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Barriers and enablers of implementation of kangaroo mother care in newborn unit in Kiambu level 5 hospital

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ABSTRACT

Background of the study: Kangaroo mother care has been recognized to improve neonatal outcomes by maintaining the infant's temperature and other vital sign parameters through skin to skin contacts and by providing the benefits of breastfeeding.
Objectives: This study intended to assess the enablers and barriers to implementation of Kangaroo mother care among mothers with preterm and low birth weight babies in Kiambu Level 5 hospital, Kiambu County in Kenya.
Study methodology: The study employed descriptive cross sectional study design. Random sampling method was used to select 106 mothers with low birth weight and premature babies whose babies have been admitted in the newborn unit in Kiambu level 5 Hospital. A self-administered structured questionnaire was used to collect data from the respondents. Pretesting of the study tool was done at Thika level 5 Hospital and where necessary the changes were effected on the study tools. Data collected was cleaned, coded and entered into the Statistical Package for the Social Sciences (SPSS) Version 23.0 for analysis. Descriptive statistical analysis was done through frequencies, mean and standard deviation. Inferential statistics was done through multi-linear regression. Results were presented using, frequency tables, pie charts and bar graphs.
Results: The findings indicated a significant association between enablers of KMC (P<0.036), there was no significant association between enablers barriers of KMC (P>.191) and the implementation of Kangaroo Mother Care (KMC) practices among mothers giving birth at Kiambu level five hospital.
Recommendations: There is need to ensure that only persons who are not baby's parents are restricted to KMC rooms and that mothers should be encouraged to increase time that the mothers allocate to KMC rather than feeling that the practice is time consuming. Health facilities should also address the lack of Kangaroo mother care rooms which has was highlighted as a hindrance tokangaroo mother care among other concerns.
Keywords: Kangaroo mother care, Low birth weight, Implementation, Barriers, Enablers

INTRODUCTION

Each year, nearly 4 million children die within their first four weeks of life, according to the World Health Organization (WHO, 2017). While there has been considerable progress in reducing mortality in children under the age of five, there has been less progress in the neonatal era (CondeAgudelo and DazRossello, 2016). The majority of babies born prematurely or with a low birth weight are at high risk of neonatal mortality and morbidity, as well as obstructed growth and development and chronic diseases (Boundy, Dastjerdi, Spiegelman, et al. 2016). Although neonatal mortality is low in developed countries due to the availability of incubators and advanced technology, such equipment is not readily available in developing countries, resulting in high infant mortality and morbidity (Seidman, Unnikrishnan, Kenny, Myslinski, et al. 2015). As a result, the discovery of KMC, which was found an efficient as well as a low-cost alternative to incubators in preterm and low birth weight babies, particularly in resource-constrained countries, was necessary (Blomqvist, et al. 2013).

Kangaroo Mother Care (KMC) is defined as early, regular, and sustained Skin to Skin Contact (SSC) between the neonate and its mother, exclusive breastfeeding, early discharge from the health facility, and close follow-up at home (WHO, 2013). While the care should be initiated

immediately after birth, throughout the hospital stay, and should be continued even at home for better outcome when adhered to it has shown to minimize preterm mortality corrected gestational age by 40%, and boost other outcomes such as severe infection/sepsis, emotional attachment in mothers, and weight gain in preterm infants when compared to standard neonatal care (Engmann et al., 2013).

In the 1980's and 1990's, it was introduced to some low-income countries such as Bangladesh, Nepal and Malawi as an alternative to the traditional contemporary system of treatment for low-birth-weight babies whose infant mortality rate was very high (Cattaneo et al., 2013). Unfortunately, the implementation and full adoption of KMC in many hospitals across many countries has not been very successful yet it's a very cost-effective and a simple alternative to incubators which are otherwise very costly to many hospitals, thereby affecting the gains that were reached on the discovery of KMC (Smith et al., 2017).

In sub-Saharan, Africa, every year, out of over 4 million children who die, 1.2 million infants die annually, making it to have half of the world neonatal deaths (Kinney et, al. 2013). The majority of these deaths are mainly due to limited resources such as incubators and lack of trained health care personnel. However, with the discovery of simple and cost-effective Kangaroo Mother care of premature and low birth weight infants, the mortality rate has greatly been reduced. In Kenya, though KMC has changed the care of LBW infants in other countries, it was introduced in 1984 at Kenyatta National Hospital (KNH) newborn unit for the care of LBW infants and premature babies. According to various reports, KMC has greatly improved neonatal outcomes and therefore has been rolled out to other facilities throughout the country (Mwendwa, Musoke and Wamalwa, 2012). However, despite the many benefits of KMC many hospitals have not fully adopted it which has greatly contributed to increased morbidity and mortality of infants.

Problem Statement

Globally, premature delivery accounts for approximately 3 million neonatal mortality annually and in children less than five years (Yelam et al, 2020). Kangaroo mother care has been noted to have a positive effect on neonatal outcomes. Therefore, the implementation and adoption of KMC in the healthcare system have an important role in reducing the morbidity and mortality of premature and low birth weight infants (Reyes et al., 2018). However, in Kiambu level 5 hospitals, despite the limited number of mechanical incubators, the number of low birth weight and premature neonates who require incubator care has been overwhelming over the years. This has led to increased neonatal morbidity and mortality that could otherwise be prevented if at all kangaroo care was fully implemented.

According to the Kiambu Health Information System (2020/21) NBU had a total of 8 incubators with an average of 230 neonates admitted in the unit per month giving bed occupancy of over 276% bed (Incubator) occupancy. Out of the total admissions, 50.6% are admitted due to LBW or Prematurity. Additionally, deaths associated with LBW/Pre-term stand in the facility stand at 40.6%. While these deaths could easily be prevented if there was a working Kangaroo mother cares system in the hospital as an alternative to much required incubators, the facility needs to address the barriers and enablers in the implementation of kangaroo mother care.

MATERIALS AND METHODS

Broad Objective

To determine barriers and enablers of implementation of kangaroo mother care in the newborn unit at Kiambu Level 5 hospital.

Specific Objectives

- To determine enablers to implementation of KMC in NBU at Kiambu Level 5 hospital
- To identify barriers to implementation of KMC in NBU at Kiambu Level 5 hospital.

Justification

Kangaroo Mother Care (KMC) is a research-based technique that lowers neonatal morbidity and mortality associated with LBW and prematurity (Chan et al., 2017). However, full implementation and adoption of the same in healthcare systems around the world, especially in resource constrained countries, has not been very successful (Mustikawati et al., 2020). Understanding the facilitating factors and implementation obstacles is therefore critical to the success of KMC, which is a cost-effective alternative to mechanical incubators, especially in resource constrained hospitals like Kiambu county.

Theoretical Review

The study is anchored on Health promotion model by Nola J Pender who described health as a positive dynamic state and not merely the absence of disease, which brings out the aspect of health belief. In the case of this study, Kangaroo mother care is meant to not only to prevent premature and low birth weight babies from diseases, but also ensure holistic state of health. Apart from preventing morbidity and mortality; Kangaroo mother care calms the baby makes them sleep better and this eventually improve their emotional wellbeing as well

The model therefore explains that prior behaviour inherited and acquired characteristics from the mothers may influence their adoption and practice of KMC and hence needs to be studied. It also helps in understanding that mothers may commit to engage in behaviours from

which determined whether they adopted and maintained the practice of KMC. Further, based on the individual perceived positive emotions that may affect adoption of KMC, the model helps in understanding such emotions and hence recommend evidence based practices that may enhance adoption of KMC. The model also helps us in understanding that families, peers, and health care providers or health care institutions are important sources of interpersonal influence that can increase or decrease commitment to and engagement in health promoting behaviours such as Kangaroo Mother care among mother at the newborn unit at Kiambu Level 5 hospital.

Enablers and Barriers to Kangaroo Mother Care

Enablers to kangaroo mother care: Kangaroo mother care has significant benefits for both the mother and the baby; however, despite these well documented benefits, the successful implementation of KMC in many facilities continues to fall short of expectations (Shah, Jamali, Aisha and Shahid 2019). As a result, many enabling factors as well as barriers play a significant role in the successful implementation and thus the practice of the same. One of these is mothers' awareness of KMC, where mothers who were aware of the benefits of KMC were more likely to practice it than their counterparts who had little knowledge on the subject according to a study done in India, Muddu, Boju, and Chodavarapu that covered the knowledge and awareness about the benefits of KMC.

Mothers' knowledge of the child's position played a significant role in the successful practice of KMC. Bloqvist and Nyqvist (2011) discovered that KMC was well practiced by mothers who knew how to place their babies with maximum skin contact while the right position of the infant provides a lot of comfort to both the mother and the baby, resulting in the most widespread use of Kangaroo Mother Care (Nguah, et al. 2011). On the other hand mothers are likely to practice KMC while admitted in the hospital with their infants, their attitudes and ability to continue with the same at home once they are discharged is highly dependent on their attitudes which are likely to be influenced by the community perceptions towards Kangaroo Mother Care (Almutairi and Ludingtone–Hoe, 2011). This is supported by another study by Muddu, Boju and Chodavarapu, 2013 that established that majority of mothers fail to continue with Kangaroo mother care once at home due to negative influence that they develop, with a net negative effect towards the practice which then requires constant reminders and follow up to enable continue with this noble practice.

WHO (2017) identified Healthcare workers as major drivers of the successful implementation of KMC in all facilities as they did not only help in the identification of babies who require KMC, trained the mothers, and supervise them as they ensure there is skin to skin contact between the mothers and the babies for maximum benefits, they also ensures that mothers implement practice of KMC correctly which in turn leads to good outcome through increased weight gain among other benefits (Muddu, Boju and Chodavarapu, 2013). Additionally, Salim, et al. (2021) noted that apart from health care workers training, in facilities where there are positive attitudes among the nurses and doctors, KMC implementation and practice was reported to be successful and the majority of the babies were being discharged much earlier with a very short average length of stay.

Facility factors are also considered as enablers of KMC, Smith, et al. (2017) stressed that the availability of a more conducive environment, which ensures privacy with adequate amenities, has been found to promote uptake of KMC. Studies have shown that Mothers tend to prefer and feel more comfortable in spacious yet more private places for practicing KMC and hence facilities with designated rooms that are spacious, private with basic amenities were found to promote implementation uptake of KMC (Mustikawati et al., 2020). While advises that KMC doesn't require special facilities but a simple arrangement that can make a mother stay more comfortable when practicing KMC, Dawar et al, (2019) advised that premature babies should be delivered in facilities that can provide specialized medical care to reduce mortality and therefore mothers expecting premature babies should be referred to equipped institutions before birth where adequate care or Kangaroo mother care is well established to prevent death.

Barriers to kangaroo mother care: There are numerous obstacles that affect successful implementation of KMC in most hospitals across the globe. Cultural factors is one of the barriers to KMC as established by Votra et al., (2017) that in communities where KMC was acceptable by the family and the community, the mother the father, mother-in-law were actively involved in KMC for the most duration of time. Mustikawati et al., (2019) found that the acceptance and involvement of family members especially the husband was important since they would understand the benefits of KMC while identified living arrangements, mothers' responsibility of household chores, hot weather, and having more than one child and this implied that many infants were not benefiting at all in-home KMC as the duration of the practice was very short or sometimes the practice was not done at all, and hence consequently, the intended benefits were not being realized while at home.

The mother need to get the most support they require in order to implement KMC as established by Kampekete et al., (2018) that where mothers felt supported, the practice of KMC was very successful; however, in case of lack of support majority of the mothers disliked practicing KMC both at the hospital as well as at home due to the community negative perception towards it. This was further stressed by a Darwin et al., (2019) that revealed

that the mothers were finding it very easy and more comfortable practicing KMC while in the hospital environment and not when at home post-discharge from the hospital while Adzitey, Wombeogo, Mumin, and Adzitey (2017) similarly established that majority of the mothers would rather practice KMC within the hospital settings until such a time when the baby will not require the practice anymore after discharge.

Studies have also shown that mothers are the primary providers of KMC and therefore anything that affects their health, mental capacity and attitudes will have a great impact on their ability to practice KMC (Salim et al., 2021; Dawar et al., 2019). Votra et al., (2017) established that, mothers who got unwell after delivery, or who were critically ill were not able to practice KMC as required while Smith et al.(2017) also established that mothers who develop post-natal psychosis could not practice KMC as they may harm the new born. Additionally, conditions affecting the mother such as highly infectious conditions such as skin diseases, mothers are discouraged from practicing KMC as they affect the baby during the process (Ngua et al., 2011).

Last but not least the babies conditions can also extensively influence the implementation of KMC as confirmed by Salim et al., (2017) that KMC practice in babies with birth asphyxia, severe neonatal sepsis or those that were critically ill were near impossible as such babies required close monitoring in Neonatal critical care unit while Ngua et al (2011) found that babies with respiratory illnesses may be greatly affected during KMC practice if close monitoring is not ensured. Mothers with children with certain condition are discouraged from the practice till such a time when the baby is stable, WHO, (2017) stressed that the success of KMC is highly visible in cases where the baby is stable and that any condition which affects the baby such us severe congenital malformation, like gastroschisis, gross hydrocephalus that may further endanger the babies conditions when exposed to KMC, in such situations, KMC is discouraged.

Study Methodology

The study employed descriptive cross sectional study design. Random sampling method was used to select 106 mothers with low birth weight and premature babies whose babies have been admitted in the newborn unit in Kiambu level 5 Hospital. A self-administered structured questionnaire was used to collect data from the respondents. Pretesting of the study tool was done at Thika level 5 Hospital and where necessary the changes were effected on the study tools. Data collected was then cleaned, coded and entered into the statistical package for the social sciences (SPSS) Version 23.0 for analysis. Descriptive statistical analysis was done through frequencies, mean and standard deviation while inferential statistical analysis was done through multi-linear regression. Results were presented using, frequency tables, pie charts and bar graphs.

RESULTS AND DISCUSSION

Study Findings

The results indicated that out of the 106 questionnaires collected from the respondents sampled for the study, 96.2% responded while 3.6% of the respondents did not respond to the study (Table 1).

Enablers of Kangaroo Mother Care (KMC)

The study results indicated 72.5% of the mothers had heard of Kangaroo mother care before, 45.1% indicating that the source of information about Kangaroo Mother Care (KMC) were nurses at the facility and that 58.8% felt that it should be when the doctor/Nurse advises so only. The results on the duration that Kangaroo Mother Care should be practiced showed that 40.2% of the respondents felt that it should be until the baby achieves regular body temperature. Lastly, when the study sought to establish the benefits of practicing Kangaroo mother care, the findings of the study indicated that 63.7% felt that KMC increased bonding between mother and baby (Table 1).

Mother's Knowledge and attitudes on Kangaroo Mother Care	N	%	STDV
	Have you heard of Kangaroo mother care		
Yes	74	72.5	
No	28	27.5	0.448
Total	102	100	

Source of information about Kangaroo mother care			
Nurses	46	45.1	
Doctors	14	13.7	
Media	2	2	1.224
Friends	15	14.7	
Others	25	24.5	
Total	102	100	
Benefits of practicing Kangaroo mother care			
Increase bonding between mother and baby	65	63.7	
Helps calm the baby	9	8.8	
Kangaroo mother care has no benefits	2	2	
Helps in baby's growth	24	23.5	
Others specify	2	2	1.274
Total	102	100	
When should Kangaroo Mother Care be initiated			
Immediately after birth	28	27.5	
When the doctor/ Nurse advises so only	60	58.8	
On discharge	4	3.9	
Don't know	10	9.8	0.822
Total	102	100	
Duration of practice of Kangaroo Mother Care			
Based on mother's interest	18	17.6	
Until baby achieves regular body temperature	41	40.2	
Until the baby matures	32	31.4	0.875
Don't know	11	10.8	
Total	102	100	

Table 1: Mother's knowledge and attitudes on Kangaroo mother care.

Results indicated that 52% of the mothers had experienced Kangaroo mother Care before while another 33.3% of the mothers had practiced KMC before for more than 5 times, 21.7% had used the practice for between 3-5 times and another 16.7% had used the practice for two times before. The low uptake and practice of KMC supports the findings by Shah, Jamali, Aisha and Shahid,

(2019) that highlighted that successful implementation of KMC in many facilities continues to fall short of expectations (Figures 1 and 2).

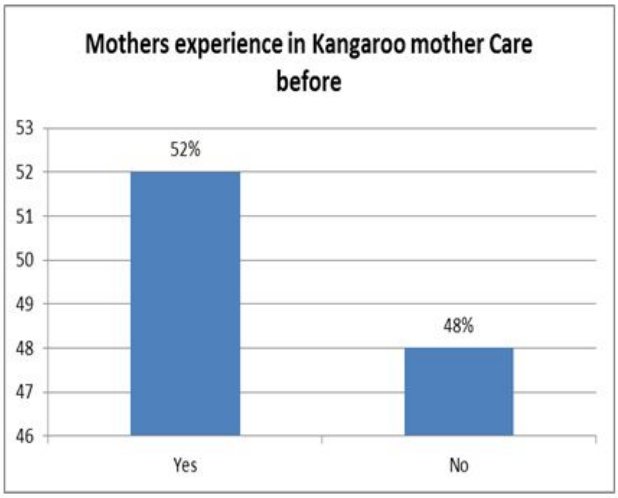

Figure 1: Mothers experience KMC before.

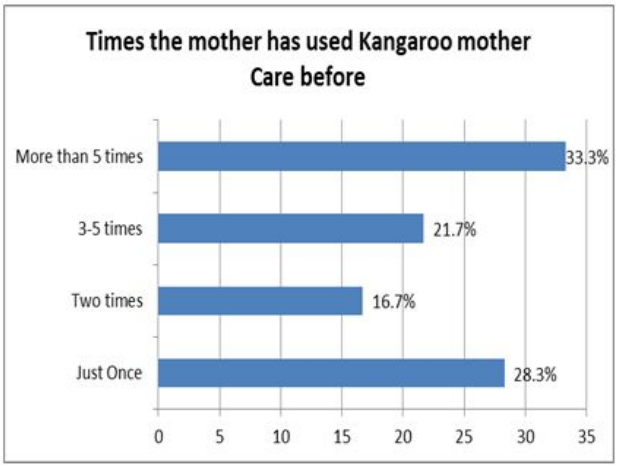

Figure 2: Times the mothers had used KMC before.

The results indicated that 87.3% of the mothers using KMC believed that Kangaroo Mother Care is a priority in new born care in this facility, 72.5% were of the opinion that Kangaroo mother care reduces mother's anxiety, 91.1% of them felt that Kangaroo mother care is beneficial to both mother and baby, while 63.7% of the respondents were of the opinion that Kangaroo mother care works well when many health care workers are involved. This indicated that the mothers had a positive attitude towards the use of Kangaroo Mother Care among the mothers giving birth at Kiambu level 5 hospitals.

The findings of the study also indicated that 88.2% of the mothers were comfortable practicing Kangaroo mother care and willing to continue practicing it as to them it improved attachment and bonding of the baby, 83.4% Kangaroo care mother has a positive well-being of the infant while another 51.0% of the respondents felt that potential benefits of Kangaroo mother care have been over stated. However, 52.0% of the respondent felt that they didn't have time to practice Kangaroo mother care, disagreed that it was culturally unacceptable to practice Kangaroo mother care while another 54.9% felt that they did not have to hide to practice Kangaroo mother care while at home. The findings also indicated that it was not a taboo for men in the respondents' community to carry the baby with no clothes directly into contact with their skin (Table 2).

Mothers Attitude factors	SA and A	N	SD and D	Mean	STDV
	%	%	%		
I believe Kangaroo Mother Care is a priority in new born care in this facility	87.3	4.9	7.8	4.18	1.066
Kangaroo mother care reduces mother's anxiety	72.5	6.9	20.6	3.88	1.38
Kangaroo mother care is beneficial to both mother and baby	91.1	2	6.9	4.41	0.905

Kangaroo mother care works well when many health care workers are involved	63.7	11.8	24.5	3.66	1.43
Mothers Feeling					
I feel comfortable practicing Kangaroo mother and willing to continue practicing it	88.2	4.9	6.9	4.34	0.92
Kangaroo mother care improves attachment and bonding of the baby	88.2	6.9	4.9	4.49	0.901
I do not have time to practice Kangaroo mother care	42.1	5.9	52	2.8	1.556
Its culturally unacceptable to practice Kangaroo mother care	37.3	7.8	54.9	2.68	1.643
I have to hide to practice Kangaroo mother care while at home	42.6	8.9	48.5	2.88	1.578
I feel that potential benefits of Kangaroo mother care have been over stated	51	13.7	35.3	3.33	1.464
It's a taboo for men in my community to carry the baby with no clothes directly into contact with their skin	38.2	10.8	51	2.83	1.484
Kangaroo care mother has a positive well-being of the infant	83.4	7.8	8.8	4.34	1.125

Table 2: Mothers attitude and feeling factors.

The results indicated that 83% of the respondents felt that the healthcare workers are available during KMC that indicated that the facility has adequate health workers to support KMC practices, 62.4 % had been given posters on KMC by the hospital care unit with another 76.7% of them indicating that the posters were very useful. This indicated that posters provided by the facility can really help in the creation of awareness on

use of KMC among mothers giving birth in the facility (Figures 3 and 4).

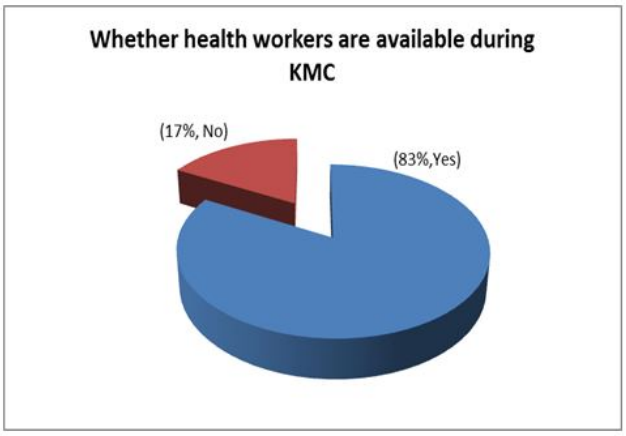

Figure 3: Whether health workers are available during KMC.

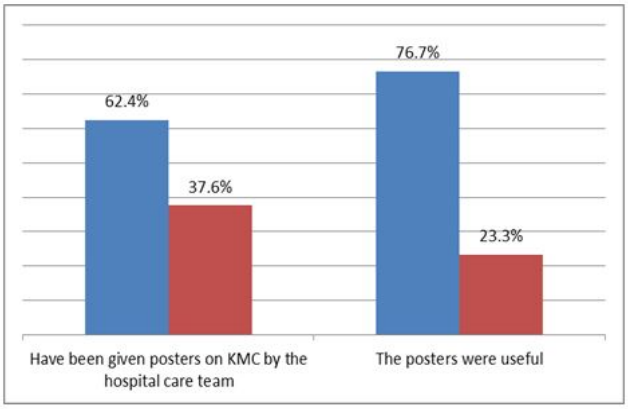

Figure 4: Use of KMC posters by hospital care team.

The results indicated that 68.6% of the respondents felt that partners of mothers are supported and welcomed in the institution during Kangaroo mother care, 81.3% of them felt that Kangaroo mother care posters are available in the facility, 79.4% of them felt that the hospital has allocated adequate space for Kangaroo practice and that there is a ward allocated specifically for Kangaroo mother care while 78.5% felt that posters on kangaroo mother care are strategically placed within the hospital ward. The findings of the study also indicated that presence of Kangaroo mother care posters has enhanced adoption of Kangaroo Mother Care for mothers, Regular information on KMC promotes KMC practice and that health care workers are available to help mothers in Kangaroo mother care. Lastly, the results indicated that 77.5% felt that regular information on KMC promotes KMC practice (Table 3).

Facility/Health Institutional enabling factors	SA and A	N	SD and D	Mean	STDV
	%	%	%		
Partners of mothers are supported and welcomed in the institution during Kangaroo mother care	68.6	11.8	19.6	3.69	1.312
Kangaroo mother care posters are available in the facility	81.3	11.8	6.9	4.08	0.945
The hospital has allocated adequate space for Kangaroo practice	79.4	14.7	5.9	4.14	0.932

Posters on kangaroo mother care are strategically placed within the hospital ward	78.5	13.7	7.8	4.1	0.949
There is unlimited visiting time for Kangaroo mother care mothers	64.7	11.8	23.5	3.72	1.311
There is a ward allocated specifically for Kangaroo mother care	79.4	10.8	9.8	4.08	1.114
Presence of Kangaroo mother care posters has enhanced adoption of Kangaroo Mother Care for mothers	74.5	14.7	10.8	4.06	1.112
Regular information on KMC promotes KMC practice	77.5	17.6	4.9	4.21	0.957
Health care workers are available to help mothers in Kangaroo mother care	74.5	13.7	11.8	4.04	1.174

Table 3: Facility/health institutional enabling factors.

Barriers to Kangaroo Mother Care (KMC)

In terms of barriers to utilization of KMC, the findings of the study indicated that less than 45.1% of the mothers believed that Kangaroo mother care is time consuming, 50.9 felt that Kangaroo mother care reduces the time required to feed the baby; 55.9% felt that concerns on stability of the infants hinder Kangaroo Mother Care; 55.8% felt that kangaroo Concerns on stability of the mother hinder kangaroo mother care while another 56.9% considered lack of Kangaroo mother care room as an hindrance to kangaroo mother care. The findings of the study also established that 53.9% also felt that there is a shortage of health care workers to guide mothers on Kangaroo mother care and that fathers and other family members cannot be involved in assisting to do kangaroo mother care.

The findings of the study indicated that 57.8% felt that KMC increases mother's workload and hence reduce time for their other concerns in the hospital, 60.8% respondents felt that parental access to the neonates is limited due to possible infections and that 69.6% of the respondents felt that visits are restricted and visiting is highly controlled affecting access to kangaroo mother care (Table 4).

Barriers to KMC	SA and A	N	SD and D	Mean	STDV
	%	%	%		
Mothers believe Kangaroo mother	45.1	18.6	36.3	3.08	1.419

care is time consuming					
Kangaroo mother care reduces the time required to feed the baby	50.9	11.8	37.3	3.25	1.492
Concerns on stability of the infants hinder Kangaroo Mother Care	55.9	17.6	26.5	3.38	1.368
kangaroo Concerns on stability of the mother hinder mother care	55.8	16.7	27.5	3.43	1.322
Lack of Kangaroo mother care room hinder kangaroo mother care	56.9	13.7	29.4	3.35	1.452
There is a shortage of health care workers to guide mothers on Kangaroo mother care	53.9	10.8	35.3	3.36	1.44
KMC increases mother's workload and hence reduce time for their other concerns in the hospital	57.8	10.8	31.4	3.35	1.391
Fathers and other family members cannot be involved in assisting to do kangaroo mother care	53.9	9.8	36.3	3.33	1.511
Visits are restricted and visiting is highly controlled affecting access to kangaroo mother care	69.6	11.8	18.6	3.82	1.23
Parental access to the neonates is limited due to possible infections	60.8	23.5	15.7	3.73	1.244

Table 4: Barriers to implementation of Kangaroo mother care in the hospital.

Inferential Statistical Analysis

The Bivariate Linear Correlation Analysis of the enablers and barriers of KMC was also carried out by the study at a 95% confidence level (Table 5).

		Y	X_1	X_2
Implementation of KMC at Kiambu level five Hospital	Pearson Correlation	1		
	Sig. (2-tailed)			
	N	102		
Enabler of KMC practice	Pearson Correlation	.209*	1	
	Sig. (2-tailed)	0.036		
	N	102	102	
Barriers of KMC practice	Pearson Correlation	0.131	.512**	1
	Sig. (2-tailed)	0.191	0.104	
	N	102	102	102

**. Correlation is significant at the 0.01 level (2-tailed).

Table 5: Bivariate linear correlation analysis.

The findings of the study showed that KMC enabler factors (X_1) had a significance relationship with the implementation of Kangaroo Mother Care (KMC) practices among mothers giving birth at Kiambu level five Hospital (r=.209, P<.036) that indicated that more emphasis can be put on the enablers of KMC, the implementation of Kangaroo Mother Care (KMC) practices among mothers giving birth at Kiambu level five Hospital can easily be achieved. The study results also showed that these barriers (X_2) had a significant relationship and the implementation of Kangaroo Mother Care (KMC) practices (r=.131, P>.191) which also suggested that although there were barriers to KMC practices, they did not significantly hinder the implementation of implementation of Kangaroo Mother Care (KMC) practices.

CONCLUSION

The findings of the study in conclusion showed that although sources of information, benefits of practicing Kangaroo mother care and KMC initiation time are important they did not significantly affect the implementation of Kangaroo Mother Care (KMC) practices at Kiambu level five Hospital compared to mothers' knowledge and education on KMC that if are enhanced then KMC practice can be increased among mothers with pre-term births at Kiambu level five Hospital. Mothers' attitude factors can significantly influence the implementation of Kangaroo Mother Care (KMC) practices at Kiambu level five Hospital and therefore considered as an important enabler to the implementation of Kangaroo Mother Care (KMC) practices. On the other hand, the findings of the study indicated that facility/health institutional enabling factors were important they and significant in implementation of Kangaroo Mother Care (KMC) practices compared to health care workers factors that although would have an effect, the influence was not significant in the implementation of Kangaroo Mother Care (KMC) practices at Kiambu level five Hospital.

On the barrier to the implementation of Kangaroo Mother Care (KMC) practices, the findings of the study indicated that as much as addressing the barriers of Kangaroo Mother Care (KMC) practices were crucial; they were not significant in the implementation of Kangaroo Mother Care (KMC) practices at Kiambu level five Hospital.

The statistical results indicated a significant association (P<0.036) between enablers of KMC and the implementation of Kangaroo Mother Care (KMC) practices among mothers giving birth at Kiambu level five Hospital. The results also established that there is no significant association (P>.191) between barriers of KMC and the implementation of Kangaroo Mother Care (KMC) practices among mothers giving birth at Kiambu level five Hospital.

RECOMMENDATIONS

Enablers of Kangaroo Mother Care (KMC)

There is need for increased awareness on the benefits of practicing Kangaroo mother care as most mothers as indicated by the study results felt that the practice was largely for increased bonding between mothers and baby and no other medical benefits that are associated with the KMC. While many indicated that they were not sure on the right time for KMC initiation, there is need for increased sensitization on the medical and baby's health benefits that are associated with KMC and especially to the children who were born pre-time. While many mothers were not sure on the duration that KMC should be continued with many of the opinion that it should continue until the baby achieves regular body temperature, the mother need to be sensitized further that the practice should continue until the baby matures.

There should also be increased sensitization on the right position and holding of the baby when practicing KMC. There is also need for increased involvement by more health care workers in order to guide the mothers on what needs to be done and the right position that the baby should be held. The health facilities also need to increase the availability of Kangaroo mother care posters and that they should be strategically placed within the hospital ward to provide the necessary information on KMC and the locations for mothers practicing the care. Lastly, there is need for regular information on KMC in order to promote KMC practice.

Barriers of Kangaroo Mother Care (KMC)

There is need for the facilities to reduce restriction on visits that are highly controlled and affected access to kangaroo mother care. There is also need to ensure that only persons who are not baby's parents are restricted the rooms and that mothers should be encouraged to increase time that the mother care allocate to KMC rather than feeling that the practice is time consuming and therefore the allocated time for Kangaroo mother care should be reduced. There is also need to consider ways of addressing stability of the infants' issues that hinder Kangaroo Mother Care. The health facilities should addressing the shortage of health care workers that are required to guide mothers on Kangaroo mother care and that father and other family members should be involved in assisting mother in kangaroo mother care. Additionally, there is need to address the lack of Kangaroo mother care room that is considered as a hindrance to kangaroo mother care. Lastly, there is need to address the practice concerns on stability of the mother that is considered hindrance to mother care.

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