

Original Research Article

Study to assess the knowledge, attitude and practice of Kangaroo mother care among post-natal mothers in a tertiary care centre of Mangalore, Karnataka, India

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ABSTRACT

Background: Kangaroo mother care (KMC) is a practical low-cost intervention which is very cost effective in developing countries for babies weighing less than 2500g. This study aimed to evaluate the knowledge, attitude and practice of post-natal mothers of LBW babies after giving a teaching session by trained personnel in a tertiary care center in Karnataka.

Methods: A cross sectional descriptive study of 90 mothers whose neonates were weighing less than 2.5kg from May to October 2018. Mothers were interviewed at enrolment and were assessed about their knowledge and were oriented on its practice.

Results: At recruitment (95.5%) mothers did not know about KMC. 80% of mothers followed in first sitting and 86.6% of the mothers felt photo exhibition was better than verbal. 96.6% of mothers thought KMC is beneficial and it was believed that other family members can even provide KMC.

Conclusions: Maternal knowledge was low before now they are happily practicing KMC in hospital and thereafter at home.

Keywords: Attitude, Kangaroo mother care, Knowledge, Low birth weight baby

INTRODUCTION

Kangaroo mother care is care of preterm infants carried skin-to-skin with the mother. It is a powerful, easy-to-use method to promote the health and well-being of infants born preterm as well as full-term. It was first presented by Rey and Martinez, in Bogotá, Colombia.¹ KMC includes empowering the mother to care for her LBW infant, decreasing infant mortality, encouraging breast feeding and reducing the frequency of LBW babies visiting clinics after discharge from hospitals. KMC has shown to improve lactation in mothers, boost the physiological bonding between mother and neonate,

improve sleep cycle and oxygenation in sick preterm² and reduces the apnoeic spells.² The beneficial effects of KMC on babies such as, stabilization of vital parameters (heart rate, respiration and oxygen saturation), better weight gain, improved survival and adequate thermoregulation has been documented world over and so is improved maternal confidence and lactation.³ It also reduces physiologic and behavioural pain responses, increases weight gain and enhances mother-infant bonding. Furthermore, it has positive effects on infant's cognitive development, less nosocomial infection, and earlier discharge.⁴ The implementation of KMC also focuses on the decision-making process, which depends not only on the mother's desire and willingness, but also

on the support provided by the family network and empathetic health care teams.⁵

Kangaroo care is introduced as an evidence-based nursing practice in neonatal care. While performing KMC, the infant is put on the bare chest of the parent in a prone position and covered with cloths, allowing intense skin-to-skin contact. It meets the infants and parents needs for warmth, love and contact.⁶

METHODS

A cross sectional descriptive study conducted for the period of 6 months i.e. May-October 2018. Sample size: 90 babies. Questionnaires (set of 15 questions) were given to each mother and knowledge of all mothers regarding KMC Was assessed and they were asked to implement KMC in hospital ward and later their attitude changes were made out by calculating and comparing post KMC questionnaires to the mother's data among different mothers was analysed and was put together and studied. Study participants were selected randomly which babies were LBW even twin delivery with low birth weight baby mother and father were both involved in this study.

Inclusion criteria

- All infants including term and preterm babies weighing less than 2500g admitted to neonatal intensive care unit and postnatal wards.
- Babies weighing between 1.5-2.5kg, more than 32 weeks.

Exclusion criteria

- Mothers whose babies expired after enrolment
- Mothers who were not willing to administer KMC
- Mothers of babies with congenital anomalies
- Mothers who were sick and were not in a health condition to provide KMC
- Babies who were septic
- Babies who were under 1.5kg and less than 32 weeks of gestation.

RESULTS

Table 1 categorizes mothers involved in this study based on their age and it shows that most of them are in the age group of 25-30 years.

Table 1: Maternal age.

| Age group of mothers | Frequency | Percent |
|----------------------|-----------|---------|
| <20 | 5 | 5.6 |
| 20-25 | 14 | 15.6 |
| 25-30 | 63 | 70 |
| >30 | 8 | 8.9 |
| Total | 90 | 100 |

Among the study group most of the mothers delivered via normal vaginal delivery (67.8%) compared to lower segment caesarean section (32.2%) (Table 2).

Table 2: Mode of delivery of mothers.

| Mode of delivery | Frequency | Percent |
|------------------|-----------|---------|
| NVD | 61 | 67.8 |
| LSCS | 29 | 32.2 |
| Total | 90 | 100 |

The parity of the mothers shows an equal distribution between primigravida and multigravida (Table 3).

Table 3: Parity index of mothers.

| Parity | Frequency | Percent |
|--------|-----------|---------|
| Primi | 45 | 50 |
| Multi | 45 | 50 |
| Total | 90 | 100 |

Figure 1 shows that post practice intervention the hours of KMC given has drastically increased to over 10 hours (87.8%) among the study population.

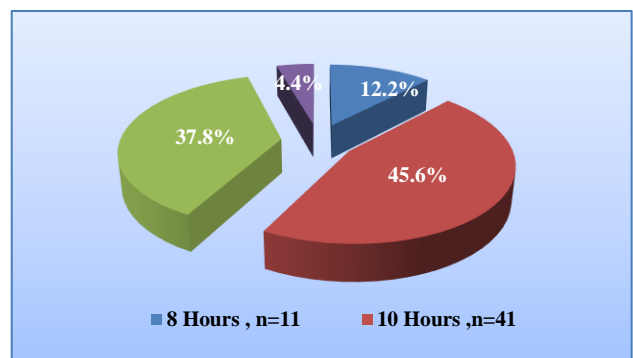


Figure 1: Percentage of KMC hours provided to the babies.

Table 4 shows that among the study population the educational level of mothers were mostly above the high school level, which might be contributory to the better practice of KMC post-intervention.

Table 4: Educational status of mother.

| | Frequency | Percent |
|---------------------|-----------|---------|
| 4 th std | 1 | 1.1 |
| 5 th std | 3 | 3.3 |
| 6 th std | 1 | 1.1 |
| 7 th std | 5 | 5.6 |
| 8 th std | 5 | 5.6 |
| 9 th std | 5 | 5.6 |
| SSLC | 42 | 46.6 |
| PUC | 10 | 11.1 |
| Diploma | 5 | 5.6 |
| Graduate | 13 | 14.4 |
| Total | 90 | 100 |

Table 5: Fathers involved in the procedure of providing KMC.

| Father giving KMC | Frequency | Percent |
|-------------------|-----------|---------|
| Yes | 9 | 10 |
| No | 81 | 90 |
| Total | 90 | 100 |

Table 5 shows prior to the study intervention most of the fathers did not participate (n=81; 90%) in the Kangaroo mother care of their baby.

Table 6: Categories of babies involved according to gestational maturity.

| Categories of babies included for KMC | Frequency |
|---------------------------------------|-----------|
| Term (LBW) | 52 |
| Preterm | 28 |
| SGA | 10 |

With regard to the gestational age at birth, most of the babies were term (n=52;57.7%) in gestation compared to preterm (n=28; 31.1%) (Table 6). Following KMC, most of the mother's felt very good (n=60, 66.6%), and more closeness to their baby (n=90; 100%) and confidence

about themselves in taking care of their little one (n=84; 93.3%).

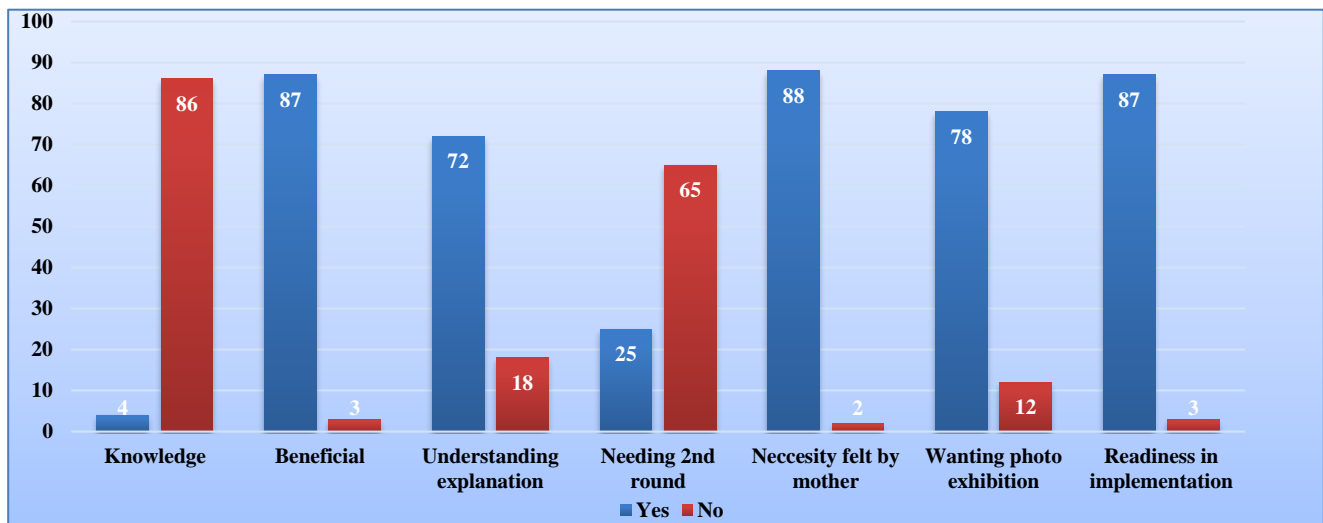
Table 7: Attitude of mothers how they felt after the procedure of KMC.

| Attitude of mothers | Feeling about KMC | Closeness to baby | Confidence |
|---------------------|-------------------|-------------------|------------|
| Very good | 60 | 90 | 84 |
| Good | 28 | 0 | 6 |
| Not good | 2 | 0 | 0 |

With regard to knowledge attitude and practice of KMC, Figure 2 shows most of the mothers were unaware of KMC practices (95.5%).

Following the study intervention 80% of mothers were able to understand the KMC procedure and 96.8% of them were ready to implement the KMC for their infant.

While 86.6% of mothers requested for a photo exhibition to better understand the KMC procedure. Only 27.8% of mother's required a 2nd round of explanation. Following the practice of KMC 96.6% of the mothers found it to be beneficial and necessary (97.7%) for their baby.

**Figure 2: Knowledge of post-natal mothers regarding KMC.**

DISCUSSION

The understanding about the procedure of KMC is crucial to ensure the best care for the baby. The psychological system implicated in the process of attachment has been associated with oxytocin, a hormone released during parturition and nursing as well as during contact, touch, and fondling. Oxytocin has been shown to play a role in the initiation of maternal affiliative behaviour and to affect positively the mother's mood. Skin-to-skin

contact is considered to function as an oxytocin-releasing agent and has been shown to increase maternal milk volume.⁷ In Parmar et al study, KMC was accepted by 96% mothers, 82% fathers and 84% other family members. Ninety four percent of health care workers considered it to be safe and conservative method in care of low birth weight. Benefits of KMC on the maternal behaviour and on maternal confidence and lactation were reported as 57%, 94% and 80% respectively.⁸ Most caregivers prefer skin to skin contact over conventional

care and find themselves empowered by KMC. Parental sense of fulfilment and confidence are improved, and these improvements are consistently found in affluent settings as well as impoverished settings.⁹ Overall, continuous KMC led to a reduction in mortality at discharge or 40-41 weeks' postmenstrual age and at latest follow up, nosocomial infection/sepsis, severe illness, and lower respiratory tract disease, and an increase in weight gain, maternal satisfaction with the method, and some measures of mother-infant attachment and home environment. On the other hand, intermittent KMC was associated with a decrease in the risk of severe infection/sepsis, nosocomial infection/sepsis, hypothermia, and length of hospital stay, and an increase in weight, length, and head circumference gain, exclusive or any breastfeeding at discharge or 40-41 weeks' postmenstrual age and at 1-3 months follow up, and mother-infant attachment at three months follow up.¹⁰ Education on importance of kangaroo mother care method should be given to all mothers irrespective of whether they have pre-term or low birth weight babies throughout the perinatal period. Some mothers do not practice the method because they are not aware of the benefits of the practice. Further, health care workers should be encouraged to remind the mothers throughout the perinatal period, that is, antenatal, intra-natal and post-natal period. Once this is done, mothers can get prepared psychologically for KMC in case they give birth to premature babies or low-birth weight babies. For home deliveries, such knowledge can enhance KMC practice before mothers reach nearby health facilities. Knowledge that KMC stabilizes new-born's temperatures, improves breathing and promotes mother-child bonding encourages the practice.¹¹ That positive attitudes of neonatal nurses influenced their behaviour is clearly reflected in the survey of practices and activities.¹² The mothers who learned the practice of KMC were eager to share their experience and help other mother's in their vicinity for the same.

CONCLUSION

Evidence has been analysed from a number of RCTs and is consistent with a meta-analysis from large-scale effectiveness evaluations showing KMC has a large effect on neonatal mortality and is also effective in reducing morbidity. This evidence is sufficient to recommend the routine use of KMC in facilities for all stable babies <2.5kg at birth. The potential effect of KMC will be seen in mothers with positive attitude if their knowledge will be improved by attitude of neonatal nurses and staff which can improve the practice of KMC worldwide with better results in all fields of the baby whether it is physiological parameters, developmental and cognitive ability improvement of babies is concerned.

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Ethical approval: The study was approved by the Institutional Ethics Committee

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