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KANGAROO MOTHER CARE: A BLISS FOR LOW WEIGHT BIRTH CHILDS
(A Case Study of Civil Hospital Sonipat)

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Abstract:
Nothing in this world *can take the place of the mother. For an infant, the mother is the source of warmth and nutrition. Children are the future and so they need proper growth facilities physically and mentally. Children who born early and with low weight need extra care and attention than normal ones. Early born children have less chances of survival and have immunity issues. So, Kangaroo Mother Care technique is blessing for such babies. This technique allows mother to have close skin to skin interaction with baby and breastfeed more often. This study is designed to assess the level of knowledge and the acceptability of KMC among the mothers of preterm low birth weight babies. This study was done in the Civil Hospitals in Rohtak and Sonipat district of Haryana. A total sample of 150 mothers who are admitted in Hospitals is taken for this study. This study successfully concluded that Kangaroo mother care is more feasible, less expensive and preferred method over Conventional care method for increasing mortality rate and growth rate in developing countries.*
Keywords: *warmth, nutrition, growth, future, birth weight*

Introduction:

"Children are future of the society and their mother are the guardian of that future'' WHO report LBW is the main cause for increased infant mortality rate. Every year near about 20 million infants of Preterm or Low Birth weight (LBW) born worldwide and out of witch 7-10 million of are born in India. More than 80% of the neonatal mortality occurs in Preterm /Low Birth Wight babies due to infection, hypothermia and feeding problems. Up to 90 percent of newborn deaths are among low birth weight babies, and caring for them in low –income countries is particularly challenging

The major complications that can occur in LBW babies are asphyxia, hypothermia, cerebral hemorrhage, infections, and dehydration. Immediate care is needed for LBW babies. These include maintenance of stable body temperature, Prevention and treatment of asphyxia and infections and sustainable nutrition. High incidence of LBW babies and their related morbidity and mortality adds more responsibility on the mother' in caring for their babies. Inadequate Knowledge of the mothers worsens the condition. The mothers have to provide additional nutrition, warmth and love to baby. The basic needs of the baby are met through KMC by the mother. The newborn period is risky for all babies, especially for low Birth weight newborns- most of whom are preterm. Low birth weight or premature necessitates the early removal of newborns from their mothers in an incubator or a radiant warmer. This seclusion and separation limits parents' opportunities to interact with their children, which may result in stressful interactions between mother and child. KMC has positive effects in developing parent –infant bonding and attachments.

The "Kangaroo mother care: A simple method for caring for LBW children" was developed in 1979 by Drs. Martinez and Rey of the Maternal Child Institute in Bogota, Colombia. (KMC). The name refers to how a kangaroo carries her baby after birth, which is similar to how the ladies in the programme cradle their premature babies. The child's proximity to the mother - her caresses, voice, and heartbeat - is regarded to be a vital factor in preventing apneas and promoting the child's breathing. The infant's body temperature is maintained by constant skin-to-skin contact, which also promotes the development of a tight emotional relationship between mother and child. In skin to skin contact, the oxygenation of the baby has been enhanced. The Mother Kangaroo Method's essence and basic base are love, warmth, maternal nursing, and the kangaroo position. Kangaroo Mother Care is a socially accepted and scientifically sound practice. The mother, not the doctors or the hospital, is in control of and responsible for her child's care. It is a strong and simple strategy for promoting the health and well-being of both preterm and full-term infants.

Its key features are:

- Skin-to-skin contact between the mother and the newborn begins at an early age and continues for a long time.
- Breastfeeding exclusively.
- It commences in a hospital setting and can be continued after discharge.
- Newborns may be discharged sooner than expected.
- Mothers who remain at home need adequate support and follow-up.
- It is a gentle and successful strategy that avoids the distress that preterm newborns frequently suffer in a crowded ward.

KMC offers significant advantages over traditional incubators, according to numerous studies,

and it has boosted the health of newborns in both developed and developing countries. KMC improves the mother child bonding and decreases the mother's stress. Other benefits of KMC are:-

- The uterus of the mother contracts due to the baby's legs kicking on her abdomen.
- Nutrition is enhanced through KMC. The volume of mother' milk increases and likewise the frequency of feeding provide.
- The smell of the mother's milk increases sucking reflex and facilitates faster growth.
- A baby in Kangaroo position gains 15-20 grams/ kg weight a day.

Objective of the Study:

To assess the level of knowledge and the acceptability of KMC among the mothers of preterm low birth weight babies.

Review of Literature:

Cattaneo A. et. al. (1998) was conduct a study on Kangaroo mother care for low birth weight infants to check the effectiveness, feasibility and cost of it comparative to conventional method of care. This was a randomized controlled trial and conducted within a year in hospitals like Addis Ababa (Ethiopia), Yogyakarta (Indonesia) and Merida (Mexico). This study showed that Hypothermia is controlled in KMC, exclusive breastfeeding is recommended at discharge, child gain weight at earliest and so discharged earlier, easy maintenance of equipment, less costly than CMC.

Mendoza (2000) conduct a study on Impact of Kangaroo mother care on the survival of lows birth weight babies. The babies born in 7th month are taken as sample for this study. This was a longitudinal study and so the population taken for the study were different and comparison between them is done in a year. This study proved that there is no any difference between the samples and it was suggested that proper breastfeeding and care with KMC will helps in achieving weight gain.

Ramanathan. K. (2001) in their study investigated about the effect of KMC on child and its acceptability by nurses and mothers. This study was concerned to 28 babies who born with weight less than 2500 grams. The effect of KMC on the rate of breast feeding, weight gain and duration of hospitalization was measured. This study successfully reported that KMC is highly acceptable by mothers and they feel more attached and cares more and prefer to continue it even after discharge. Further, KMC leads to weight gain, increased breastfeeding rate and earlier hospital discharge.

Vyas B. et. al. (2005) was conduct a study on Kangaroo mother care: Efficacy and Feasibility in LBW babies. For this study 110 babies were taken under observation in which56 babies were into KMC group and 54 babies in CMC group. The study showed that there was significant reduction in the incidence of hypothermia in KMC in comparison to CMC group, reduction in the duration of hospital stay, significant weight gain per day (in grams) during hospital stay and average weight gain day (in grams) on follow. Most of the mothers were comfortable in administrating Kangaroo

Mother Care.

Gathwala G. et. al. (2008) in their study determined whether KMC facilitates mother baby attachment in low birth weight infants. The study was performed on 110 babies and the duration was 16 months. The data was taken by maternal interview to know the level of attachment between mother and their babies. The study concluded that mother with KMC procedure found more involved in care taking activities. Further, it was found that skin to skin contact and proper breastfeeding between mother and infant and mother reduces physiological and psychological stress and so increases the mother baby attachment and more physical growth.

Thukalet. al (2008) in their study about Kangroo Mother Care as an alternative to conventional care claimed that there is reduction in mortality after implementation of KMC. The babies born preterm are kept in skin to skin contact and so showed better results mentally and physically. They mention three important components of KMC and those are skin to skin contact, breastfeeding and early discharge from hospital regardless of weight and gestational weight.

Parmaret. al (2009) in their study identified about the feasibility and acceptability of KMC practice by mothers, family members and healthcare workers. The data of 135 babies is taken for this study and acceptability by mothers, family and health care workers is assessed. As per the data collected 96% mother understood and accepted KMC very well whereas, 94% health care workers believe that this is more useful method that the conventional method for low birth weight babies. Moreover, there is seen high level of acceptability and support for KMC practice from family and friends.

Gathwala, et. al. (2010)in their study examined whether the implementation of KMC to low birth weight improve physical growth of child, breastfeeding and its acceptability. This study was conducted over 16 months and 110 babies were observed in the study. This study reported that babies who received KMC gained weight, length and OFC. Moreover, KMC also improved physical growth and breastfeeding rate and acceptance by mothers and staff members.

Seidmanet. al (2015) in their study on barriers and enablers of KMC discussed most rated barriers and enablers. The barriers to KMC are that there are issues with facilities available and environment, negative staff attitude, lack of help with KMC practices, and low awareness of KMC practices. Apart from this top enablers found to be practiced with included mother-infant attachment, support from family members, friends and other mentors. Further this study claimed that continuous KMC may be misunderstood to be related to mother only but it is difficult physically and emotionally and requires support from family members, health practitioners or other mentors.

Nimbalkar (2019) studied about the KMC and challenges and solutions related to its implication. Problem reported during its implication is skin to skin contact is not considered

appropriate because personal space is not there for mothers, misconception among healthcare workers, misconception about the role of father and relatives, considered as burden over staff, KMC is granted as a routine care and policies are also available for its proper implication. On the basis of these components a model was developed in three steps pre-implementation, implementation and follow-up respectively. This study suggested that KMC only is not enough for reducing mortality rate of low birth weight child but proper breast feeding, hand washing, hygiene and maintenance, and timely intervention for complications are equally important.

Research Methodology:

Research Design	Exploratory cum descriptive
Study area	Civil Hospitals (Rohtak and Sonipat)
Sampling technique	Convenient Sampling
Sample Size	150 sample from mother Who are admitted in Hospitals
Data Collection	Data was collected through both primary and secondary sources. Primary data was collected using questionnaires and Secondary data will be collected through books, journals and through reports of hospitals.

Data Analysis and Interpretation:

A. Demographic Profile of the Respondents:

Table 1: Age of the Respondents

Statement	Frequency	Percent
less than 20-25	87	58
25-30	51	34
30-35	12	8
Total	150	100

From the analysis of above table it depicts that there are two major age groups found which is less than20-25 and 25-30 years which hold 58 % and 34% of total age group, where the less portion of the age group is of 8% that is of 30-35years, Which means the more mothers present in hospital belong to 20-25age group .

Table 1.2 Educational statusof the Respondents

Statement	Frequency	Percent
Illiterate	33	22.0
informally literate	16	10.7
primary education	46	30.7
secondary education	33	22.0
Graduation	18	12.0
Post graduation	4	2.7
Total	150	100.0

Table 1.2 depicts that most of the mothers are primary educated i.e. 30.7% whereas 22% mothers are illiterate and having secondary education. Least no. of mothers is post graduate i.e. 2.7 only. It shows that maximum mothers who are admitted in hospital for KMC they are less educated.

Table 1.3 Gestational age of the baby

Statement	Frequency	Percent
28-31 week	12	8.0
31-34 week	58	38.7
34-37 week	76	50.7
Above 37 weeks	4	2.7
Total	150	100.0

From the above analysis, it depicts that the 50.7% respondent say that gestational age of the baby lies in the category of 34-37 week and only 2.7% respondent say that the gestational age of baby lies in the category of 4 i.e. above 37 weeks.

Table 1.4Birth weight of the baby

Statement	Frequency	Percent
1000-1300 grams	15	10.0
1300-1600 gram	42	28.0
1600-1900 gram	57	38.0
more than1900 gram	36	24.0
Total	150	100.0

From the above analysis, it depicts that the 38% respondent said that birth weight of their infant is 1600-1900gram and only 10% respondent said that the birth weight of infant is 1000-1300gram. However all baby found in KMC are pre mature baby and their weight is not up to mark.

Table1.5 How old the baby

Statement	Frequency	Percent
less than 1 week	64	42.7
1-2 week	41	27.3
2-3 week	32	21.3
more than 3 week	13	8.7
Total	150	100.0

It founds that for the good recovery of infants after the birth of the unhealthy baby doctor straight transfer baby to the KMC.As in table 1.5, 47% mothers said that the age of their baby is less than 1 week whereas8.7% mothers said that the age of their baby is more than 3 week.

Table 1.6How soon after delivery did you started KMC

Statement	Frequency	Percent
less than 24 hrs	17	11.3
24-48	37	24.7
48-72	52	34.7
more than 72 hrs	44	29.3
Total	150	100.0

From the above analysis, it depicts that the 34.7% mothers start KMC after 48-72 hrs of delivery and only 11.3% mother's start KMC within the 24hrs. It state that after delivery within 48 hrs mothers started KMC for the providing better environment to baby.

Table 1.7Did you know about KMC before coming hospital

Statement		no awareness	some awareness	full awareness	Total
Educational status	illiterate	30	1	2	33
	informally literate	15	1	0	16
	primary	38	5	3	46

	education				
	secondary education	28	5	0	33
	graduation	8	4	6	18
	Postgraduation	1	1	2	4
Total		120	17	13	150

While comparing the education level with the awareness level of the mother about KMC it observed that most of the mothers are primary educated and they are not aware about the KMC awhile 4% graduated mothers have full awareness about KMC before coming in the hospital 20% illiterate mothers have no awareness before coming in the KMC. So it can be concluded that the knowledge about KMC will increases with education level.

Table 1.8 Do you feel that you received adequate support from the nursing staff during KMC

Statement	Frequency	Percent
Yes	87	58
No	57	38
Don't Know	6	4
Total	150	100.0

From the above analysis, it depicts that the 58% mothers said that there is full support of nurses in the hospital for KMC whereas 38% said they are not supportive because the hospital is Government as 6% replied about don't know may be reason that they are not aware about the KMC.

Table 1.9 : Are You Aware About KMC

Statement			no awareness	some awareness	full awareness	Total
Age	less than 20-25	Count	52	30	5	87
		% of Total	34.70%	20.00%	3.30%	58.00%
	25-30	Count	24	21	6	51
		% of Total	16.00%	14.00%	4.00%	34.00%

	30-35	Count	1	4	7	12
		% of Total	0.70%	2.70%	4.70%	8.00%
Total		Count	77	55	18	150
		% of Total	51.30%	36.70%	12.00%	100.00%

When it is to be identified that is the age and awareness level of mother about KMC is correlated? It is very surprising that around 34.70% mothers are not aware who are belong to the age group of less than 20-25 years but they are ready to accept the implement of KMC for the betterment of their new born child whereas 12% are fully aware and confident about the accept to implement KMC.

Table-1.10 Environment in KMC unit

Statement	Frequency	Percent
Very good	60	40.0
Good	77	51.3
Neutral	13	8.7
Total	150	100.0

From the above analysis, it depicts that around 40% said that environment in KMC unit is very good. Mothers are getting good facility whereas 8.7% mothers are neutral about this statement.

Table 1.11 Staff Behavior in KMC unit

Statement	Frequency	Percent
very good	54	36.0
Good	75	50.0
Neutral	21	14.0
Total	150	100.0

From the above analysis, it depicts that around 36% mothers said that staff behavior is very good because educated staff working in the KMC and they well know about their duties and 14% mothers are neutral about this statement reason may be they are not aware about KMC or they are not ready to accept the KMC for their Childs.

Conclusions:

"Kangaroo mother care is ray of hope for the millions of children throughout the word who are born premature and underweight'' –UNICEF

From the above study it is concluded that major age groups found is less than20-25 and 25-30 years which hold 58 % and 34% of total age group, whereas most of the mothers are primary educated i.e. 30.7% it shows that maximum mothers who are admitted in hospital for KMC they are less educated and the gestational age of the baby lies in the category of 34-37 week. However it founds that for the good recovery of infants after the birth of the unhealthy baby doctor straight transfer baby to the KMC and the age of baby is less than 1 week as 47% mothers said this. 34.7% mothers start KMC after 48-72 hrs of delivery and only 11.3% mother's start KMC within the 24hrs. It state that after delivery within 48 hrs mothers started KMC for the providing better environment to baby.While comparing the education level with the awareness level of the mother about KMC it observed that most of the mothers are primary educated and they are not aware about the KMC while 4%graduated mothers have full awareness about KMC before coming in the hospital. So it can be concluded that the knowledge about KMC will increases with education level.When it is to be identified that is the age and awareness level of mother about KMC it is depicted that around 51.3% mothers are not awareness that they are ready to accept the implement of KMC whereas 12% are fully aware and confident about the accept to implement KMC.36% mothers said that staff behavior is very good because educated staff working in the KMC and they well know about their duties and 14% mothers are neutral about this statement reason may be they are not aware about KMC or they are not ready to accept the KMC for their Childs. So we can say that Kangaroo mother care is more feasible, less expensive and preferred method over Conventional care method for increasing mortality rate and growth rate in developing countries.

Recommendation:

- Arrange outside camp for people awareness
- In KMC visitor and attendant should be minimized
- Nurses need improvement of communication skill with mothers and attendant this would be happen with training of nurses.
- Specialized isolated room for kids take a better change in KMC.
- Adding beds sides curtains privacy of mothers should be increases.
- Doctors should be available at every time
- There must be proper follow up facility after discharge process.
- Time to time counseling of mothers should be necessary about feeding and personal hygiene
- Adding feedback mechanism in KMC.

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