ADDIS ABABA UNIVERSITY
COLLEGE OF HEALTH SCIENCES
SCHOOL OF NURSING AND MIDWIFERY

ASSESSMENT OF KNOWLEDGE, ATTTIUDE, PRACTICES AND ASSOCIATED FACTORS TOWARDS KANGAROO MOTHER CARE AMONG POSTNATAL MOTHERS PAIRED WITH THEIR BABIES AT ADDIS ABABA SELECTED PUBLIC HOSPITALS, 2019.

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ABBREVIATIONS AND ACRONYMS

ANC	Antenatal Care
AOR	Adjusted Odd Ratio
ARHB	Addis Ababa Regional Health Bureau
CL	Confidence Level
COR	Crude Odd Ratio
CS	Caesarian Section
CSA	Central Statistical Agency
DPCRPC	Department of Pediatrics and Child health Research Publication Committee
ETB	Ethiopian Birr
FMOH	Federal Ministry of Health
IRB	Institutional Review Board
KAP	Knowledge, Attitude, Practice
KMC	Kangaroo Mother Care
LBW	Low Birth Weight
NICU	Neonatal Intensive Care Unit
SPSS	Statistical Package for Social Science
STS	Skin To Skin
SVD	Spontaneous Vaginal Delivery
VIF	Variance Inflation Factors
WHO	World Health Organization

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ABSTRACT

Back ground: Kangaroo Mother Care is a method of holding a small Nappy newborn with skin-to skin contact, prone and upright on the maternal chest. Lack of maternal knowledge regarding care of their tiny babies including kangaroo mother care can harm their babies and increase the risk of neonatal morbidity and mortality.

Objective: To assess the knowledge, attitude, practice and associated factors towards kangaroo mother care among postnatal mothers paired with their babies at selected public hospitals, Addis Ababa, Ethiopia, 2019.

Method: An institutional based cross sectional study was conducted among 249 mothers, at five selected public hospitals in Addis Ababa, from March 15th, 2019 to May 15th, 2019. Single population proportion with adjusted formula was used to calculate the total sample size. Face to face interview with structured questionnaire were used to collect data. Data was entered with Epi data version 4.4.2.1and analyzed by SPSS version 24 statistical software. Binary and multiple logistic regressions with P value ≤0.2 and ≤0.05 was used respectively.

Result: Based on this finding, the overall proportion of good knowledge, favorable attitude and good practice of kangaroo mother care were 67.1%, 54.22% and 43 % respectively with 100% response rate. Educational status(AOR;5.33;95%CL;(1.39-20.47), residency (AOR;7.58;95%CL;(2.39-23.90), income(AOR;3.70;95%CL;(1.17-11.67)acceptability of KMC in community(AOR;6.32;95% CL;(3.13-18.04), health condition of the baby (AOR;6.76 95%CL;(2.74-16.69),source of information (AOR;2.71;95%CL;(1.01-7.23), gravidity (AOR;2.61;95% CL;(1.20-5.67) as well as mode of delivery(AOR;3.05,95% CL;(1.54-6.04) were statistically significant factors for knowledge, attitude and practice of mothers on kangaroo mother care.

Conclusion: Proportion of good knowledge, favorable attitude and good practice of kangaroo mother care were 67.1%, 54.22% and 43 % respectively. There were statistically significant factors for knowledge, attitude and practice of mothers such as educational status of the mothers, residency, family income, and health condition of the baby, gravidity, mode of delivery, conducive home, and community acceptability of kangaroo mother care as well as source of information about kangaroo mother care.

Recommendations: Health professionals should give special care for sick and preterm/low birth weight babies and provide counseling for mothers. Health care stakeholders should strengthen health education accessibility for the community. In addition, other stake holders should increase women educational coverage, especially for rular areas.

Key-words: Attitude, knowledge, kangaroo mother care, Low birth weight, practice, Preterm

1. INTRODUCTION

1.1. Back ground

Kangaroo Mother Care (KMC) is a method of holding a small Nappy new born with skin-to skin contact (STS), prone and upright on the maternal chest (1). KMC was first invented by Dr. Rey in 1978. Until 1994, when the Kangaroo Foundation was started Initially, KMC was developed in response to overcrowding, and insufficiency of resources in neonatal intensive care units (NICU). Currently, it is formally approve by world health organization(WHO) (2).

In Ethiopia, Kangaroo Mother Care was first entered in 1996 at the Black Lion Hospital. Now, it is incorporated in a series of policy documents issued by the Federal Ministry of Health (FMOH) with the Newborn and Child Survival Strategy (2015–2020), the health sector transformation plan as well as the national healthcare quality strategy. In these policies, KMC target was set to reach 80% of preterm babies with the year 2020 (3).

KMC can practiced for Premature or low birth weight babies, both premature and low birth weight babies, Low birth weight and full-term babies to provides effective thermal control and to reduced risk of hypothermia(4).The worldwide prevalence of hypothermia is still underappreciated major challenge for neonatal survival. In developing countries, the prevalence of hypothermia was ranged from 32% to 85% that occurs related to lack of thermal protection like kangaroo mother care (5). Furthermore, according to a review literature among studies in developing countries on neonatal hypothermia revealed that the prevalence of neonatal hypothermia in Uganda, Zimbabwe and Zambia were 79 %, 51.4% and 44% respectively (6).In Addis Ababa public hospitals, the prevalence of neonatal hypothermia were 64%. This study supposed that hypothermia in babies without kangaroo mother care were 4.39 times more than babies with kangaroo mother care (7).

KMC has been practiced in order to establish good milk supply and breastfeeding with early, continuous and prolonged skin-to-skin contact between the mothers with the baby in hospital and can be continued at home. During KMC procedure, the baby's head should be placed to a side for easy breathing and eye contact with the mother, The baby's tummy should be placed on the mother's upper abdomen, the baby's arms and legs should be folded, the baby's bottom also should be supported by a sling or a binder (4).

The length of skin-to-skin contacts gradually increases as continuous as possible, day and night. interrupted only for changing diapers because in continuous skin-to-skin contact babies can easily retain normal body temperature (between 36.5°C and 37°.5 C) (8). Even if small baby can be cared with KMC, Babies with severe illness or requiring special treatment may wait until recovery before full-time KMC begins (9). Furthermore, KMC is associated with a 36% lower risk of neonatal mortality among low birth weight babies compared with traditional care, as well as low risk of sepsis, hypoglycemia and severe hypothermia (10).

1.2. Statement of the problem

Since neonatal hypothermia is an important challenge for low income countries associated with morbidity and mortality of low birth weight and preterm babies (11),World Health Organization (WHO) has recommended scaling up low cost solutions that could reduce neonatal death by three-quarters which includes Kangaroo Mother Care as one (12). Not practicing kangaroo mother care is one of the determinant factors of neonatal mortality among low birth weight babies. Neonatal mortality among low birth weight babies without kangaroo mother care is 15.32 times more than preterm babies with kangaroo mother care as the prevalence of kangaroo mother care was only 0.8% (13).Although KMC reduces neonatal mortality among preterm and low birth weight babies, particularly from hypothermia, it remains unavailable at-scale in most low-income countries including Ethiopia (14). According to EDHS 2016 report only 25% of mothers with preterm babies practiced KMC in Ethiopia (3).

Since mothers are one of the most important resources for KMC, studies concerning knowledge, attitude, practice and associated factors towards kangaroo mother care are needed to prevent mortality and morbidity related to hypothermia of premature and low birth weight babies (13). But Lack of maternal knowledge regarding care of their tiny babies including kangaroo mother care can harm their babies and increase the risk of neonatal morbidity and mortality (15).

Even if studies done on different aspects of KMC in various foreign countries, studies in Ethiopia regarding knowledge, attitude and practice of postnatal mothers towards KMC including the study area are limited, there are only two studies one was done in Harar on assessment of knowledge, attitude and practice of mother towards kangaroo mother care which showed that 69.91%, 63.33%, and 54.15% of mother had knowledge on KMC, felt positive towards KMC and practiced kangaroo mother care respectively.

The other study was conducted in Hawasa on Knowledge, Attitude, Practice and Associated Factors of Kangaroo Mother Care for Neonatal Survival among Care Takers of Preterm and Low Birth Weight Infants in Health Care Settings which indicated 68.6 % and 57% of participants had knowledge on the benefits of kangaroo mother care and dressed their baby correctly during KMC procedure (16, 17). So, this study is intended to assess the Knowledge, attitude, practice (KAP) and associated factors of Kangaroo mother care among postnatal mothers in selected public hospitals in Addis Ababa, Ethiopia, 2019.

1.3. Significant of the study

The result of this study help for health professional to provide appropriate postnatal counseling service on KMC by understanding mother's knowledge, Attitude and practice of mothers towards KMC. In addition, the finding of this study is important for different health care stake holders to provide health education and training programs for mothers who are at reproductive age group concerning on kangaroo mother care. The result of this study is also useful for other investigators as a reference for future research in the study area.

2. LITRATURE REVIEW

2.1. General information and advantages of KMC

Even though practice of KMC is low in developing countries, its acceptance is increasingly widespread and becoming more important especially in developed countries because of it is technically simple and highly effective form of care to save preterm and low birth weight babies.

KMC has a lot of benefits to the mother and for the preterm and low birth weight babies, for mothers, it increases milk volume, double rates of successful breastfeeding, feelings of confidence, competence, and satisfaction regarding baby care while For preterm and low birth weight (LBW) babies it normalizes temperature, strengthens the infant's immune system, increases weight gain and enhances mother-infant bonding. Furthermore it has Positive effects on baby's cognitive development, decrease nosocomial infection by reducing hospital stay of babies. Studies that Preterm KMC reduce anxiety, helps to decrease neonatal mortality, increase confidence (18,19,20,21).

A randomized control trial conducted in united state mentioned that Mothers who practiced kangaroo care were more likely to provide their milk than those who did not practice kangaroo care(22). Furthermore prospective study conducted in north east of Brazil on Effect of Kangaroo Mother Care on Postpartum Depression with total sample size of 180 neonates' mothers, 37.3% of them had depression before kangaroo care and depression prevalence was decreased to 16.9% after KMC intervention and None of them developed post partum depression during the Kangaroo stay this indicated that KMC may lessen maternal depression(23).

2.2. Knowledge of postnatal mothers regarding KMC

A cross sectional study done on assessment of knowledge regarding kangaroo mother care on 100 post natal mothers indicated that 70% of mothers had knowledge on the importance of kangaroo mother care. This study also mentioned that 80% of mothers had knowledge about kangaroo mother care where as only 20% of them had no knowledge about kangaroo mother care(24).

On the other hand another quantitative descriptive study conducted on Mothers' knowledge and practices on thermoregulation of neonates in South Asia revealed that from the total sample size of 150 post natal mothers majority or 70% of them had no knowledge regarding the kangaroo care while only 30% postnatal mothers knew about kangaroo care(25).

Additional descriptive cross sectional study in India on assessment of knowledge, attitude and practice of Kangaroo mother care stated that from the total of 201 mothers whose neonates were admitted in Neonatal intensive care unit (NICU), 91.8% of mothers thought that KMC is beneficial for their babies and 89% thought that it was also beneficial for them (26).Another quantitative descriptive study conducted in South Asia on barriers to implement kangaroo mother care among post natal mothers with premature low birth weight babies mentioned that from the total sample of 150 mothers 95.49%, 100%, and 95.49% of them knew about correct position of KMC, as KMC helps the well being of the baby and KMC as start soon after delivery respectively(27).

Additionally another cross sectional study conducted on Knowledge, Attitude, and Practice Study of Kangaroo Mother Care mentioned that From the total of 59 mothers, who met the inclusion criteria, 8.5%, 52.5% and 98.3% of them define KMC as Baby is exclusively breastfed, Baby is kept continuously in skin-to-skin contact up right to maternal chest and special way of caring for babies respectively. This study also revealed that the 61% of mother reported that Kangaroo mother care should be discontinued when the baby reach at term and the weight of the babies becomes 2.5kg and above (28).

Similarly a quantitative descriptive study conducted in Malawi on 113 postnatal mothers showed that 99% of participants describe kangaroo mother care as early prolonged skin to skin contact between mother and baby or it is a natural method of caring for preterm/LBW babies. This study also mentioned that all participants describe the benefit of kangaroo mother care as to provide warmth to the baby, promotes exclusive breastfeeding, able to the mother observe the baby frequently, promotes weight gain and increase maternal and infant bonding. In addition, in this study participants also report kangaroo mother care promotes growth, provides protection, baby sleeps for longer periods and baby grows faster and healthier (29).

On the contrary another cross sectional descriptive study conducted in Uganda on Newborn Care Practices revealed that among 325 mothers majority or 77.2% of them had no knowledge of kangaroo mother while 22.8% of them knew about KMC (30).A longitudinal study done on Perception and practice of Kangaroo Mother Care after discharge from hospital in Ghana showed that from the total sample of 202 mothers, 95.5% of them thought KMC was beneficial to them and 96.0% of them reported that KMC is important to their babies (31).

A cross sectional study conducted in South Africa on Knowledge and attitudes towards kangaroo mother care indicated that from the total sample of 30 mothers, 80% of them knew that KMC was important for the growth of their baby and would improve the weight gain of the baby(32).

On the other hand other descriptive cross sectional study conducted on knowledge and practice of postnatal mothers on newborn care in Europe indicated that from the total one hundred mothers, about more than 50% of the study participants has lack of knowledge about kangaroo mother care (33).Another cross sectional study on Knowledge, Attitude, Practice and Associated Factors of Kangaroo Mother Care for Neonatal Survival among Care Takers of Preterm and Low Birth Weight Infants in Health Care Settings conducted in Hawasa revealed that from the total 96 study participants 72.7 % of them define kangaroo mother care as it is skin to skin contact of the baby with the mother's chest, whereas the rest 27.3% of them did not knew what KMC mean. this study also showed that 72.1%,67.4% ,64% and 83.7% of respondents describe the advantage of KMC as provides warmth to the baby, promotes exclusive breast feeding, Improves weight gain and promotes bonding of baby mother respectively(17).

Similarly Across sectional study on assessment of knowledge, attitude and practice towards kangaroo mother care conducted in Harer on 349 post natal mothers showed that Regarding the benefits of kangaroo mother care to the baby, 53.29% of them mentioned that KMC helps to maintain the body temperature warm, 16.62% for frequent feeding but 30.09% didn't know the advantage of KMC for the baby. This study also revealed that Concerning length of KMC procedure,6.59% mothers said that length of KMC procedure was based on mother's interest and 13.18% of them respond as until the baby have regular body temperature while the remaining 69.05% didn't know for how long KMC should be given, based on this study, 66.76% mothers had no knowledge on how to cloth the baby,8.3% of them said that baby should be dress only light clothes and only 24.93% correctly mentioned baby should dress cap, socks and nappy during KMC (16).

2.3. Attitude of postnatal mothers towards KMC

A cross sectional studies done in South Africa on Knowledge and attitudes towards kangaroo mother care indicated from the total sample of 30 post natal mothers, The majority of the mothers which are 96.6% of them had favorable feeling towards kangaroo mother care (32).Similarly another cross sectional study in India revealed that from the total of 201 mothers whose babies were admitted in Neonatal intensive care unit 85.7% of them felt that kangaroo mother care resulted in increased breast milk production(26).

Likewise additional cross sectional study conducted on Knowledge, Attitude, and Practice Study of Kangaroo Mother Care Practices showed that from the total of 59 mothers 96.6%, 91.5% and 98.3% of them felt that KMC increase bonding of mother and baby, increase maternal confidence about caring her baby and KMC is good for safety of the baby respectively on the other hand 78%; and 96.6%, of the mother felt that KMC is tiring for the mother and makes them anxious or discomfort respectively and this finding also revealed that 75% of the mothers had a positive feeling about KMC(28).

In addition an interventional study conducted in Indonesia showed that All respondents had a positive attitude on the benefit of KMC and 90% of them felt that their babies were more calm during KMC , 92.7% of them said that their baby becomes safe and 85.4% said that their babies breastfed more often during KMC (34).Furthermore a cross sectional study conducted in India on assesses the knowledge regarding kangaroo mother care on 100 post natal mothers indicated that 70% of the participants had a positive feeling towards KMC(24).Additionally another cross sectional study conducted on knowledge and awareness about benefit of kangaroo mother care among the total of 46 mothers of preterm babies mentioned that 93.5% and 97.8% of mothers reported positive feeling like closeness to the baby and sense of confidence to care their baby respectively(35).

Similarly another cross sectional study done in Harer on assessment knowledge, attitude and practice towards KMC on 349 post natal mothers mentioned that 63.33% of mothers were agreed with different ideas on advantages of KMC such as corrects the temperature, increase attachment and improve the growth of their small babies whereas 55.87% of them felt that KMC can improve breast feeding(16).Randomized controlled trial conducted in Addis Ababa on Effectiveness of Early Kangaroo Mother Care for the Low Birth weight babies with the total sample of 123 low birth

weight babies mentioned that More than 95% of mothers had positive feeling about care for their low birth weight babies using Kangaroo mother method(36).

2.4. Kangaroo mother care practice of postnatal mothers

A descriptive survey conducted in India on knowledge and practice regarding Kangaroo mother care mentioned that the respondents had better practice of KMC relatively compared to the level of knowledge on kangaroo mother care and there was a positive association between knowledge and practices of postnatal mothers regarding kangaroo mother care (37). A cross sectional study conducted in South Africa mentioned that 63% of mother be breast feed their babies while on kangaroo position, where as 20% and 23% of them use formula feeding and mixed feeding during kangaroo position respectively(32).

Hospital based cross sectional study conducted in Kenya on Knowledge of postnatal mothers on essential newborn care practices mentioned that from the total of 380 postnatal mothers, only 7% of them use kangaroo care(38).Another cross sectional study conducted in Hawasa on Knowledge, Attitude, Practice and Associated Factors of Kangaroo Mother Care for Neonatal Survival among Care Takers of Preterm and Low Birth Weight Infants in Health Care Settings mentioned that from the total 96 participants 64% of them done KMC continuously and interrupted only for changing diapers, whereas 46% of them were performed KMC intermittently. This study also showed that 10.5% and 8.1% of respondents feed exclusive breast feeding and used formula feeding respectively. Similarly Community based cross sectional study done on Southern Ethiopia revealed that from a total of 215 mothers 41.9% practice KMC (17, 39).

2.5. Associated factors of KAP of kangaroo mother care

As different literatures showed there are different factors that associated with the knowledge, attitude and practice of mothers towards kangaroo mother care such as socio demographic characteristics of mothers including age, occupation, education, marital status, family size, place of residence, baby history such as weight, health condition, gestational age at delivery, obstetric factors like place of delivery, type of delivery, parity, gravidity, ANC follow up , and environmental factors such as staff attitude, stigma ,cultural acceptability, family support, and source of information about kangaroo mother care will be assessed in this study. literatures didn't show any association of factors such as age of baby, sex of baby, family income and marital status with knowledge, attitude and practice of mothers towards kangaroo mother care(16, 27-29, 34, 39, 40).This study investigated the association these factors with the knowledge, attitude and practice of mothers towards kangaroo mother care.

2.5.1 .Socio demographic characteristics of mothers

Descriptive cross sectional study conducted on knowledge and practice of postnatal mothers on newborn care indicated that urban residency, higher educational level of mothers and higher maternal age were associated with significantly higher knowledge scores of mothers and Similar descriptive survey conducted in India on knowledge and practice regarding Kangaroo mother care mentioned that there was a positive association between level of knowledge and practices of mothers with age and educational level of the mothers (33, 37).

In addition, a community based pilot study on 101 mothers in India revealed that being house hold workers was mention as a reason for not practicing kangaroo mother care and likewise prospective observational study conducted in India on Kangaroo mother care in low birth weight babies mentioned that being domestic worker and insufficient food provided by families for mother were factors associated with kangaroo mother care practice of mothers (39, 40).

A cross sectional study conducted in South Africa mentioned that separation of mothers from their families for long periods of time and concern about the care of their other remaining children in their house were factors affecting the attitude of mothers towards kangaroo mother care. In the same way additional cross sectional study conducted in southern Nigeria on Mothers experiences post discharge from hospital showed that inability to do domestic day to day activities and give

attention to other children while doing kangaroo mother care were factors associated with practicing kangaroo mother care among mothers (32, 41).

2.5.2. Factors related to mother's baby history

A retrospective survey conducted in Sweden on mothers' experience of continuous Kangaroo Mother Care on 23 postnatal mothers revealed that mothers who had moderately preterm and ill newborn babies had good practice kangaroo mother care with continuous Kangaroo Mother Care during their stay at the neonatal intensive care unit and these mothers also were knowledgeable and felt positive towards kangaroo mother care(42). A descriptive survey conducted in Nigeria on awareness and perception of kangaroo mother care on 100 mothers showed the weight of the baby were a factor which affect kangaroo mother care practice of mothers which was thought by the mothers as it may cause backache for them while practicing KMC(43).

2.5.3. Obstetrics factors

Observational study conducted in central India on Implementation of Kangaroo Mother care for low birth weight babies showed that 44% and 9.8% of respondents reported that Pain due to stitches and difficulty due to twins, were the barrier to perform KMC respectively. Similarly structured survey done in Finland showed that delivery by caesarean section was the most common challenge to perform skin to skin contact of mother and baby during kangaroo mother care.

In addition Community based cross sectional study done on Southern Ethiopia revealed place of delivery and way of delivery were statistically associated with attitude and practice of KMC by post natal mothers this is indicated as mothers who deliver with Spontaneous Vaginal Delivery (SVD) were more likely to practice KMC than those had caesarean section delivery and mothers who delivered at governmental hospital were more likely to practice KMC than those who gave birth at home. This study also showed that delivering being skilled delivery attendant and getting KMC counseling were significant variables associated with KMC knowledge of mothers (39,44,45).

Whereas hospital based cross sectional study conducted in Kenya on Knowledge of postnatal mothers on essential newborn care practices mentioned lack of counseling service on newborn care including kangaroo mother care during pregnancy and incomplete or no antenatal visits were factors significantly associated with knowledge of mothers on new born care like kangaroo mother care.

Another similar cross sectional study conducted in Hawasa revealed that having delivery in health care setting and getting KMC counseling service were factors significantly associated with knowledge of mothers regarding to kangaroo mother care (17, 38).

2.5.4. Environmental factor

Across sectional study conducted on Knowledge, Attitude, and Practice Study of Kangaroo Mother Care showed that Most of the mothers had an encouraging environment for providing KMC at home(28).Whereas Interventional study conducted on ten hospitals in Indonesia on 344 low birth weight infants received KMC mentioned that the supporting factors associated with KMC practice were support receive from hospital manager, positive attitudes of health care providers, families, communities(34).

On the other hand a quantitative descriptive study conducted in Malawi mentioned that factors affecting compliance and continuation of kangaroo mother care practice were lack of support, culture, lack of assistance with skin-to-skin contact, multiple roles of the mother and stigma and Similar descriptive study conducted in south India revealed that Support of family members was considered as a facilitator in 70% of respondents while lack of privacy at home was considered as barrier in 25% of respondents(28, 46).

Observational study conducted in India showed that Lack of time, Uncomfortable environment, Lack of privacy, Interfering or co-operation from family members or neighbors were factors influencing practice of kangaroo mother care among mothers (47). Additionally, pilot study conducted in Iran on Implementation of kangaroo mother care showed that facility environment, Negative impressions of staff attitudes or interaction, Lack of help with KMC practice were factors associated with KMC practice of mothers(48).

A qualitative study conducted on experiences of mothers who were implementing Kangaroo Mother Care revealed that nursing personnel formed part of the supportive environment for the mothers practicing KMC and Support was found from other mothers and family members. Likewise a cross sectional study conducted in India showed that mothers was getting support from other family members for Kangaroo mother care practice as 80.7% and 19.3% of them getting support from grandmothers and husbands respectively (26, 49).

A review of literature of 103 articles which were done in high income and sub Saharan African countries reported that Negative attitude of staff and Lack of help with KMC practice were factors significantly associated with KMC practice of mothers(50). Descriptive study conducted in Sweden on Provision of Kangaroo Mother Care among 104 mothers indicated that NICU and home environment ,Staff attitudes and access of private space were factors affecting kangaroo mother care practices of mothers(51).Similarly Across sectional study conducted in Harer on assessment of knowledge, attitude and practice towards KMC showed that 8.31% of participants reported that the major obstacle for practicing kangaroo mother care was culturally unacceptability of KMC (16).

2.5.5. Factors related to source of information about KMC

Quantitative descriptive study conducted in South Asia showed that 96.21% of mothers reported that Lack of information regarding KMC was a barrier for their KMC practice while 22.73% of them said that lack of knowledge on benefits of KMC was barrier for them to practice KMC and based on another study conducted in southern Ethiopia being Knowledgeable on KMC were significantly associated factor with KMC practice of mothers(17, 27).

Whereas a retrospective survey conducted in Sweden on mothers' experience of continuous Kangaroo Mother Care on 23 post natal mothers revealed that negative attitude of mothers towards KMC was related to lack of information about practical application of the kangaroo mother care(42).A review conducted on 103 articles which were done in high income and sub Saharan African countries reported that Low knowledge of KMC was one barriers of kangaroo mother care practice of mothers(50).

2.6. Conceptual Framework

The conceptual frame work of this study was adapted by investigator from different related previous studies and it described different factors related with knowledge, attitude and practice of postnatal mothers on kangaroo mother care. These factors are socio demographic characteristics of mothers; including age, occupation, education, place of residence, family size ,baby history; such as weight, gestational age as well as health condition, obstetric factors; like ANC visit, parity, gravidity, mode of delivery place of delivery, twin delivery, environmental factors included; staff attitude, culture, stigma, family support, environmental space, source of information such as mass media, neighbors, health professionals, friends, relatives, colleague and internet. This conceptual frame work also showed that the association between knowledge, attitude and practice of postnatal mothers towards kangaroo mother (16, 26-29, 32-34, 39, 40, 44-48, 50, 51).

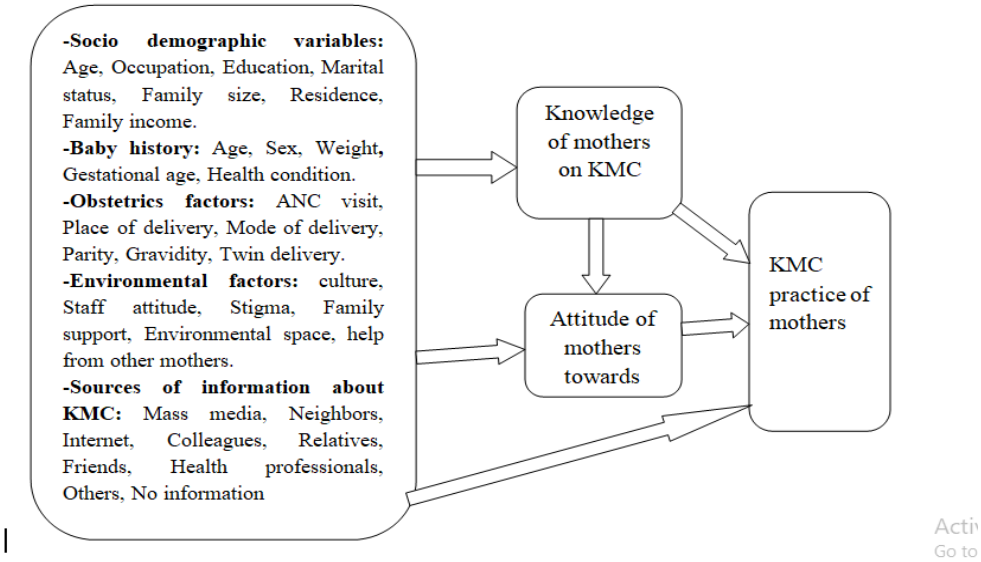

Figure 1: Conceptual frame work which was adapted by investigator from different related previous studies for study on the assessment knowledge, attitude, and practice and associated factors towards kangaroo mother care among post natal mothers at selected public hospitals in Addis Ababa, 2019.

Source : Adapted from literatures((16, 26-29, 32-34, 39, 40, 44-48, 50, 51)3.

3. Objectives

3.1. General objective

To assess the knowledge, attitude, practice and associated factors towards kangaroo mother care among postnatal mothers paired with their babies at selected public hospitals in Addis Ababa, Ethiopia, 2019.

3.2. Specific objectives

- To assess the knowledge of postnatal mothers on kangaroo mother care at selected public hospitals in Addis Ababa.
- To assess Attitude of postnatal mothers towards kangaroo mother care at selected public hospitals in Addis Ababa.
- To evaluate kangaroo mother care practice of postnatal mothers at selected public hospitals in Addis Ababa.
- To identify factors associated with knowledge, attitude and practice of kangaroo mother care among postnatal mothers at selected public hospitals in Addis Ababa.

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4. METHOD AND MATERIALS

4.1. Study area and period

This study was conducted in Addis Ababa which is the capital city of Ethiopia from March 15th, 2019 to May 15th, 2019.Addis Ababa is located at center of the country, as 2015 Census conducted by the Central Statistical Agency of Ethiopia (CSA) indicated, Addis Ababa has a total population of 2,739,551, of whom 1,305,387 and 1,434,164 were men and women respectively while the total live birth were 44,627(52). In addition according to Addis Ababa Regional Health Bureau (AARHB) 2014 report, under its administration there were six hospitals, one Public health laboratory and two health Science colleges. There were also 52 hospitals in the metropolis, of which 6 are owned by AARHB, 5 by federal government, 3 by nongovernmental organizations 3 by Defense force and police and 35 by the private owners(53). There were five public hospitals namely, Tibur Amebas Specialized Referral Hospital, Yakutat 12 medical college hospital, Zewditu memorial hospital, Gandhi memorial hospital and Saint Petro's hospital which had postnatal unit, neonatal intensive care unit and kangaroo mother care unit which were included in this study.

4.2. Study Design

Institution based cross sectional study was conducted to assess knowledge, Attitude, practice and associated factors towards kangaroo mother care among postnatal mothers at selected public hospitals in Addis Ababa, Ethiopia, 2019.

4.3. Population

4.3.1. Source population

All postnatal mothers who had preterm and/or LBW babies at selected public hospitals in Addis Ababa.

4.3.2. Study population

The study population was postnatal mothers with pre term and/or low birth weight babies at selected public hospitals in Addis Ababa at a time data of collection.

4.4. Eligibility Criteria

4.4.1. Inclusion Criteria

- Postnatal mothers with preterm and low birth weight baby in postnatal unit, NICU and KMC unit of selected hospitals during data collection period.
- Postnatal mothers with stable babies.

4.4.2. Exclusion criteria

- Postnatal mothers who are critically ill.

4.5. Sample size determination

The sample size was determined by using single population proportion formula. The following assumptions were made, marginal error (d) which was tolerated either side of the true proportion to be 5%, and using 95% confidence level and adding 10% to compensate for non-response rate and the proportion of knowledge, attitude and practice was 69.91%, 63.33% and 54.15% respectively which was based on research done at Harer (16). So the total sample size for each outcome variables was calculated as follows.

For knowledge about KMC

P= 69.91% = 0.6991 = Prevalence of knowledge (according to research done at Harer)

d= 5% = 0.05 (Margin of error)

$Z\frac{\alpha 1}{2} =$ (95% Confidence interval) = 1.96

ni = Initial sample size

n final = final sample size after adgusted formula.

N=Total population

Then sample size was calculated by single population proportion formula which was

$ni = \frac{\left(Z\frac{\alpha 1}{2}\right)^2 P(1-P)}{d^2}$ Then replaced the value as follows

$ni = \frac{(1.96)^2 0.6991(1-0.6991)}{0.05^2} = 323$ use adjusted formula which was $n\,final = \frac{ni}{1+\frac{ni}{N}}$ because the total population was less 10,000 then the sample size was $\frac{323}{1+\frac{323}{554}} = 204.04$=204 mothers

Added 10% non response rate (20 mothers), the total sample size was postnatal mothers =224mothers

For Attitude towards KMC calculated in the same way as knowledge

P=63.33% =0.6333 =Prevalence of attitude (according to research done at Harer)

d= 5% = 0.05 (Margin of error)

$Z\frac{\alpha 1}{2} =$ (95% Confidence interval) = 1.96

ni = Initial sample size

n final = final sample size after adgusted formula.

N=Total population

Then sample size was calculated by single population proportion formula which was

$ni = \frac{\left(Z\frac{\alpha 1}{2}\right)^2 P(1-P)}{d^2}$ Then replaced the value as follows

$ni = \frac{(1.96)^2 0.6333(1-0.633)}{0.05^2}$ =356.9=357 mothers and use adjusted formula which was

$n\,final = \frac{ni}{1+\frac{ni}{N}}$ Because the total population was less 10,000 = $\frac{357}{1+\frac{357}{554}}$=217.15 = 217 then Added 10% non response rate (22mothers), the total sample size was =239 mothers

For practice of KMC calculate similar to knowledge and attitude

P=54.15%% = 0.5415 = prevalence of positive attitude (according to research done at Harer)

d= 5% = 0.05 (Margin of error)

$Z\frac{\alpha 1}{2} =$ (95% Confidence interval) = 1.96

ni = Initial sample size

n final = final sample size after adgusted formula.

N=Total population

Then sample size was calculated by single population proportion formula which was

$ni = \frac{\left(Z\frac{\alpha 1}{2}\right)^2 P(1-P)}{d^2}$ Then replaced the value as follows

$ni = \frac{(1.96)^2 0.5415(1-0.5415)}{0.05^2}$ = 381.7 = 382 mothers since the total population was less 10,000 use adjusted formula which was $n\,final = \frac{ni}{1+\frac{ni}{N}}$ = $\frac{382}{1+\frac{382}{554}}$=226.10 = 226 mothers and Added 10% non response rate (23 mothers); the total sample size was 249 mothers.

Finally the largest sample size from the three outcome variable which was practice was taken so the total sample sizes were 249 post natal mothers.

4.6. Sampling technique and procedure.

Lottery method was used to select five public hospitals from the total twelve governmental hospitals in Addis Ababa then the total sample size of the study was allocated to each selected hospitals based on flow of postnatal mothers with preterm and/or low birth weight babies to each hospitals within two months (January 1/01/2019-fibruary 30/01/2019) based on information obtained from each selected public hospital staffs to ensure the representativeness of the sample and the study participants who came to hospital at time of data collection time was included in the study consecutively and for mothers with twin babies the one which was mother already held taken for practice assessment. The proportional allocation of sample size was done as follows.

In = $\frac{\text{n total}}{\text{Nt}} \times \text{Ni}$

In (i=1-5) = Proportionate sample of individual hospital

N total = the total sample size

Ni (i=1-5) = Number of postnatal mothers with low birth weight and/or preterm babies within two months at individual Selected public hospital.

Not = Total postnatal mothers with low birth weight and/or preterm babies within two months at all selected public hospitals.

- Proportionate sample of Tibur Amebas Specialized Referral hospital (n1) = $\frac{249}{554} \times 106 = 47.64$ =48 postnatal mothers
- Proportionate sample of Yakutat 12 medical college hospital (n2) = $\frac{249}{554} \times 92$ =41.35=41 postnatal mothers
- Proportionate sample of Zewditu memorial hospital (n3) = $\frac{249}{554} \times 84$=37.75=38 postnatal mothers
- Proportionate sample of Gandhi memorial hospital (n4) = $\frac{249}{554} \times 200$=89.89=90 postnatal mothers
- Proportionate sample of Saint Petro's hospital (n5) = $\frac{249}{554} \times 72$ =32.36=32 postnatal mothers.

Schematic presentation of sampling procedure

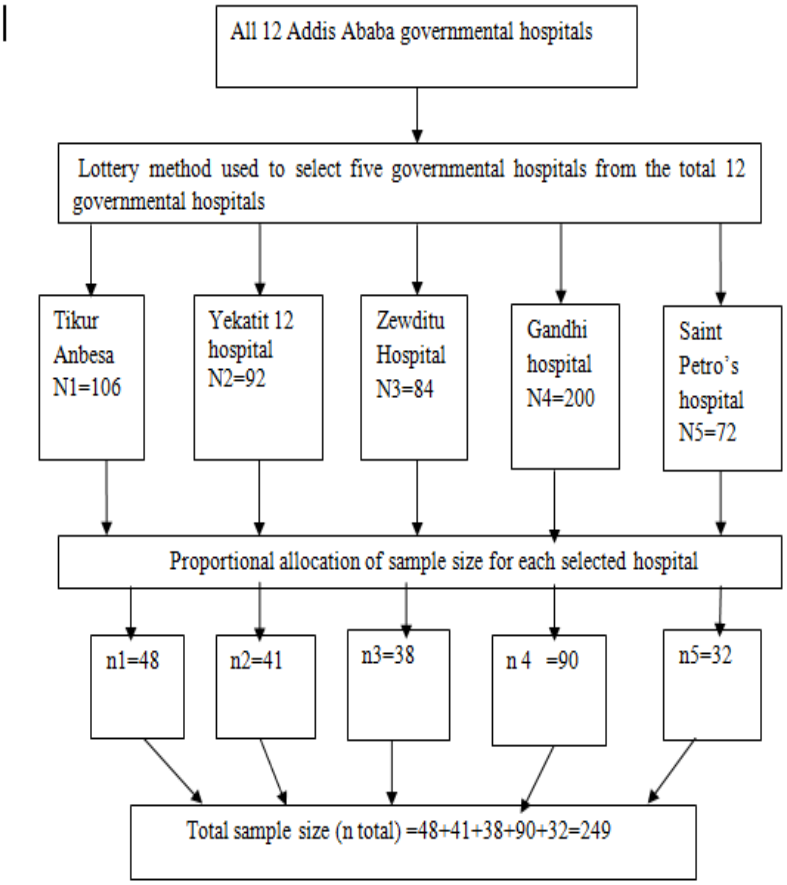

Figure 2: Schematic presentation of sampling procedures for a study on the assess knowledge, attitude, practice and associated factors towards kangaroo mother care among post natal mothers at selected public hospitals in Addis Ababa, 2019.

4.7. Operational definitions

Knowledge: The Understanding of postnatal mothers about kangaroo mother care which will be assessed by scoring the response of knowledge questions and each response was scored 1 if answered correctly and 0 if answered wrongly. The maximum total score for knowledge questions was 20 and 50% cut off point was taken based on previous study

Good knowledge: Mother who score ≥50% of knowledge questions of KMC.

Poor knowledge: Mothers who scored <50% of the knowledge questions of KMC.

Attitude: Mother's feeling towards Kangaroo mother care and it was measured based on statement on KMC with three points Liker scale which are , disagree, not sure and agree as 0 ,1 and ,2 respectively. The maximum score of attitude statements was 20 and 50% cut off point was taken based on previous study

Favorable attitude: Mothers scoring ≥50% of the maximum score of attitude statements

Unfavorable attitude: Mothers scoring <50% of the maximum score of attitude statements

Practice: The actual and observable activity of mothers on kangaroo mother care which was assessed by using observational check list which contained 14 observational criteria which filled as yes if correctly done(score 1) or no if not correctly done(score 0) then the maximum score was 14. Take 50% as a cutoff point based on previous similar study

Good practice: Mothers scored of ≥50% the total score of 14 observational checklist criteria

Poor practice: Mothers scored <50% of the total score of 14 observational checklist criteria.

Environmental factors: Factors affecting KAP of mothers on KMC which were external to them including Staff attitude, Family support, Culture, Stigma, and Environmental Space (place where KMC procedure conducted).

4.8. Variables

4.8.1. Dependent variables

Knowledge, Attitude and Practice of post natal mothers towards kangaroo mother care

4.8.2. Independent variables

Socio demographic characteristics of mothers

Age, Place of residence, Education, Occupation, Family size, marital status, Family income.

Mother's baby history

Age, Sex, Weight of the baby, Health condition of the babies, Gestational age.

Obstetrics factors

ANC visit, Mode of delivery, Place of delivery, Gravidity, Parity, Twin delivery.

Environmental factors

Staff attitude, Family support, Culture, Stigma, Environmental Space

Source of Information about KMC

Mass Medias, Neighbors, Internet, Health Professionals, Colleagues, Relatives, Friends, Other mothers.

4.9. Data collection tool and procedure

The instrument was adapted from previous studies which were conducted in Ethiopia (16, 17). This tool contained observational check list and structured questionnaires which consisted of parts-1 socio demographic characteristics of mother, part-2 knowledge aspects, part-3 attitude aspects, part-4 observational check list to assess the practice, part-5 history babies, part-6 obstetrics factors, Part-7 environmental factors and part-8 source of information about KMC. The questionnaire was translated to Amharic and retranslated to English for its consistency. Before the data collection 5% pretest was done in Ras Desta hospital that was not included in the study.

For the data collection five data collectors and two supervisors who were BSC nurses were used. Before data collection one day Training was given for data collectors and supervisors by principal investigators regarding the purpose of the study, the contents of questionnaires, the method of data collection and how to kept confidentiality and privacy. Data collection was started after obtained ethical clearance from Department of Pediatrics and Child health Research Publication Committee (DPCRPC) of Addis Ababa University, college of health science, school of nursing and midwifery.

Then support letter was written to ARHB in order to obtain permission letter for Gandhi memorial hospital, Zewuditu memorial hospital, and Yakutat 12 medical college hospital. Additional support letter was obtained direct from Department of Pediatrics and Child health Research Publication Committee (DPCRPC) for Tibur Amebas specialized referral hospital and Saint Petro's hospital.

4.10. Data quality Assurance

Pretest was conducted before data collection on about 5% of sample other than study area at Ras Desta hospital to assess clarity of the questionnaire and one day Training was given for data collectors and supervisors by the principal investigators regarding the purpose of the study, how to collect the data, how to kept confidentiality and privacy. In addition during data collection as much as possible tried to maintain quality of questionnaires and after data collection the completeness of the data was checked by the principal investigator and supervisors.

4.11. Data processing and analysis

The collected data was entered in to Epi data 3.1 then exported to SPSS version 24 statistical packages for analysis, Frequencies, Percentage, mean and standard deviation was use to summarize descriptive statistics, while binary logistic regression for association of variables and multiple logistic regression was used to assess variable that are significantly associated with knowledge, attitude and practice of postnatal mothers on KMC by taking p value <0.2 for binary logistic regression and <0.05 for multiple logistic regression with 95% Confidence interval as significant. Hosmer and lomenshow test were test with value knowledge (0.96), attitude (0.11) and practice (0.47) were done for each outcome variables In addition multicollinearity or tolerance test was done with all variables had the value of (VIF 1-5) except occupation of the mother which had(VIF=13) and removed from the model. Finally tables and charts was use for data presentation.

4.12. Ethical consideration

After the proposal was submitted to school of nursing and midwifery ethical clearance was obtained from Department of Pediatrics and Child health Research Publication Committee (DPCRPC) of Addis Ababa University, college of health science, school of nursing and midwifery. Then support letter was written to (ARHB) then obtain permission letter for Gandhi memorial hospital, Zewditu memorial hospital, and Yakutat 12 medical college hospital from ARHB. Additional support letter was obtained direct from Department of Pediatrics and Child health Research Publication Committee (DPCRPC) for Tibur Amebas specialized referral hospital and Saint Petro's hospital. Verbal consent was obtained from each study participants before data collection and participants had the right to continue or withdraw from the study during data collection.

4.13. Dissemination of the result

The result of this was presented to Addis Ababa University, College of health science, school of nursing and midwifery, department of nursing and midwifery as partial fulfillment of the requirement of master degree in pediatrics and child health nursing then the hard copy was submitted to Addis Ababa University, College of health science, school of nursing and midwifery. In addition this finding will share to ARHB, Tibur Amebas specialized referral hospital, Zewditu memorial hospital, Yakutat 12 medical college hospital, Gandhi memorial hospital and Saint. Petro's hospitals.

5. RESULT

5.1. Socio demographic characteristics of mothers

A total of 249 postnatal mothers paired with their preterm and low birth weight babies were included in this study with 100% response rate.149 (59%) of respondents were in age group of 25-34 years. The median age of respondents was 28 years where as the median monthly income of respondents was 5000 Ethiopian birr (ETB). From the total 249 respondents only 61(24.5 %) of them had monthly income >7800 ETB. Majority of respondents 219(88%) were urban residents while 232(93.2%) of them were educated people. 201(80.7%) of mothers were married and 136(54.6%) of mothers were house wife **(Table 1).**

Table 1 : Socio demographic characteristics of postnatal mothers at selected Public hospitals, in Addis Ababa 2019.

Variables	Categories	Frequency(N=249)	Percent (100%)
Age(yr)	15-24	57	22.9%
	25-34	149	59.8%
	≥35	43	17.3%
Residence	Rular	30	12%
	Urban	219	88%
Income(ETB)	601-1650	32	12.9%
	1651-3200	65	26.1%
	3201-5250	43	17.3%
	5251-7800	48	19.3%
	>7800	61	24.5%
Family size	≤2	84	33.7%
	3-5	133	53.4%
	≥6	32	12.9%
Educational status	Non educated	17	6.8%
	Educated	232	93.2%
Marital status of the mother	Single	30	12.0%
	Married	201	80.7%
	Widowed	1	0.4%
	Divorced	5	2.0%
	Separated	12	4.8%
Occupation of the mother	Housewife	136	54.6%
	Merchant	39	15.7%
	government	33	13.3%
	employee	15	6.0%
	private employee	24	9.6%
	daily labor	2	0.8%
	other specify		

5.2 Socio demographic characteristics of mothers` baby history

Majority 231(92.8%) of mother's babies were at 7-28 days age ranges with the median age of 13 days. From the total (249) babies, 144(57.8%) of them were very low birth weight. The median weight of babies was 1.16 kg. From total babies, 147(59%) of them were females and 141(56.6%) were sick **(Table 2).**

Table 2: Socio demographic characteristics of mother's preterm and LBW babies at selected public hospitals, in Addis Ababa 2019.

Variable	Categories	Frequency(249)	Percent (100%)
Sex	Male	102	41.0%
	Female	147	59.0%
Health condition	Healthy	108	43.4%
	Sick	141	56.6%
Age(days)	<7	11	4.4%
	7-28	231	92.8%
	29-42	7	2.8%
Weight(kg)	Extremely very LBW	66	26.5%
	Very LBW	144	57.8%
	LBW	39	15.7%

5.3 Obstetrics factors

From the total respondents, 188(75.5%) of them were multi-gravidia, and 177(71.0%) of them were multi-para. Two hundred thirty two (232 (93.3%)) of mothers had single baby, but none of them had multiple babies. Similarly, 231(92.8%) of mothers had ANC follow up; from those 121(52.4%) of them had incomplete ANC visit. 199 (79.9%) of mothers delivered their current babies at government hospital where as only 3(1.2%) of respondents were delivered at home. 144 (57.8%) of respondents delivered with spontaneous vaginal delivery. From the total participants 114(45.8%) of them were mothers with babies delivered at 28-32 weeks of gestation and the median weak of gestation was 31 weeks **(Table 3).**

Table 3: Obstetrics Factors of postnatal mothers at selected public hospitals, in Addis Ababa, 2019.

Variables	Categories	Frequency	Prevent (100%)
Pregnancy type	Single	232	93.2%
	Twin	17	6.8%
	Multiple	0	0.0%
Gravidity	Primigravidia	61	24.5%
	Multigravidia	188	75.5%
Parity	Primipara	72	28.9%
	Multipara	177	71.1%
ANC visit	No	18	7.2%
	Yes	231	92.8%
Number ANC visit	Incomplete	121	52.4%
	Complete	110	47.6%
Place of delivery	government hospital	199	79.9%
	private hospital	9	3.6%
	health center	38	15.3%
	Home	3	1.2%
Mode of delivery	Other specify	0	0.0%
	SVD	144	57.8%
	Instrumental delivery	17	6.8%
	CS	88	35.3%
Gestational age at delivery	Extremely very preterm	114	45.8%
	Very preterm	64	25.7%
	Preterm	69	27.7%
	Term	2	0.8%

5. 4. Source of information

From the total 249 participants, majority 182(73.1%) of them reported that they had get information concerning kangaroo mother care from health professionals while 107(43%) get information about KMC from mass media. One hundred five of respondents (105(42.2%)) of respondents mentioned that internet was their source of information on KMC. Whereas about 57(22.9%) and 36(14.5%) of mothers had access of information on KMC from relatives and friends respectively but only 6(2.4%) of them had no source of information about KMC **(Figure3)**.

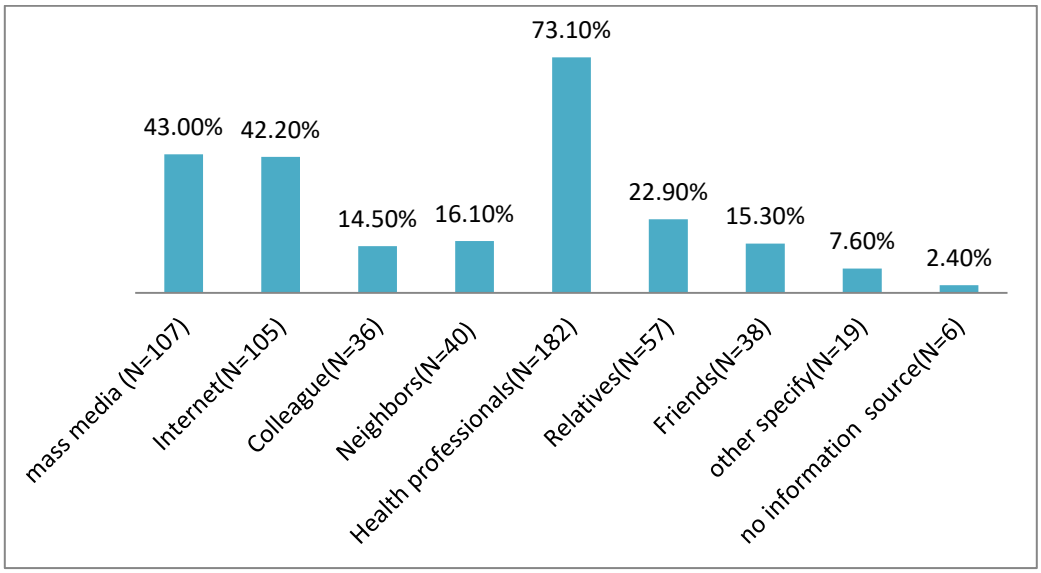

Figure 3: Postnatal mother's source of information about KMC at selected public hospitals in Addis Ababa, 2019.

5.5. Environmental factors

From the total 249 respondents, 41(16.5%) of them reported that their family felt positive towards kangaroo mother care while the remaining 208(83.5%) of mothers had family who felt negative towards kangaroo mother care. One hundred forty three (143(57.4%)) of mothers told KMC is acceptable in their community while 114(45.8%) of respondents had conducive home to do KMC procedure. In addition to this 132(53%), 196 (78%) and 114(45.8%) of mothers get help or facilitated to do KMC from family members, hospital staffs and other family members **(Table4).**

Table 4 : Environmental factors affecting KAP of postnatal mothers on KMC at selected public hospitals, in Addis Ababa 2019.

Question	Response	Frequency(N=249)	Percent(100)%
Does your family think KMC is important for your baby?	No	208	83.5%
	Yes	41	16.5%
Is KMC acceptable in your community?	No	106	42.6%
	Yes	143	57.4%
Is your home conducive for KMC?	No	135	54.2%
	Yes	114	45.8%
Did you get help from other family members?	No	117	47.0%
	Yes	132	53.0%
Did hospital staffs facilitate you to do KMC?	No	53	21.3%
	Yes	196	78.7%
did you get help from other mothers when you are doing KMC	No	135	54.2%
	Yes	114	45.8%

5.6. Knowledge of postnatal mothers about kangaroo mother care

From the total 249 respondents, 167(67.1%) of them had good knowledge on kangaroo mother care where as 82(32.9%) of them had poor knowledge on kangaroo mother care **(Figure4).**

The mean (±SD) as well as the median score of knowledge of respondents was 10.91(±2.72) and 11.00 respectively. Majority of the participants 206(82.7%) define kangaroo mother care as holding the baby up right position between the maternal chest while 127(51%) and 88(35.3%) of them describe kangaroo mother care as it is a special way of caring baby and method of initiating breast feeding respectively. But only 12(4.8%) of them reported as they didn't knew about what was KMC.

More than half (159(63.9%)) of participants stated that the time of initiation of KMC should be soon after birth whereas 57(21.7%) of them told one week after birth and 10(4.0%) respondents said two weeks after birth, the remaining 26(10.4%) of participants reported as they didn't knew about time to initiation of KMC. From 249 total participants, 238(95.6%) of them had knowledge about the advantage of KMC for the baby. 135(45.8%), 203 (81.5%), 106(42.6%), 180(73.3%) and 68(27.3%) of them stated the importance of kangaroo mother care as for exclusive breast feeding, to

normalize body temperature, to strengthen the immune system, for weight gain and to reduce crying respectively. Around 230(92.3%) of mothers stated about the advantage of KMC for mothers as 151(60.6%) improve lactation, 147(59%) satisfaction regarding baby care, 105(42.2%) reduce maternal stress, 132(53%) happy about less frequently crying and 74(29.7%) feeling of confidence and the rest 29(7.6%) told as they didn't knew about importance of KMC for mothers.

Regarding clothing of baby during KMC procedure, 113(45.4%) of mother said baby should wear socks, cape, diaper and nappy, while 59(23.7%) of them reported baby without any clothes and 64(25.5%) of them said baby with sweater but 13(5.2%) of them didn't knew baby's clothing style of KMC. Majority 217(87.1%) of respondents reported that the position of baby during KMC were upright position but only 3(1.2%) of them reported that as it should be lying down position. Concerning nutritional source of babies during kangaroo mother care procedure, 154(61.8%) of mothers said the best source of nutrition for babies at KMC procedure were breast milk while only 32(12.9%) of respondents told that the best source of nutrition was caw milk **(Table 5).**

Table 5: Knowledge of postnatal mothers about KMC at selected public hospitals in Addis Ababa, 2019.

Questions	Answer	Frequency(N=249)	Percent (100%)
Do you know KMC?	Yes	237	95.2%
	No	12	4.8%
What is KMC?	Holding baby upright position	206	82.7%
	Special Way of caring baby	127	51%
	Method of initiating breast feeding	88	35.3%
Do know when KMC should be initiated?	Yes	223	89.6%
	No	26	10.4%
When KMC should be initiated?	Soon after birth	159	63.9%
	One week after birth	54	21.7%
	Two week of birth	10	4.0%
Do you know advantage of KMC for babies?	Yes	238	95.6%
	No	11	4.4%
What is the advantage of KMC for babies?	Exclusive breast feeding	135	45.8%
	Normalize temperature	203	81.5%
	Strengthen immune system	106	42.6%
	Weight gain	180	73.3%
	Reduce frequency of crying	68	27.3%
Do you know the advantage of KMC for Mothers?	Yes	230	92.3%
	No	19	7.6%
What is the advantage of KMC for the mothers?	Improve lactation	151	60.6%
	Satisfaction regarding baby care	147	59%
	Reduce maternal stress	105	42.2%
	Feeling of confidence	132	53%
	happy about less frequently crying	74	29.7%
Do you know the appropriate clothing of baby during KMC procedure?	Yes	236	94.8%
	No	13	5.2%

Appropriate clothing of baby during KMC procedure?	Baby with sweater	64	25.7%
	Baby with cape, socks and nappy	113	45.4%
	Baby without any cloth	59	23.7%
Do you know appropriate position of baby during KMC procedure?	Yes	138	95.2%
	No	11	4.4%
What is Appropriate position of baby during KMC procedure?	Upright position	217	87.1%
	Lying down position	3	1.2%
	Any position	19	7.6%
Do you know best source of nutrition for baby during KMC?	Yes	240	96.4%
	No	9	3.6%
Best source of nutrition for baby during KMC procedure?	Breast milk	154	61.8%
	Caw milk	32	12.9%
	Formula milk	54	21.7%
Do you know frequency of feeding of baby during KMC procedure?	Yes	132	93.2%
	No	17	6.8%
What is the frequency of feeding of baby during KMC procedure?	As frequently as possible	187	75.1%
	Every three hours	28	11.2%
	Only after crying	17	6.8%
Do you know when KMC Should discontinued?	Yes	218	87.5%
	No	31	12.4%
When KMC should discontinue?	Depend on mother interest	138	55.4%
	When the baby becomes term/2.5kg	80	32.1%
Do you know the length KMC Procedure?	Yes	228	85.4%
	No	21	8.4%
How long is KMC Procedure should be done?	Half an hour	105	42.2%
	As long as possible	86	34.%
	Less than an hour	37	14.9%

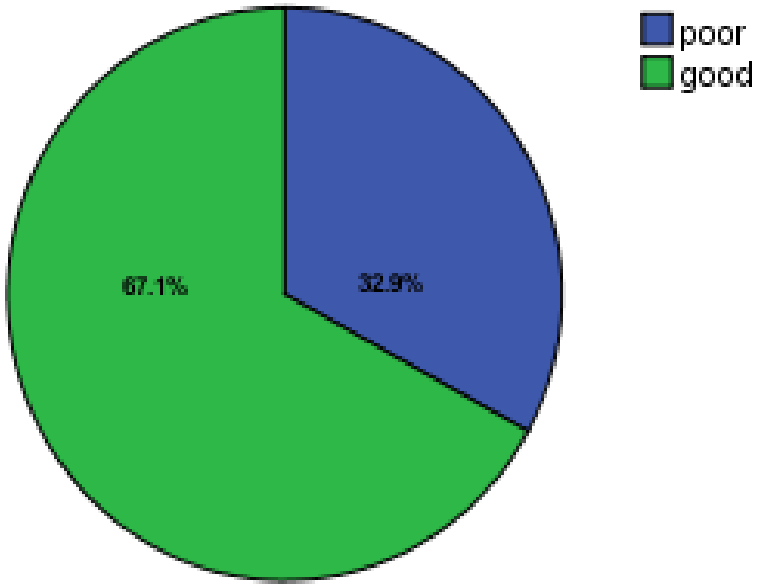

Figure 4: Level of knowledge of postnatal mothers about KMC at selected public hospitals in Addis Ababa 2019.

5.7. Attitude of postnatal mother towards kangaroo mother care

From 249 total respondents, 135(54.22%) of them had favorable attitude towards kangaroo mother care. The mean (±SD) and the median score of attitude of mothers were 9.92 (±2.305) and 10 respectively. From over all 249 respondents, 87(34.9%) of them agreed on KMC is power saved method, 44(17.7%) of them had favorable feeling on baby becomes safe during KMC and 39(15.7%) of respondents felt favorable on KMC should continue at home. While 97(39%) of mothers agreed on kangaroo mother care can cause maternal discomfort and the other 54(21%) of them disagreed with KMC resulted effective breast feeding and 156(62.7%) of mother were not sure about promotion of bonding of mother with baby by KMC **(Table 6).**

Table 6: Attitude of postnatal mothers toward kangaroo mother care at selected public hospitals in Addis Ababa 2019.

Statement	Agree (F (%))	Not sure (F (%))	Disagree (F (%))
kangaroo mother care promote bonding	61(24.5%)	156(62.7%)	32(12.9%)
KMC enhance mothers confidence how to handle baby	41(16.5%)	161(64.7%)	47(18.9%)
baby becomes safe during KMC	39(15.7%)	149(59.8%)	61(24.5%)
KMC should be continued at home	44(17.7%)	117(47%)	88(35.3%)
KMC prevent accidental fail of baby	52(20.9%)	122(49%)	75(30.
KMC increase alertness of mother to her baby	64(27.7%)	119(47.8%)	66(26.5%)
KMC does not cause maternal discomfort	40(16.1%)	112(45%)	97(39%)
KMC result effective breast feeding	76(30.8%0	119(47.8%)	54(21.7%)
kangaroo mother care is simple to handle the baby	83(33.3%)	126(50.6%)	40(16.1%)
KMC is power save method	87(34.9%)	116(46.6%)	46(18.5%)

5.8. Kangaroo mother care practice of mothers

From 249 total respondents 107 (43%) of them had good practice of kangaroo mother care **(Figure 5).**The mean (±SD) score of practice of KMC was 6.71(±2.20) and the median score was 6.00.

Majority 233(93.6%) of mother placed their baby upright position between their breast and only 27(10.8%) of them had babies dressed with cape, socks, nappy, front opened shirt.

One hundred ninety eight 198(79.5%) of mothers turn the head of the baby to side, 100(40.2%) of them had eye to eye contact to their babies and 126(50.6%) were sitting while maintaining skin to skin contact to the baby. Based on this study only 77(30.9%) of the total respondents had continuous skin to skin contact as long as possible **(Table 7).**

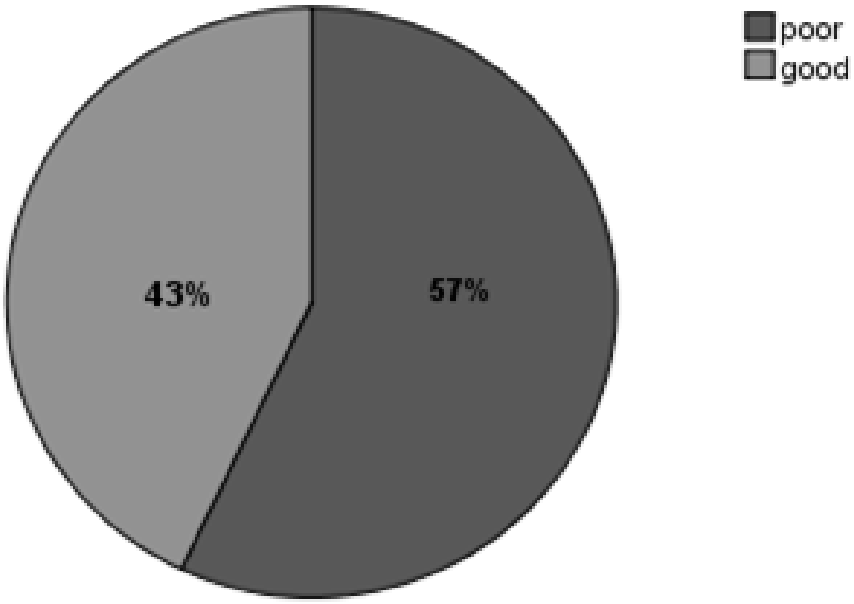

Figure 5: Level of KMC practice of postnatal mothers at selected public hospitals in Addis Ababa, 2019.

Table 7: KMC practice of postnatal mothers at selected public hospitals in Addis Ababa, 2019.

Statements	Response	Frequency(N=249)	Percent (100%)
Baby dressed with cap socks, nappy, front opened shirt	No	222	89.2%
	Yes	27	10.8%
The baby placed upright position between the mother's breast	No	16	6.4%
	Yes	233	93.6%
KMC done by front opened shirt or local cultural cloth	No	63	25.3%
	Yes	186	74.7%
The head of the baby turned to side	No	51	20.5%
	Yes	198	79.5%
The head of the baby is not highly extended or flexed	No	111	44.6%
	Yes	138	55.4%
Mother has eye to eye contact to baby	No	149	59.8%
	Yes	100	40.2%
The hips of baby are flexed and abducted in frog position	No	109	43.8%
	Yes	140	56.2%
Support of baby's lower body bay slag/binder	No	191	76.7%
	Yes	58	23.3%
A blanket is used to cover the infant.	No	96	38.6%
Screens may be used to provide privacy at	Yes	15	61.4%
Frequent handling of the baby is avoided	No	180	72.3%
	Yes	69	27.7%
Holding the baby near to the chest stimulate milk production or she may express	No	110	44.2%
	Yes	139	55.8%
The mother slowly sits down on chair while maintaining the baby in skin to skin	No	123	49.4%
	Yes	126	50.6%
The length of skin to skin contact will gradually increase to 24 hours a day	No	223	89.6%
	Yes	26	10.4%
The mother can continue KMC during Sleep and rest	No	172	69.1%
	Yes	77	30.9%

5.9. Factors associated with knowledge of mothers towards KMC

Based on the result of this study, educational status of mothers was one statistically significant socio demographic factor associated with knowledge of mothers, mothers who were educated had 5.33 times more good knowledge than those who were uneducated mothers (AOR; 5.33; 95% CL;(1.39-20.47).The other socio demographic factor significantly associated with maternal knowledge on KMC was residency of the mother, mothers who came from urban residency had 7.58 time more good knowledge on KMC than rular residents (AOR;7.58;95% CL;(2.39-23.90).
In addition to these, there were another socio demographic variable significantly associated with knowledge of post natal mothers on KMC which was family income, mothers who had monthly income ≥7801 were 3.70 times more knowledgeable than those income less than 7801(AOR;3.70;95 CL;(1.17-11.67).

Source of information on kangaroo mother care were another significant variable associated with maternal knowledge about KMC, mothers who had gotten information about KMC from health professionals were 6.89 times more knowledgeable than those used other sources of information (AOR;6.89;95% CL;(2.74-17.31**).**This study also showed that culturally acceptability of kangaroo mother care in the community was environmental factor which was statistically associated with maternal knowledge on KMC, mothers who were lived in community which were accepted KMC had 9.32 times more knowledgeable than those lived in community which didn't accept KMC (AOR;9.32;95% CL;(4.13-21.04).In addition, health condition of the baby was another significant factor associated with level of maternal knowledge on kangaroo mother care, respondents with healthy babies were 6.76 time more likely to be knowledgeable than those with sick babies (AOR; 6.76; 95%CL;(2.74-16.69)**(Table 8).**

Table 8: Variables associated with knowledge of postnatal mother about KMC at selected public hospitals in Addis Ababa, 2019**.**

Variables	Knowledge status		COR (CL 95%)	P value	AOR (CL 95%)	P value
	Poor	Good				
Level of education						
Uneducated	12	5	1		1	
Educated	70	162	5.55 (1.89-16.36)	0.002	**5.33 (1.39-20.47)***	**0.015**
Residence						
Rular	25	5	1		1	
Urban	57	162	14.21 (5.19-38.88)	0.000	**7.58 (2.39-23.90)***	**0.001**
Family income						
601-1650	18	14	1	1	1	
1651-3200	28	37	1.70 (0.72-3.99)	0.224	1.65 (0.57-4.74)	0.357
32015250	11	32	3.74 (1.41-9.95)	0.008	2.22 (0.66-7.55)	0.200
5251-7800	10	38	4.89 (1.82-13.10)	0.002	3.48 (0.98-12.40)	0.054
>7801	15	46	3.94 (1.59-9.79)	0.003	**3.70 (1.17-11.67)***	**0.025**
KMC acceptable in community						
No	66	40	1		1	
Yes	16	127	13.10 (6.83-25.13)	0.000	**6.32 (3.13-18.04)***	**0.000**
Hospital staff facilitate to do KMC	25	28	1		1	
No	57	139	2.18 (2.18-4.05)	0.014	1.68 (0.71-3.98)	0.236
Yes						
Source of information						
Mass media	22	85	2.82 (1.59-5.02)	0.001	1.03 (0.35-3.04)	0.954
Internet	22	83	2.7 (1.52-4.79)	0.000	2.60 (0.87-7.76)	0.087
Health professionals	39	143	6.57 (3.56-12.11)	0.000	**6.89 (2.74-17.31)***	**0.00**
Relatives	20	37	0.88 (0.47-1.64)	0.693	1.379 (0.54-3.50)	0.507
Neighbors	8	32	2.19 (0.96-5.00)	0.062	1.944 (0.64-5.86)	0.238
Colleagues	9	27	1.56 (0.70-3.50)	0.276	0.95 (0.27-3.36)	0.931
Friends	16	22	0.63 (0.31-1.27)	0.19	0.56 (0.19-1.69)	0.306
Other	6	13	1.07 (0.39-2.92)	0.90	2.16 (0.50-9.29)	0.302
No information	6	0	1		1	
Health condition of the baby						
Healthy	12	96	7.89 (3.98-15.65)	0.000	**6.76 (2.74-16.69)***	**0.000**
Sick	70	71	1		1	
Parity						
Primipara	38	34	1		1	
Multipara	44	133	3.38 (1.90-6.00)	0.000	4.75 (0.91-24.73)	0.064
Gravidity						
Primigravidia	33	28	1		1	
Multigravidia	49	138	3.343 (1.84-6.10)	0. 000	0.49 (0.09-2.78)	0.428

*** => Significant**

5.10. Factors associated with attitude of post natal mothers towards KMC

In this finding residency of mothers was the only socio demographic variable which was significantly associated with attitude of mothers of towards kangaroo mother care, mothers who were urban residents had 3.61 times more favorable attitude than those who came from rular areas (AOR; 3.61; 95% CL;(1.37-9.49).

Gravidity and mode of delivery were statistically significant obstetrics variables associated with maternal attitude on KMC, mothers who were Multigravidia had 2.61 times more favorable attitude than those who were Primigravidia(AOR;2.61;95% CL ;(1.20-5.67).Whereas, mothers delivered with SVD had 3.05 times more felt favorable than those delivered with CS and instrumental delivery(AOR;3.05;95% CL;(1.54-6.04).

In addition to this knowledge of mother about kangaroo mother care and source of information about KMC were other significant factors associated with attitude of mothers towards kangaroo mother care, mothers who had good knowledge on kangaroo mother care had 7.79 times more favorable feeling towards KMC than those with low good level of knowledge (AOR; 7.79; 95% CL;(3.39-17.88), while mother who had gotten information about KMC from mass media were felt favorable towards KMC 2.71 times more than those who used other information sources (AOR; 2.71;95% CL;(1.01-7.23**) (Table 9).**

Table 9: Variables associated with attitude of post natal mother toward kangaroo mother care at selected public hospitals in Addis Ababa, 2019.

Variables	Attitude		COR (CL 95%)	P value	AOR (CL 95%)	P value
	Favorable	Unfavorable				
Residence						
Rular	23	7	1		1	
Urban	91	128	4.62 (1.90-11.00)	0.001	**3.61 (1.37-9.49)***	**0.009**
Gravidity						
Primigravidia	41	20	1		**1**	
Multigravidia	73	115	3.23 (1.75-5.94)	0.001	**2.61 (1.20-5.67)***	**0.015**
Mode of delivery						
SVD	47	97	3.44 (1.98-5.99)	0.000	**3.05 (1.54-6.04)***	**0.001**
Instrumental	12	5	0.70 (0.23-2.15)	0.527	0.71 (0.19-2.61)	0.60
CS	55	33	1		1	
Type of pregnancy						
Single	102	130	3.059 (1.04-8.96)	0.042	2.91 (0.87-9.77)	0.084
Twin	12	5	1		1	
Multiple	0	0	0	0	0	0
Source of information						
Mass media	38	69	2.09 (1.25-3.50)	0.005	**2.71 (1.01-7.23)***	**0.047**
Internet	40	65	1.72 (1.03-2.87)	0.038	0.57 (0.21-0.51)	0.255
Health professionals	75	107	1.99 (1.13-3.51)	0.018	0.78 (0.37-1.64)	0.504
Colleagues	15	21	1.22 (0.60-2.45)	0.592	0.63 (0.20-2.03)	0.445
Relatives	27	30	0.92 (0.51-1.67)	0.784	1.19 (0.43-3.33)	0.740
Neighbors	19	21	0.92 (0.47-1.81)	0.812	0.87 (0.27-2.76)	0.806
Friends	16	22	1.19 (0.59-2.40)	0.621	0.99 (0.27-3.61)	0.990
Others	8	11	1.18 (046-3.03)	0.738	2.40 (0.39-14.12)	0.351
No information	5	1	1		1	
Have ANC follow up						
Yes	100	131	4.59 (1.47-14.35)	0.009	2.87 (0.84-9.80)	0.092
No	14	4	1		1	
Number of ANC visit						
Incomplete	68	53			1	
Complete	32	78	3.13 (1.81-5.40)	0.000	1.74 (0.89-3.42)	0.110
Knowledge						
Poor	68	14	1		1	
Good	46	121	12.78 (6.55-24.92)	0.000	**7.79 (3.39-17.88)***	**0.000**

*** => Significant**

5.11 Factors associated with Kangaroo mother care practice of mothers

In this finding Health condition of babies were statistically significant variable associated with maternal practice of kangaroo mother care ,mothers with healthy baby had 11.25 more good kangaroo mother care practice than those with sick babies (AOR;11.25;95% CL;(4.66-21.19).

Conductivity of home for kangaroo mother care practice was significant environmental factor associated with KMC practice of mothers, mothers with conducive home to practice kangaroo mother care had 3.38 times more good practice than those who had no such type of home environment (AOR; 3.38; 95% CL ;(1.43-8.00). Mode of delivery was obstetrics factor affecting kangaroo mother care practice of mothers, Mothers who were delivered with SVD had 9.23 more good practice than those delivered with CS and instrumental delivery (AOR; 9.23; 95% CL ;(3.51-24.36).

In addition source of information and knowledge about kangaroo mother care were significant factors associated with kangaroo mother care practice of mothers, mothers who had good knowledge on KMC were practice KMC 5.10 times more than those who had poor knowledge (AOR; 5.10; 95%CL;(1.58-16.50). While those who get KMC information from internet had 3.60 more good practice than those who used other sources as well had no any information source (AOR; 3.60; 95% CL;(1.31-9.90).

Table 10: Variables associated with kangaroo mother care practice of postnatal mother at selected public hospitals, in Addis Ababa, 2019.

Variables	Practice		COR (CL 95%)	P value	AOR (CL 95%)	P value
	Poor	Good				
Family income						
601-1650	26	6	1		1	
1651-3200	42	23	2.37 (0.85-6.60)	0.098	1.96 (0.25-15.37)	0.524
32015250	20	23	4.98 (1.708-14.54)	0.003	0.82 (0.30-2.20)	0.700
5251-7800	24	24	4.33 (1.51-12.42)	0.006	1.02 (0.0-3.00)	0.970
>7801	30	31	4.478 (1.62-12.42)	0.000	0.58 (0.21-1.59)	0.290
Health condition						
Healthy	22	86	22.34 (11.55-43.17)	0.000	**11.25(4.66-21.19)***	**0.000**
Sick	120	21	1		1	
KMC acceptability in community						
Yes	47	96	17.64 (8.63-36.01)	0.000	1.67 (0.46.4.38)	0.443
No	95	11	1		1	
Home conducive for KMC						
Yes	50	64	2.739 (1.63-4.59)	0.000	**3.38 (1.43-8.00)***	**0.006**
No	92	43	1		1	
Hospital staff facilitate to do KMC						
Yes	105	91	2.00 (1.05-3.84)	0.036	1.98 (0.80-4.92)	0.143
No	37	16	1		1	
Mode of delivery						
SVD	52	92	10.21 (5.17-20.15)	0.000	**9.23 (3.51—24.36)***	**0.000**
Instrumental	15	2	0.77 (0.16-3.77)	0.87	0.856 (0.12-6.21)	0.880
CS	75	13	1		1	
Source of information						
Mass media	48	59	2.41 (1.44-4.03)	0.001	0.60 (0.22-1.61)	0.306
Internet	45	60	2.7 (1.64-4.63)	0.000	**3.60 (1.31-9.90)***	**0.013**
Health professionals	92	90	2.88 (1.54-5.36)	0.001	1.91 (0.67-5.43)	0.223
Colleagues	19	17	1,22 (0.60-2.48)	0.578	0.72 (0.24-2.20)	0.564
Relatives	39	18	0.53 (0.29-099)	0.050	0.42 (0.15-1.19)	0.103
Neighbors	23	17	0.98 (049-1.94)	0.948	0.98 (0.34-2.82)	0.977
Friends	17	21	1.80 (0.90-3.60)	0.099	2.95 (0.90-9.68)	0.075
Others	10	9	1.21 (0.48-3.10)	0.687	1.15 (0.24-5.59)	0.862
No information	6	0	1		1	
Knowledge						
Poor	75	7	1		1	
Good	67	100	15.99 (6.94-36.26)	0.000	**5.10 (1.58-16.50)***	**0.006**

*** => Significant**

7. DISCUSSION

6.1. Knowledge of postnatal mothers on KMC and associated factors.

Based on this study, 167(67.1%) of respondents had good level of knowledge on kangaroo mother care. This finding was lower than study conducted in India (24), but greater than study conducted in South Asia and Uganda (25,30). The reason for the variation among these studies might be due to difference in socio demographic characteristics of communities and provision of maternal health service. In this study, 238 (95.6%) of respondents knew the benefit of kangaroo mother care for the babies. This finding was almost consistent with another study done in India and Ghana (26,30).The reason this consistency could be because of relatively universal provision of standard based health service for all population based on WHO guide line including KMC.

According to this study, 203 (81.5%) of mothers mentioned the benefit of kangaroo mother care for their babies as KMC is used to normalize body temperature. This finding was congruent with study in Hawasa (17). This harmonizing might be due to similarity in study design and socio demographic characteristics of community. The result of this study claimed that 206(82.7%) of the participants define kangaroo mother care as holding the baby up right position between the maternal chest.
This finding was different from study conducted in India (28) .This variation might be due to socio-cultural difference and health education delivery system.

This study reported that 217(87.1%) of respondents knew the correct position of baby during KMC procedure. This finding was lower than study done in South Asia (27).The reason for difference might be due to variation of socio demographic condition. The other possible explanation might be due to better access on health information, and quality of health service in case of Asia. Concerning clothing of baby for kangaroo mother care, Less than half of 113 (45.4%) of mothers correctly stated KMC as it should be done baby with socks, cape, diaper and nappy. This result was higher than research conducted in Harer (16).This difference may be due to variation in educational level of mothers and availability of information regarding KMC. This finding also revealed that educated mothers were 5.33 times more knowledgeable than non educated mothers. This results was supported by study done in Europe (33).The reason could be because of application of similar study design .

According to this finding, mothers who were urban residents had 7.58 times more knowledgeable than those came from rular area. This was true for study done in India(37), the reason might because of using similarity in study design and less availability of health service at rular area in both set up. In addition, mothers who had ≥7801ETB family income were 3.70 times more knowledgeable than those with family income less than 7801ETB.This might be due to the impact of income on the community regarding to health services and information system.

Mothers who were lived in community those accepted KMC had 6.32 times more good knowledge than those who lived in community which was culturally refused to accept kangaroo mother care. This result was supported by study conducted in Malawi (28).The reason for agreement among studies could be due to simialrity of study deign and willingness of communty to accept the information that delivered to them.

Mothers who get health information from health professionals were 6.89 times more likely to have good knowledge than who used others information sources and didn't have any information sources. This finding was supported by study done in southern Ethiopia (17).The reason for similarity could be universal and common scientific based health education and information system. On the other hand, mothers who had healthy babies had 6.76 times more good level of knowledge than those with sick babies. This finding was supported by study in Sweden (42).This might be due to Similarity in maternal perception towards health condition of their babies and quality of maternal counsling service regarding to KMC.

6.2. Attitude of mothers towards kangaroo mother care and associated factors.

In this study, from 249 total respondents 135(54.22%) of them had favorable feeling towards kangaroo mother care. This finding were much less than study conducted in India and south Africa (32,36).This much incomparability might be because of variation in socio cultural , economic and accessibility of health service. Similarly, this finding also showed that 87(34.9%) of respondents felt favorable towards the idea of KMC is power saved method which was the result less than study done in Cape town(28).The reason could be cultural difference in acceptability of KMC and quality of health institutions service for post natal mothers.

On the contrary, 97(39%) of mothers felt that KMC can cause maternal discomfort. This finding was also relatively less than research conducted in Cape Town (28).This inconsistency could be due to cultural difference. This study also revealed that 61(24.5%) of respondent had favorable feeling regarding issues of KMC promote bonding or closeness of mothers with their babies which was inconsistent with other study conducted in Indonesia (35).The discrepancy of results that has been seen among studies could be socio demographic and economic variation.

Mothers who were urban residents had 3.61 times more favorable attitude than rular residents. This result was supported by study done in South Africa (32). This similarity might be due to inaccessibility of health service and health information for rular areas. As this study, mothers who were Multigravidia felt favorable towards KMC 2.61 times more than those who were Primigravidia. This may because of being Multi gravidity can be increase maternal knowledge about KMC related to being exposed for such cases. In addition, mothers who were delivered with SVD 3.05 time more likely to have favorable attitude towards KMC than delivered with CS and instrumental delivery. This study was almost similar with study in southern Ethiopia (39).The agreement among studies might be due to similarity with maternal perception resulted from the impact of mode of delivery.

Respondents who used using mass media as a source of information had 2.71 times favorable feeling towards KMC than who used other information sources as well as those had no information sources. This result was supported by study conducted in Sweden (42).The reason could be nearly similar health information delivery system. Moreover, mothers who had good knowledge on KMC had 7.79 times more likely to have favorable attitude than those with poor knowledge. This might be due to the influence of maternal knowledge on attitude of mothers towards KMC.

6.3. Kangaroo mother care practice of mothers and associated factors

In this study, 107 (43%) of the total respondents had good practice on kangaroo mother care. This result was greater than study done in Kenya (38).The reason for disagreement probably due to variation of maternal awareness about the concept of kangaroo mother care, socio economic status as well as community health education service accesses. About 126 (50.6%) respondents were sitting while maintaining skin to skin contact to the baby. This finding was relatively higher than study done at southern Ethiopia (17).The discrepancy among results might be due to difference in educational status, residency and postnatal health service of mothers.

This finding also mentioned that 110 (44.2%) of the mothers were initiate breast feeding during kangaroo mother care which was relatively less than study done in south Africa (32). The difference might be because of variation in the level of knowledge and awareness about the advantage breast feeding during KMC and socio cultural difference of the two societies. Mothers with good level of knowledge practiced KMC 5.10 times more likely than those with poor knowledge. This finding was supported by a research report from Sub-Saharan Africa and southern Ethiopia (17, 50). This is probably due to similar design of these studies.

This study also reported that mothers who had healthy babies were practiced KMC 11.25 time more than those with sick babies. This finding was supported by research done in Sweden (42). The harmonizing between studies resulted from similar maternal perception and attitude of heal professionals towards health condition of babies. Respondents with condusive home environment for KMC procedure had 3.38 times more practice of KMC than who didn't have condusive home. This result was congruent with study conducted in Malawi, Sweden and Harer (16,28, 51).The congrency of these finding may be due to similarity in study design. In addition, this study showed that mothers deliverd with SVD were practiced KMC 9.23 times more than delivered with C/S and instrumental delivery. This findings were supported by study done in South Asia and Finland (17,45). This similarity might be due to maternal perception and influence of mode of delivery on KMC practice.

7. STRENGTHS AND LIMITATION

7.1. Strength

Using both interview and observational checklist for data collection which is better than using only interview or structured questionnaire for practice assessment to limits information bias.

7.2. Limitation

Using consecutive sampling technique which is not recommended for generalization.

8. CONCLUSION

Based on this finding, the overall proportion of good knowledge, favorable attitude and good practice of kangaroo mother care were 67.1%, 54.22% and 43 % respectively. Educational status of the mother, residency, family income, health condition of the baby, gravidity, mode of delivery, conducive home, KMC accepted communities and source of information were significant factors identified in this study for KMC among postnatal mothers.

9. RECOMMENDATION

Health professionals should give special care for sick and preterm or low birth weight babies by providing counseling to enhance maternal knowledge about kangaroo mother care. Health care stakeholders should strengthen health education accessibility for the community. In addition, other stake holders should increase women educational coverage, especially for rular areas.

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11. ANNEXS

Annex I: Information sheet

Hello. My name is ---------- and I am data collector of the study conducted by Zewditu Alelign, who is master's student at Addis Ababa university college of health science, school of nursing and midwifery. She is conducting this research for partial fulfillment of master's degree in child health nursing. We are appreciate your participation in this study and The information you will tell us will be important for us to know the knowledge, attitude and practice towards kangaroo mother and identify factors affecting it among post natal mothers to modify the knowledge, attitude and practice of kangaroo mother care to reduce mortality and morbidity of low birth weight babies related to inadequate provision of kangaroo mother care and this questionnaire doesn't take more than 20-30 minute to complete it.

Name of advisor: Mrs.Rajalakshmi Murugan (Asst. professor, PhD Follow) and Mr Tewodros Tesfaye (MSC)

Name of the organization: Addis Ababa University, College of Health Sciences,School of nursing and midwifery.

Name of the Sponsor: Addis Ababa University

Title of the Research: Assessment of Knowledge,Attitude,Practice and Associated Factors Towards Kangaroo Mother Care Among Postnatal Mothers paire with their babies at selected public hospitals in Addis Ababa, Ethiopia, 2019.

Introduction: This Information sheet and consent form will be prepared for postnatal mothers who admmited KMC unit,NICU and post natal ward in selected govermental hospital and who will be volunteer to participate in this research project.

Purpose: This study is intended to assess the knowledge, attitude, practice and associated factors towards kangaroo mother care among post natal mothers. The information that you will tell us are very important for not only the successful accomplishment of the study but also for producing relevant information which will help in improving the provision of service for post natal mothers which focused on kangaroo mother care and we will provide research results to concerned body for intervention.

Procedure: In order to achieve the above objective, in formations which is necessary for the study will be collected from post natal mothers who gave birth with low birth and preterm babies .

Risk: We hope you will participate in the study for the sake of the Benefit of the research result and we are Sure there is any no risk in participating in this research.

Benefits: there may not be direct benefit to you but your Participation is necessary for us in assessment of knowledge, attitude, practice and associated factors towards kangaroo mother care among post natal mothers which will helps to improve the service delivered to post natal mothers on kangaroo mother care and You will not be provided any payment to take part in this project.

Confidentiality: All records and other information obtained from you will be kept strictly confidential and all data collection tools will be identified by number or code.

Numberof Participants: 249 post natal mothers who gave birth to preterm and low birth weight babies.

Voluntary Participation: Anyone who will not be willing to participate in the study will have the right to refuse to participate and has no penalty or loss of benefits. If you are voluntery to give information for the study, you can show your willingness by saying "yes".

Would you be willing to participate in the study? 1. Yes 2.No

1. If yes, proceed to the next page 2. If no, thank you, and skip to the next participant

Name of data collector _____Signature of interviewer: _____Date: _____/_____/

If you have questions, complaints or concerns about this study, you can contact the principal investigator Zewditu Alelign .Phone number =0924354900

Email address: zdalelign@gmail.com

IRB (Institution Review Board): School of nursing and midwifery.

Annex II: Consent form

I thought that all information is stated above and Participation in this study is entirely voluntarily. I would like to tell you that the answers to the questions will not be exposed to someone else. If respondent does not agree to be interviewed, let those thanks and go to the next respondent. If respondent say "YES" continues.

Annex III: English version of questionnaire for assessment of KAP and associated factors towards KMC among post natal mothers at selected public hospital, in Addis Ababa, Ethiopia, 2019.

Date of interview(date/month/year):----------		
Name of the health Institution's:----------		
Interviewer's name & signature:	Name:----------	Signature----------
Supervisor's name & signature:	Name :----------	Signature----------

Part 1:-Socio-demographic Characteristics of mothers associated to KAP of KMC		
S.No.	**Question**	**Response**
101	How old are you? (in completed years)	----------
102	What is your level of education?	1. Unable to read and write 2. Attend Primary (1-8) 3. Attend Secondary school (9-12) 4. College and above
103	What is your marital status?	1. Single
		2. Married 3. Widowed 4. Divorced 5. Separated
104	What is your occupation?	1. House wife 2. Merchant 3. Government employee 4. Private employee 5. Daily laborer 6. Others (specify----------
105	How much is monthly family income in Ethiopian birr?	1. ----------
106	Where is your place of Residence?	1. Urban 2. Rural
107	How many is your family size?	----------

Part 2. Knowledge of post natal mothers about KMC			
S.No	**Question**	**Response**	**Skip**
201	Do you know what Kangaroo mother care is?	1. Yes 2. No	If say No skip to question number 3
202	If you say yes what is Kangaroo mother care?(can give multiple answer)	1. Holding the baby up right on mother's chest with skin to skin contact. 2. A special way of caring babies. 3. Method of initiating breast feeding	
203	Do you know when KMC can be initiated?	1. Yes 2. No	If say No skip to question number 5
204	If you say yes when KMC can be initiated?	1. Soon after birth of a baby 2. after one week of birth 3. After two weeks of birth	
		4.	
205	Do you know the benefit of KMC for the baby?	1. Yes 2. No	If say No skip to question number 7
206	If you say ,yes, What are the benefit of KMC for the baby?(can give multiple responses)	1. Exclusive breast feeding 2. Normalizes temperature 3. Strengthens the immune system 4. Increases weight gain 5. Reduce frequent crying of the baby	
207	Do you know the benefits of KMC for the mother?	1. Yes 2. No	If say No skip Q9

208	If you say ,yes, What are the benefit of KMC for the mother ?(can give multiple responses)	1. Improve lactation in mother 2. Satisfaction regarding baby care 3. Reduce maternal stress because All the time the mother see the baby 4. Feelings of confidence 5. Happy about less frequent crying of baby	
209	Do you know the appropriate clothing for the baby while preparing for KMC?	1. Yes 2. No	If say No skip to question number11
210	If you say yes Which is the appropriate clothing for the baby while preparing for kangaroo care?	1. Baby with sweater 2. Baby with cap, socks and nappy or only with diaper 3. Baby without any cloth	
211	Do you know the appropriate position of baby for providing kangaroo care?	1. Yes 2. No	If say No skip to question number 13
212	If you say yes Which is the appropriate position of baby for providing kangaroo care?	1. Placing baby in upright position between the mother's breast 2. lying down position of the baby on the mother's chest 3. Any position comfortable to the mothers	
213	Do you know the source of nutrition for the baby in kangaroo position?	1. Yes 2. No	If say No skip to question number 15

214	If you say yes What is the source of nutrition for the baby in kangaroo position?	1. Breast feeding 2. Cow milk 3. Formula milk	
215	Do you know the frequency of feeding of baby during KMC procedure?	1. Yes 2. No	If say No skip to question number 17
216	If you say yes How many times the baby should feed during KMC procedure?	1. As frequently as possible 2. Every three hours 3. Only after cry	
217	Do you know when kangaroo mother care should be discontinued?	1. Yes 2. No	If say No skip to question number 19
		3.	
218	If you say yes when kangaroo mother care should be discontinued?	1. At as per the mother's interest 2. Baby reaches term or	
		3.	
		4. 2.5Kg	
219	Do you for how long the kangaroo mother care procedure is done?	1. Yes 2. No	If you say No skip to next page
220	If you say yes for how long the kangaroo mother care procedure is done?	1. Each session of half an hour 2. As long as possible until 24 hours 3. Less than one hour	

Part 3:-attitude of mother towards KMC				
S,No	**Statement**	Disagree	Not sure	Agree
301	Kangaroo mother care promotes bonding with the baby			
302	Kangaroo mother care enhances the mother's confidence in how to handle her baby.			
303	The baby becomes Safe when giving KMC.			
304	Kangaroo mother care practice should be continued at home.			
305	Kangaroo mother care prevent accidental fail of baby			
306	Kangaroo mother care Increased alertness of the mother to her baby.			
307	kangaroo mother care doesn't causes maternal discomfort and anxious			
308	Kangaroo mother resulted in effective breastfeeding			
309	Kangaroo mother care is Simple for carrying and handling the baby			
310	Kangaroo mother care is power saving method			

Part 4:- KMC Practice of postnatal mothers: observational checklist

S.No	Activity	Observational response	
		Yes	No
401	Baby is dressed with cap, socks, nappy, and front-open shirt.		
402	The baby is placed between the mother's breasts in an Up-right position.		
403	Kangaroo mother care has been provided using any front- open, light dress as per the local culture.		
404	The head of baby should is turned to one side and in a slightly extended position to keep the airway open.		
405	Ensure that baby's neck is not too flexed or too extended		
406	In Kangaroo mother care, mother has eye to eye contact with her baby.		
407	The hips of baby are flexed and abducted in a "frog" position; the arms are also flexed.		
408	Support the baby's bottom part of body with a sling/binder.		
409	A blanket is used to cover the infant. Screens may be used to provide privacy at the parent's request.		
410	Holding the baby near to the chest stimulate milk production or she may express milk while the baby is in KMC position or the baby can be fed with spoon or tube which is depend on baby condition		
411	Frequent handling of the baby is avoided		
412	The mother slowly sits down on chair while maintaining the baby in skin to skin contact		
413	The length of skin to skin contact will gradually increase to 24 hours a day which interrupt only for changing diaper		
414	The mother can continue KMC during Sleep and rest		

Factors associated with knowledge, attitude and practice of KMC

Part 5:-Baby history Associated with KAP of mothers on KMC

S.No	Questions	Response
501	How old is your baby now?(in days)	----------
502	What is the sex of your baby?	1. Male 2. Female
503	How much is the weight of your baby?	----------
504	How is the Health condition of your baby now?	1. Healthy 2. Sick
505	What was the gestational age of this baby?	----------
506	What was the type of your recent pregnancy?	1. Single 2. Twin 3. Multiple

Part 6:-Obstetrics factors associated with KAP of mothers on KMC

S.No	question	Response
601	How many times you become pregnant?	1. One 2. Two 3. Three 4. Above three
602	How many live births did you have? (including this one)	1. One 2. Two 3. Three 4. Above three
603	Did you have ANC Follow-up during pregnancy?	1. Yes 2. No
604	If yes, how many times?	1. Once 2. Twice 3. Three times 4. Four Times and/or more
605	Where did you delivered your current baby?	1. Governmental hospital 2. Private hospital 3. Health center 4. Home 5. Other specify----------
606	With what type of delivery you delivered current baby?	1. SVD 2. Instrumental delivery 3. CS

Part 7:-Environmental factors associated with KAP of mothers on KMC		
S. No	**Question**	**Response**
701	Does your family think that KMC is important for the baby?	1. Yes 2. No
702	Is KMC culturally acceptable in your community?	1. Yes 2. No
703	Is your home environment conducive for KMC?	1. Yes 2. No
704	Did you get help from other family members during KMC procedure?	1. Yes 2. No
705	Do hospital staffs facilitate you to perform KMC in the hospital?	1. Yes 2. No
706	Did you get help from other mothers in hospital?	1. Yes 2. No

Part 8:- source of information associated with KAP of mothers on KMC		
S. No	**Question**	**Response**
801	Where did you get information about KMC? (can give multiple answer)	1. Mass media 2. Internet 3. Colleague 4. Neighbors 5. Health Professionals 6. Relative 7. Friends 8. Other specify….. 9. No information source

Thank you for your participation

Annex IV: Amharic Version of Questionnaire for Assessment of KAP and associated factors towards KMC among post natal mothers at selected governmental hospitals, Addis Ababa, Ethiopia, 2019.

የ ሚ ጃ ዉ ረ ቀ ት

ሰ ላ ም የ እ ኔ ስ ም----------ነ ዉ የ እ ኔ የ አ ዲ ስ አ በ ባ ዩ ኒ ቨ ር ስ ቲ፣ የ ጡ ፍ ሳ ይ ን ስ ኮ ሌ ጅ፤ የ ነ ር ሲ ን ግ የ እ ኔ አ ዋ ላ ጅ ነ ር ሲ ነ ግ ት ም ህ ር ት ቤ ት፤ የ ነ ር ሲ ን ግ የ እ ኔ አ ዋ ላ ጅ ነ ር ሲ ነ ግ ት ም ህ ር ት ክ ፍ ል የ ተ ራ ቂ የ ሆ ነ ቸ ዉ ዘ ዉ ዴ ቱ አ ለ ል ኝ ላ ዘ ጋ ጀ ች ዉ ጥ ና ት የ ሚ ጃ ሰ ብ ሰ ቢ ነ ኝ ፡ ፡ እ ር ሷ ም የ ህ ፃ ና ት ጡ ፍ አ ጠ ባ በ ቅ ነ ር ስ ን ግ ሁ ለ ተ ኛ ዲ ግ ሪ ን በ ከ ፊ ል ለ ማ ም ኟ ት ይ ህ ን ን ጥ ና ት ታ ካ ሂ ዳ ለ ች፡ ፡ ሆ ኖ ም በ ዚ ህ ጥ ና ት ዉ ስ ጥ ያ ለ ዎ ት ን ተ ሳ ት ፎ እ ና ደ ን ቃ ለ ን እ ር ስ ዎ ም የ ሚ ግ ሩ ን ሚ ጃ እ ና ቶ ች በ ካ ን ጋ ሮ እ ና ት እ ን ክ ብ ካ ቤ ላ ይ ያ ላ ቸ ዉ ን እ ዉ ቀ ት፣ , አ ሚ ላ ካ ከ ት፣ ል ም ድ በ ሚ ሰ ጥ የ እ ኔ ተ ያ ያ ዥ ም ክ ን ያ ቶ ች ን በ ሚ ላ የ ት የ እ ና ቶ ች ን ዕ ዉ ቀ ት, አ ሚ ላ ካ ከ ት ን የ እ ኔ ል ም ዶ ች ን በ ማ ሻ ሻ ል ዝ ቅ ተ ኛ ክ ብ ደ ት ያ ላ ቸ ዉ ን የ እ ኔ ከ ሚ ወ ለ ጃ ጊ ዜ ያ ቸ ዉ በ ፊ ት የ ተ ወ ለ ዱ ጨ ቅ ላ የ ህ ፃ ና ት ላ ይ በ ካ ን ጋ ሮ እ ና ት እ ን ክ ብ ካ ቤ ጥ ና ት ጋ ር ተ ያ ይ ዘ የ ሚ ከ ሰ ተ ዉ ን ህ ሙ ም የ እ ኔ ሞ ት ለ ሚ ቀ ነ ስ ይ ረ ዳ ና ል፡ ፡ ሆ ኖ ም ይ ህ ን ን ማ ከ ይ ቅ ለ ማ ከ ና ቀ ቅ ከ 20 እ ስ ከ 30 ደ ቂ ቃ ዎ ች የ በ ለ ጠ ጊ ዜ አ ይ ፈ ጅ ም:

የ አ ማ ካ ሪ ስ ም - ወ ይ ዘ ሮ ረ ጅ ላ ሽ ሜ ን ገ ን (ረ ዳ ት ፕ ሮ ፌ ሰ ር የ እ ኔ እ ጩ ዶ / ር), የ እ ኔ አ ቶ ቴ ዎ ድ ሮ ስ ተ ስ ፋ ዬ (ማ ስ ተ ር ስ ዲ ግ ሪ)

የ ድ ር ጅ ቱ ስ ም - አ ዲ ስ አ በ ባ ዩ ኒ ቨ ር ሲ ቲ፣ የ ጡ ፍ ሳ ይ ን ስ ኮ ሌ ጅ፣ ,የ ነ ር ሲ ን ግ የ እ ኔ አ ዋ ላ ጅ ነ ር ሲ ን ግ ት ም ህ ር ት ቤ ት ፣ የ ነ ር ሲ ን ግ የ እ ኔ አ ዋ ላ ጅ ነ ር ሲ ነ ግ ት ም ህ ር ት ክ ፍ ል

የ ደ ጋ ፊ ስ ም- አ ዲ ስ አ በ ባ ዩ ኒ ቨ ር ሲ ቲ

የ ጥ ና ት ና ም ሚ ም ር እ ሰ፡ - በ 2019 አ.አ አ ዲ ስ አ ባ ባ ዉ ስ ጥ በ ሚ ኙ የ ተ ሚ ጡ የ ማ ግ ስ ት ሆ ስ ፒ ታ ሎ ች የ ወ ል ዱ እ ና ቶ ች በ ካ ን ጋ ሮ እ ና ት እ ን ክ ብ ካ ቤ ላ ይ ያ ላ ቸ ዉ ን እ ዉ ቀ ት, አ ሚ ላ ካ ከ ት, ል ም ዶ ች የ እ ኔ ተ ያ ያ ዥ ም ክ ን ያ ቶ ች ገ ም ማ

መ ግ ቢ ያ:- ይ ህ የ ሚ ጃ ዉ ለ ቀ ት የ እ ኔ የ ፈ ቃ ድ ቅ ፅ የ ተ ዘ ጋ ጀ ዉ ከ ተ ሚ ጡ የ ማ ግ ስ ት ሆ ስ ፒ ታ ሎ ች ለ ሚ ዉ ል ዱ የ እ ኔ በ እ ነ ዚ ህ ሆ ስ ፒ ታ ሎ ች የ ካ ን ጋ ሮ እ ና ት እ ን ክ ብ ካ ቤ ክ ፍ ል፣ የ ጨ ቅ ላ የ ህ ፃ ና ት ጥ ብ ቅ ክ ት ት ል ክ ፍ ል የ እ ኔ የ ወ ላ ዶ ች መ ኝ ታ ክ ፍ ል ዉ ስ ጥ ላ ሉ ት የ እ ኔ በ ዚ ህ ጥ ና ት ለ ማ ሳ ተ ፍ ፈ ቃ ደ ኛ ለ ሆ ኑ ት እ ና ቶ ች ነ ዉ፡ ፡

ዓ ላ ማ- ይ ህ ጥ ና ት የ ተ ዘ ጋ ጀ ው የ ወ ለ ዱ እ ና ቶ ች በ ካ ን ጋ ሮ እ ን ክ ብ ካ ቤ ላ ይ ያ ላ ቸ ዉ ን እ ዉ ቀ ት፣ አ ሚ ላ ካ ከ ት፣ ል ሞ ድ የ እ ኔ ተ ያ ያ ዥ ም ክ ን ያ ቶ ች ን ለ ማ ማ ም ነ ዉ:እ ር ሰ ዎ ሚ ግ ሩ ን ሚ ጃ ለ ዚ ህ ጥ ና ት ስ ኬ ት ብ ቻ ሳ ይ ሆ ን በ ተ ጨ ማ ሪ ም ለ እ ና ቶ ች የ ካ ነ ጋ ሮ እ ና ት እ ን ክ ብ ካ ቤ ላ ይ ያ ተ ኮ ረ የ እ ኔ የ ተ ሻ ለ የ ዎ ለ ዱ እ ና ቶ ች አ ገ ል ግ ሎ ት ለ ማ ስ ጡ ት የ ሚ ያ ግ ዙ ሚ ጃ ዎ ች ን ያ ስ ገ ኛ ል፡ ፡

የ አ ሰ ራ ር ስ ር ዓ ት፡ -ከ ላ ይ የ ተ ጠ ቀ ሰ ዉ ን አ ላ ማ ለ ማ ሳ ካ ት አ ነ ስ ተ ኛ ክ ብ ደ ት ካ ላ ቸ ዉ የ እ ኔ ከ ሞ ሙ ለ ጃ ጊ ዜ አ ቸ ዉ በ ፊ ት ከ ተ ዎ ለ ዱ ጨ ቅ ላ የ ህ ፃ ና ት እ ና ቶ ች ለ ጥ ና ቱ ጠ ቃ ሚ የ ሆ ኑ ሚ ጃ ዎ ች ይ ሰ በ ሰ ባ ሉ፡ ፡

ስ ጋ ት:- ለ ጥ ና ቱ ዉ ጤ ት ጥ ቅ ም ሲ ባ ል በ ጥ ና ቱ ዉ ስ ጥ እ ን ደ ሚ ከ ተ ፉ ተ ስ ፋ እ ና ደ ር ጋ ለ ን ደ ግ ሞ ም እ ር ግ ጠ ኛ ነ ን በ ዚ ህ ጥ ና ት ላ ይ ማ ሳ ተ ፍ ም ን ም አ ይ ነ ት ስ ጋ ት የ ለ ዉ ም ፡

ጥ ቅ ማ ጥ ቅ ሞ ች:- ለ ር ስ ዎ ቀ ጥ ተ ኛ ጥ ቅ ም ላ ይ ኖ ር ዎ ት ይ ች ላ ል ነ ገ ር ግ ን የ ር ስ ዎ ተ ሳ ት ፎ ለ እ ኛ የ ዎ ለ ዱ እ ና ቶ ች ን እ ዉ ቀ ት፣ አ ሚ ላ ካ ከ ት፣ ል ም ድ የ እ ኔ ተ ያ ያ ዥ ም ክ ን ያ ቶ ች ን በ ማ ም ም ለ ወ ለ ዱ እ ና ቶ ች የ ሚ ሰ ጡ ን የ ካ ን ጋ ሮ እ ና ት እ ን ክ ብ ካ ቤ አ ግ ል ግ ሎ ት ለ ማ ሻ ሻ ል ይ ጠ ቅ ሞ ል እ ን ጅ በ ዚ ህ ጥ ና ት በ ማ ሳ ተ ፈ ዎ ም ን ም አ ይ ነ ት ክ ፍ ያ አ ይ ኖ ረ ዉ ም ፡

ሚስጥራዊነት፡ - ሁሉምከእርስዎ የተገኙ ሚጃዎች የእኔ ሌሎች ሚጃዎች በጥብቅ ሚስጥራዊ ሆነ ዉይቀማኳሉ ደግሞም ሁሉምየ ሚጃ ማህብሰቢያ መሣሪያዎች በቁጥር ወይምበሚስጥር ቁትር ተለይተውይታወቃሉ፡ ፡

በፈቃደኝነ ት ላይ የተማኅረተ ተሳትፎ:- በጥናቱ ወስጥ ለማሳተፍ ፈቃደኛ ያልሆነ ማንኛውምሰውያለማሳተፍ ማበት ኣለዉ; እንዲሁም ቅጣት ወይምጥቅምማጡት የለዉም ፡ እርስዎ ለጥናቱ ሚጃ ለማጠት ፈቃደኛ ከሆኑ "አዎን" ብለውበማገር ፈቃደኝነ ትዎን ማህየት ይችላሉ::
በጥናቱ ለማሳተፍ ፈቃደኛ ትሆናላችሁ? 1. አዎ 2. አይደለሁም
1. አዎ ከሆነ , ወደ ማቋጥለውገጽ ይቀጥሉ 2. አይደለሁምከሆነ , አማህግናለሁ, እና ወደ ማቋጥለውተሳታፊ ይለፉ
የ ሚጃ ሰብሳቢዉስም---------- የ ቃለ ማኪይቅ ጠያቂዉ ፊርማ ------- ቀን:----------/ወር------/አ.ም-----
ስለዚህ ጥናት ጥያቄዎች፣ , ቅሬታዎች ወይምስጋቶች ካለዎት ዋናዋን ተቆጣጣሪ ዘዉዲቱ አለልኝን ማገኘር ይችላሉ::

የ ስልክ ቁጥር = 0924354900 የ ኢሜል አድራሻ: zdalelign@gmail.com
የ ሥነ -ምግባር ዳሬክተሮች: የ ነርሲንግ እና የ አዋላጅነ ት ነርሲንግ ትምህርት ክፍል

የ ስምምነ ት ቅጽ

ሁሉምሚጃወች ከላይ ተገልፀዋል ብለን እናስባለን እና የዚህ ጥናት ተሳትፎ ማሉ በማሉ በፍቃደኝነ ት ላይ የተማኅረተ ነው: ለጥያቄዎቹ የ ምትሰጡዋቸዉሜልሶች ለሌላ ሰውአይጋለጡምሜልስ ሰጪለማገር ካልፈለጉ, እነ ዚህን አማክገኖ ወደ ቀጣዩ ሜልስ ሰጪይሂዱ. ሜልስ ሰጩ"አዎ" ካለ ንግግራችሁን ቀጥሉ.

በ 2019 አ.አ አዲስ አባባ ዉስጥ በተሚጡየማግስት ሆስፒታሎች በዎለዱ እናቶች ማካከል ያለዉን የ ካንጋሮ አናት እንክብካቤ አዉቀት.አማለካከት፣ ልምድ እና ተያያዠምክንያቶችን ለማ ምየተዘጋጀ ማኪይቅ አሚኛ ቅጅ፡ ፡

ቃለ-ማኪይቅ የ ተካሄደበት ቀን (ቀን / ወር / ዓመት):----------		
የ ጤፍ ተቋመስምፁ - ----------		
የ ቃለ ማኪይቅ የ ሚያደርገዉሰዉስምእና ፊርማ-	ስም:----------	ፊርማ----------
የ ተቆጣጣሪ ስምእና ፊርማ-	ስም:----------	ፊርማ----------
ክፍል 1፡ - የ ካነ ጋሮ እናት አንክብካቤ አዉቀት፣ አማለካከት እና ልምዶች ጋር የ ሚያያዙ የ እናቶች ማህበራዊ ሁነ ቶች		
ተ.ቁ	ጥያቄ	ሜልስ
101	እድሜዎ ስንት ነ ዉ?(በማሉ አማት)	----------
102	የ ትምህርት ደረጃዎ ምንድን ነ ዉ?	1. ማንበብእና ማጻፍ የ ማይችል 2. የ መጀማሪያ ደረጃ (1-8) 3. የ ሁለተኛ ደረጃ (9-12) 4. ኮሌጅእና ከዚያ በላይ
103	የ ጋብቻ ሁኔ ታዎ ምንድነ ዉ?	1 ያላገባ 2. ያገባ 3. ባለቤቷ የ ሞተባት 4. የ ተፋታች 5. ተለያይተዉየ ሚኖሩ
104	ሥራዎ ምንድን ነ ዉ?	1. የ ቤት አማከቤት 2. ነጋዴ 3. የ መንግስት ሰራተኛ 4. የ ግል ሰራተኛ 5. የ ቀን ሰራተነ ኛ 6. ሌላ ካለ ግለጹ ----------
105	አማካ የ ወርሀዊ የ ቤተሰብ ገቢዎ በኢትዮጵያ ብር ስንት ነ ዉ?	1. ---------- 2. አላቀዉም
106	የ ሞሪያ ቦታዎ የ ት ነ ዉ?	1. ከተማ 2. ገጠር
107	የ ቤተሰብዎ ብዛት ስንት ናቸዉ?	----------

ክፍል 2፡ -የ ወለዱእናቶች ስለ የ ካንጋሮ እናት እንክብካቤ ያላቸዉእዉቀት

ተ.ቁ	ጥያቄ	ሜልስ	እለፍ
201	የ ካንጋሮ እናት እንክብካቤ ምን እንደሆነ ያዉቃሉ?	1. አዎ 2. የ ለም	የ ለም ካሉ ወደ ጥያቄ ቁጥር 203 ይለፉ

202	አዎ ካሉ የካንጋሮ እናት እንክብካቤ ምንድን ነዉ?(ከአንድ በላይ ሜልስ ማክጡት ይቻላል)	1. ጩቅላ ህፃኑን እናቱ ደረት ላይ ቆዳዉን ከቆዳዋ አነ ካክቶ ማያዝ 2. ልዩ የሆነ የጩቅላ ህፃን እንክብካቤ ማንገድ ነዉ 3. ጡት ለማጥባት የማ ቃቂ ዘዴ ነዉ	
203	የካንጋሮ እናት እንክብካቤ ሞዉ እንደሜጀሚር ያዉቃሉ?	1. አዎ 2. የለም	የለም ካሉ ወደ ጢያቄ ቁጥር 205 ይለፉ
204	አዎ ካሉ የካንጋሮ እናት እንክብካቤ መዉ ይጀሚራል?	1. ልጅ ከተወለደ በኋላ ወዲያዉኑ 2. ልጅ ከተወለደ ከአንድ ሳምንት በኋላ 3. ልጅ ከተወለደ ከሁለት ሳምንት በኋላ	
205	የካንጋሮ እናት እንክብካቤን ለጩቅላ ህፃን የሚሰጡት ጥቅሞች ያዉቃሉ?	1. አዎ 2. የለም	የለም ካሉ ወደ ጥያቄ ቁጥር 207 ይለፉ
206	አዎ ካሉ የካንጋሮ እናት እንክብካቤ ለጩቅላ ህፃን የሚሰጡት ጥቅሞች ምን ምን ናቸዉ? (ከአንድ በላይ ሜልስ ማክጡት ይችላሉ)	1. ህፃኑን ጡት ብቻ እንዲጠባ የደርጋል 2. የሙቀትን ማጠን ሚደበኛ እንዲሆን ያደረጋል 3. የሰዉነ ትን በሽታ የማላከል አቅም ያጠናክረዋል 4. ክብደትን ይጨምራል 5. የህፃኑን ተደጋጋሚለቅሶ ይቀንሳል	
207	የካንጋሮ እናት እንክብካቤን ለእናቶች የሚሰጡት ጥቅሞች ያዉቃሉ?	1. አዎ 2. የለም	የለም ካሉ ወደ ጥያቄ ቁጥር 209 ይለፉ
208	አዎ ካሉ የካንጋሮ እናት እንክብካቤ ለእናቶች የሚሰጡት ጥቅሞች ምን ምን ናቸዉ?(ከአንድ በላይ ሜልስ ማክጡት ይችላሉ)	1. የእናቶችን ወተት የተሻለ ያደርጋል 2. እናቶች በሕፃኑ እንክብካቤ አንዲረኩ ያደርጋል 3. እናትየዉ ሕፃኗን የምታየዉ ሁልጊዜ ስለሆነ ጭንቀትን ይቀንስላታል 4. በራስ የመተማመን ስሜት ይጨምራል 5. በሕፃኑን ተደጋጋሚ ለቅሶ በመቀነስ እናቱን ደስተኛ ያደጋል	
209	የካንጋሮ እናት እንክብካቤን ለማራት ሲዘጋጅ ለሕፃኑ ተገቢ የሆነ ዉን አለባበስ ያዉቃሉ?	1. አዎ 2. የለም	የለም ካሉ ወደ ጥያቄ ቁጥር 211 ይለፉ
210	አዎ ካሉ የካንጋሮ እናት እንክብካቤን ለማራት ሲዘጋጅ ለሕፃኑ ተገቢ የሆነ ዉን አለባበስ የትኛዉነ ዉ?	1. ህጻን በሹራብ 2. ህጻን በቆብ,ካልሲ እና በባዶ ወይም የሽንት ጨርቅ ብቻ 3. ህጻን ያለምንምልብስ	
211	የካንጋሮ እናት እንክብካቤን ለማራት ለሕፃኑ ተገቢ የሆነ ዉን አቀማመጥ ያዉቃሉ?	1. አዎ 2. የለም	የለም ካሉ ወደ ጢያቄ ቁጥር 213 ይለፉ
212	አዎ ካሉ የካንጋሮ እናት እንክብካቤን ለማራት ለሕፃኑ ተገቢ የሆነ ዉን አቀማመጥ የትኛዉነ ዉ?	1. ሕፃኑን በእናቱ ጡት ማካከል ወደ ላይ አቃንቶ ማስቀማት 2. ሕፃኑን ከእናቱ ደረት ላይ ወደታች ዘቅዝቆ ማስቀማት 3. ለእናትየዋ የተመቻት ማንኛዉም አቅጣጫ	
213	በካንጋሮ አቅጣጫላይ እያለ ለጩቅላ ለሕፃኑ የተማጣጠነ ምግብ ምን እንደሆነ ያዉቃሉ ?	1. አዎ 2. የለም	የለም ካሉ ወደ ጢያቄ ቁጥር 215 ይለፉ
214	አዎ ካሉ በካንጋሮ አቅጣጫላይ እያለ ለሕፃኑ የተማጣጠነ ምግብ የትኛዉነ ዉ ?	1. የጡት ምግብ 2. የላምወተት 3. የተዘጋጀ ላወተት	
215	የካንጋሮ እናት እንክብካቤ በሚሰራበት ጊዜ ሕፃኑ ስንት ጊዜ ማማ ብእንዳለበት ያዉቃሉ?	1. አዎ 2. የለም	የለም ካሉ ወደ ጢያቄ ቁጥር 217 ይለፉ

216	አዎ ካሉ የካንጋሮ እናት እንክብካቤ በሚሰራበት ጊዜ ሕፃኑ ስንት ጊዜ መመገብ አለበት?	1. እስከ ተቻለ 2. በየ ሶስት ሰሃቱ 3. ካለቀሰ በሓዋላ ብቻ	
217	የካንጋሮ እናት እንክብካቤ ሞቹ መቆም እንዳለበት ያውቃሉ?	1. አዎ 2. የለም	የለም ካሉ ወደ ጠያቄ ቁጥር 219 ይለፉ
218	አዎ ካሉ የካንጋሮ እናት እንክብካቤ ሞቹ መቆምአለበት?	1. እንደ እናትየዋ ፍላጎት 2. ጨቅላ ህጻኑ ሞወለድ ከነ በረበት ጊዜ ሲደርስ ወይም ክብደቱ 2.5 ኪ.ግ ሲደርስ	
219	የካንጋሮ እናት እንክብካቤ የሚሰራዉ ለስንት ጊዜ እንደሆነ ያውቃሉ?	1. አዎ 2. የለም	የለም ካሉ ወደ ሞቃጡለዉ ገፅ ይለፉ
220	አዎ ካሉ የካንጋሮ እናት እንክብካቤ በሚሰራዉለስንት ጊዜ ነዉ?	1. እያንዳንዱ ግማሽ ሰአት 2. በተቻለ ማክስ እስከ 24 ሰአት 3. ከአንድ ሰዓት ያነሰ	

ክፍል 3፡ - የወለዱ እናቶች በካነ ጋሮ እናት እንክብካቤ ላይ ያላቸዉን አሚለካከት መሚዛና

ተ.ቁ	ሞግለጫ			
		አልስሞም	እርግተኛ አደለሁም	እስሞሚሉ
301	የካንጋሮ እናት እንክብካቤ እና ከህፃኑ ጋር ያላትን ግንኙነት ያጠናክራል			
302	የካንጋሮ እናት እንክብካቤ እናት ልጁን እንዴት እንደምትይዝ ያላትን በራስ ሞተማመን ይጨምራል			
303	የካንጋሮ እናት እንክብካቤ ሲደረግለት ህፃኑን ደህና ይሆናል.			
304	የካንጋሮ እናት እንክብካቤ ትግበራ ቤት ሁሉ ሞቀጠል አለበት			
305	የካንጋሮ እናት እንክብካቤ ህፃኑን ከድንገተኛ ሞዉደቅ ይከላከላል			
306	የካንጋሮ እናት እንክብካቤ እናት ለልጁዋ ያላትን ንቃት ይጨምራል			
307	የካንጋሮ እናት እንክብካቤ እናት ያለመሞቱት ስጭእና ጭቀት እንዲኖራት አያደርግም			
308	የካንጋሮ እናት እንክብካቤ የተሳካ ጡት ማጥባት እንዲኖር ያደርጋል			
309	የካንጋሮ እናት እንክብካቤ ህፃኑን ለሞከምእና ለሞያዝ ቀላል ነዉ			
310	የካንጋሮ እናት እንክብካቤ ጉለበትን የሞቆትብዘዴነዉ			

ክፍል 4፡ - የወለዱ እናቶች ካንጋሮ እናት እንክብካቤ ልምድ የሜክት ዝርዝር			
ተ.ቁ	ልምድ	የሜታይ ምላሺ	
		አዎ	የለም
401	ህፃኑን ቆብ፣ ካልሲ፣ የሸንት ጨርቅ፣ እና ከፊት ክፍት የሆነ ሸሚዝ ለብሷል		
402	ህፃኑን ያለዉበእናትየዋ ጡቶች ሚካከል ወደ ላይ ዞሮ ነዉ		
403	ካንጋሮ እናት እንክብካቤ እየተሰራ ያለዉፊቱ ክፍት በሆነ እና እንደ አካባቢዉባህል ቀላል ልብስ በሚከቀምነ ዉ		
404	የሙትንፈሻ ቱቦዉን ክፍት ለሜድረግ የህፃኑ ጭንቅላት ወደ አንድ ጎን ሚዞር እና በትንሹ ዘርጋ ማለት አለበት		
405	የህፃኑ አንገት በጣምአለሜታጡፍ እና አለሚዘርጋቱ ተረጋግጧል		
406	በካንጋሮ እናት እንክብካቤ ጊዜ እናትየዋ ከህፃኑ ጋር የአይን ከአይን ግንኙነ ት አላት		
407	የህፃኑ ሸንጥእና ክንድ አጡፍ እና ዘርጋ ብሎየእንቁራሪት አቀማመጥ ሚከሎተቀምጧል		
408	የህፃኑ ታችኛዉየሰዉነ ት ክፍል በሚደገፊያ ተደግፏል		
409	ህፃኑን ለሚሸፈን ብርድ ልብስ ተተቅሞል እና እናትየዋ ከጡየቀች ለማለያ ሚከለያ ሊሰጣት ይችላል		
410	ህፃኑን ወደ ደረት አስተግቶ ሚያዝ የወተት ምርትን ያነ ቃቃል ወይምህፃኑን ካንጋሮ እናት እንክብካቤ እቅጭጫላይ እያለ የጡት ወተት አልባ በማነኪያ ወይም በቱቦ እንደህፃኑ ሁኔታ መመግ ብትችላለች		
411	ህፃኑን በተደጋጋሚያዝ ተወግዷል		
412	እናትየዋ ህፃኑን ቆዳዉን ከቆዳዋ ጋር አነ ካክታእንደያዘች ወንበር ላይ ተቀምጣለች		
413	የቆዳ ከቆዳ ንክኪ ቀስ በቀሰ ወደ 24 ሰአት እየጨሚ ነዉ እርሱም የሸንት ጨርቅ ለሞየር ብቻ ነዉሚቋረጡዉ		
414	እናትየዋ ካንጋሮ እናት እንክብካቤዉን ስትተኛ እና እረፍት ስታደርግ ሞቀጡል ትችላለች		

የወለዱእናቶች በካንጋሮ እናት እንክብካቤ ላይ ያላቸዉእዉቀት፣ አሚላካከት እና ልምድ ጋር ተያያዝየሆኑ ምክንያቶች

ክፍል 5፡ - የወለዱ እናቶች በካንጋሮ እናት እንክብካቤ ላይ ባያላቸዉእዉቀት፣ አሚላካከት እና ልምድ ጋር ተያያዝ የሆኑ የህፃኑ ታሪክ ምክንያቶች		
ተ.ቁ	ጥያቄ	ሜልስ
501	እሁን የልጅዎ እድሜ ስንት ነዉ?	----------
502	የልጀዎ ፆታ ምንድን ነዉ?	1. ወንድ 2. ሴት
503	ልጀዎ ስንት ክሎግራምነዉ?	----------

504	የልጀዎ ጡፍ እንዴት ነ ዉ አሁን ?	1. ጡፅ ኛ 2. ህ ማሞ ኛ
505	የ ዚህ ኛዉ ህፃ ን የ እ ርግዝና ጊዜ ምን ያክል ነ በር?	----------
506	የ አሁኑ አ ርግዝና ዎ ምን አ ይነ ት ነ በር?	1. አ ንድ 2. መ ንታ 3. ብዙ

ክፍል 6፡ - የ ወለዱ እ ናቶች በ ካ ንጋሮ እ ናት እ ንክብካቤ ላ ይ ባ ያ ላ ቸዉ እ ዉቀት፣ አ መ ለ ካ ከት እ ና ል ምድ ጋ ር ተ ያ ያ ዝ የ ሆ ኑ ተ ዋ ለ ዶ ዊ ም ክ ን ያ ቶ ች		
ተ.ቁ	ጥ ያ ቄ	መ ል ስ
601	ስ ን ት ጊ ዜ ነ ፍ ሰ ጡ ፎ ሆ ነ ዋ ል?	1.አ ን ድ 2. ሁ ለ ት 3. ሶ ስ ት 4.ከ ሶ ስ ት በ ላ ይ
602	ስ ን ት በ ህ ይ ወ ት ያ ሉ ል ጆ ች አ ለ ዎ ት? (ያ ሁ ኑ ን ጨ ም ሮ)	1. አ ን ድ 2. ሁ ለ ት 3. ሶ ስ ት 4.ከ ሶ ስ ት በ ላ ይ
603	ነ ፍ ሰ ጡ ፎ እ ያ ሉ ክ ት ት ል ነ በ ረ ዎ ት?	1. አ ዎ 2. የ ለ ም
604	አ ዎ ካ ሉ ስ ን ት ጊ ዜ?	1. አ ን ድ 2. ሁ ለ ት 3. ሶ ስ ት 4. አ ራ ት ጊ ዜ እ ና ከ ዛ በ ላ ይ
605	የ አ ሁ ን ህ ፃ ነ ዎ ን የ ት ነ ዉ የ ወ ለ ዱ ት?	1. የ መ ን ግ ስ ት ሆ ስ ፒ ታ ል 2. የ ግ ል ሆ ስ ፒ ታ ል 3. ጡ ፍ ጣ ቢ ያ 4.ቤ ት 5. ሌ ላ ጥ ቀ ስ ----------
606	የ አ ሁ ኑ ህ ፃ ነ ዎ ን በ ምን አ ይ ነ ት ወ ሊ ድ ነ ዉ የ ወ ለ ዱ ት?	1. በ ራ ሱ በ ማ ካ ም ጭ 2. በ ማ ሪ ያ የ ታ ገ ዘ ወ ሊ ድ 3. በ ቀ ዶ ጥ ገ ና

ክፍል 7፡ -የ ወለዱ እ ናቶች በ ካ ንጋሮ እ ናት እ ንክብካቤ ላ ይ ባ ያ ላ ቸዉ እ ዉቀት፣ አ መ ለ ካ ከት እ ና ል ምድ ጋ ር ተ ያ ያ ዝ የ ሆ ኑ አ ካ ባ ቢ ም ክ ን ያ ቶ ች		
ተ.ቁ	ጥ ያ ቄ	መ ል ስ
701	ቤ ተ ሰ ብ ዎ ካ ንጋሮ እ ናት እ ንክብካቤ ዉ ን ለ ህ ጻ ናት ጡ ቃ ሚ ነ ዉ ብ ለ ዉ ያ ስ ባ ሉ?	1. አ ዎ 2. የ ለ ም
702	ካ ንጋሮ እ ናት እ ንክብካ በ ሚ ሞ ሩ በ ት መ ህ በ ረ ሰ ብ ተ ቀ ባ የ ረ ነ ት አ ለ ዉ?	1. አ ዎ 2. የ ለ ም
703	የ ር ሰ ዎ ቤ ት ካ ንጋሮ እ ናት እ ንክ ከ ቤ ለ ማ ራ ት ም ቹ ነ ዉ?	1. አ ዎ 2. የ ለ ም
704	ካ ንጋሮ እ ናት እ ንክብካቤ ሂ ደ ት ጊ ዜ ከ ሌ ሎ ች የ ቤ ተ ሰ ብ አ ባ ላ ት እ ር ዳ ታ አ ግ ኝ ተ ዋ ል?	1. አ ዎ 2. የ ለ ም
705	የ ሆ ስ ፒ ታ ል ሠ ራ ተ ኞ ች ካ ንጋሮ እ ናት እ ንክብካቤ ስ ራ ለ ማ ሻ ሄ ድ ሁ ኔ ታ ዎ ች ን ይ ፈ ጥ ራ ሉ?	1. አ ዎ 2. የ ለ ም
706	ሆ ስ ፒ ታ ል ዉ ስ ጥ ከ ሌ ሎ ች እ ና ቶ ች እ ር ዳ ታ አ ግ ኝ ተ ዋ ል?	1. አ ዎ 2. የ ለ ም

ክፍል 8፡ -የ ወለዱ እ ናቶች በ ካ ንጋሮ እ ናት እ ንክብካቤ ላ ይ ባ ያ ላ ቸዉ እ ዉቀት፣ አ መ ለ ካ ከት እ ና ል ምድ ጋ ር ተ ያ ያ ዝ የ ሆ ኑ የ ሚ ጃ ም ነ ጮ ች		
ተ.ቀ	ጥ ያ ቄ	መ ል ስ
801	ስ ለ ካ ንጋሮ እ ናት እ ንክብካቤ ሚ ጃ የ ት ያ ገ ኛ ሉ?(ከ አ ን ድ በ ላ ይ መ ል ስ ማ ጡ ት ይ ች ላ ሉ)	1.ከ መ ጣ ና ኛ ብ ዙ ሃ ን 2. ከ ኢ ን ተ ር ኔ ት 3. ከ ጎ ረ ቤ ቶ ች 4. ከ ስ ራ ባ ል ደ ር ባ 5. ከ ጡ ፍ ባ ለ ሞ ያ ዎ ች 6. ከ ዘ መ ድ 7.ጓ ደ ኞ ች 8. ሌ ላ ካ ለ ይ ግ ለ ፁ----------
802	የ ጡ ፍ ባ ለ ሞ ያ ዎ ች ከ ሞ ወ ለ ጃ ጊ ዜ ያ ቸ ዉ በ ፊ ት እ ና ዝ ቅ ተ ኛ የ ወ ሊ ድ ክ ብ ደ ት ያ ላ ቸ ዉ ን ህ ፃ ት ና ን እ ን ዴ ት እ ን ደ ም ት ን ከ ባ ከ ቡ አ ሳ ዉ ቀ ዋ ች ሁ ነ በ ር?	1. አ ዎ 2. የ ለ ም

ስ ል ተ ሳ ት ፎ ዎ እ ና መ ሰ ግ ና ለ ን

APROVAL SHEET

ADDIS ABABA UNIVERSITY

COLLEGE OF HEALTH SCIENCE

SCHOOL OF NURSING AND MIDWIFERY

I, the undersigned MSc student, declare that I have submitted my original work on the title assessment of knowledge, attitude, and practice and associated factors towards kangaroo mother care among postnatal mothers at Addis Ababa public hospitals, 2019 for examination Submitted by: Zewditu Alelign (BSc)

_____ _____ _____

Name of student Signature Date

This thesis is accepted in its present form by the board of examiners as satisfying thesis for degree of masters in Pediatrics and child health nursing.

Approved by

Advisors:

Main advisor: Mrs.Rajalakshmi Murugan (Asst.Professor, Phd)

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Name of main advisor Signature

Co-advisor: Mr.Tewodros Tesfaye (Bsc, Msc)

_____ _____

Name of co. Advisor Signature

Statement of Declaration

With my signature put bellow, I declared that this thesis is my own effort. I have followed all ethical principles of research in the preparation, data collection, data analysis and compilation of this thesis. This thesis is submitted in partial fulfillment of the requirements for master's degree of pediatrics and child health nursing at the Addis Ababa University.

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APPROVAL BY THE BOARD OF EXAMINATION

This thesis by Zewditu Alelign is accepted in its present form by the board of examiners as satisfying thesis for degree of masters in Pediatrics and child health nursing.

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Name Rank Signature Date

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Name Rank Signature Date