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**Aruna Kumari**  
M.sc Student, CHN  
Department, MM College of  
Nursing, Mullana, Haryana,  
India

**Dr. Jyoti Sarin**  
Director, Principal, MM  
College of Nursing, Mullana,  
Haryana, India

**Sanasam Bankim Chandra  
Singh**  
Assistant Professor, CHN  
department, MM College of  
Nursing, Mullana, Haryana,  
India

**Yogesh Kumar**  
Prof. (Child Health nursing)  
M.M. College of Nursing  
Mullana, Haryana, India

**Correspondence**  
**Yogesh Kumar**  
Prof. (Child Health nursing)  
M.M. College of Nursing  
Mullana, Haryana, India

## Kangaroo mother care: Knowledge and practices of postnatal mothers of low birth weight babies

**Aruna Kumari, Dr. Jyoti Sarin, Sanasam Bankim Chandra Singh and Yogesh Kumar**

### Abstract

**Background:** Skin to skin contact is lifesaving in babies who have weight less than 2500g. Kangaroo mother care is the best intervention to reduce mortality rate in preterm and weight less than 2500 g.

**Objectives:** To assess the knowledge and practices regarding KMC of postnatal mothers of low birth weight babies in selected hospital of Haryana.

**Methods:** Quasi experimental approach with nonequivalent control group pretest posttest design, 60 postnatal mothers was selected by using non probable convenient sampling and conveniently assigned into experimental group (n=30) and comparison group (n=30).

**Result:** The major findings revealed that mean posttest knowledge score (23.6±2.23) and practice score (22.4±2.34) was more than mean pretest knowledge score (15.17±2.60) and practice score (13.0±2.82) in experimental group. There is no correlation found between knowledge and practice score except posttest knowledge and practice score in experimental group. Also there is no significant association of knowledge with selected variable and practice were associated with selected variables such as parity, type of family and habitat.

**Conclusion:** Thus the findings of the study revealed that structured teaching program was effective in experimental group as it enhances knowledge and improved practices of postnatal mothers of LBW babies regarding KMC.

**Keywords:** STP, KMC, LBW, Knowledge, practices, postnatal mothers

### Introduction

A neonate is a God's divine precious gift given. Newborns are completely depend on others for their need. There are great risk for survival during first 28 days of life. It is very necessary to provide adequate care during neonatal period improves the health of child as well as chances of survival and make a base for a healthy life. This also aims at keeping the newborn safe from the environmental and practical harm such as maintaining the normal body temperature. More care is needed to a new born infant, especially from the mother and this care includes love, affection, warmth, protection, nutrition for good health<sup>[1]</sup>.

In 2013 UNICEF stated that approximately 22 million newborns had low birth weight. The highest incidence of LBW was located in South Asia. Around 66% of the infant being left without measuring weight. Under-reporting, still determine incomplete data of the problem in the region<sup>[2]</sup>.

Dehydration is the major effect of incubator in neonates. KMC is another similar technique to provide warmth to neonates weighing less than 2500 g. KMC is beneficial for both mother and he newborn. This is also beneficial for the poor people who cannot afford hospital incubator<sup>[3]</sup>.

### Methods

#### Study design, setting, period and participants

This is a quasi-experimental study done during September 2017 to November 2017. Total 60 postnatal mothers selected by convenient sampling technique from Civil Hospital.

#### Inclusion criteria

Postnatal mothers who having stable low birth weight baby and ready to take part in the study.

**Exclusion criteria**

Postnatal mothers who have attended previous teaching program regarding KMC.

**Questionnaire**

Structured knowledge and practices questionnaire were used for data collection.

The reliability co-efficient for the structured knowledge questionnaire was calculated by using Kuder Richardson (0.68) and reliability of structured practices questionnaire was calculated by inter-rater (0.76) which found reliable.

**Results**

**Table 1.1:** Chi-Square Showing Comparison of the Experimental and Comparison Group in terms of Selected Variables of Postnatal Mothers N=60

Sr. No	Selected Variables	Experimental Group (n=30)	Comparison Group (n=30)	$\chi^2$	df	p Value
1	<b>Age in years</b>					
1.2	18-22	9(30)	6(20)	2.08	3	0.55 <sup>NS</sup>
1.3	23-27	6(20)	6(20)			
1.4	28-32	9(30)	14(47)			
1.5	33-37	6(20)	4(13)			
2.	<b>Habitat</b>					
2.1	Rural	17(57)	19(63)	0.27	1	0.59 <sup>NS</sup>
2.2	Urban	13(43)	11(37)			
3.	<b>Type of family</b>					
3.1	Nuclear	17(57)	13(43)	1.86	2	0.39 <sup>NS</sup>
3.2	Joint	11(37)	12(40)			
3.3	Extended	2(7)	5(17)			
4.	<b>Parity</b>					
4.1	Primipara	16(53)	18(60)	0.27	1	0.60 <sup>NS</sup>
4.2	Multipara	14(47)	12(40)			

$\chi^2$  (1) = 3.84,  $\chi^2$  (2) = 5.99  $\chi^2$ (3) = 7.81,  $\chi^2$ (4) = (9.48) \*Significant (p≤.05) <sup>NS</sup> Non-significant (p≥0.05)

The data presented in Table 1.1 shows that one third 27-31 9(30%) of postnatal mothers in experimental and less than half 14(47%) of postnatal mothers in comparison group were in age group 27-31. More than half 17(57%) of the postnatal mothers in experimental group and in comparison group 19 (63%) were having the rural habitat and More than half 17(57%) of the postnatal mothers in experimental group and less than half 13(43%) of postnatal mothers in

comparison group were from nuclear family. In both groups more than half of the mothers were primipara 16(53%) and 18(60%).

Chi-square test was applied to compare the experimental and comparison group in terms of selected variables and results were found non-significant (p = > 0.05) at 0.05 level of significance which illustrate that both group were homogenous.

**Table 1.2:** Mean, Mean Difference, Standard Error of Mean Difference and ‘t’ value of Mean Pretest and Post Test Knowledge Score of Postnatal Mothers Experimental and Comparison Group N=60

Group	Mean	MD	SEMD	‘t’ value	df	p value
<b>Experimental (n=30)</b>						
Pre test	15.17					
Post test	23.43	8.26	0.63	13.07	29	0.01*
<b>Comparison (n=30)</b>						
Pre test	13.80					
Post test	14.33	0.57	0.32	1.66	29	0.12 <sup>NS</sup>

\*Significant (p≤0.05) df (29) = 2.04 <sup>NS</sup> Non significant (p≥0.05)

The data presented in table 1.2 reveals that in experimental group the computed t value was found to be statistically

significant at 0.05 level of significance as compare to comparison group.

**Table 1.3:** Mean, Mean Difference, Standard Deviation of Difference, Standard Error of Mean Difference and ‘t’ value of Mean Pretest and Post Test Practices Score of Postnatal Mothers within Experimental and Comparison Group N=60

Group	Mean	MD	SEMD	‘t’ value	df	p value
<b>Experimental (n=30)</b>						
Pre test	13.73					
Post test	22.37	8.63	0.68	12.65	29	0.00*
<b>Comparison (n=30)</b>						
Pre test	13.40					
Post test	12.83	0.56	0.37	1.50	29	0.14

\*Significant (p≤0.05) df (29) =2.04 <sup>NS</sup> Non significant (p≥0.05)

Table 1.3 revealed that in Experimental group the computed ‘t’ value was found to be statistically significant at 0.05 level of significance as compare to comparison group.

**Table 4.18:** One way ANOVA and ‘t’ Test value showing Association of Knowledge Score of Postnatal Mothers with Selected Variables in Experimental and Comparison group N=60

S. No.	Sample characteristic	Experimental group				Comparison group			
		Mean	df	F/t value	p value	Mean	df	F/t value	p value
1	<b>Age in years</b>								
1.1.	18-22	23.89	3/26	1.04 <sup>f</sup>	0.38 <sup>NS</sup>	13.83	3/26	0.82	0.49 <sup>NS</sup>
1.2	23-26	23.83				14.33			
1.3	27-31	22.33				15.00			
1.4	32-36	24.00				12.75			
2.	<b>Habitat</b>								
2.1	Rural	23.71	28	0.75 <sup>t</sup>	0.45 <sup>NS</sup>	14.37	28	0.09	0.92 <sup>NS</sup>
2.2	Urban	23.08				14.27			
3.	<b>Type of family</b>								
3.1	Nuclear	23.06	2/27	0.81 <sup>f</sup>	0.45 <sup>NS</sup>	14.38	2/27	1.15	0.33 <sup>NS</sup>
3.2	Joint	23.73				13.67			
3.3	Extended	25.00				15.80			
4.	<b>Parity</b>								
4.1	Primipara	23.75	28	0.82 <sup>t</sup>	0.41 <sup>NS</sup>	14.39	28	0.13	0.89 <sup>NS</sup>
4.2	Multipara	23.07				14.25			

\*Significant (p<0.05) <sup>NS</sup> Non significant (p>=0.05)

‘t’ (28)= 2.04, F(3/26)=2.98, F(2/27)=3.37

**Table 4.20:** One way ANOVA and ‘t’ Test value showing Association of Post Test Practices Score of Postnatal Mothers With Selected Variables in Experimental and Comparison Group N=60

S. No.	Sample characteristic	Experimental group				Comparison group			
		Mean	Df	F/t value	p value	Mean	df	F/t value	p value
1	<b>Age in years</b>								
1.1	18-22	12.67	3/26	0.62 <sup>f</sup>	0.60 <sup>NS</sup>	12.00	3/26	1.64	0.20 <sup>NS</sup>
1.2	23-26	22.00				22.33			
1.3	27-31	23.11				21.00			
1.4	32-36	15.67				10.75			
2.	<b>Habitat</b>								
2.1	Rural	22.12	28	0.66 <sup>t</sup>	0.51 <sup>NS</sup>	12.53	28	0.72	0.47 <sup>NS</sup>
2.2	Urban	22.69				13.36			
3.	<b>Type of family</b>								
3.1	Nuclear	22.12	2/27	0.22 <sup>f</sup>	0.79 <sup>NS</sup>	11.77	2/27	3.16	0.05*
3.2	Joint	22.64				14.42			
3.3	Extended	23.00				11.80			
4.	<b>Parity</b>								
4.1	Primipara	21.50	28	2.32 <sup>t</sup>	0.02*	12.78	28	0.12	0.90 <sup>NS</sup>
4.2	Multipara	23.36				12.92			

\*Significant (p<0.05) <sup>NS</sup> Non significant (p>=0.05)

‘t’ (28) = 2.04, F(3/27)2.97, F(3/26)=2.98, F(2/27)=3.37

**Table 4.21:** Post Hoc Test Showing Mean Difference in Association of Practice of Postnatal mothers regarding KMC with Selected Variables in Comparison Group.

Group	Selected variables	Category	M <sub>D</sub>	p value
Comparison	Type of family	Nuclear – Joint	-2.6	0.02*
		Nuclear-Extended	-.03	0.98
		Joint – Extended	2.61	0.09

\*Significant (p<0.05) <sup>NS</sup> Non significant (p>=0.05)

The data presented in Table 4.22 reveals the post hoc test showing mean difference in association of practice of postnatal mothers regarding KMC with selected variables. As type of family significantly associated with practice of postnatal mothers regarding KMC in comparison group, category joint family was having significant mean difference (0.02\*). It shows that postnatal mothers who belongs to joint family are having more practices than those who are belongs to nuclear family.

**Discussion**

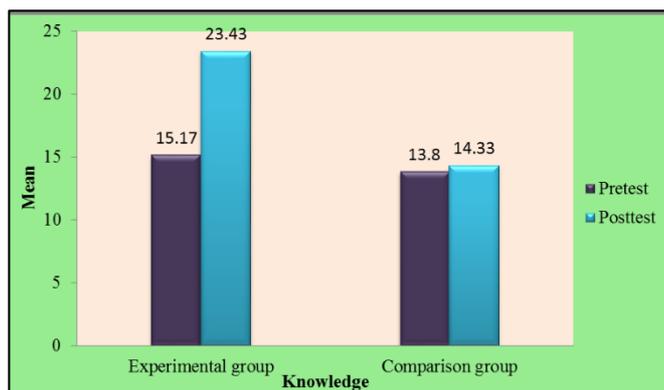
The Structured Teaching Program was effective in

enhancing knowledge and practices of postnatal mothers of LBW babies regarding KMC. In this study, the mean posttest knowledge score (23.43) was more than mean pretest knowledge (15.17) score of postnatal mothers of LBW babies regarding KMC with ‘t’ value (13.07, p=0.001). These finding are consistent with the study conducted by S. Geetha, Prof. V. Hemavathy February 2015<sup>[4]</sup> as the posttest mean knowledge score (24.7) was more than mean pretest knowledge score (12.7). This shows that knowledge was enhanced regarding KMC as paired ‘t’ test (20.8) value of the knowledge was highly significant at p<0.001 between Pretest and Posttest. The present study is also consistent with finding of Ms Mayurika Patel, Mr. Nirmal Raj<sup>[5]</sup> to evaluate the efficacy of health teaching program on postnatal mothers regarding KMC in terms of knowledge and practice as computed ‘t’ value for knowledge 11.16 which shows that gain in knowledge was very high.

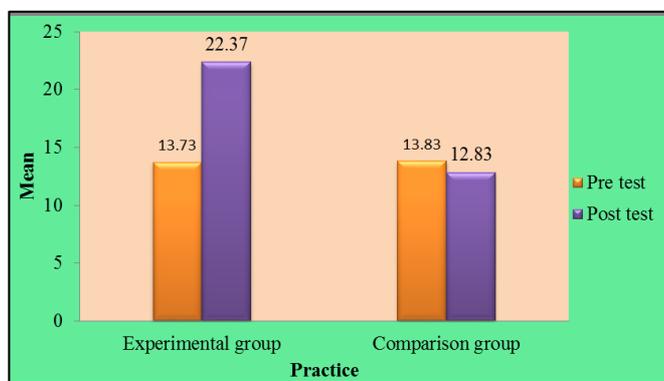
In the present study the mean post practice score (22.73) of postnatal mothers of LBW babies regarding KMC was higher than mean pretest practice score (13.73) with SD 2.60 which is similar to findings reported in an

interventional study conducted by Pushpamala Ramaiah [6] to assess the knowledge and practice of postnatal mothers of LBW babies regarding KMC in rural India and it is found that the mean practice scores of postnatal mothers of LBW babies regarding KMC were (66.12), with SD 1.54, which concluded that the respondents had higher level of practices. In present study there is no association of knowledge with selected variables. The findings consistent with the study conducted by Elizabeth, Vinitha, Prabavathy, *et al.* June 2017 [7] as there is also no relation between knowledge and demographic variables.

In present study there is association of practices with parity, type of family which are similar to finding of Pushpalala Ramaiah [8] as there was positive association found of practices with selected variables such as age, education and parity.



**Fig 1:** Bar graph showing the mean pretest and posttest knowledge score of postnatal mothers of LBW babies regarding KMC in experimental and comparison group



**Fig 2:** Bar graph showing mean pretest and posttest practice score of postnatal mothers of LBW babies regarding KMC in experimental and comparison group

### Conclusion

The study was conducted to assess the knowledge and practices of postnatal mothers of low birth weight babies regarding Kangaroo Mother Care by using structured knowledge and practices questionnaire. Based on results of the present study, it was concluded that the knowledge and practices regarding Kangaroo Mother Care was enhanced.

### Acknowledgement

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### Declarations

#### Funding

Funding was not received from any source.

#### Conflict of interest

The authors declare that they have no competing interests.

#### Ethical Consideration

Ethical permission to conduct the study was obtained from the institutional ethical committee of MM University, Mullana, Ambala, Haryana. Formal administrative permission was taken from Civil Surgeon. Written informed assent was taken from the study subjects or postnatal mothers regarding their willingness to participate in the research study.

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