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Original Research Paper

Neonatology

TO DETERMINE KNOWLEDGE, ATTITUDE AND PRACTICE OF KANGAROO MOTHER CARE(KMC) IN POSTNATAL MOTHERS IN A NEONATAL CARE UNIT OF A TERTIARY CARE TEACHING HOSPITAL- A CROSS SECTIONAL STUDY.

Dr Mugdha Todkar	Senior Resident, Dept Of Paediatrics, Postgraduate Institute , Yashwantrao Chavan Memorial Hospital, Pimpri, Pune-18
Dr Komal Bijarniya	Junior Resident, Dept Of Paediatrics, Postgraduate Institute , Yashwantrao Chavan Memorial Hospital, Pimpri, Pune-18
Dr Deepali Ambike*	Professor and Head, Dept Of Paediatrics, Postgraduate Institute , Yashwantrao Chavan Memorial Hospital, Pimpri, Pune-18. *Corresponding Author
Dr Suryakant Mundlod	Associate Professor, Dept Of Paediatrics, Postgraduate Institute , Yashwantrao Chavan Memorial Hospital, Pimpri, Pune-18
Sr Pama Badigar	Sister in charge- NICU, Dept Of Paediatrics, Postgraduate Institute , Yashwantrao Chavan Memorial Hospital, Pimpri, Pune-18

ABSTRACT Background;Kangaroo Mother Care (KMC) is identified by WHO as a biologically sound method of care for all new-borns, particularly for low birth weight infants as a part of their strategy to decrease the morbidity and mortality of premature infants. This study was planned to understand the knowledge, attitude, and practice of KMC among the mothers . Aim: To determine knowledge, attitude and practice of kangaroo mother care (KMC) among postnatal mothers in neonatal care unit of a tertiary care teaching hospital. Materials and Methods: A cross- sectional study by administering an open-ended questionnaire was used in an interview of mothers providing KMC at a tertiary care center. The mothers' response to these questions was marked according to a predetermined scoring system. Results: At recruitment (91.2%) mothers did not know about KMC. 86% of mothers could follow the verbal instructions and found it easy in first sitting. 100 % of them felt closeness to the babies and their babies slept well too. 91.8% of mothers thought that KMC is beneficial for their babies. 84.8% perceived increased in breast milk production and 89.9% felt that the babies cried less after KMC.At discharge 100% were willing to continue KMC at home. 98.7% of the mothers were happy with the support they received from the doctors and nurses for same.Conclusion:These results support earlier findings of the beneficial effects of KMC on mortality and growth. Use of this technique would humanize the practice of neonatology, promote breastfeeding, and shorten the neonatal hospital stay without compromising survival, growth, or development.

KEYWORDS : Breastfeeding, open-ended questionnaire, low birth weight, socioeconomic factors

Introduction:

According to the World Health Organization, 10% of all births worldwide are either low birth weight or premature babies .Low birth weight and pre term births are associated with high neonatal morbidity and mortality. A significant proportion of deaths among preterm and low birth weight infants is preventable. As compared to conventional neonatal care in resource–limited settings there is evidence that kangaroo mother care (KMC), significantly reduces the risk of morbidity and mortality in infants weighing less than 2000 g.[1] The WHO defines KMC as early, continuous, and prolonged skin–to–skin contact (SSC) between the mother and preterm or low birth weight babies; exclusive breastfeeding ; early discharge after hospital–initiated KMC with continuation at home; and adequate support and follow–up for mothers at home.[2] The benefit of KMC includes empowering the mother to care for her LBW infant, decreasing infant mortality, encouraging breastfeeding and reducing the frequency of low birth weight babies visiting clinics after discharge from hospital.

KMC was originally developed in Colombia as an outpatient alternative to a neonatal minimal care unit. [3] Kangaroo mother care (KMC) is a humane, low-cost method of care of low birth weight new-borns.[4,5] KMC should be started as soon as the baby is clinically stable.KMC contributes to reduced risk of hypothermia, severe illness, nosocomial infection, reduced length of hospital stay, improved growth, breastfeeding, and maternal–infant attachment. [6] Skin-to-skin contact in KMC builds up a positive perception in the mothers and a state of readiness to detect and respond to Infant's cues.[7]Mothers enjoy providing KMC and it increases their confidence and bonding to their new-borns.[8] KMC is still not a widely practiced method of care of LBW infants in India despite its said advantages.[9]While the WHO provides guidance on the components of KMC, guidance to clinical implementation of KMC are needed Kangaroo mother care has shown to have more advantages over conventional new born care in preventing neonatal mortality and morbidity especially in resource limited countries. This study was planned to understand the knowledge, attitude, and practice of KMC among the mothers .We can improve the outcome of KMC if we focus on the areas where the knowledge, attitude, and practices are lacking.[10]

Materials and Methods:

Study: A cross sectional descriptive study.
Study duration: July 2021- December 2021.
Size of sample: 79
Inclusion criteria:
1. Preterm or full term babies with birth weight less than 2000gms.

Exclusion criteria:
1. Babies with congenital malformations.
2. Critically ill babies on ventilator or oxygen support initial days.
3. Mothers who were sick and not able to provide KMC.
4. Mothers who were not willing to administer KMC.

Methodology:
A cross sectional study was conducted to assess the knowledge regarding kangaroo mother care among postnatal mothers admitted in postnatal ward of NICU. It was

an open ended questionnaire which was pre-validated and then administered to the mothers included in this study by the staff and doctors in NICU. We used the reclining KMC Chairs and KMC Bags for securing the babies to the mothers for the study. Babies were enrolled after getting informed consent from parents.Institutional Ethics Committee permitted this study and there was no conflict of interest.Data collected was entered in excel sheet and use the scales: DASS- 21 and Brief COPE inventory. The results obtained were tabulated and statistical analysis done. No drug/therapy/procedure will be introduced to the study population.

Kangaroo mother care (KMC): KMC is a method, which involves placing the infant with a hat and diaper on the mother's chest between her breasts. The infant is placed in an up- right position under the parent's clothes on the naked skin.

Image 1-Mothers nursing their babies in KMC Chairs comfortably.

Results:

Table 1 Education

Educational level	Frequency	Percentage
Illiterate	3	3.80%
Primary	8	10.13%
Secondary & Higher Secondary	47	59.49%
Graduate and above	21	26.58%
Total	79	100%

Out of the 79 mothers included in the study, 59.49% were from secondary and higher education, 26.58% were graduated or more and 10.13 % were Primary educated while 3.8% were illiterate which shows acceptance of KMC may be better in educated mothers.

Table2 Did she know benefit of KMC before starting

	Frequency	Percent
Yes	7	8.9
No	72	91.2
Total	79	100.0

The benefits or prior knowledge was unknown to 91.2% mothers which was a noteworthy observation.

Table 3 Is KMC easy or difficult

	Frequency	Percent
Difficult	11	13.9
Easy	68	86.1
Total	79	100.0

After explaining the benefits and correct method of KMC, 86.1% mothers found it easy and implemented.

Table 4 Do baby sleep well during KMC

	Frequency	Percent
Yes	79	100.0

100 percent of the mothers felt close to their babies and they slept well after KMC (Table 4,5)

Table 5 Feeling of Closeness with baby

	Frequency	Percent
Yes	79	100.0

Table 6 Any insecurity/Fear felt during handling the new born

	Frequency	Percent
Yes	9	11.5
No	69	88.5
Total	78	100.0

KMC did not arouse any fear or insecurity in handling their babies in 88.5 % mothers while the rest had some fear.

Table7 Is KMC given during night

	Frequency	Percent
Yes	38	48.1
No	41	51.9
Total	79	100.0

KMC was also given at night in 48.1% babies while 51.9% did not opt to give at night.

Table 8 Does she know the correct method of KMC

	Frequency	Percent
Yes	75	94.9
No	4	5.1
Total	79	100.0

94.9% mothers were confident about giving correct method of KMC while 5.1 % were not.

Table 9 For how much time KMC given per day?

Hours	Frequency	Percent
2.00	2	2.5
3.00	30	38.0
4.00	37	46.8
5.00	6	7.6
6.00	4	5.1
Total	79	100.0

The total time for giving KMC was variable per day as 46.8 % mothers gave for 4 hours in a day while 38% mothers gave for 3 hours per day as to 2.5 % mothers could give only for 2 hours. This variability can be attributable to the health status of mothers.

Table 10 For how much total duration/ session KMC given?

Duration in min	Frequency	Percent
20.00	2	2.5
25.00	4	5.1
30.00	30	38.0
35.00	2	2.5
40.00	25	31.6
45.00	8	10.1
60.00	8	10.1
Total	79	100.0

Per KMC session, 10.1 % mothers' each could give for a stretch of 60 minutes and for 25 minutes which was the highest while 2.5% gave only for 20 minutes which was lowest.

Table 11 Willingness to continue at home

	Frequency	Percent
Yes	79	100.0

All mothers were willing to continue at home.

Table 12 Has it increased production of breast milk

	Frequency	Percent
Yes	67	84.8
No	12	15.2
Total	79	100.0

About 84.8% mothers felt that breastmilk production could increase because of KMC.

Table 13 Do the babies cry less during KMC

	Frequency	Percent
Yes	71	89.9
No	8	10.1
Total	79	100.0

Babies were calmer and cried less during KMC which was felt by 89.9% mothers.

Table 14 Will she advice KMC to other mothers

	Frequency	Percent
Yes	79	100.0

All mothers were ready to advice KMC to other mothers too which was a satisfactory gain.

Table 15 Did she receive adequate support for KMC from staff and doctor

	Frequency	Percent
Yes	78	98.7
No	1	1.3
Total	79	100.0

The doctors and nurses in NICU could give adequate support to 98.7% mothers and they were happy.

Out of mothers of 115 babies admitted in NICU weighing less than 2500 gm., 79 mothers were willing to provide KMC and satisfied the inclusion criteria. Antenatal, natal and demographic details of them were taken using a structured questionnaire. All these mothers were explained about the knowledge, attitude and practice (KAP) of KMC and pre-structured questionnaire for KMC was filled by the interviewer after conducting a short interview with the mother. KMC was started after stabilizing the babies with conventional care. Out of 79 babies enrolled, all completed the KMC. Babies ranging from less than 25 weeks to term were registered. The birth weight ranged from 818 gm to 1800 gms. Discharge weight gain was minimum 110 gm to maximum 400 gm.

Out of the 79 mothers included in the study, 59.49% were from secondary and higher education, 26.58% were graduated or more and 10.13 % were Primary educated while 3.8% were illiterate which shows acceptance of KMC may be better in educated mothers.

Knowledge: 91.2% of mothers had no knowledge about KMC before coming to hospital. Only 8.9% had prior knowledge about KMC. 94.9% mothers were confident about giving correct method of KMC while 5.1 % were not even after the explanation by staff or doctors.

Attitude: The benefits or prior knowledge was unknown to 91.2% mothers which was a noteworthy observation. 100 percent of the mothers felt close to their babies and they slept well after KMC. KMC did not arouse any fear or insecurity in handling their babies in 88.5 % mothers while the rest had some fear. Babies were calmer and cried less during KMC which was felt by 89.9% mothers. About 84.8% mothers felt that breastmilk production could increase because of KMC.

Practice: 86.1% mothers thought that KMC is easy once the right method was explained through action and verbal narration. 94.9% mothers were confident about giving correct method of KMC while 5.1 % were not. The total time for giving KMC was variable per day as 46.8 % mothers gave for 4 hours in a day while 38% mothers gave for 3 hours per day as to 2.5 % mothers could give only for 2 hours. This variability can be attributable to the health status of mothers. KMC was also given at night in 51.9% babies while 48.1 % did not opt to give at night. All mothers were ready to practice KMC at home too and advice KMC to other mothers too which was a satisfactory gain.

Discussion:

Cultural and educational differences can affect communication, level of trust, and the ability to carry out newborn care especially in implementing KMC which involves a lot of commitment from mothers.[11] The focus of this study was to assess attitude and practises and maternal perceptions of the value of KMC through assessing views of mothers of the NICU babies for care partnership.[12] KMC and maternal care provision have become an important aspect of care in the NICU associated with improved short-and long-term neonatal care health outcome.[13] Mothers giving birth to preterm babies (LBWs) have less confidence in caring for their babies due to lack of experience and knowledge.[14]

Our 94.9% mothers were confident about giving correct method of KMC and were willing to practice it after knowing the benefits to the baby, which was a positive attribute of this study [15]In a study by Reeta et al majority of the mothers (80.2%) had received adequate knowledge, almost in contrast with our study.[16] This may be because of the difference in the education of mothers and predominance of rural population in the present study. Another benefit of KMC is the increased stimulation of breast milk production that facilitates more frequent breastfeeding (Anderson).[17] KMC is a benefit to the mother by allowing her to be more actively involved and competent in caring for her LBW infant who contributes to closeness or bonding (Cattaneo, et al and Davanzo.[18,19]

Majority of mothers (88.5%) felt good and did not fear after doing KMC. The doctors and nurses in NICU could give adequate support to 98.7% mothers and they were happy. One cross-sectional study reported that the majority of mothers preferred the kangaroo method, mainly because their baby was closer to them. Touch was important to mothers, as it induced feelings of well-being and fulfilment in parents.[20]

Conclusion:

It is very important to improve the knowledge and practices of KMC in developing countries through information, education and communication (IEC)to improve the outcomes of low birth weight babies especially in resource limited settings. Mothers often enjoy providing KMC and it increases their confidence and bonding to their new-borns. Providing the essential care, encouragement and environment in the new-born nurseries and presence of motivated staff, encourages the parents to implement KMC successfully.

Declaration:

Contribution of Authors:
Conception and Design: DA and SM, Planning and Conduction of Study:DA, MT and KB
Data Collection and Supervision: MT, KB & PB, Analysis and Interpretation: DA and KB
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