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A STUDY ON KANGAROO MOTHER CARE (KMC) AMONG POST-NATAL MOTHERS OF STABLE LOW BIRTH WEIGHT INFANTS

Paediatrics

Dr. Bandi Chaitanya Ramani Nandini* 3rd Year Postgraduate *Corresponding Author

Dr. Malleshappa K Associate Professor

ABSTRACT

The frequency of low birth weight (LBW) neonates (10%–30% of all live births) in the developing world constitutes a heavy burden. Birth weight is the single most important factor that affects neonatal mortality and morbidity, infant and childhood morbidity. Kangaroo Mother Care is a low-resource, humane, evidence-based, high impact intervention for low birth weight infants. Despite the well-known advantages of kangaroo mother care (KMC), there is resistance to implementing KMC at all levels. The aim is to study the knowledge, attitude, and practice in KMC among post natal mothers of stable low birth weight infants. This prospective descriptive study was conducted among the postnatal mothers of stable low birth infants in the maternity and NICU kangaroo mother care wards of Navodaya Medical College Hospital. A convenient sample size of 150 post natal mothers was taken. Informed consent was taken before participation. Out of the 150 mothers who met the inclusion criteria, over two-thirds had a good knowledge and most had a positive attitude towards KMC. Though 92% of the study part practiced KMC efficiently in the hospital, only 55.34% of them were willing to continue it at home, The correlation was significant according to the study ($p < 0.001$), thus making it crucial for health education sessions during postnatal follow-up visits for the mother as well as the family.

KEYWORDS

kangaroo mother care, low birth weight

INTRODUCTION

The frequency of low birth weight (LBW) neonates (10%–30% of all live births) in the developing world constitutes a heavy burden. Birth weight is regarded as a good indicator of maternal health status. It is also found that birth weight is the single most important factor that affects neonatal mortality and morbidity, infant and childhood morbidity. [1] Birth weight may be classified as follows:[2]

- Normal weight (term delivery): 2,500- 4,200 g
- Low birth weight: < 2,500 g
- Very low birth weight: < 1,500 g
- Extremely low birth weight: < 1,000g

Of the 20 million low birth weight infants born globally every year, about 8 million are in India. Over 80% of neonatal deaths occur among small infants - 65% are attributable to preterm infants and 19% to term-small for gestational age, (SGA) (Lawn Every Newborn Lancet Series 2014). India has the highest number of preterm births and also accounts for the maximum number of neonatal deaths due to prematurity. The incidence of LBW in India is about 27% of total live births.[3]Kangaroo Mother Care is a low-resource, humane, evidence based, high impact intervention for low birth weight infants which, like breastfeeding, should be part of routine care.

It consists of skin-to-skin contact, exclusive breastfeeding, and early discharge with an adequate follow-up [4,5]. Compared with conventional neonatal care, KMC was found to reduce:
1. Mortality at discharge and at the latest follow-up,
2. Severe infection/sepsis, nosocomial infections, lower respiratory tract infections,
3. Hypothermia and length of hospital stay. The 2011 review also revealed that KMC resulted in: Improved weight, length and head circumference, increased breastfeeding rates, better mother-infant bonding and maternal satisfaction with the method of care, as compared with conventional methods. KMC satisfies all five senses of the infant. The infant feels the mother's warmth through skin-to-skin contact (touch), listens to her voice and heartbeat (hearing), sucks breast milk (taste) has eye contact with her (vision), and smells her odor (olfaction).

Knowledge on the effectiveness and safety of KMC in the community/home settings and its effects on growth is still incomplete [6]. Despite the said advantages of KMC, it is still not a widely practiced method of care for LBW infants in India[7]

The implementation of any intervention is strongly influenced by attitude (Singh, Mishra, & Gupta, 2018). It has been pragmatic that despite several available evidence about the benefits of kangaroo mother care, the implementation of KMC is often influenced by the personal knowledge and beliefs of healthcare providers (Flynn & Leahy-Warren, 2010). Mothers are the primary caregivers to the newborns hence the care is habitually dependent on their level of knowledge, attitude, and practice about newborn care. Thus, this study aims to study the KAP of mothers regarding KMC.

Inclusion criteria:

1. Post natal mothers with stable low birth weight neonates(1500-2500gms).
2. Mothers who are willing to participate.
3. Mothers are available at the time of data collection.

Section I comprised the socio-demographic profile of the post-natal mothers.

Section II consisted of a standard close-ended questionnaire for assessing the mother's knowledge, attitude, and practices of KMC.

Exclusion criteria:

1. Mothers who are not willing to participate.
2. Mothers of neonates of birth weight >2500gm.

Statistics: Data was collected using Google Forms and analyzed using Microsoft Excel. p-value of <0.05 will be considered significant.

RESULTS:

Sociodemographic characteristics:

During the period of 6 months, 150 mothers were included in the study. Out of these 150 postnatal mothers of lowbirthweight/preterm infants, 52(34.67%) were aged less than 18 yrs. 63(42%) were primiparous women and 104(69.34%) of them had received secondary education and above. 88(58.67%) of the mothers belonged to class 3 socio-economic status according to the modified BG Prasad scale.

Knowledge of the mothers about KMC:

128(85.33%) of the study participants heard about kangaroo mother care and all of them knew which babies were eligible for KMC. 120 (80%) of the mothers rightly knew who could institute KMC.28 (18.67%) of them did not know any of the components of KMC and 52(34.66%) knew all the four components of KMC.118(78.66%) of the study participants were aware of the KMC position and 88(58.66%) regarding the right clothing for the baby 47(31.34%) of the mothers were unaware regarding the duration of KMC.97.33% of the mothers knew at least one benefit of KMC and 83(55.34%) of them said KMC could be continued at home. (Table 1).

The attitude of the mothers towards KMC:

86(57.33%) of the mothers were comfortable while giving KMC and 126(84%) of them felt the baby was safe 77(51.33%) of mothers found

it a bit tiring and 88(59.33%) of the mother's families were unaware regarding the importance of KMC. (Table 2)

The practice of KMC by the mothers:

Nearly all 142(94.66%) of KMC were performed by mothers. There was not a single case where the father performed KMC.92% of the study population practiced proper KMC when positioned appropriately in a semi-reclined position. The rest of the respondents' positioning was improper, and 82.66% of the participant's babies were dressed correctly with a cap, socks, mittens, and nappy for the KMC session. Only 24.67% of postnatal mothers in the study breastfed their babies in the KMC

QUESTIONS	RESPONSES	
Have you heard about KMC?	Yes	**128 (85.33%)**
	No	**22 (14.67%)**
Which babies need KMC?	Knows.	**128 (85.33%)**
	Does not know	**22 (14.67%)**
Which mothers can institute KMC?	Knows.	**120 (80%)**
	Does not know	**30 (20%)**
KMC components	Knows all the 4 components.	**52 (34.66%)**
	Knows <4 components.	**70 (46.67%)**
	Does not know.	**28 (18.67%)**
KMC position	Knows.	**118 (78.66%)**
	Does not know	**32 (21.34%)**
What should be the baby's clothing?	Dressed lightly.	**47 (31.34%)**
	Dressed in a cap, socks and nappy.	**88 (58.66%)**
	Does not know.	**15 (10%)**
Duration of KMC	Mother's interest.	**42 (28%)**
	Until baby matures.	**61 (40.66%)**
	Does not know.	**47 (31.34%)**
Benefits of KMC	Knows >3	**106 (70.67%)**
	Knows<3.	**40 (26.66%)**
	Does not know.	**4 (2.67%)**
Only mothers can practice KMC	Yes.	**61 (40.66%)**
	No.	**54 (36%)**
	Don't know.	**35 (23.34%)**
Can KMC be continued at home?	Yes.	**83 (55.34%)**
	No.	**35 (23.37%)**
	Don't know.	**32 (21.32%)**

Table 1 - KNOWLEDGE OF THE MOTHERS ABOUT KMC

QUESTIONS	RESPONSES	
Was it comfortable for you while giving KMC?	Yes.	**86 (57.33%)**
	No.	**64 (42.64%)**
Did you feel anxious or stressed?	Yes.	**32 (21.34%)**
	No.	**118 (78.66%)**
Did you feel the baby was safe?	Yes.	**126 (84%)**
	No.	**24 (16%)**
Was it tiring for you?	Yes.	**77 (51.33%)**
	No.	**73 (48.67%)**
Does your family think that KMC is important for the baby?	Yes.	**36 (24%)**
	No.	**25 (16.67%)**
	They are unaware.	**89 (59.33%)**

TABLE 2- ATTITUDE OF THE MOTHERS TOWARDS KMC

QUESTIONS	RESPONSES	
KMC was performed by	Mother.	**142 (94.66%)**
	Father	**0**
	Others.	**8 (5.34%)**
Position of KMC	Proper.	**138 (92%)**
	Not proper	**12 (8%)**
Dressing during KMC	Dressed in cap, socks, nappy	**124 (82.66%)**
	Not dressed well.	**26 (17.34%)**
Did you breastfeed the baby in KMC position?	Yes.	**37 (24.67%)**
	No.	**113 (75.33%)**

TABLE 3- PRACTICE OF KMC BY THE MOTHERS

DISCUSSION:

93.34% of the mothers had received some form of formal education. Nearly two-thirds of the mothers interviewed in the study had good knowledge and acumen regarding KMC. This reflects well on the health education and IEC provided by the hospital staff regarding kangaroo mother care. It was encouraging to see that over two-thirds of the participants knew at least one benefit of instituting KMC and 40.66% were also aware that even alternate caregivers can give KMC. The areas where the mothers lagged in knowledge could be specifically targeted by the health professionals to educate and sensitize the mothers which would, in turn, translate to better practice of KMC.

In our study, it was encouraging to see that most of the mothers had a positive attitude toward KMC. In a similar study conducted in an Indian setup by Muddu et al, mothers were reported to experience positive feelings for their babies even after 1 hour of KMC [8]. KMC increases the bonding and interaction between the mother and her Newborn. [9] This may account for the majority of the mothers in this study's optimistic outlook. The "comfort factor," however, was the one area in our study where the positive attitude was lacking—more than 40% of moms reported feeling either exhausted or uneasy. For some mothers, discomfort, perspiration, and heat were issues. Better living conditions for the mothers can be achieved by utilizing this knowledge. The relatives of 59.33% of the participants were not aware of KMC's advantages. It may be necessary to schedule IEC sessions and group counseling for the family members in order to alter their viewpoint.

One particular area of concern is the challenges moms have when trying to express breast milk while giving KMC. We haven't examined the precise causes of these challenges in this investigation.

It has been noted that Indian moms frequently provide their infants with extra hand support when they are in the kangaroo pouch. When expressing breast milk, the mother releases the bag and uses both hands to squeeze the milk out. While in the KMC position, the expression of breast milk may be inhibited by feelings of unease or fear of dropping the infant.

Another study similarly revealed that despite knowing KMC, over one-third of the mothers found it challenging and uncomfortable to feed their babies during KMC [10]. Making the mothers more comfortable, more specific training highlighting these weaknesses, and the use of breast pumps for expression of milk could translate to a better expression of the milk while in kangaroo position. In the majority of the cases, the mother was the KMC provider. Grandmothers, sisters, and aunts proved to be alternate KMC providers in 5.34% of the cases. There was no single case where the father was a KMC provider. The scope of this study did not include assessing the temporal relationship between knowledge, attitude, and practice and hence wasn't done.

CONCLUSION:

It is established that KMC is a comprehensive method of caring for LBW infants. However, there is a scope for improving the knowledge, attitude, and practice in the mothers practicing KMC. The majority of mothers felt positive regarding the implementation of KMC. The study also revealed that though the majority of the mothers practiced KMC in the hospital, only a small proportion of them (55.34%) knew it could be continued at home. Therefore, it will be crucial if there are health education sessions during ANC follow-up for complete acceptance of KMC after delivery. Encouraging family members to take part in the KMC sessions must be done during these health education sessions. This while ensuring continuous KMC care to the baby also relieves some burden off of the mother.

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