

STUDY OF EFFECT OF KANGAROO MOTHER CARE ON GROWTH OF LOW BIRTH WEIGHT BABIES

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INTRODUCTION : Kangaroo Mother Care {KMC} is a care of preterm or low birth weight infant carried skin-to-skin with the mother. It is defined as continuous {as close to 24 h a day as possible} skin-to-skin contact between the mother and her infant, ensured by placing the infant in a strictly upright position on the mother's chest both in hospital and after discharge, with exclusive breastfeeding and proper follow up.

METHODS: Design: Randomized Controlled Trial from September 2007 to December 2008. Setting and Participant: BW 1800-2000 gms as early as possible and babies below 1800 gms once stable, tolerating enteral feeds, maintaining temp. in thermo neutral environment and handed over to mother in postnatal ward for KMC or CMC (conventional mother care) group.

Data collection: Pre-designed and pre-tested questionnaire was used to elicit information.

Measurement: weight, length, and head circumference measure with electronic weighing scale with accuracy of +/- 5 gms, infantometer and non stretchable measuring tape respectively. Also look for breastfeeding and its feasibility.

RESULTS: During this study total 240 babies {120 babies each in KMC and CMC group} were enrolled randomly in postnatal ward. On follow up KMC group was divided into KMC-A [who were given KMC at home] and KMC-B [who were not given KMC at home]. Data were recorded in pre designed Performa. Results were analyzed by unpaired t-test.

TABLE 1: Comparison of weight gain and duration of hospital stay

Characteristic	KMC Group [n=120]	CMC Group [n=120]	SE of Difference between 2 means [z]	p Value
Weight gain [gms/day] Mean \pm SD	20.5 \pm 8.84	10.96 \pm 4.63	1.578	< 0.0001
Weight gain [gms/kg/day] Mean \pm SD	12.44 \pm 4.84	6.81 \pm 3.07	0.916	< 0.0001
Duration of Hospital Stay [days] Mean \pm SD	9.43 \pm 4.07	10.45 \pm 3.93	0.895	0.26

60 babies from KMC group [34 from KMC -A and 26 from KMC-B group] and 47 babies from CMC group came for follow up at 6 weeks of age(4 to 8 weeks).

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TABLE 2: Follow up comparison in weight, length, and head circumference

	KMC-A [n=34]	KMC-B [n=26]	CMC [n=47]
Weight gain in gms/kg/day Mean + SD	22.49 ± 6.77	17.2 ± 6.57	14.65 ± 6.35
Increase in length in cm/week Mean + SD	0.971 ± 0.371	0.822 ± 0.159	0.672 ± 0.264
Increase in head circumference in cm/week Mean + SD	0.73 ± 0.11	0.607 ± 0.185	0.483 ± 0.173

TABLE 3: Significance of difference in weight, head circumference, length on follow up

		KMC-A and KMC-B	KMC-B and CMC	KMC-A and CMC
Weight	t-value	2.15	1.44	3.82
	P value	0.04	0.16	<0.001
		Significant	Not Significant	Extremely Significant
Head circumference	t-value	2.26	2.05	5.2
	P value	0.03	0.04	0.0001
		Significant	Significant	Extremely Significant
Length	t-value	1.35	1.87	3.06
	P value	0.182	0.07	0.004
		Not Significant	Not Significant	Significant

TABLE 4: Comparison of exclusive breast feeding rate on follow up

Feeding practice	KMC-A[n=34]	KMC-B[n=26]	CMC[n=47]
Exclusive BF	28 [82.4%]	18 [69.2%]	17 [36.2%]
Non-Exclusive BF	06 [17.6%]	08 [30.8%]	30 [63.8%]

TABLE 5: Significance of difference in breast feeding rate on follow up

	KMC-A and KMC-B	KMC-B and CMC	KMC-A and CMC
X2 test	1.42	7.13	17.04
P value	0.23	0.006	0.00003
	Not Significant	Not Significant	Significant

DISCUSSION : In a meta analysis by neonatal review group of the Cochrane collaboration randomized trials comparing KMC and conventional neonatal care in LBW infants were analyzed. Three studies K .Ramanathan et al, Udani Rekha et al, Thakkar D, Nayak U involving 1362 infants, were included. KMC was found to decrease probability of not exclusively breastfeeding at discharge and increase tendency of mean weight gain.

CONCLUSION : The results conclude that KMC as a good practice to bring about significant weight gain during hospital stay and continuing KMC at home is also effective in maintaining better growth in terms of weight gain and increments in head circumference and length. There is a clear indication of better practice of exclusive breast feeding in mother practicing KMC.