



“A pre-experimental study to assess the effectiveness of structured teaching programme (STP) regarding kangaroo mother care (KMC) in terms of knowledge among postnatal mothers at selected hospitals district Mandi, Himachal Pradesh.”

Authors: - Ms. Minal Kumari¹, Mr. (Professor) Deepak Shandilya², Ms. Anjana Verma³, Ms. Babita Devi⁴

¹Assistant Professor, Dept. of Child Health Nursing, Abhilashi College of Nursing, Mandi, Himachal Pradesh 175008.

²Principal, Dept. of Mental Health Nursing, Abhilashi College of Nursing, Mandi, Himachal Pradesh 175008.

^{3,4}Students of P.B.B.Sc. 2nd year, Dept. of Nursing, Abhilashi College of Nursing, Mandi, Himachal Pradesh 175008

ABSTRACT

Kangaroo mother care has a unique biological and emotional influence on the health of both mothers and infants. It is further more an important determinant of infant health in the prevention of malnutrition and infection. The inappropriate feeding practice may be contributing to the increase in the prevalence of stunting during the first 18 months of life. **Aims and objectives:** The study aim to assess the effectiveness of structured teaching programme (STP) regarding kangaroo mother care among postnatal mothers, to assess the knowledge regarding kangaroo mother care among postnatal mother **Methodology:** Pre -experimental one group pre-test and post-test research design used to collect data from postnatal mothers. Total 60 postnatal mothers were enrolled into the study by using purposive sampling technique. The structured knowledge questionnaire used to assess the knowledge regarding kangaroo mother care before and after structured teaching programme **Result:** The mean percent knowledge was 70.80 and difference observed 35.00 after structured teaching program. It was found there was no significance association between knowledge regarding kangaroo mother care with their selected socio demographic variables. **Conclusion:** It was concluded that structured teaching programme regarding kangaroo mother care increasing the knowledge of postnatal mothers.

Key words: Assess, Effectiveness, Kangaroo mother care, Structured teaching programme, Postnatal mothers.

INTRODUCTION

Caring for LBW infants imposes a heavy burden on poor countries; an effective healthcare technique developed in 1978 may offer a solution to this problem and additionally be of use in wealthy countries too. KMC is a special way of caring of LBW babies. The infant is placed a mother's chest between the breasts. Exclusive breast feeding the baby on KMC is breastfeed exclusively skin to skin contact promotes lactation and facilitates the feeding interaction KMC is a scientifically sound and socially acceptable methods.¹

A mother cannot successfully provide Kangaroo mother care to her baby all alone. She requires counselling and supervision from health care providers.² Although, for countries, women of many cultures have carried infants against their breasts, KMC was 'rediscovered' in Bogota, Columbia in 1984 by neonatologists Edgar Rey and Hector Martinez.³

An estimated 2.5 million new-borns die every year, of which the vast majority of deaths occur in low-and lower-middle-income country. Providing care for premature new born imposes a heavy burden on health care and effective interventions require high technology, scaled staff, and an efficient care system in addition to high cost.²

Around the globe, about 15 million preterm births take place annually. Indonesia is one of the 10 highest preterm birth rate countries preceded by countries like India, China, and the Philippines. A low birth weight infant is defined weighing <2.500gm and is used as a surrogate measure of preterm birth. Furthermore, preterm and low birth weight is are more likely to experience neonatal morbidities due to acute respiratory, gastrointestinal, immunologic central nervous system, hearing gland vision problems compared to both term and normal weight infants.⁴

Kangaroo mother care (KMC) is one way to care for preterm infants who are clinically stable to help reduce the mortality rates of this group of infants. In 1978, Edgar Rey, a Colombian Pediatrician, foresaw how incubator shortages would impact mothers being separated from their babies in neonatal units, and he developed KMC in response. KMC is care of preterm infant carried skin-to-skin with the mother. Engaging in KMC stabilizes the infant's temperature and enhances the production of maternal prolactin. Furthermore, KMC could become a standard preterm care internationally, including South korea.⁵

Thus, Kangaroo Care ensures people from all economic standards to give the needed care for their preterm babies. The preterm babies gain temperature slowly and prevent hypothermia. Therefore, the preterm baby becomes calm and relaxed. It also helps the baby to conserve energy and bring the organs to normal functioning.⁸

1.2 NEED OF THE STUDY

Siva Priya S, Subash J, Kamala S. (2008) conducted a quasi-study study to assess the knowledge of mothers of preterm babies regarding kangaroo mother care and to evaluate the effectiveness of structured teaching programme on kangaroo care among the mothers of preterm babies. A total of 35 mothers were selected for the study. Findings of the study revealed that, the pre-test knowledge of the Kangaroo Care was Nil. After the structured teaching

programme posttest knowledge of the mother regarding Kangaroo Care was increased. 6 (17.10%) mothers had inadequate knowledge on Kangaroo Care, 25 (71.4%) mothers had moderately adequate knowledge and 4 (11.5%) mothers had adequate knowledge on Kangaroo Care. Kangaroo Mother Care is a simple low cost and highly effective intervention for low birth weight babies. And also teaching programmes can improve the knowledge of mothers on Kangaroo Care. So, educational programme on Kangaroo Care can be provided to Mothers, which in turn will improve the preterm and low birth care.¹¹

1.3 PROBLEM STATEMENT

A study to assess the effectiveness of structured teaching programme regarding kangaroo mother care in terms of knowledge among postnatal mothers at selected Hospitals Distt. Mandi (H.P.)

1.4 OBJECTIVES:

1. To assess the effectiveness of structured teaching programme among postnatal mothers regarding kangaroo mother care
2. To find the association between the knowledge among postnatal mothers regarding kangaroo mother care with selected demographic variable.

1.5 HYPOTHESES

H₁- There will be significant difference between the mean pre-test score and post-test knowledge score among postnatal mothers after administration structured teaching programme.

H₂-There will be significant relationship between pre- test and post - test knowledge score before and after administration structured teaching programme.

H₃-There will be significant association between knowledge score regarding kangaroo mother care among postnatal mother with their selected demographic variable.

1.6 DELIMITATIONS

The study was delimited to postnatal mothers of selected hospitals Mandi (H.P.)

The study population was limited to postnatal mothers in SHRI LAL BHADUR SHASTRI GOVT. MEDICAL COLLEGE NERCHOWK MANDI (H.P.)

2. METHODOLOGY

2.1 RESEARCH APPROACH In the present study, a "Quantitative Research Approach" was considered to be most appropriate to evaluate the effectiveness of structured teaching programme regarding on kangaroo mother care among postnatal mothers.

2.2 RESEARCH DESIGN:- In present study pre-experimental (one group pretest- posttest research design) used to accomplish the stated objectives because pre-experimental research design involves manipulation of independent variable to observe the effect on dependent variables.

2.3 INDEPENDENT VARIABLES: Independent variable in this study was structured teaching programme.

2.4 DEPENDENT VARIABLES: Dependent variable in the study was Knowledge among postnatal mothers regarding kangaroo mother care.

2.5 SETTING: The study was conducted in Shri Lal Bhadur Shastri Govt. Medical College and Hospital Nerchowk Mandi (H.P)

2.6 POPULATION: In the present study population was of postnatal mothers.

Target population: Postnatal mothers that present in selected hospital of distt. Mandi (H.P)

Accessible population: Postnatal mothers in selected hospital of distt. Mandi (H.P)

2.7 SAMPLE AND SAMPLING TECHNIQUE: Sample of present study comprised of postnatal mothers of Shri Lal Bhadur Shastri Medical College and Hospital Nerchowk, Distt. Mandi who full fill the inclusion criteria.

Sampling technique used in the study was **Non probability total enumerative sampling technique:**

Sample size: The sample size for the study comprised of 60 postnatal mothers order to assess the effectiveness of structured teaching programme on kangaroo mother care.

2.8 INCLUSION CRITERIA: The study included postnatal mothers who were:

1. Present at the time of data collection
2. Postnatal mothers admitted at selected hospital of Distt. Mandi.
3. Provided kangaroo mother care to newborn.

2.9 EXCLUSION CRITERIA: This study excluded those who were

1. Not interested in the study
2. High risk of preterm babies
3. Severe respiratory distress
4. Ventilated preterm babies
5. Suffer from Apgar score of 5 or less at birth
6. Preterm babies with congenital anomalies
7. Preterm babies on oxygen therapy

2.10 DEVELOPMENT AND DESCRIPTION OF DATA COLLECTION TOOL:

Section 1: Socio demographic variables Performa to assess the characteristics of the sample

Section2: Self Structured knowledge Questionnaire to assess the knowledge among postnatal mothers regarding kangaroo mother care were 20

Each correct response awarded a score of `1` and for every incorrect response a score of "0". Thus, total score from 25 possible score was `0`.

2.11 VALIDATION OF THE TOOLS: Content validity of the developed tools was obtained by submitting the tools to 10 experts, in which 1 Professor 5 HOD 3 Assistant Professor 1 Nursing Tutor for checking its accuracy and relevancy and also to obtain their opinions and suggestions. The item content validity of the structured knowledge questionnaire ranged from 0.6 to 0.9

2.12 RELIABILITY: The structured knowledge questionnaire was administered to 60 postnatal mothers. The reliability co-efficient for the structured knowledge questionnaire was calculated by Kuder Richardson-20(KR). KR-20 is used to check the internal consistency of a tool when the items were scored as +1 or 0. The reliability coefficient of structured questionnaire was found to be 0.781. The acceptable range is 0.721. Thus, tool was found to be reliable.

2.13 ETHICAL CONSIDERATION:

Ethical approval was obtained from the ethical committee of Shri Lal Bhadur Shastri Govt. Medical College and Hospital Nerchowk Mandi to conduct the final study.

2.14 PILOT STUDY:

The pilot study was conducted in civil hospital sunder Nagar on dated 28.07.2022 to 30.07.2022. After taking prior formal permission from the MS, Civil hospital Sunder Nagar. The pilot study was conducted in July 2022 to assess the feasibility of the study and to decide the statistical analysis practicability of research.

2.15 FINAL DATA COLLECTION PROCEDURE: Formal permission for the final data collection of the study was obtained from the Principal of Abhilashi College of Nursing Tanda Mandi (H.P). The study was conducted in August 2022. Formal administrative approval was taken from MS of Shri Lal Bhadur Shastri Govt. (Medical College and Hospital Nerchowk Mandi for conducting final study on dated 01.08.2022 at 11:00AM. The study was conducted from 1.08.2022 to 10.08.2022. Shri Lal Bhadur Shastri Govt. (Medical College and Hospital Nerchowk Mandi (HP). It took exceed your week to include the entire study subject based on total enumerative sampling technique. The sample included were 60 postnatal mothers of Shri Lal Bhadur Shastri Govt. (Medical College and Hospital Nerchowk Mandi (H.P.)

2.16 DATA COLLECTION PROCEDURE

During this period, the investigator collects demographic variables, pre-test with structured teaching questionnaire, teaching with PPT and posters then conduct post-test. Formal permission for the final data collection of the study was obtained. The study was conducted in 29/09/2022 at 10:00 AM.

The sample included was 60 postnatal mothers of Shri Lal Bhadur Shastri medical college Mandi (HP) Programme schedule for data collection.

All postnatal mothers were taken who fit into the criteria were selected using a purposive Sampling Technique. Objectives of study were discussed and consent was obtained from participants of the study subjects were assured about the confidentiality of the date. Collection of data done on the alternative days by researchers

Table No:4.1 Frequency and percentage distribution of pre - test knowledge score regarding kangaroo mother care among postnatal mothers

N =60

SCORE LEVEL	PRE TEST f(%)
INADEQUATE KNOWLEDGE. (0-7)	38(63.3%)
MODERATE KNOWLEDGE. (8-14)	22(36.7%)
ADEQUATE KNOWLEDGE. (15-20)	-

The data presented in table 4.1 depicted that out of 60 postnatal mothers 38(63.3%) had inadequate knowledge and 22(36.7%) had moderate knowledge and none of them had adequate knowledge regarding kangaroo mother care.

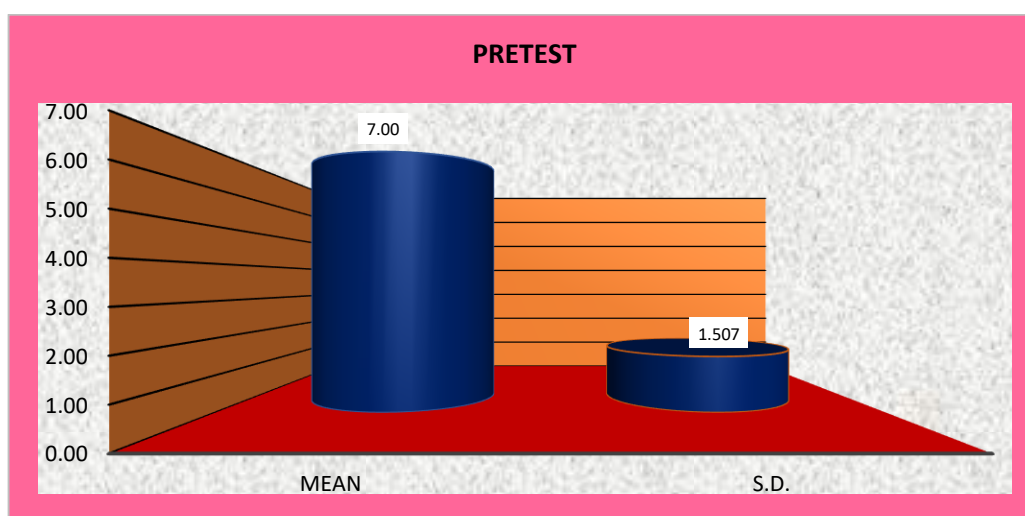


Figure No: 4.1 Cylindrical diagram shows Mean and SD knowledge score regarding kangaroo mother care among postnatal mother.

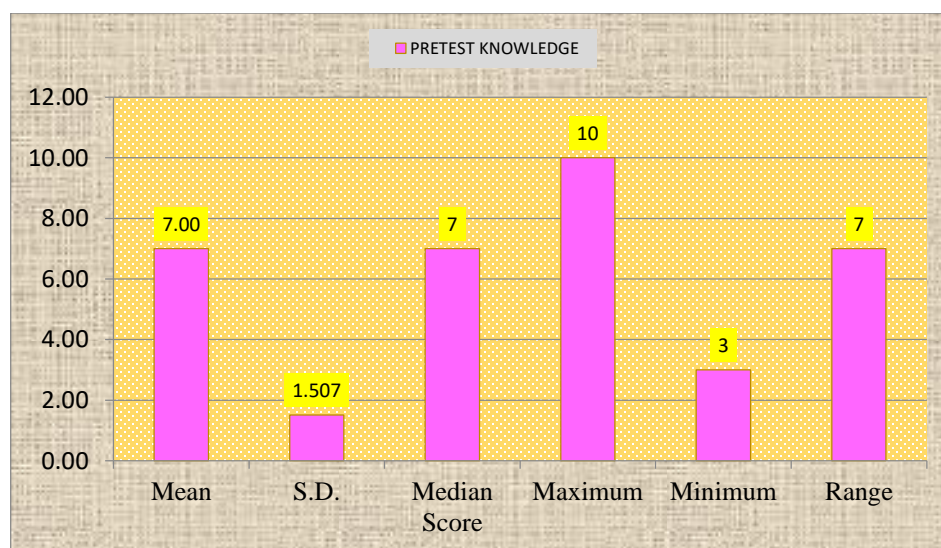


Figure No: 4.2 Bar graph shows Mean, SD, Median score, Maximum and Minimum with range regarding kangaroo mother care among postnatal mother.

Table No 4.2 : Mean, SD, Median, Range, and Mean% knowledge score of pre-tests regarding kangaroo mother care among postnatal mothers.

N=60

Descriptive Statistics	Mean	S.D.	Median Score	Maximum	Minimum	Range	Mean%
PRETEST KNOWLEDGE	7.00	1.507	07	10	03	07	35.00

The data presented in table 4.2 depicted that the obtain range of knowledge score on postnatal mother regarding kangaroo mother care was Mean 7.00, SD 1.507, Median 7, with the range of 7 however mean % was 35.00.

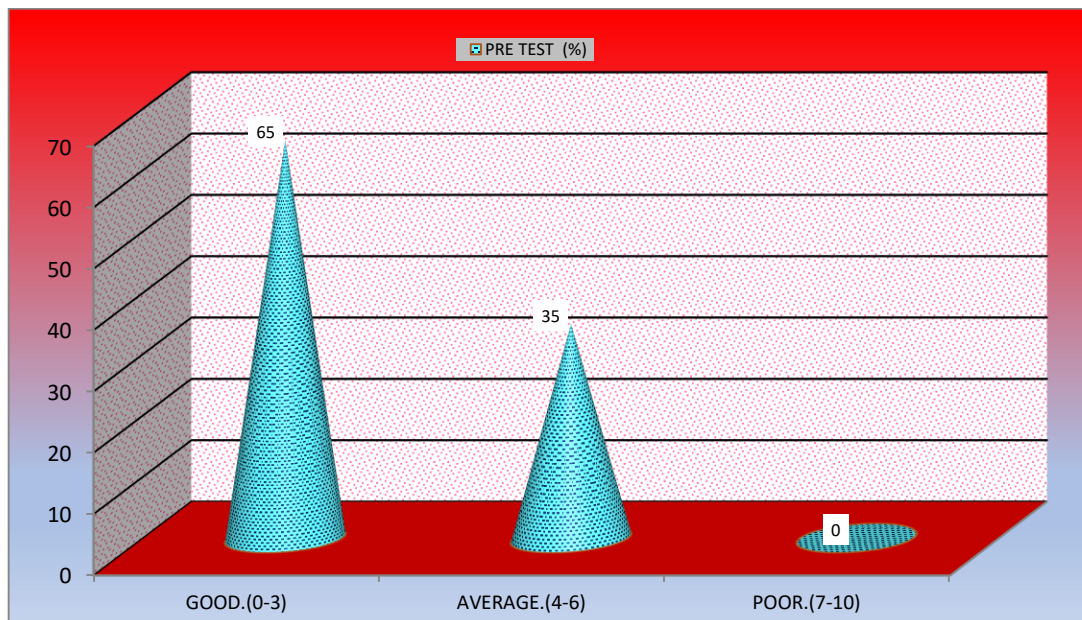


Figure No:4.3 Cone Diagram shows the frequency and percentage distribution of postnatal mother in term of pre-test practice score regarding kangaroo mother care.

Table No:4.3 Mean, SD, Median, and Mean% knowledge score of post-test regarding kangaroo mother care among postnatal mothers.

N=60

Sr.No.	Demographic variables	Mean%	Mean	SD	N
1.	Age in Years				
A	19-22 years	70.5	14.1	2.5	11
B	23-26 years	73.7	14.7	2.1	23
C	27-30 years	68.4	13.7	2.9	22
D	31-34 years	67.5	13.5	4.4	04
2.	Marital status				
A	Married	70.8	14.2	2.6	60
B	Divorced	-	-	-	-
C	Widow/widower	-	-	-	-
D	Separated	-	-	-	-
3.	Religion				
A	Hindu	70.8	14.2	2.6	60
B	Muslim	-	-	-	-
C	Sikh	-	-	-	-
D	Christian	-	-	-	-
4.	Mother Education				
A	Illiterate	78.3	15.7	1.5	03
B	Primary	66.5	13.3	2.5	24
C	Secondary	73.0	14.6	3.0	23
D	Diploma	73.5	14.7	1.8	10
6.	Type of family				
A	Nuclear	70.0	14.0	2.4	25
B	Joint family	71.3	14.3	2.8	35
7.	Area of residence				
A	Rural	72.4	14.5	2.5	29
B	Urban	69.2	13.8	2.8	31
8.	Type of delivery				
A	Normal	69.0	13.8	2.2	30
B	Caesarean	72.5	14.5	3.0	30

9.	Birth Weight of Baby				
A	800 - 1100 gm	71.7	14.3	2.9	23
B	1200 – 1500 gm	69.0	13.8	2.6	29
C	1600 -1900 gm	74.4	14.9	1.9	08
10.	Number of delivery				
A	One	72.1	14.4	1.9	19
B	Two	71.1	14.2	3.0	27
C	Three	68.2	13.6	2.9	14
11.	Previous knowledge				
A	Yes	68.8	13.8	2.9	16
B	No	71.5	14.3	2.5	44
12.	If yes then what it would be?				
A	Social media	50.0	10.0	1.7	03
C	Mobile learning	76.9	15.4	2.6	08
D	Internet	67.0	13.4	1.5	05

The data present in the table 4.3 showed Mean, SD, Median, and Mean% knowledge score of post-test regarding Kangaroo mother care among postnatal mothers in age group(19-22years) mean% (70.5), mean (14.1) and SD (2.5), in age group of (23-26)years mean% (73.7), mean (14.7) and SD (2.1), in the age group of(27-30years) mean% (68.4), mean (13.7) and SD (2.9), and in the age (31-34years) of age mean% (67.5), mean (13.5) and SD (4.4). In the marital status (married) mean% (70.8) mean (14.2) SD (2.6), while in religion among 60 postnatal mothers, all are Hindu had mean% (70.8), mean(14.2) and SD (2.6). In the education (Illiterate) mean% (78.3) mean (15.7) SD (1.5), (Primary) mean% (66.5) mean (13.3) SD(2.5), (Secondary) mean% (73.0) mean (14.6) SD(3.0), (Diploma) mean%(73.5) mean (14.7) SD(1.8). In type of family (Nuclear family) mean% (70.0) mean (14.6) SD (2.4), (Joint family) mean% (71.3) mean (14.3) SD (2.8). In area of residence (Rural area) mean% (72.4) mean (14.5) SD (2.5), (Urban area) mean% (69.2) mean (13.8) SD (2.8). In type of delivery (normal) mean% (69.0) mean (13.8) SD (2.2), (caesarean) mean% (72.5) mean(14.5) SD(3.0). In birth weight of baby (800-1100) mean%(71.7) mean(14.3) SD(2.2), (1200-1500) mean%(69.0) mean(13.8) SD(2.6), (1600-1900) mean%(74.4) mean(14.9) SD(1.9). In Number of delivery (one) mean%(72.1) mean(14.4) SD(1.9), (two) mean%(71.1) mean(14.2) SD(3.0), (three) mean%(68.2) mean(13.6) SD(2.9).In previous practice(yes) mean%(68.8) mean(13.8) SD(2.9), (no) mean%(71.5) mean(14.3) SD(2.5). In source of knowledge (social media) mean%(50.0)mean(10.0)SD(1.7), (mobile learning) mean%(76.9) mean(15.4) SD(2.6),(internet) mean%(67.0) mean(13.4) SD(1.5).

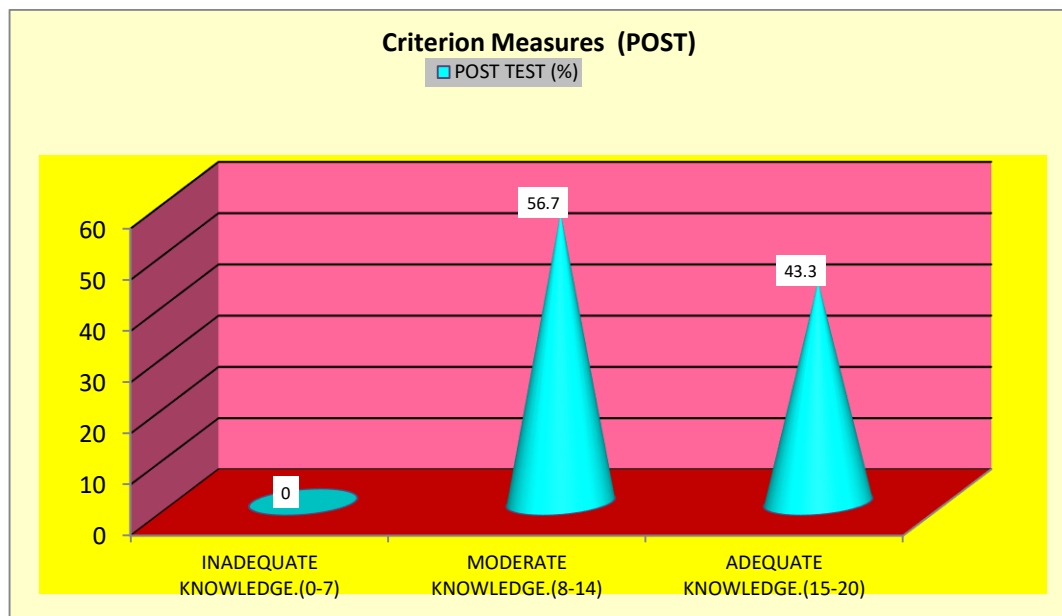


Figure No:4.3 Cone Diagram shows the frequency and percentage distribution of postnatal mother in term of post-test knowledge score regarding kangaroo mother care.

Table No4.4 Frequency and percentage distribution of post-test knowledge regarding kangaroo mother care among postnatal mothers

N=60

Sr.No.	SCORE LEVEL	POST TEST f(%)
1.	INADEQUATE KNOWLEDGE.(0-7)	-
2.	MODERATE KNOWLEDGE.(8-14)	34(56.7%)
3.	ADEQUATE KNOWLEDGE.(15-20)	26(43.3%)

The presented in table 4.8 depicted that out of 60 postnatal mother,26(43.3%) postnatal mothers had adequate knowledge regarding kangaroo mother care, 34(56.7%) had moderate knowledge and none of them had below inadequate knowledge regarding kangaroo mother care

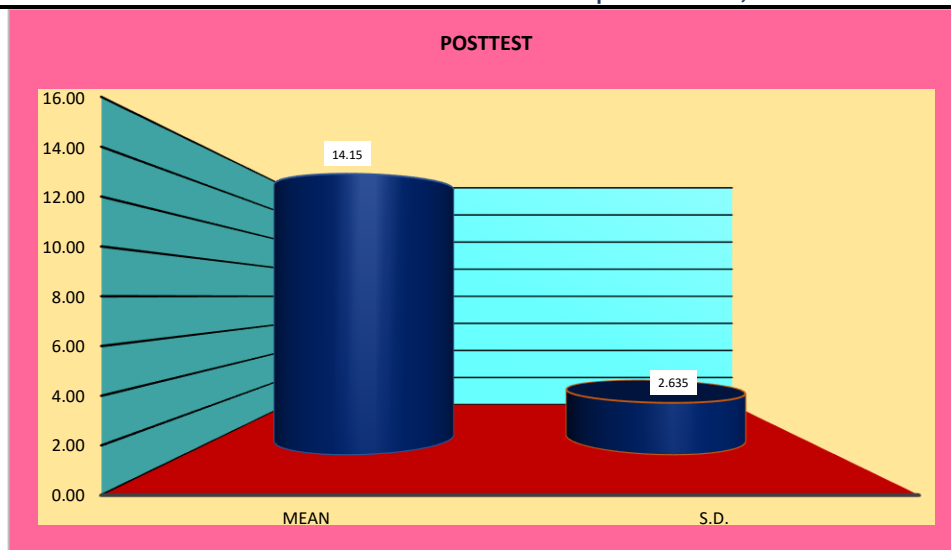


Figure No: 4.4 Cylindrical diagram shows Mean, SD, of post test knowledge score regarding kangaroo mother care among postnatal mother.

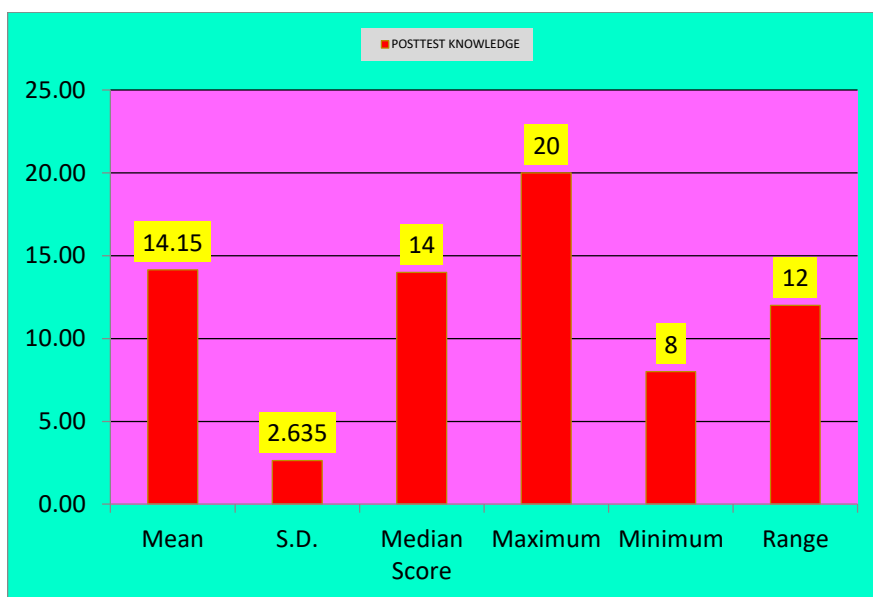


Figure No: 4.5 Bar graph shows Mean, SD, Median score, Maximum and Minimum with range of post test knowledge score regarding kangaroo mother care among postnatal mother.

Table No4.5: Mean, SD, Median, Range, and Mean% knowledge score of post-test regarding kangaroo mother care among postnatal mothers.

Descriptive Statistics	Mean	S.D	Median Score	Maximum	Minimum	Range	Mean%
POST KNOWLEDGE	14.15	2.635	14	20	8	12	70.80

The data presented in table 4.5 depicted that the obtain range of knowledge score on postnatal mother regarding kangaroo mother care was Mean 14.15, SD 2.635, Median 14, with the range of 12 however mean % was 70.80.

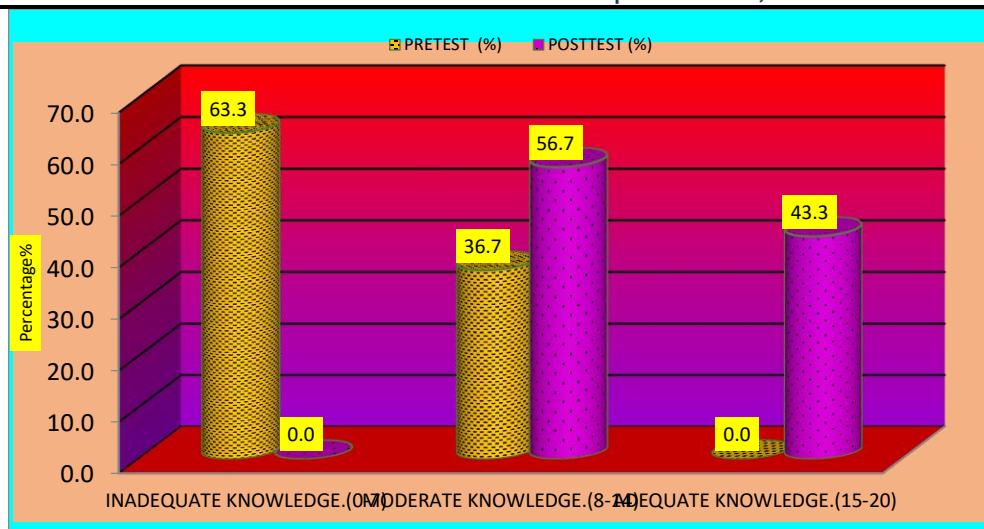


Figure No: 4.5 Cylindrical diagrams shows the frequency and percentage distribution of pre-test and post-test knowledge score regarding kangaroo mother care among postnatal mother.

Table No:4.6 Frequency and percentage distribution of pre-test and post-test knowledge score regarding kangaroo mother care among postnatal mothers.

N=60

Sr.No.	SCORE LEVEL	PRE TEST f(%)	POST TEST f(%)
1	Inadequate knowledge (0-7)	38(63.3%)	-
2	Moderate knowledge (8-14)	22(36.7%)	34(56.7%)
3	Adequate knowledge (15-20)	0(0%)	26(43.3%)

The data presented in table 4.5 shows, in pre-test 38(63.3%) postnatal mother had inadequate knowledge 22(36.7%) had moderate knowledge and none of them had adequate knowledge regarding kangaroo mother care and in post-test none of them postnatal mother had inadequate knowledge, 34(56.7%) had moderate knowledge and 26(43.3%) had adequate knowledge regarding kangaroo mother care in postnatal mothers.

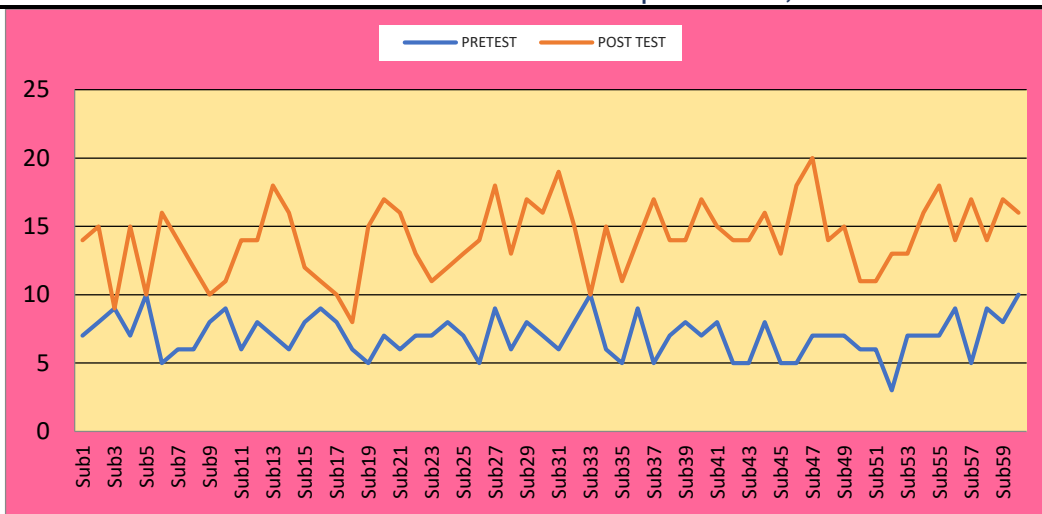


Figure No: 4.6 Line graph shows the pre-test and post-test Individual knowledge scores among postnatal mothers.

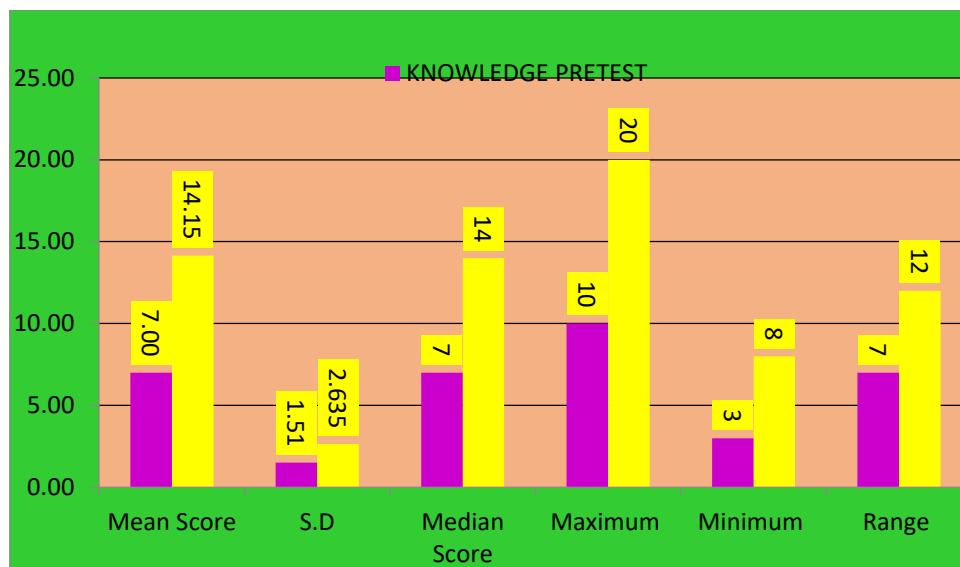


Figure No: 4.7 Histogram graph shows the Mean, SD, Median score Maximum and minimum range of pre-post knowledge score among postnatal mothers.



Figure No:4.8 Histogram shows Mean, SD, of pre-posttest knowledge score among postnatal mothers.

Table No: 4.7 Mean, SD, Range, Mean%, Range, Mean difference of Pre-test and Post-test knowledge score regarding kangaroo mother care among postnatal mother.

Paired T Test	Mean±S.D.	Mean%	Range	Mean Diff.	Table value at 0.05	P value
PRETEST KNOWLEDGE	7±1.507	35.00	3-10			
POSTTEST KNOWLEDGE	14.15±2.635	70.80	8-20	7.150	2.00	<0.001 *

*t=16.98 table value= 2.00

The data presented in table 4.7 shows that the pre-test knowledge score among postnatal mothers Mean±SD was 7±1.507, Mean% was 35.00, Mean difference was 7.150, paired-T test was 16.98 and the p value was <0.001. The post-test knowledge score of postnatal mothers, Mean±SD was 14.15±2.635. Further findings revealed that computed 't' value in post-test was significantly higher than pre-test. Thus it can be inferred that the structured teaching programme is more effective to enhance the knowledge regarding kangaroo mother care in terms of knowledge and practice. Therefore null hypothesis H_{02} was rejected and researcher hypothesis H_2 was accepted.

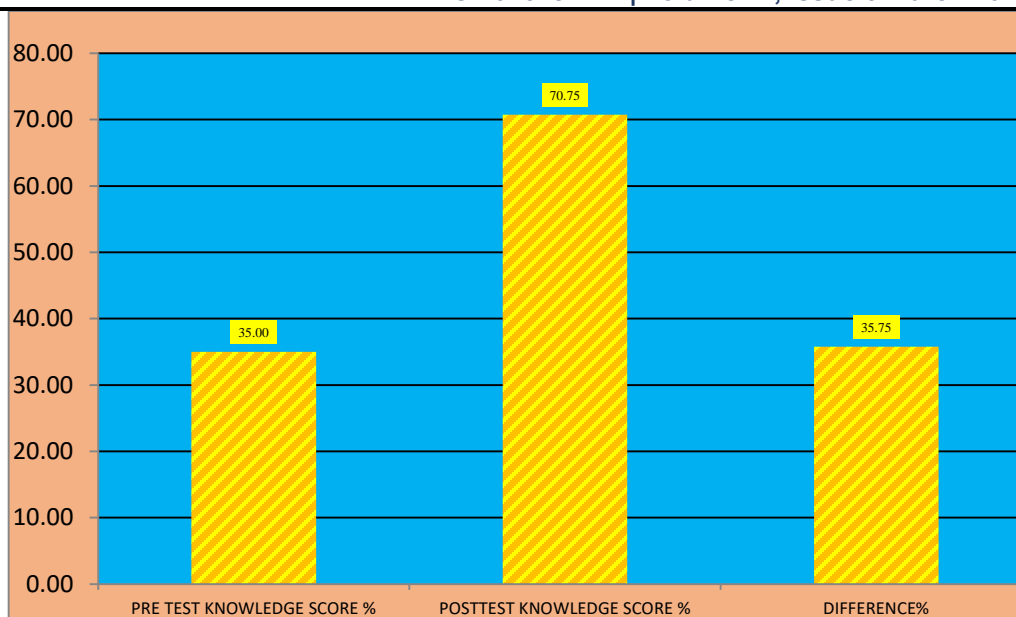


Figure No: 4.9 Bar graph shows the Mean Percentage of pre-post knowledge score among postnatal mothers.

Table No: 4.8 Mean%, Difference% effectiveness of pre-post test knowledge score among postnatal mothers.

N=60

Mean%	PRE TEST KNOWLEDGE	POST TEST KNOWLEDGE	DIFFERENCE	PRE TEST KNOWLEDGE SCORE %	POSTTEST KNOWLEDGE SCORE %	DIFFERENCE%
Average	7.00	14.15	7.15	35.00	70.75	35.75

The data presented in the table 4.8 shows that the effectiveness of the pre-test knowledge score Mean% was 35.00 and post-test Mean% was 70.75 and the difference% was 35.75.

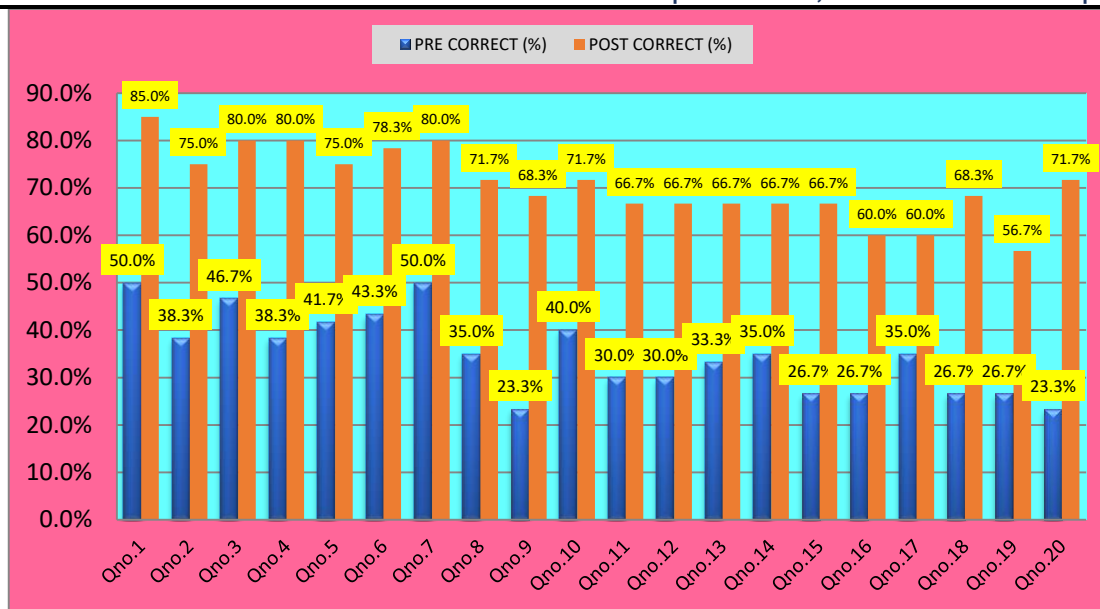


Figure No: 4.10 Histogram graph shows the knowledge of pre-test and post-test item analysis percentage among postnatal mothers.

REFERANCES

- 1.Ruiz-Pelaez JG, Charpak N, Cuervo LG. Kangaroo Mother Care, an example to follow from developing countries. BMJ 2004; Page No.1179-1181.
- 2.Department of Reproductive Health and research, World Health Organisation. Kangaroo mother care. 1st ed. Geneva: WHO,2003.
- 3.Gomez H M, Sanabria E R, Marquette C M. The mother kangaroo programme. International child health 1992; Page No. 55-67.
- 4.Baqui AH, Mitra DK, Begum N, Edmond et al. Neonatal mortality within 24 hours of birth in six low- and lower middle-income countries. Bull World Health Organisation 2016; Page No.752-800.
5. Ludington – Hoe SM. Evidenced based review of physiologic effects of kangaroo care 2011 Page No. 243-253.
- 6.Gupta Suraj “Textbook of paediatrics” 7th edition, New Delhi: Jaypee brothers’ medical publications 2004, Page No. 227-233
- 7.Basuvantgappa, B.T. “Paediatric/child health nursing”,1st edition, New Delhi: Ahuja publishing house,2006, Page No: 425-438 14.
- 8.Dorothy, R.M. “Textbook of Paediatric nursing” (6th ed,) New Delhi. Elsevier publications. 2006, Page No: 800-815.
- 9.Ghai. O.P. “Essential Paediatrics”,6th edition, New Delhi. Jaypee brothers’ publishers. 2007, Page No: 715.
10. Dutta, D.C. “Textbook book of Obstetrics” 6th edition, “Calcutta New central book agency” 2004, Page No. 418-420.
- 11.Sivapriya S, Subash J, Kamala S, Effectiveness of a structured teaching programme on kangaroo mother care on kangaroo care among the mothers of preterm babies. Prism Nursing Practical 2008 January 1-2, Page No.11-13.

12. Wong's D.L. and Perry, S.E. "Maternal child health Nursing care" 1st . London: Mosby Publications 1998, Page No: 456.
13. Charpak, N., Ruiz-Pelaez, J.G., Figueroa de C., Z., Charpak, Y. A randomized, controlled trial of kangaroo mother care: results of follow-up at 1 year of corrected age. "Journal of Paediatrics", 2011, Page No: 108(5), 1072-1079.
14. SHARMA K SURESH, Literature review, research approach, research design, research variables, sample, sample size, sampling techniques, population, data collection tools, definitions Queensland University 1999, (71,72,101,116,117,118,138,206,210,211,246,286)
15. GATHWALA G conducted quasi experimental study in October and the aim was to determine whether the implementation of KMC in 2010 available from [URL:http://www.pubmed.com](http://www.pubmed.com)
16. KAZUHIKO K, YASU FUMI HIROYUKI KATSURA M, HIRESHI N . Morbidity and mortality of infants with very low birth weight in Japan. Paediatrics (serial online) 2006 sep, [URL:http://www.pubmed.com](http://www.pubmed.com)
17. Suman RP, Udani R, Nanavati R Kangaroo mother care for low birth weight infant : a randomized controlled trial pediatr, 2008 Jan. [URL:http://www.pubmed.com](http://www.pubmed.com)
18. MABAZORE OJ UMEORA O.U incidence and risk factor for low birth weight among Term single tons at the university as Benin teaching hospital Benin city , Nigeria J Clinical practical 2007 Jan. [URL:http://www.pubmed.com](http://www.pubmed.com)
19. R. MAHEJAVEN assess the kangaroo mother care of preterm by structured teaching programme among preterm babies in 2011 available from [URL:http://www.pubmed.com](http://www.pubmed.com)
20. STEVE assess the knowledge and attitude of nurses toward kangaroo mother care on preterm infant in NICU IN 2011 available from [URL:http://www.pubmed.com](http://www.pubmed.com)
21. BELTRA -VALLADARES conducted a cross sectional study regarding the kangaroo mother care in preterm infants randomized control trial paediatric programme in 2011 [URL:http://www.pubmed.com](http://www.pubmed.com)
22. TANGERZ determine the outcome of low birth weight babies using an early discharge of kangaroo mother care policy in 2012 [URL:http://www.pubmed.com](http://www.pubmed.com)
23. FERROZ C MAGJEET compare the effect of kangaroo mother care in low weight babies: randomized control trial paediatric programme in 2012 [URL:http://www.pubmed.com](http://www.pubmed.com)
24. URANI J .JO kangaroo mother care on the neuro behaviour response of the healthy new born : randomized control trial paediatric in 2012 [URL:http://www.pubmed.com](http://www.pubmed.com)
25. TERRY LEE to find out the various beneficial effect of kmc in preterm babies with low birth weight in 2012 [URL:http://www.pubmed.com](http://www.pubmed.com)
26. THAVAN T determine the feasibility and acceptability of kangaroo mother care in a tertiary care hospital in INDIA in 2012 [URL:http://www.pubmed.com](http://www.pubmed.com)
27. NARENDER DWANI conducted experimental study regarding kangaroo mother care in 2012 [URL:http://www.pubmed.com](http://www.pubmed.com)
28. JAMU E ALPHNA assess the effectiveness of video assisted teaching on knowledge of kangaroo mother care in 2013 [URL:http://www.pubmed.com](http://www.pubmed.com)
29. GOYAL A evaluate the efficacy of kangaroo mother care in thermoregulation and weight in 2013 [URL:http://www.pubmed.com](http://www.pubmed.com).