Vol. 6 No. 2

October 2021

Knowledge Sharing Opportunities on Safe Delivery of Children for Birth Companions in Kakamega County, Kenya

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Abstract

Rationale of Study – This study investigated the opportunities available for birth companions to share knowledge on safe deliveries in Kakamega County.

Methodology – The study used mixed methods research approach based on a survey design. Data was collected using questionnaires, interview guides and observation checklists from 782 respondents sampled from 5768 comprising of birth companions, community health volunteers, health administrators, public health offers, district health officers, matrons and a director of health services. Quantitative data was analysed using statistical software package (SPSS) to generate descriptive and inferential statistics while qualitative data was analysed thematically.

Findings – This study revealed that birth companions had opportunities to share knowledge on maternal health. This knowledge is critical in determining medical problems bedevilling maternal healthcare in Kakamega county. If utilised well, the county can avert maternal mortality incidences especially in the remote areas where they happen and remain unaccounted for.

Implications – The study is of importance to county governments to facilitate the participation and collaboration among birth companions and health practitioners in sharing knowledge on safe deliveries.

Originality – The study is an original research work which has not been conducted in Kakamega County, Kenya.

Keywords

Knowledge sharing, birth companions, knowledge sharing, Kakamega, Kenya

Citation: Mwanza, A.M., Namande, B.W. & Owano, A. (2021). Knowledge Sharing Opportunities on Safe Delivery of Children for Birth Companions in Kakamega County, Kenya. *Regional Journal of Information and Knowledge Management*, 6 (2),54-71.

Published by the

Regional Institute of Information and Knowledge Management

P.O. Box 24358 – 00100 – Nairobi, Kenya

1 Introduction

Knowledge sharing opportunities for birth companions on safe deliveries can help to eliminate maternal mortality ratios (MMR) among mothers seeking delivery services in Kakamega County. Knowledge sharing is the assistance and collaboration of others in order to come up with new ideas as well as solving problems (Savolainen, 2017). It occurs through networking and correspondence which includes direct exchange of information with individuals and communication with other experts (Rauchberger, 2018). A birth companion is a person who assists mothers during childbirth and acquires her/his skills by delivering babies directly or through apprenticeship with other birth companions (WHO, 2017). Previously, birth companions were known as traditional birth attendants (TBAs) who assisted mothers during delivery where they began safe motherhood initiative (WHO, 2016). Throughout history, birth companions have been the child birth care providers for women in Africa (Gitimu et al., 2015; WHO, 2018). Therefore, birth companions provide guidance, technical support and other essential services during and after delivery to expectant or nursing mothers in ensuring that they attend the prenatal care visits in health facilities (WHO, 2016).

Through knowledge sharing, both birth companions and expectant mothers can exchange ideas and learn to accommodate any change that may be realised during and after antenatal and postpartum visits. Without knowledge sharing practices, birth companions may not recognise and respond appropriately to pregnancy complications (Cheptum et al., 2017; Yan, 2017). Therefore, deliveries attended by untrained birth companions are risky for mothers and their babies, leading to poor health outcomes and even death. The existence of birth companions is as old as delivery itself (Fukuzaw & Kondo, 2017). This paper investigated the opportunities available for birth companions on knowledge sharing on safe deliveries in Kakamega County. The roles of birth companions as accurate referral systems are a great support to maternal healthcare and companionship to expectant mothers who seek for referral services to deliver in a health facility rather than at home.

Despite the essential role played by birth companions in the provision of accessible, universal and quality maternal healthcare services, they lack opportunities where they can share knowledge on maternal healthcare to foster referral cases. Although knowledge sharing can enable members to explore the meaning of their practices and develop a sense of professional identity, birth companions rarely get interaction opportunities that

can fast-track networking and knowledge sharing agenda. Where there exist no opportunities for birth companions, it may have a negative impact on their efforts in trying to ensure that maternal deaths are prevented in the County. Kakamega County experiences very high maternal deaths despite the services of birth companions and institutional medical practices (UNFPA, 2017). Kakamega County is ranked fifth of the 15 counties with high maternal deaths in Kenya. This points to the need for knowledge sharing among birth companions on maternal health in the County.

2 Literature Review

In Guatemala, Brazil and Indonesia, studies show that birth companions are able to detect any anomaly that can arise during labour and delivery and that they may even help mothers to seek medical assistance from health professionals WHO, 2016). Therefore, there is need to ensure that birth companions are trained to deliver quality healthcare services thereby contributing to a substantial reduction of maternal morbidity and mortality (Miller & Smith, 2017). Birth companions can also be involved in implementing quality supportive health programmes that can promote maternal healthcare services. Knowledge sharing comes in handy to empower birth companions to provide these essential services by consistently informing the community as well as the mothers on safe delivery of babies.

According to Razmerita, Kirchner and Nielsen (2016), knowledge sharing is a social process whose value is greatly depends on communication and socialisation. Indeed, the creation, assessment, improvement and use of knowledge is largely a social process. A primary goal of knowledge sharing is to facilitate the exchange of knowledge (Kwanya & Wasinda, 2019). It is pertinent to encourage individuals, groups and birth companions in communities to share and learn from each other for the benefit of the county in reducing maternal deaths. In the context of this paper, opportunities are considered as the openings and avenues where birth companions can share with their contemporaries and expectant mothers so as to share ideas. They can utilise such opportunities to network on maternal health concerns such as danger signs, delivery challenges, as well as postnatal and antenatal care (Linyama, 2020).

Knowledge needs to be accessible so as to make it valuable (Kabita et al., 2021). When it is accessible to a wide audience, it can be used to inform and sensitise mothers on the choice of birth companions and access to health facility leading to safe deliveries. Therefore, knowledge sharing can enable birth companions and mothers to exchange

ideas and learn to accommodate any change that may be realised during antenatal and postpartum visits. In Mexico, birth companions play an essential role in supporting pregnant mothers to seek quality care from health facilities (Tomeri, 2016). The value of birth companions to improving safe delivery and health of mothers and children has been registered in many other developing countries (Downe et al., 2018; Linyama, 2020; Marshall, 2021).

Training is one of the techniques that can be used by birth companions to disseminate knowledge and exchange ideas with skilled personnel to provide a healthy environment that can benefit mothers and their new-borns (Yang et al., 2017). The global policy dictates that there must be a shift from birth companions focused intervention to skilled attendance and institutional birthing. In ensuring that maternal mortality rates are reduced, other agencies of the United Nations and the World Health Organization have promoted training of birth companions as a global public-health strategy which states that all women and children have the right to the highest standard of health to reduce maternal mortality (Anono et al., 2018). WHO (2017) explains that a study done in Pakistan shows there was no attempt in reducing the maternal mortality ratios (MMR). However, training of birth companions needs to be emphasised in countries such as Kenya so as to realise the country's Vision 2030 that has a target of reducing the MMR by two thirds (WHO, 2018). Subsequently, training is a process of enhancing knowledge and skills that can be able to help in knowledge sharing. Trained birth companions are the major support of child health and maternal development in pastoral communities in Ethiopia (UNICEF, 2016). They remain relevant in rural communities in need of maternal and child healthcare services with close supportive supervision and evaluation of trainings.

In Romania, recommendations from the WHO ensures that there is networking among mothers and their respective governments to identify the relevant health professionals that can be able to assist them. Birth companions are a support system that can promote maternal and child health effectively advocate in local communities (Lunda, Minnie & Benade, 2018). This kind of networking promotes easy access to information that mothers need during pregnancy and after delivery.

Oketch (2018) reports that in Kenya, maternal care is given priority and that mothers are encouraged to seek antenatal and postpartum health services. Immunisation received during these visits helps to reduce child mortality rates. In order to achieve the

government's Big Four Agenda, which includes universal healthcare coverage for all, expectant mothers should be able to access maternal healthcare in health facilities. The universal healthcare pillar of the Big Four Agenda advocates for quality healthcare services and enhanced leadership and commitment in the promotion of healthcare in all counties. Furthermore, the "Beyond Zero" campaign initiative is a roadmap geared towards reducing child mortality rates (Nyamai, 2018). Birth companions need to be trained to ensure that mothers access essential maternal and child healthcare services in health facilities are provided by competent caregivers (Mbula, 2018).

A person's first 1,000 days of life are considered to be the most critical stages in life. Therefore, access to quality maternal healthcare can help to reduce child deaths (WHO, 2017b). UNICEF (2016) points out that in Latin America, the cornerstone of the Millennium Development Goals 4 and 5, respectively, was to reduce child mortality and improve maternal health. Dunn, Gibbs, Whiteney and Starosta (2017) observed that despite the desire by birth companions to improve the birthing conditions and maternal health, they need to attain appropriate and recognised competency skills. According to WHO (2016), cases of mothers dying while giving birth can be prevented if mothers have prior knowledge and information on the actions to take while in this complicated stage. Table 1 summarises the gaps in existing literature on the topic.

Table 1: Research gap in literature

Objective	Available references addressing the objective	Research gap in literature
Evaluate the opportunities available for birth companions to share knowledge on safe deliveries of children in Kakamega County	Anono et al (2018); Moindi et al. 2016); Yang et al. (2017); Mbula (2018)	The studies addressed how mothers still deliver at home with the help of traditional birth attendants without knowledge on seeking for maternal healthcare. These authors failed to address opportunities for birth companions to share knowledge particularly in relation to training levels for birth companions, recognition for birth companion competency skills as well as the funding that can promote safe deliveries of children.

3 Methodology

The study adopted a mixed methods research approach using qualitative and quantitative approaches based on survey design. Kwanya (2021) defines mixed methods as the approach which draws multiple research perspectives and positions by collecting, mixing, analysing and interpreting both qualitative and quantitative data. Kakamega County was chosen for this study because it reports high maternal and child death rates in the country. In fact, it has been ranked fifth highest of the fifteen counties in Kenya with high maternal deaths (UNPF, 2017; KNBS, 2016; WHO, 2016). Kakamega County currently has a population of 1,660,651 million and an area of 3,034km. The study population was 5768 comprising of 500 birth companions; 78 key informants including health administrators, district health officers, matrons, public health officers and the director health services; 190 community health volunteers; and 5000 mothers who had sought the services of birth companions in this county.

Non-probability, purposive sampling technique was used to select birth companions, key informants and community health volunteers since they were knowledgeable and better informed on the subject under investigation. Snowball sampling was employed to select subjects where the first identified study subject, for instance, a mother who had sought the services of birth companions, named the others that they knew had also sought services or knew services of birth companions until the required sample number was attained. This yielded a sample size of 782 as shown in Table 2.

Table 2: Sample size

Name of Sample	**Population size (N)**	**Population sample size (s)**
BC	500	217
Expect mothers who services of BCs	5000	357
Community health volunteers	190	130
Health Administrators	36	36
Public health officer	8	8
District health services	2	2
Matron	31	31
Director of health services	1	1
TOTAL	5,768	782

Data was collected using questionnaires and interviews with key informants. A self-administered questionnaire, an interview schedule and an observation checklist was used to collect both quantitative and qualitative primary data respectively. The questionnaires were used to collect quantitative data from birth companions, community health volunteers and mothers who had sought services of birth companions on maternal health while an interview guide was used to collect qualitative data from the District Health Officer, public health officer, health administrators, matrons in charge of hospitals and community health workers. The observation checklist was used to witness on actions taken to assist expectant mothers when seeking maternal health services in health facilities. Quantitative data was analysed using statistical software package (SPSS) to generate descriptive and inferential statistics while qualitative data was analysed thematically.

4 Data Analysis and Results

The findings of the study are presented based on the objective and research question of this paper. Table 3 explains the opportunities for birth companions to share their knowledge. It shows that 44% of the respondents strongly agreed that they have platforms for sharing both indigenous and tacit knowledge. Also, 50.8% of the study group strongly agreed that there was knowledge sharing through birth companions. 30.3% of the study group strongly agreed that there were incentives given to birth companions on referrals made. 64.5% of the total advised mothers to deliver in hospitals. 59.8% of the study group strongly agreed on quality care on maternal health. 39.4% of the respondents (expectant mothers) agreed that there were referral services in health facilities. Others include 33.3% strongly agreeing that sometimes there were no incentives on the referral made, 39.8% strongly agreed on training opportunities in improving the skills of birth companions, and lastly 34.2% of the respondents say they provided personalised services to the mothers.

Table 3: Opportunities for birth companions on knowledge sharing

Opportunities for birth companions on knowledge sharing	Response (%)					Descriptive Statistics		
	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	N	Mean	Std. Deviation
They have platforms for sharing both indigenous and tacit knowledge	44.0	26.6	8.5	12.7	8.1	259	2.14	1.32
Knowledge is shared with other BCs	50.8	30.5	5.7	4.2	8.8	262	1.90	1.23

There is always an incentive on any referral made	30.3	18.4	8.4	13.0	29.9	261	2.94	1.65
Advise mothers to deliver in hospitals	64.5	23.4	3.5	3.5	5.1	256	1.61	1.06
Ensure quality care on maternal health is enhanced	59.8	24.2	4.3	4.7	7.0	256	1.75	1.18
Referrals to health facilities are mandatory	39.4	27.8	6.2	11.6	15.1	259	2.35	1.47
There is no incentive on the referral made	33.3	19.4	13.2	10.1	24.0	258	2.72	1.59
There are training opportunities to improve the skills of BCs	39.8	35.6	5.7	9.6	9.2	261	2.13	1.29
Provide personalised services to mothers	34.2	27.7	20.0	12.3	5.8	260	2.28	1.22

Figure 1 shows the findings on whether knowledge sharing opportunities between birth companions and the mothers would improve maternal health. According to the chart it shows 347 (90%) of the respondents fully agreed with the idea of involving birth companions and mothers on improving maternal health and only 38 (10%) thought otherwise.

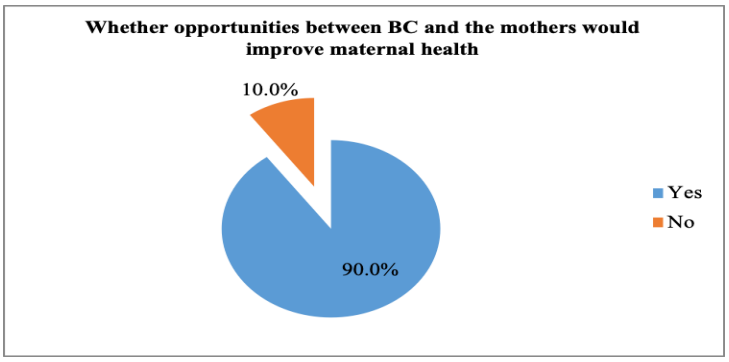

Figure 1: Whether knowledge sharing opportunities improve maternal health

According to Table 4, some of the concerns the respondents had regarding the involvement of birth companions and mothers in relation to improving maternal health was that most of the birth companions had no training except the general knowledge of their services which made up to 29.5% of the total respondents.

Table 4: Explanation on whether opportunities between BCs and mothers improve maternal health

Explanation on whether knowledge sharing opportunities between BCs and mothers would improve maternal health	Frequency	Percentage
They have no training	41	29.5
They can share knowledge and be informed	20	14.4
Labour is quick and normal	17	12.2
Inadequate labour in the hospital	13	9.4
They like giving birth at home	10	7.2
They save lives and also reach those who are far	7	5.0
Because they educated ignorant mothers	6	4.3
Introduction to a form of motivation/encouragement	4	2.9
They have no facilities	4	2.9
Mutual relationship between the BC's and mothers	3	2.2
They help refer mothers	3	2.2
Monitor closely with the mothers during pregnancy	2	1.4
Language and cultural barriers	2	1.4
Working as a team	2	1.4
Personalised health education	1	0.7
They create awareness/networking	1	0.7
Help find abnormalities	1	0.7
Easily available	1	0.7
Seek hospital care	1	0.7
Total	139	100.0

The respondents were asked to state their opinion on opportunities available for birth companions to share knowledge that would help achieve quality healthcare services. The study revealed that knowledge on access to NHIF insurance cover was the most mentioned (15.3%). It was followed by Catholic Support Services or other outreach services (11.4%) as indicated in Table 5.

Table 5: Opportunities available for BCs knowledge sharing on maternal health care services

Opportunities available for BCs on maternal health care services	Frequency	Percentage
NHIF	43	15.3
Catholic support services/outreach services	32	11.4
Provision of mosquito nets	30	10.7
Create awareness and networking on maternal health services	25	8.9
Training of BC's and CHVs	24	8.5
Mobile clinics	24	8.5
ANC &PNC	22	7.8
Provisions by Tunza	19	6.8
Training on how to handle babies	19	6.8
Training on birth preparedness	7	2.5
Equip hospitals with stuff	6	2.1
Referral services	5	1.8
None	5	1.8
Training opportunities (USAID)	5	1.8
Training opportunities (AMREF)	4	1.4
Family planning talks and danger signs	4	1.4
Dispensaries	2	.7
Oparanya ngarisha afya ya mama na mtoto	2	.7
Test and counselling opportunities on HIV programmes	1	.4
Free check-ups for mothers	1	.4
Having their own belongings	1	.4
Total	281	**100.0**

The respondents were asked to state the mode of training necessary for them. As shown in Table 6, they suggested seminars (27.6%) and workshops (25.1%) as the most preferred modes of training to improve their skills on maternal healthcare in the county. The trainings help to inform and inculcate the skills needed. This finding agree with Asiedu, Nelson, Gomez, Tappis, Effah and Allen (2019) that when birth companions are trained, then they are able to improve the working relationships and help boost customer experience.

Table 6: Mode of training suggested on improving maternal healthcare in the county

Mode of training	Frequency	Percentage
Through seminars	188	27.6
Workshops	171	25.1
Conferences	142	20.9
By support groups	91	13.4
By county coordinators	42	6.2

Market barazas	38	5.6
Continuous medical training	7	1.0
Through schools	1	.1
Churches	1	.1
Total	**681**	**100.0**

The study sought to find out whether BCs go through training aimed at improving health services in the county. As shown in Figure 2, 271(70.5%) of the respondents were of the opinion that birth companions should go through sessions aimed at improving health services; 27.3% were of the opinion that birth companions go through sessions that cannot help improve health services while 2.3% indicated that they were not aware of any sessions that were available and aimed at improving health services. The opinions from one respondent R5 was as follows:

> *"Yes they are trained by AMREF to assist expectant mothers, refer mothers to health centres. They take the initiative to sensitise mothers on danger signs and in Linda Mama na Mtoto programmes. We also take time to share knowledge on placenta retention with BCs although at times we are too occupied with deliveries."*

The results show that trainings may enable birth companions to improve their skills to assist mothers. The training sessions aimed at improving the health services need to be enhanced in the health institutions to promote maternal healthcare.

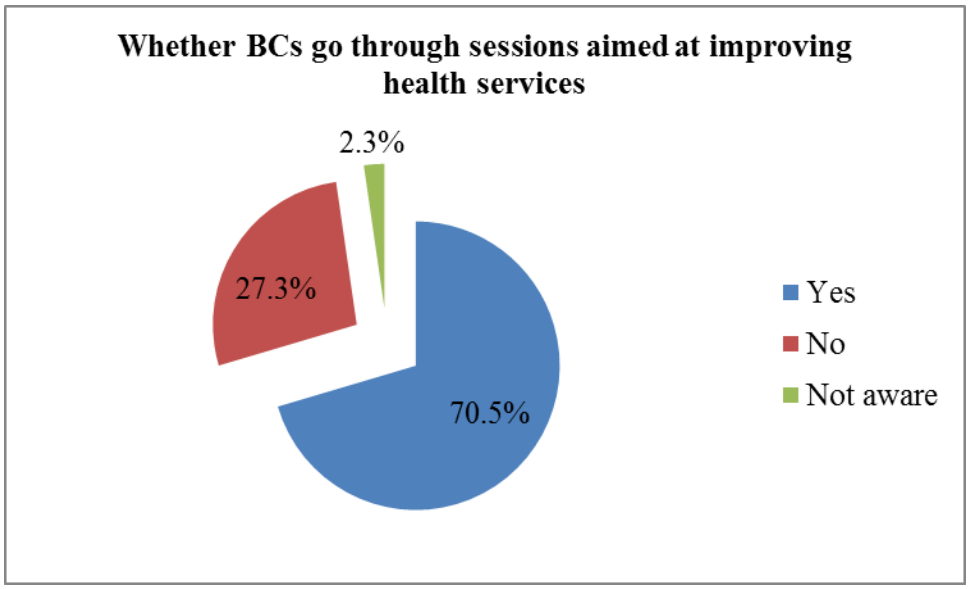

Figure 2: Training sessions for BCs to improve health services

The respondents were asked to state how frequent trainings of birth companions were held. The findings indicate that 38% of the respondents were of the opinion that birth

companions attend training sessions on improving health services after every three months as displayed in Figure 3. A total of 15% attended trainings twice a month while 13% were trained monthly. The key informant R2 when asked whether they had sessions to educate BCs on improving health services, the response was:

> "*Yes BCs undergo trainings that equip them with the knowledge to assist mothers during referrals and in case labour is quick they can know what to do".*

The findings are in tandem with Houghston (2018) that increase in knowledge can occur through trainings which can empower birth companions to play an active role of accompanying and referring mothers to a nearby health facility. Further, these findings agree with the findings of WHO (2017); Lattof, Tunçalp, Moran, Bucagu, Chou and Gülmezoglu (2019) that antenatal visits are necessary for expectant mothers. Training sessions are important in ensuring that birth companions are equipped with knowledge that can help them to manage birth plans and referrals.

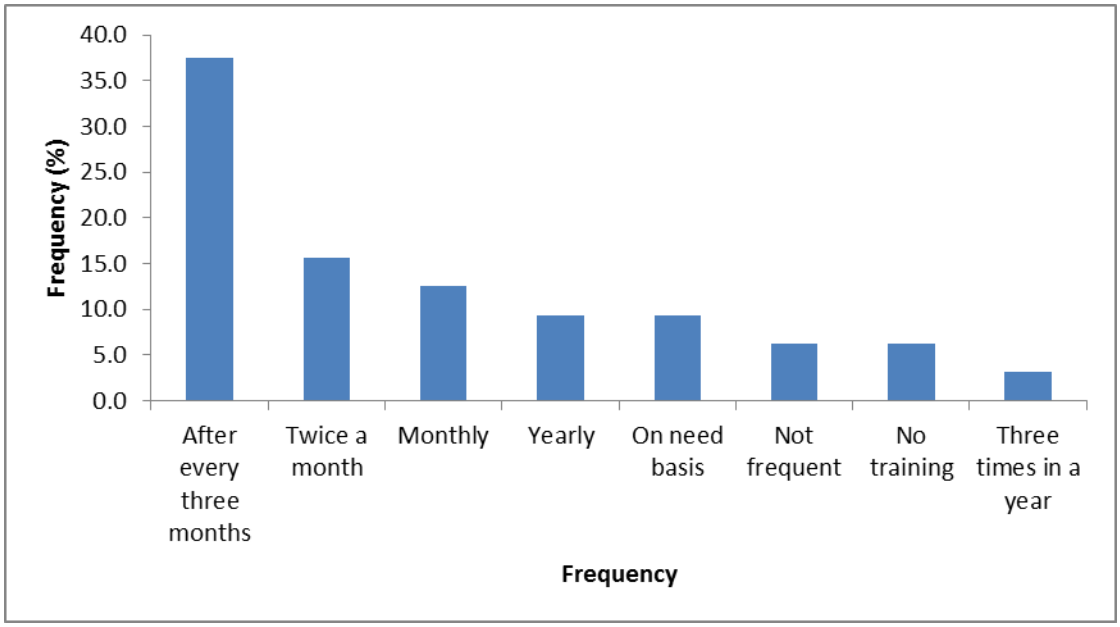

Figure 3. Suggestions on how frequently training sessions for BCs on improving health services should be held

The study sought to establish whether there were approaches of training for birth companions improving health services as shown in Table 7. The respondents suggested that group discussions and demonstrations (33.3%) were the most preferred mode of training followed by seminars (27.8%). The findings show that the most preferred approach of training birth companions on improving health services was through group discussions where they shared knowledge and exchanged ideas. Seminars also provided

forums where birth companions shared knowledge on maternal health. The opinion from one key informant R4 was:

> *"BCs prefer seminars where they are taught on polio vaccine sensitisation. We also teach them on how to maintain a clean environment as well as teach them how to help HIV patients. It is through facilitation of such refresher courses that group discussions and open talks on video conferencing, documentaries on short courses are demonstrated and BCs are able to gain some knowledge that they can be able to share with expectant mothers during labour".*

This implies that the health institutions are able to facilitate trainings that help to empower the birth companions and community health volunteers through health institutions like AMREF. The findings are in tandem with the findings of Ogolla (2015) that trainings of birth companions are essential in cultivating the competency skills needed in an individual to perform better and achieve good customer experience.

Table 7: Approach of training BCs on improving health services

Approach of training BCs on Improving health services	Frequency	Percentage
Group discussions are organised and demonstrations done	12	33.3
Seminars	10	27.8
Updates on maternal health	5	13.9
Through outreach services	4	11.1
Motivate them and encourage them to be trained	2	5.6
On the job training	1	2.8
Trained on how to handle emergency cases	1	2.8
Refresher courses	1	2.8
Total	**36**	**100.0**

Results in Figure 4 revealed that 280 (72.8%) respondents concurred that they did not receive financial support or incentives in their areas. 105(27.2%) received some support when assisting mothers. The findings imply that the majority of the birth companions do not receive any form of financial support in the county. Lack of motivation in monetary terms limits the birth companions in assisting mothers during referrals. The findings of this study clearly show that improvement in the quality of maternal healthcare requires adequate funding in terms of access to NHIF by birth companions and expectant mothers who may not be able to raise the required amount of money to meet the insurance cover. Programmes such as *Linda Mama na Afya* need to be supported financially to be able to promote maternal healthcare in the county. Improved funding

will help strengthen the role of the birth companions which will help map out a shared vision of quality. A similar analogy was also suggested by Kyaddondo et al. (2017).

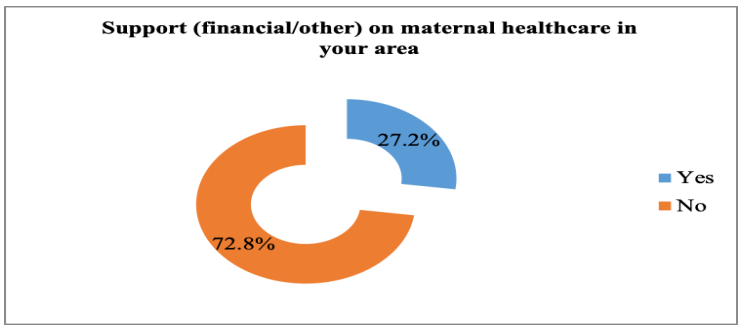

Figure 4. Support (financial/other) on maternal healthcare in your area

The respondents were asked to indicate whether there was any funding by the county government. The findings are shown in Table 8. The majority (44.7%) of the respondents agreed that there was a presence of institutional support by AMREF for the role of birth companions in maternal health. 25.5% of the respondents pointed out that *Linda Mama na Afya ya Mtoto* supported birth companions, 12.8% indicated that they received support from TUNZA, 6.4% indicated that their support was from NHIF while 4.3% received support from USAID. These findings show that there exists institutional support coming from AMREF, USAID, Tunza, NHIF, *Linda Mama na Afya ya Mtoto*. Most of these are non-governmental organisations dealing with maternal healthcare service provision. The birth companions in Kakamega County have opportunities which, if well utilised, can transform the quality of maternal healthcare service in the county (Mukabana et al., 2016). For instance, the unwavering trust that mothers have for birth companions makes this group of healthcare providers to be better placed to help the county government to deliver health services to its residents, particularly in remote areas, on time and affordably.

Table 8: Funding by County Government

Funding received	**Frequency**	**Percentage**
AMREF	21	44.7
Linda mama na afya ya mtoto	12	25.5
TUNZA	6	12.8
NHIF	3	6.4
USAID	2	4.3
Catholic Mission Support	2	4.3
Beyond Zero Campaign	1	2.1
Total	**47**	**100.0**

The study sought to establish whether the services of birth companions were present in all areas in Kakamega County. Results are shown in Table 9. The majority (27.5%) of the respondents suggested that the services were not mostly found in rural underdeveloped areas. Also, a number (22.2%) of the study group suggested that they were found but they needed more support in terms of resources. Others (less than 10%) said rural hospitals are far and they lacked experience and exposure. This implies that in rural areas birth companions tend to link the patients with services and also form groups in the society. The results show that these services were mostly common in rural areas and they link mothers directly to health facilities. The findings reveal that mothers in urban areas do not seek services of birth companions. The findings are supported by Toko, Sumba, Ogolla, Majiwa and Mehta (2016) who found that the competencies of birth companions can help to detect early stages of complications in prolonged labour experienced by expectant mothers and help offer referral services to a health facility/hospital thus help achieve efficiency and effectiveness in health centres.

Table 9: Whether BC services are common in both Rural and Urban areas

Whether BC services are common in both Rural and Urban areas	Frequency	Percentage
No mostly found in rural underdeveloped areas	46	27.5
Yes they are found in most places and need support	37	22.2
Yes each unit has its own representative/BC workers	20	12.0
Yes but mostly rural as hospitals are far	16	9.6
Common in urban areas	11	6.6
No because people from rural areas lack enough experience and exposure on how to go about it and are not skilled	10	6.0
Yes in rural areas link mothers directly	9	5.4
Yes attending to patients accordingly during labour in clinic	8	4.8
Yes they are in groups in the locality	6	3.6
No most fellows in urban areas don't go to BC	4	2.4
Total	167	100.0

6 Conclusion

The study concludes that knowledge held by birth companions on safe deliveries need to be shared to prevent home deliveries by expectant mothers in Kakamega County. Therefore, the utilisation of the knowledge of birth companions in the County can make the trajectory progress needed to avert maternal mortality incidents especially in the remote areas where they happen and remain unaccounted for. Birth companions need continuous training opportunities where they can share knowledge on safe deliveries of children in Kakamega County. They paid great attention to accompanying mothers to

health facilities and their services are common in rural areas where they attend to mothers accordingly during labour and in making referrals. However, the study found that health centres were inadequate for the increasing demand for maternal health services. Birth companions lacked adequate tools such as gloves that can be used to prevent mothers from contracting infections. Birth companions' voluntary services in hospitals should be recognised and remunerated by Kakamega County government. On a long term basis, this is likely to enable the national and county governments to achieve the goal of provision of universal quality healthcare to all. Sensitisation, awareness creation and networking on maternal health services among birth companions offer opportunities on training and recognition of competency skills that can enhance the quality of healthcare services.

7 Recommendations

The study recommends that training policies on indigenous knowledge that promote maternal healthcare services should be formulated. The county government can help develop these training policies that can include response to prolonged labour, referral management and linkages with national health communication plans and strategies.

There is need to fast-track indigenous knowledge on maternal healthcare trainings that encourage network deployment, ensure interoperability of various platforms, promote rational utilisation within the health system, protect information security, and ensure scalable, sustainable approaches. Trainings based on enhancing indigenous knowledge can help contribute to the driving force for Vision 2030 that directly contributes to the Sustainable Development Goals.

The study further recommends financial priorities for families with low-income households in the rural areas of the county. Considering that only delivery services are free, other medical services have a cost implication. Therefore, birth companions are better placed to sensitise such families to register with NHIF that will cushion them from accrued medical bills in the event of unavoidable costs associated with emergencies.

The county government can ensure that basic knowledge on maternal healthcare is disseminated to all members of the community if birth companions are adequately engaged, motivated or remunerated. This is because birth companions have access to the rural population which is often difficult to access by trained medical officers. Equally important is the fact that most of medical errors made especially during emergency due

to lack of a patient's history record could be averted if birth companions are fully engaged.

8 Practical implications of the study and originality

1. The findings of this study can benefit both national and county governments' health systems through the recognition and utilisation of knowledge shared by birth companions.
2. The study provides useful knowledge on how birth companions can generate knowledge to transform the health of mothers and their new-borns.
3. The study results may also be useful to policy makers in health sectors in the formulation of health policies in counties in Kenya.

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