

3 | RESULTS

This study results show an overview of the reorientation of TBAs as birth companions and nutrition advocates in Kakamega County by establishing the adaptability and feasibility of the re-oriented TBAs in contributing to community strategies to improve maternal and neonatal outcomes. The thematic areas that emerged included the acceptance and recognition of re-orientated TBAs; the re-oriented TBAs adoption to their new role as birth companions and nutrition advocates; a change in the TBAs knowledge and training; improved relationship between the health workers and the TBAs; and the importance of addressing barriers to successful implementation of reorientation of TBAs. Conceptualization and development of key thematic areas is summarized in Table 2.

3.1 | Changing norms for TBA's service and care practices

Community members in the intervention group recognized a shift from TBAs traditional role of delivery, including more support for facility care and delivery, guidance on good nutrition for pregnancy, and emotional support during facility deliveries. FGD discussants in control sites also noted shifts occurring in TBA roles, even without official training on the same.

Participating women indicated that the TBAs encouraged pregnant women to seek health facility services and accompanied them during delivery at the health facility. One way this shift was recognized is articulated by a lactating mother:

> *"Nowadays they (re-oriented TBAS) encourage women to attend antenatal and postnatal care, in addition to escorting you to hospital." (FGD Lactating mother, Matungu)*

In the comparison group, the TBAs reportedly continued with their primary role of delivery, although it was also noted that some of the TBAs were not conducting deliveries due to advocacy by health stakeholders in the area on importance of skilled care in delivery.

> *"Where I come from, the traditional birth attendants' help in delivering, although this role is slowly fading off. Currently, they are being cautioned not to deliver women." (FGD Community Leader, Khwisero)*

The TBAs' adoption of the new roles away from their primary role of delivery in the intervention group could have been influenced by community members' awareness that health care providers are better able to handle and manage obstetric and neonatal complications.

> *"TBAs should always refer women to experts because there could be complications that they would not know how to handle, but the moment they refer the mothers it eases the work." (Community member, FDG Community Leaders, Mumias)*

Some of the intervention community members reported that the number of maternal and neonatal deaths had dropped since TBAs now referred pregnant women to deliver in the health facilities.

TABLE 1 FGDs and KII guides used for various stakeholders on the TBAs and their role after reorientation as births companions

Type of interview	Key questions
FGD with TBAs	1. How do you begin to assist a pregnant woman? Can you describe to me the type of advice and help you give to pregnant women? (As TBA, the facility ANC visits) 2. Are some pregnancies more dangerous than others? And how does one know? 3. How do women choose to where to deliver? Do you ever accompany your client to hospital for delivery is she chooses to deliver in hospital or in case of emergency? 4. What is your experience with working with pregnant women who delivery in facilities? What is the means of transport and who pays for this? 5. How would you describe a facility-based birth? How do you support women after delivery? What is the main kind of advice and support mothers need right after birth? 6. In case of a complication, where and how to you refer a client to a health facility? 7. What do people in the community say about the support you provide to pregnant women? 8. What is your relationship with the community leaders, community members, and CHW's and health providers?
FGD with CHV	1. What is your role as a CHV in the community with regard to pregnant women? 2. What do you tell a pregnant woman about the facility delivery and ANC visits? Are you paid for the delivery, and if so what is the amount or is it in kind? What do families give you in exchange for helping with the pregnancy and delivery? 3. What do you tell women about diet? 4. How do you describe danger signs of pregnancy? 5. How do you support women after delivery? What advice do you give on need to attend postnatal care at facility? 6. What do people in the community say about the support you provide to pregnant women? 7. In case of a complication, where and how to you refer a pregnant woman to a health facility? 8. What is your relationship with the community leaders, TBAs and health providers, and the community members? 9. What do people in the community say about the support you provide to pregnant women? 10. Do you ever accompany a pregnant woman to a hospital for delivery is she chooses to deliver in hospital or in case of emergency? 11. What are some of the reasons women have to be referred to a facility? 12. What is the referral mechanism in the community and who finances this? Have you seen cases where someone does not have the money to pay?
FGD with pregnant women and mothers with children 0–11 months	1. Tell me about your experience seeking care during your pregnancy. Who did you get care from? Do you think you received adequate care from TBA, birth companion, and health facility provider? 2. What do you think about ANC or what have you heard about it? Why do people go, are there others who do not go, why? What kind of advice did you get during an ANC visit? (nutrition during pregnancy probe types of food to eat, danger signs of pregnancy, and delivery) How does this advice compare to what your grandmothers or family members tell you? 3. How long does it take you to arrive at the facility and how much does it cost? 4. Why do some pregnant women go the health facility for antenatal care while other pregnant women do not seek any care at the health facility? Tell me about the type of women who delivers at the health facility? Tell me about the type of women who delivers at home? 5. Where did you deliver your baby and what was the outcome? Tell me about your experience? How did you decide to have your delivery this way? Would you recommend this to your neighbour or sister also? What would you do next time? 6. What type of advice did you receive advise on need to attend postnatal care at facility? How often do you think a woman should go to PNC? Are there any challenges in going? 7. Have you ever had a complication during any pregnancy or delivery? What did you do? In case of a complication for any women during labour, how are they taken to a health facility? What are the challenges? 8. What are some of the reasons women have to be referred to a facility? What is the referral mechanism in the community and who finances this? 9. Do you know of any woman or have heard of a woman who died during her pregnancy or after delivery? Why did it happen? 10. When would you recommend a woman to go to a TBA? CHV? Health facility staff for advice or for delivery?
FGDs with husbands and fathers	1. In your wife's last pregnancy, where did she attend ANC, when did she start ANC, and how many times did she attend? How long did it take for her to reach the facility and how much does it cost? 2. Where did your wife deliver your baby? What was your experience and impression of the care provided? (home with TBA or facility) 3. What was the reason for your wife's place of choice of delivery and what is your overall satisfaction about the delivery process wherever it occurred? 4. In the community if a woman has a problem during pregnancy or labour what happens? If a woman is taken to a facility—how long does it take to reach it and how much does it cost? How does someone find transportation for the woman and notify the health facility? 5. What costs are involved in a complicated pregnancy? What is the referral mechanism? 6. Do you know of any mother who died during her pregnancy or after delivery? If so what did she die from? What, in your opinion, could have been done to avoid this death? 7. When should a woman attend a TBAs, CHWs, and health providers? Do you know the ones in this community and do you know what they do? 8. What type of support should a husband provide? (prompts—assistance with work so she gets enough rest, paying money for transport to go the health facility for ANC or delivery, buying medicines, buying food advised in the clinic, and accompanying her for ANC and delivery)

(Continues)

TABLE 1 (Continued)

Type of interview	Key questions
FGD community leaders	1. What do you think of the role of TBAs? CHWs? Health facility staff? Husbands? Grandmothers? 2. What is your relationship with the community, TBAs, CHWs, health providers, pregnant women, and husbands of pregnant women? 3. How common is it for pregnant women deliver with the TBA vs. at the facility? 4. How do families decide where a woman will delivery? Who helps to make the decision? What are some of the reasons for them delivering at their place of choice (probe especially for home/TBA delivery)? 5. Have you ever been involved, in case of a complication with pregnant women in with assisting with the referral to a health facility? 6. What do you think is the ideal role for a CHW and TBA? 7. Would you like to see CHWs and TBA perform any other tasks 8. What is your role in supporting pregnancies in the community?(Probe for transport, counselling, provision of services, and referral system) 9. Would you take on a role for encouraging the community to use health facilities for delivery? Why?
KII for frontline health facility worker	1. What role do you play in this facility, especially relating to pregnant mothers? 2. What ANC services/ facilities do you provide here? What is your role in providing post-partum care? 3. How and when do pregnant women first approach you for support and advice? 4. What do you tell them on the importance of delivering at the health facility? 5. What do you do in case of an emergency? If referral, do you accompany your clients to the referral hospital in such an emergency? What are the costs? 6. How would you describe your relationship as a health facility staff with this community? How do you relate with the TBAs, CHVs? 7. What is your role in the supervision of the TBAs/CHVs? 8. What do you envision would be the role of TBAs, CHVs? 9. How do you feel about TBAs accompanying the client to the hospital during labour? 10. What do you think can be done to encourage more women to deliver at the health facilities?

TABLE 2 Conceptualization and development of key thematic areas

Emerging themes	Key theme	Topic areas investigated during FGDs and KII
Community perceptions of the re-trained TBAs as birth companions and nutrition advocates	Changing norm for TBAs service and care practices	Awareness and recognition of the importance of the use of health facilities for maternity services. Community care seeking choices and decision making (practitioner preferences; reasons for this) Experiences of antenatal and postnatal care (characteristics of good quality care) Community preferences for care during and after pregnancy (reasons for this decision making about care) Perceptions of the re-trained TBAs as birth companions and nutrition advocates
Noticeable change in the TBAs scope of practice	Need for re-orienting TBAs	Knowledge of TBAs and their experience after training (reorientation; counsel pregnant women on the need for ANC and delivery in the hospital; referral to health facility for women with complications during pregnancy period; promotion of adequate maternal nutrition; rest, dietary, and workload advice; and counsel women on importance of hygiene and environmental sanitation)
Perceptions of TBAs on their new role as birth companions and nutrition advocates in the community	Adoption of TBAs to their new role	TBAs perspective of their new roles as birth companions and nutrition advocates (TBAs report being better at recognizing and reacting to complications in pregnant women and being able to advise women about when and where to seek help).
Relationship between the re-oriented TBAs and other health workers	Changing relationship among health workers and TBAs	Community perceptions with regard to the relationship between the TBAs, CHVs, and TBAs perspective of the new roles of TBAs as birth companions and nutrition advocates.
Challenges to re-orientation of TBAs	Barriers encountered by TBAs	Community perception on the relationship between the TBAs and other health workers. Integration of the new roles of TBAs into the main health care system (incentivization and clear division of roles)

"Re-orientation of TBAs has really helped a lot because the cases we had of children dying or a mother dying during delivery with the assistance of a TBA are not there anymore." (Mother, FGD Mother to Mother Mumias)

Nowadays they are referred to as birth companions, and they are doing a good job here. That is why maybe the births [in health facilities] have gone up. It has improved cases of skilled deliveries. At least the mothers deliver at the facilities. (Nurse, KII Matungu)

The re-oriented TBAs advised women on importance of nutrition during the pregnancy period. The TBAs nutrition advocacy was mainly limited to advising pregnant women on locally available nutrient-rich foods to promote a healthy pregnancy and avoid complications, such as anaemia in pregnancy. The TBAs did not focus on other nutrition

issues hence need to retrain and emphasize on importance of nutrition in maternal and neonatal health.

> *The first thing you tell pregnant woman is to go to the clinic and then advise her to eat foods that add blood and energy to the body. For example she should eat amaranthus and other traditional vegetables, these will give the baby energy and she will have adequate blood. (TBA, FGD, Matungu)*

Pregnant women reported feeling at ease with the re-oriented TBAs who offered them psychological support by supporting them through regular home visits throughout pregnancy and during delivery. Other community stakeholders such as husbands embraced the new TBA roles and discussed their trust in the TBAs to accompany and care for their women during delivery at the health facility. This was well-articulated as follows:

> *The pregnant women feel very confident with those birth companions because initially they were the ones attending to them. So when they accompany them, they know they are taken to the right place and they will be well taken care for. (Male, KII, Mumias)*

> *"Some husbands hand the patient to you at night and they go to sleep happily as you stay awake with their patient {pregnant women during delivery in hospital}." (TBA, FGD Butere)*

Although husbands in the intervention group reported advising their expectant wives to seek facility care, they continued to hang onto some previous traditional practices that were not always good for the woman or infant.

> *We know the best is the hospital but some of us when the mother has left the hospital we still advise them to visit the TBAs for massage. I have also realized that some of these women still use herbal medicines. We don't want to look like we have ignored our tradition, so we let them go to the hospital and also advise them to visit the TBAs; they combine. (FDG Husbands Butere)*

3.2 | Need for re-orienting TBAs'

Intervention area community members acknowledged that the re-oriented TBAs had increased knowledge on care practices and services. They observed that TBAs now encouraged women to attend ANC clinics, were involved in educating the women on danger signs, and had acquired skills on how to manage some complications before referral to the health facility.

> *"They (TBAs) have gone for trainings. They know danger signs and advise pregnant women to attend clinic in early stages of pregnancy." (Mother in Law, FGD, Matungu)*

The re-oriented TBAs were found to educate women on care practices and health of a pregnant woman.

> *When the TBA visited my daughter in-law she advised her on the simple basic things that she is required to have during delivery, how to take care of herself, how she should eat, talked to her about saving money so that come the time of delivery she is prepared and advised her on hygiene practices. (FDG Mother in law Matungu)*

Re-oriented TBAs provided advice on what to consume and, in cases where the pregnant woman had difficulty eating, referred her to the hospital for management.

> *I usually visit when I know a woman is pregnant; when I realize that woman cannot eat I usually advise her to go to a Health Center where they will advise the women to eat a variety of foods according to what she feels like. (FGD TBA, Mumias)*

Many re-oriented TBAs due to training did not engage in the traditional practice of belly massage and/or palpitation after education on their detrimental effects.

> *Nowadays we (re-oriented TBAs) don't offer palpation and massage service as we were educated on the dangers against this practice. We used to palpate the women without even knowing the position of the legs and the head nor tell whether the baby was alive or dead, we could even harm the baby in the womb. (FGD TBA, Matungu)*

3.3 | Adoption of TBAs to their new role

The re-oriented TBAs accepted their new role as birth companions. They reported their new role was less risky and demanding as they were only to provide companionship for the women during pregnancy and delivery, thus saving them from constant conflicts with community stakeholders who disagreed with their (TBAs) role performing deliveries.

> *We are just saying thank you because we used to be overwhelmed. Now, we bring the women to the health facility for care. We thus don't get into many problems like before with the family members, and now deaths due to delivery at home are in the past. (FGD TBA Butere)*

Re-oriented TBAs were trained to encourage specific dietary practices which were not identified during interviews, but some did identify the need to improve nutrition generally:

> *"When a woman is pregnant, you visit her and you teach her on diet, that is, foods that can make her healthy and she should not, while pregnant, engage in work. She should rest adequately." (FGD TBA Mumias)*

The re-oriented TBAs felt appreciated, empowered, and respected by the community as health stakeholders in their new roles. They expressed receiving recognition, monetary appreciation for their work, and support in their new roles. A TBA delightfully stated:

In all the years I have practiced as a TBA I have always encountered problems with the health facility workers and the community due to traditional role of delivery. After I was re-oriented things have changed. The community and health care workers have accepted my new role and embraced me. I now can call hospitals and [Name of Organization] to get someone an ambulance and it comes within a short time to take the lady to a health center. I also used to struggle so much to get some income as most people would not pay or give you a few hundred shillings for delivering but today they can give you several hundreds. I appreciate and thus am motivated to provide companionship for the pregnant women and bring them to the facility. (FGD TBA, Matungu)

3.4 | Changing relationship among health workers and TBAs

The re-oriented TBAs reported developing good working relations with the SBAs. This was reportedly due to adoption of their new role of advocating for skilled services through referring women to ANC and PNC services and accompanying women to deliver at the health facility. One key informant expressed:

Our relationship is good because the re-oriented TBAs encourage pregnant women to attend clinics, deliver in the health facility and accompany them during delivery. They sometimes help us (nurses) with the history of the mother during labor which helps us in diagnosis of a complication if necessary. We value them and appreciate their services as it has led to increased deliveries in the facilities. It's for this reason we say we have a good linkage with them and embrace the birth companion role. (KII, Mumias)

This close working relation between the re-oriented TBAs and SBAs may also be attributed to SBAs being involved in their continuous support and training, as mentioned by a nurse:

We train the TBAs on health issues such as hygiene, diet, danger signs, and importance of the mother seeking health services and delivering in health facility which they to use to educate the community. We motivate them to refer clients to uss. We work together; we are a team. (KII, Butere)

We (nurses) have a role of equipping the TBAs with health education such as identify if a mother is in need of emergency care and prepare them for such emergencies so that they can relay the same to the mothers in the community. (Nurse, KII, Mumias)

During the initial stages, there was reportedly great mistrust between the re-oriented TBAs and the CHVs. The intervention of training and interaction was acknowledged as helping clarify the role of the re-oriented TBA and the CHV and somehow improved their working relationship.

Initially women had been complaining of disrespect, mistreatment and hostility by the female nurses whenever they went to the hospital to deliver, and therefore they preferred to deliver at home with the assistance of the TBAs. To counter that trend, people thought that the government had decided to train other people (CHVs) who did not necessarily work from the health facilities to help in conducting home deliveries. That is what most people, including the TBAs, thought. But that notion quickly went away when it became evident that we would not conduct deliveries. In fact, the TBAs were also called aside and given some training, and that calmed things down. We must thank you [CBMNH] for doing that. We now enjoy a good relationship. (FGD, CHV, Butere)

3.5 | Barriers encountered by TBAs

The re-oriented TBAs reported difficulty in obtaining transport to escort the women to deliver in health facilities, especially during the rainy season and at night; whereby they were sometimes forced to deliver the pregnant women as a matter of emergency.

I have seen those cases happening as I also practice as a re-oriented TBA. A neighbor called me and the motorbike took a while to reach the compound so I had to help the girl to deliver. In the morning I had to take her to the health facility because she is not supposed to stay for more than 24 hours before reaching the hospital. (FGD Mother-in-law, Butere)

The community expressed that the TBAs no longer practiced home delivery due to the incentive (monetary) they received from accompanying a pregnant woman to the hospital to deliver. This presents a challenge in terms of programme sustainability when partners leave this role to the ministry of health, which does not currently pay community volunteers.

We [CHVs] feel that when the (organization name) that supports the TBAs with monetary incentive leaves there is need to find another sponsor because if you leave them in the hands of the government, things will not be the same. They are really worried that (organization name) wants to leave. (FGD CHV, Mumias)

The re-oriented TBAs reported that they were forced to incur costs in their quest to escort the women to deliver at the facility. The re-oriented TBAs thus expressed they would like better compensation for the work they do as it would soon be a burden if everyone expected them to pay for transport costs.

The problem that we have is you can incur transport costs for the woman, you bring her to the nearest health facility, after you get there she may be referred to the

> *County general hospital or County hospital. Even after admission when you return home you may use your own fare then all you get is the husband saying "thank you!" there is nothing else you will be given. Yet remuneration given to us is inadequate to cater for these needs, let alone one's needs. (TBA Mumias)*

From the study, some community members could not distinguish between the roles of re-oriented TBAs and CHVs. There is therefore need for advocacy on the distinct roles of re-oriented TBAs and the CHVs in the community.

> *"My view is that the roles of traditional birth attendants have been replaced by community health volunteers. These community health volunteers are closer to these expectant mothers who can refer them to [Name of hospital]." (FGD Community leader Matungu)*

4 | DISCUSSION

The TBAs psychosocial and sociocultural support and the unlimited access to women at the community level have likely contributed to their invaluable contribution to maternal and neonatal health care. The role played by TBAs cannot be overlooked in the improvement of maternal and neonatal health, especially in rural areas where they remain a critical force in delivering health and nutrition interventions (Oshonwoh et al., 2014). In the CBMNH-N project, the TBAs were trained and re-oriented into non-delivery roles as birth companions and nutrition advocates because of their potential to influence maternal and neonatal care practices. The capacity among TBAs to fulfil their new roles has been echoed in other studies. They have found that TBAs are capable of disseminating knowledge of beneficial maternal practices to the community through encouraging women to go to health centres for preventive care during and after delivery, which was aimed at improving pregnancy outcomes and ultimately neonatal health (Bahurupi, Acharya, & Shinde, 2013; Sheela, 2008; Sibley, Sipe, & Koblinsky, 2004).

In the CBMNH-N project, the community reported that the re-oriented TBAs adopted their new roles. Women reported a positive view of the new roles of re-oriented TBAs, who were said to respond holistically to the women's needs through practical, material, and emotional support during pregnancy, delivery, and postpartum. This is consistent with other studies in Africa, Asia, and Latin America that also observed the potential role of TBAs in providing maternal and child health care service, emotional support, and advice during the antenatal, delivery, and post-partum period (Bergström & Goodburn, 2000; Kayombo, 2013; Saravanan, Turrell, Johnson, & Fraser, 2010; Taleb et al., 2015). The CBMNH-N project found that it is possible to change the behaviour and care practices of TBAs with an appropriate strategy. Nutrition advocacy role by the re-oriented TBAs, however, did not come out strongly in the CBMNH-N project. The re-oriented TBAs concentrated on advising women on available food choices and healthy foods to eat to maintain a healthy pregnancy but did not focus on other nutrition issues such as quality or quantity of food. This is similar to other studies where TBAs were found to encourage pregnant women to eat foods of their choice but advice on the quantity of food lacked or varied, while others advocated for just enough to maintain pregnancy and their health (Bale, Stoll, & Lucas, 2003; Byrne et al., 2016; William, Gary, David, Robert, & Mathuram, 2002). Our findings indicate that there is a need to improve TBAs' role in becoming effective nutrition advocates by capitalizing on their positive relationship with the women at the community level.

The adoption of re-oriented TBAs into their new roles in the CBMNH-N project can be attributed to being trusted, respected, and recognized as community-based health providers in the community. Additionally, TBAs acknowledged the importance of the remuneration accorded to them for every women escorted to deliver in a health facility as a motivation in carrying out these new roles. Studies have also attributed TBA adoption of their new roles as being influenced by creation of an enabling environment at the health facility, acceptance of the TBA by health facility staff, and provision of monetary incentives (Md. Noorunnabi et al., 2012; Pyone, Adaji, Madaj, Woldetsadik, & van den Broek, 2014). The TBAs in the CBMNH-N project also reported improved relationship with SBAs as they were now respected and welcomed in the health facilities when accompanying mothers for delivery. This led to reports of improved maternal and neonatal health indicators, especially facility-based deliveries. The use of SBAs to train and support the re-oriented TBAs in their new roles also played a key role in the improved relations. This implies that effectively linking the re-oriented TBA within an existing health system can result in increased number of women accessing skilled maternity care. Evidence from collaborative models of care that collectively engage SBAs, TBAs, and other community members has shown that this shift increases facility-based delivery, leading to improvement in maternal and neonatal health outcomes, and increased utilization of health services (Byrne & Morgan, 2011; Decio Ribeiro Sarmento, 2014; Ebuehi & Akintujoye, 2012; Ray & Salihu, 2004; Tomedi, Tucker, & Mwanthi, 2013; Vieira et al., 2012; Wilson et al., 2011).

One of the challenges to effective re-orientation of TBAs to non-delivery roles from the CMBNH-N is a lack of monetary incentives. It is not the usual practice for lay health workers in Kenya to be remunerated, as they are considered volunteers. With the end of CBMNH-Ns support for remuneration of TBAs, there is concern about whether TBAs will continue these new roles without monetary incentives. A study in Kenya also demonstrates this, showing that increases in SBA births when TBAs were recruited and compensated for bringing women to local health facilities to deliver (Tomedi et al., 2013), but the concern is sustainability. CBMNH-N findings also showed that the TBAs were sometimes forced to assist the women to deliver due to unavoidable circumstances such as sudden onset of labour and delivery at home or on the way to the facility, long distance to the health facility, and lack of transportation services, especially during the rains. These barriers to the successful implementation of the new role of TBAs are similar to other studies that have identified difficulties that pose a challenge to effective utilization of SBAs, such as distance and accessibility to health facilities, cost of services and transport, social and cultural preferences for risky traditional roles such a belly message, and palpitation during pregnancy (Byrne & Morgan, 2011; Vieira et al., 2012). There is need for development of a policy or a

system to effectively compensate TBAs in their new roles, particularly in light of the multiple reports that transportation costs were required to ensure women went to the facility. Further, there were mixed reports on the relationship between re-oriented TBAs and CHVs in the CBMNH-N project, whereby the roles played by the two seemed to overlap, causing tension during service delivery at the community level. Further contributing to the tension was that the TBAs received remuneration for their services, whereas CHVs did not. This highlights the need for guidelines clarifying the role of different health volunteers and workers to allow for better interactions and to ensure transparency of financial remuneration linked to these roles, hence removing barriers to improved health care and maternal health outcomes.

This study had various strengths and weaknesses. The study provides a better understanding on the new role played by re-oriented TBAs to improve maternal and child health and nutrition status at different levels, including family/household, community, and health facility. Additionally, purposive sampling ensured that the results obtained captured views of participants of different socio-demographic characteristics in the different sub-counties. Moreover, the analysis of data from several sites provides avenue to explore factors associated with the adoption of TBAs new roles of birth companionship and nutrition advocacy. One limitation of the study is that in-depth interviews were not conducted with community members and it is possible that such interviews would have yielded deeper perspectives and nuances at community level. However, the findings are still consistent with findings from other studies reviewed on the role that re-oriented TBAs can play in advocating for facility-based delivery, thus reducing maternal and neonatal mortality.

We conclude that redefining the role of the TBAs into birth companions to support facility-based delivery is feasible and acceptable. The CBMNH-N project trained and supported TBAs in fulfilling a new role and facilitated an enabling environment for our findings, which these re-oriented TBAs contributed to improvement in maternal and newborn care by encouraging beneficial maternal practices (including nutrition), women's attendance at health facilities for preventive care, and facility-based delivery in low-resource settings. Our findings also highlighted the need for better training or support to improve the TBA's role in nutrition advocacy and thus maximize the opportunity provided by the close association between TBAs, mothers, and their communities.

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CONFLICTS OF INTEREST

The authors have no conflicts of interest to disclose.

CONTRIBUTIONS

- Conception and design of the study: ELA, SO, SW, JKK, CN
- First draft of the work: ELA
- Revising manuscript critically for important intellectual content: All authors
- Reviewed manuscript and final approval of the version to be published: All authors
- Agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved: All authors

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