

**Quality Initiative (QI) to Improve Kangaroo Care Hours****Aparna Balagopal<sup>1</sup>, Jyothi Prabhakar<sup>2</sup>, Femitha P.<sup>3</sup>, Naveen Jain<sup>4</sup>**<sup>1,2,3,4</sup>Kerala Institute of Medical Sciences, Trivandrum**Received: 01-04-2026 / Revised: 25-05-2026 / Accepted: 12-06-2026****Corresponding Author: Dr. Aparna Balagopal****Conflict of interest: Nil****Abstract****Background:** It has been proven beyond doubt that Kangaroo Care reduces the morbidity and mortality in low birth weight and premature infants. Still, the actual KMC hours that are practiced in the neonatal nursery are very less.**Research Question:** Can KMC hours be increased in the unit?**Methodology:** Mothers/KC providers were interviewed individually by the researcher to collect data on sociodemographic characteristics and aspects related to educational level, antenatal period and mode of delivery. First PDSA cycle included one to one communication and audiovisual presentation. Second PDSA cycle included formation of a hospital policy regarding implementation of KMC, formation of a dedicated KMC team and education of the extended family.**Results:** 22 mother baby dyads were studied in the first cycle and 14 in the second. Age of mother's enrolled, and gestation and weight of babies in the KMC group in PDSA cycle 1 and 2 were similar. KMC was started at a similar age in the 2 PDSA cycles. KMC hours were more in the second PDSA cycle.**Conclusion:** We were able to improve the KMC hours delivered after the QI process of introducing a KMC policy and team.**Keywords:** KMC Hours, Preterms, PDSA Cycles.**DOI:** 10.25258/ijcpr.18.6.236

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**Introduction**

It has been proven beyond doubt that Kangaroo Care reduces the morbidity and mortality in low birth weight and premature infants. Still, the actual KMC hours that are practiced in the neonatal nursery are very less.

**Aim:** This QI aims at trying to increase KMC hours given to preterm babies.**Participants:** Preterm <34 weeks or <2000g birth weight babies who were hemodynamically stable.

Following babies were not included:

1. Babies while hemodynamically unstable, sick babies requiring mechanical ventilation, CPAP, central lines, Intercostal drains.
2. Parents denying consent
3. All babies requiring major surgical interventions
4. Babies with significant intermittent hypoxic events in last 12hours.

(Heart rate &lt;100/min, loss of tone or colour, need for resuscitation)

**Intervention:** All eligible babies were enrolled after consent was obtained.

Mothers/KC providers were interviewed individually by the researcher to collect data on sociodemographic characteristics and aspects related to educational level, antenatal period and mode of delivery. Details were recorded using a structured proforma.

**First PDSA Cycle:** One to one communication and audio-visual education of mothers regarding benefits of KMC.

One to one education of mothers/KC providers were given by the principal researcher using audio-visual aids. Total of 3 communication sessions were conducted in succession (30 minutes each), the first on the day KMC was decided, the second session was on the 3<sup>rd</sup> day of KMC (to reinforce KMC benefits and clarify doubts) and on 7<sup>th</sup> day after starting KMC (to reinforce KMC benefits and clarify doubts).

These sessions were held in the NICU nursery with mother /KC provider comfortably seated in KC position. On the first day, detailed education was given on the correct method of KC, positioning, duration and its proven benefits. Mothers were shown a short audio-visual presentation regarding

the same. Mothers were encouraged to ask questions and clarify their doubts if any. On the 3<sup>rd</sup> day, the Principal Investigator focussed on difficulties faced by mother/KC providers. Key messages addressed in the first session were reinforced. They were encouraged to increase the KC hours as much as possible. On the 7<sup>th</sup> day, repeat session was done on the method of KC and its benefits. Mothers/carers were encouraged to continue KC even after discharge from hospital till baby reaches estimated term age or weight of 2500

grams. Number of KMC hours was recorded by the staff nurses in charge of the babies.

After the first PDSA cycle of 4 months, KMC hours were audited.

#### Second PDSA cycle

- Hospital policy for KMC was formulated
- Dedicated KMC team (doctors and nurses) was appointed
- Education about benefits of KMC were offered to extended family members also

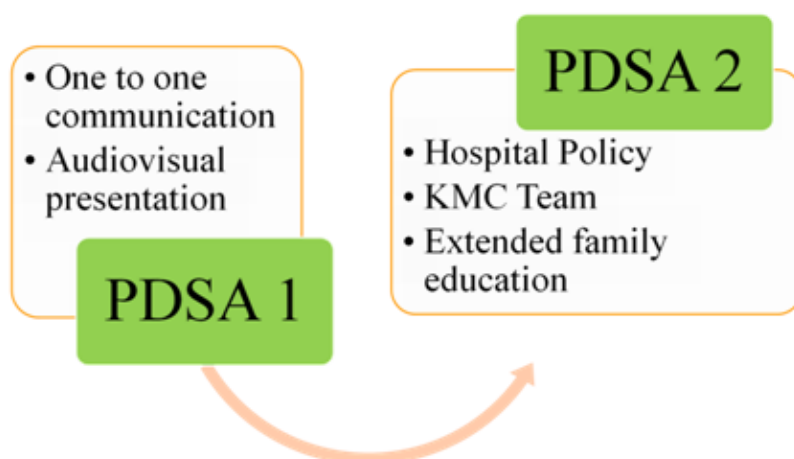


Figure 1:

#### Results

22 mother baby dyads were studied in the first cycle and 14 in the second.

Age of mother's enrolled, and gestation and weight of babies in the KMC group in PDSA cycle 1 and 2 were similar.

Table 1:

|                         | Study period | Mean    | Std. Deviation |
|-------------------------|--------------|---------|----------------|
| Age of mothers in years | 1            | 29.77   | 4.298          |
|                         | 2            | 29.07   | 4.196          |
| GA in weeks             | 1            | 30.50   | 2.133          |
|                         | 2            | 30.29   | 1.541          |
| Birth weight in grams   | 1            | 1297.50 | 314.282        |
|                         | 2            | 1348.57 | 296.346        |

P value NS

Parity, mode of delivery, educational status were similar. Lowest gestation age in the study was 26 weeks. Lowest birth weight was 780 grams. RDS, need for CPAP/ invasive ventilation, surfactant, hypoglycaemia, inotropes were similar. PDA requiring treatment was commoner in the 2<sup>nd</sup> cohort (21 vs 0 %, fisher's exact=0.05). Antenatal issues

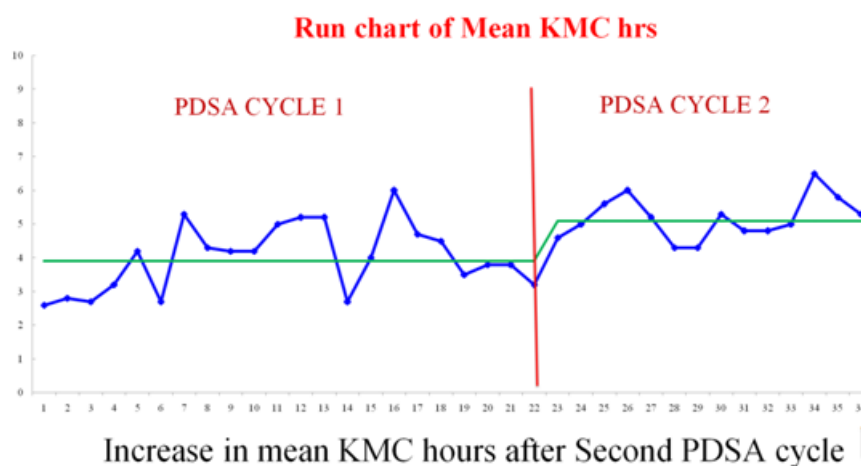
were less common in mother's enrolled in the first period (18 vs 64 %,  $p=0.007$ ). Babies reached full feeds at a similar age of 9.6 (3.2) vs 9.9 (3.3) in both groups, suggesting that they were similar in their course in NICU. KMC was started at a similar age in the 2 PDSA cycles. KMC hours were more in the second PDSA cycle.

**Table 2:**

|                    | Study period | Mean duration of KMC hours | Std. Deviation |
|--------------------|--------------|----------------------------|----------------|
| KMC started on day | 1            | 11.14                      | 4.235          |
|                    | 2            | 12.14                      | 5.082          |
| day 1 KMC hours    | 1            | 2.6                        | 1.0            |
|                    | 2            | 4.3                        | 0.4            |
| day 3 KMC hours    | 1            | 3.9                        | 0.9            |
|                    | 2            | 5.0                        | 0.8            |
| day 7 KMC hours    | 1            | 4.9                        | 1.4            |
|                    | 2            | 6.2                        | 0.8            |
| mean KMC hrs       | 1            | 3.9                        | 0.9            |
|                    | 2            | 5.1                        | 0.6            |

P= NS for day of start of KMC

P value 0.001 for day1, 0.8 for day 3, 0.03 for day 7 and 0.06 for mean duration of KMC hours.

**Figure 2:**

### Conclusions

We were able to improve the KMC hours delivered after the QI process of introducing a KMC policy and team. Clinically we feel that the mean duration of 5- 6 hours of KMC / day is still very low and further measures are required to improve.

### References

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