

A study with quasi experimental approach was carried out to evaluate the effectiveness of self-instructional module on kangaroo mother care on the Knowledge among staff nurses working at HI- TECH MCH, BBSR

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ABSTRACT: A study with quasi experimental approach was carried out to evaluate the effectiveness of self-instructional module on kangaroo mother care on the Knowledge among staff nurses working at HI- TECH MCH, BBSR, 50 staff nurses were selected by purposive sampling technique. Data were collected from them by using close ended questionnaire finding related to demographic variables revealed that highest percentage of staff nurses 40% were in age group 20-25 years, 84% were having GNM, 50% having 2-5 year of total experience as staff nurse & 50% have 6-9 year experience, 70% are unmarried, 84% have < 1 year experience in O&G & Pediatric IPD, 54% have monthly income <5000/-, 50% were attended in seminar workshop.

The finding shows that highest percentage 140% of staff nurses had excellent knowledge, overall mean score was 9.58 which is 38.32 % in pretest & 20.82 which is 83.28% of maximum score. Area wise analysis shows that highest mean score 1.96 which is 63.33% for the area of concept of KMC in pretest & 2.88 which is 90% in posttest for the area of concept of KMC. Comparison between mean score & demographic variables shows that the highest mean score 21.4 which was 42.8 % of the total score was obtained by the Staff Nurses in the age group of 20-25 yrs of age group, the highest mean score 21.2 which was 42.4% of the total score was obtained by GNM, the highest mean score 21.24 which was 42.48% of the total score was obtained by staff nurses those who have 2-5 year experience, the highest mean score 21.1 which was 42.2% of the total score was obtained by un married staff nurses, the highest mean score 20.8 which was 41.6% of the total score was obtained by the Staff Nurses those who have 2-5 yrs exp, the highest mean score 22 which was 44% of the total mean score was obtained by staff nurses those monthly income have 10,000-15,000, the highest mean score 21.1 which was 42,2% of the total score was obtained by the Staff Nurses those who have not attend.

Paired t test showing the significant difference between pretest & post test scores, calculated t value is $P < 0.05$ denotes significant T value at $df = 49$. So, there was significance association between knowledge with selected demographic variable at 0.05 level of significance.

I. INTRODUCTION

Kangaroo care is a technique of direct skin-to-skin contact between mothers (fathers) and their premature infants. It has shown to improve the mothers psychological states, strengthen mother and infant bonding & stimulate maternal lactation.

Dr. Nils Bergman, med superintendent of mow bray maternity hospital in Cape Town, South Africa has been researching KMC for twelve years. He believes restoring the original model of the infant-mother early care rather than our present incubator, bottle & feeding formula model can result in happier & heal their babies.

Mother Kangaroo is a mammal (just like us) and feeds its baby milk like we do (or like we should) from a nipple inside its pouch. The pouch covers the baby with skin and this not only protects the very immature baby, but also provides it with a total environment which is essential for development. This includes warmth, food, comfort, stimulation, protection. The baby is CARRIED for all this time,

without interruption.

The baby will come out of the pouch for the first time when it is about a quarter of the mother's weight!! The joy can continue breastfeeding even when it is too big to fit in the pouch when frightened the joy does a forward somersault into mothers pouch.

Human KANGAROO MOTHER CARE does the same for the premature, 1) Skin-to-Skin contact 2) Breast feeding 3) Protection. Most mammals have young which are born able to feed for themselves. The human baby is extremely immature compared to such mammals, which is also the case for Kangaroos, and other "marsupials".

These similarities to marsupials care is why we call it KANGAROO CARE. But it is the MOTHER which is essential for the baby! For the human immature baby the mother's chest provide the essentials: Warmth, breast milk, comfort, stimulation & protection and so we prefer to call it Kangaroo Mother Care of KMC.

The skin-to-skin contact of the mother and child allows for a needed emotional closeness of both as well as allowing the production of essential bonding hormones. I wonder if the bonding which occurs between mother and child is the result of being loved or because of hormones. Perhaps one cannot exist without the other!

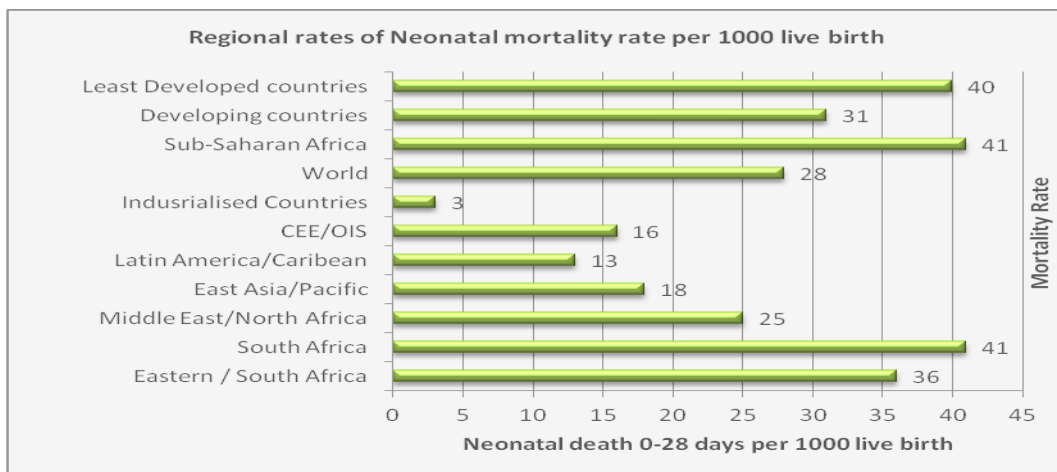


Fig. 1 According to state of world children 2009 the regional rates of neonatal mortality

II.THEORITICAL FRAME WORK

Conceptual framework is an organized phenomenon which deals with concepts that are assembled by virtue of their relevance to a common theme. Conceptual schemes use concepts as building blocks. Conceptual framework can serve to guide research which will further support theory development conceptual models attempt to represent reality with the minimal use of words. (Polit & Hungler 1995)

Theoretical framework provides clear description of variables suggesting ways or methods to conduct the study and guiding the interpretation, evaluation and integration of significant findings.

Theoretical framework selected for this study is based on **general system theory of Bertalanffy, 1968**. In this theory the main focus is on the discrete parts and their inter relationship which makes up and describes the whole. The system as a complex interaction which means that the system consists of two or more converted elements which form an organized whole and which interact with each other.

Input: According to him input refers to energy, matter & information. All systems must receive varying type and amount of information from the environment. The system uses the input to maintain its homeostasis.

1. In this study the input is considered to be the information related to Kangaroo mother care, in includes:
2. Structured questionnaire regarding Kangaroo mother care.
3. Self-instructional module on Kangaroo mother care

Throughput: According to him throughput refers to the process by which the system processes the input and releases an output. In this present study the throughput considered for processing the input are

- Pretest by using structured questionnaire to assess knowledge of staff nurses on Kangaroo mother care.
- Distribution of self-instructional module on Kangaroo mother care.
- Posttest by using the same structured questionnaire to assess the effectiveness of self-instructional module on Kangaroo mother care.

Output: According to him output refers to matter energy and information that leave a system in the present study output is considered as:

The information received in terms of gain in knowledge through the processing of the post test. It will be received in the form of posttest knowledge scores.

Feedback: According to him, feedback refers to output that is returned to the system that allows it to monitor itself overtime in an attempt to move closer to a steady state known as equilibrium or homeostasis. Feedback may be positive negative or neutral.

For the present study, feedback related to the effectiveness of self-instructional module will be attained by means of testing the states hypothesis.

This is tested through 't' test to find out the differences between pretest and posttest knowledge for effectiveness of self-instructional module.

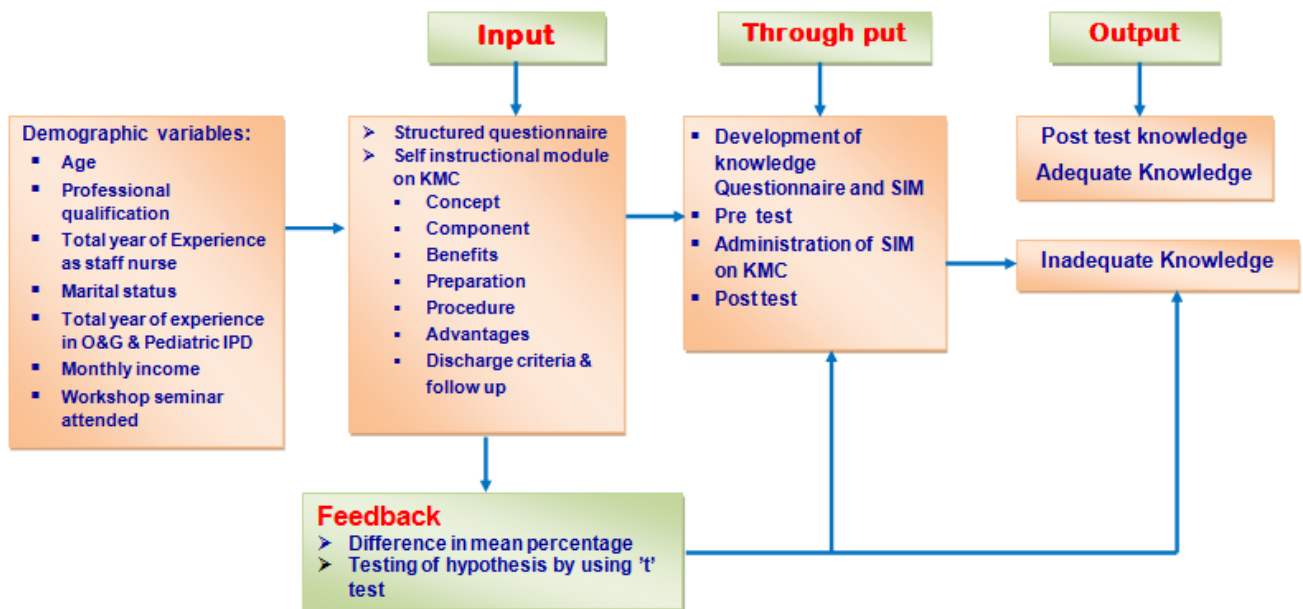


Fig.2. Theoretical framework on knowledge of Staff Nurses regarding KMC on general system theory of Bertalanffy (1968)

III. METHODOLOGY

A Quasi experimental approach with single group pretest and posttest was used to accomplish the objectives of the study, intended to collect the data regarding knowledge of Staff Nurses on kangaroo mother care.

The study design shows that 1st day pretest was conducted by structured questionnaire technique. Then Self Instructional Module on kangaroo mother care was distributed among Staff Nurses. On 7th day the Staff Nurses were given the same questionnaire for posttest.

Description of tool: Structured questionnaire on knowledge

The structure questionnaire consist of two sections.

Section A: It consist of demographic characteristics of sample such as age, professional qualification, Total year of exp as staff nurse, Marital status, Total year of exp in O&G & Pediatric IPD, Monthly income, Workshop seminar attend.

Section B: It consists of knowledge items regarding kangaroo mother care. Each item has four options, out of which one is correct and in few questions all the options are correct. It also had sub sections such as-

- Concept of kangaroo mother care
- Components of kangaroo mother care.
- Preparation of kangaroo mother care
- Benefits of kangaroo mother care
- Discharge criteria and follow up criteria

IV. ANALYSIS AND INTERPRETATION

SECTION-1

DATA ON SAMPLE CHARACTERISTICS

Table-1: Frequency and percentage distribution of staff nurses according to their Age N=50

Sample characteristic		Staff nurses ,HMCH, Bhubaneswar	
		Frequency	Percentage
Age	20-25	20	40
	26-30	15	30
	31-35	13	26
	>35	2	4

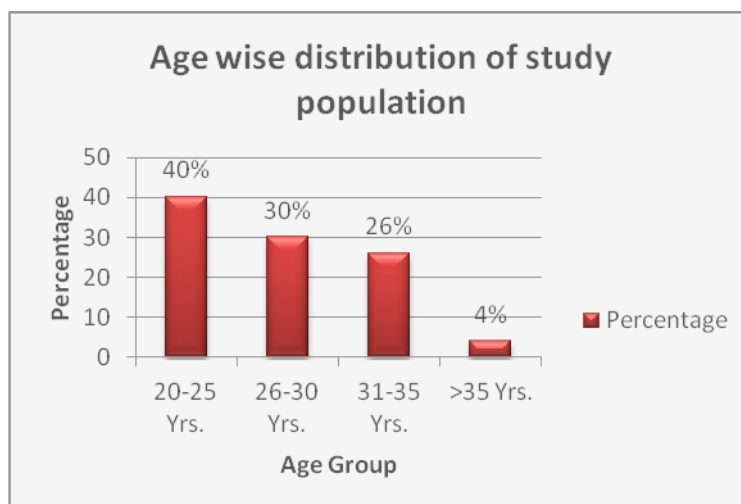


Table-2: Frequency and percentage distribution of staff nurses according to their Professional qualification. N=50

Sample characteristics		Staff nurses, HMCH, Bhubaneswar	
		Frequency	Percentage
Professional qualification	B, S c	8	16
	G,N,M	42	84

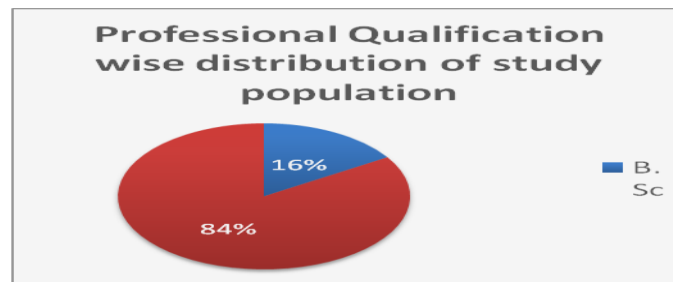


Table-3: Frequency and percentage distribution of staff nurses according to their total year of experience as staff nurses N=50

Sample characteristic		Staff nurses, HMCH, Bhubaneswar	
		Frequency	Percentage
Total year of experience	≤ 1 year	Nil	Nil
	2-5 year	25	50
	6-9 year	25	50
	≥ 10 year	Nil	Nil

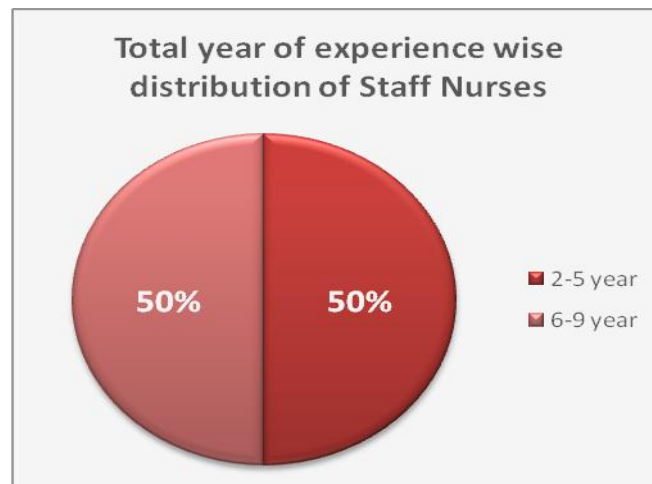


Table-4: Frequency and percentage distribution of staff nurses according to their marital status. N=50

Sample characteristics		Staff nurses, HMCH, Bhubaneswar	
		Frequency	Percentage
Marital status	Unmarried	35	70
	Married	15	30

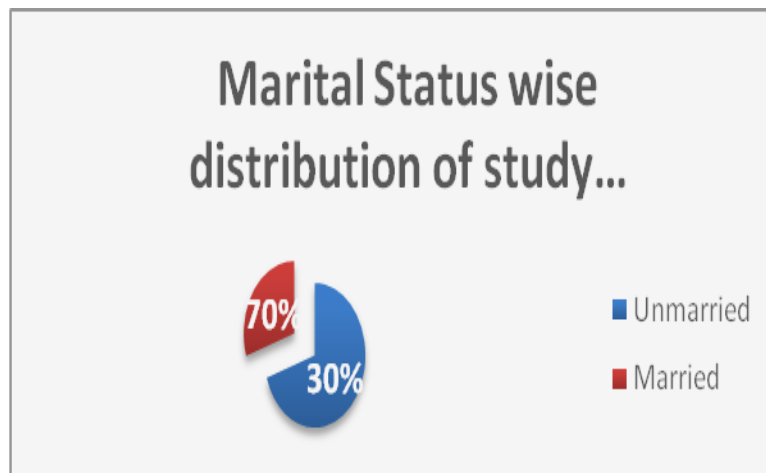


Table-5: Frequency and percentage distribution of staff nurses according to their total year of experience in O&G & Pediatric IPD

Sample characteristics		Staff nurses HMCH, Bhubaneswar	
		Frequency	Percentage
Total year of exp in O&G & Pediatric IPD	≤ 1 year	42	84
	2-5 year	8	16
	6-9 year	Nil	Nil
	≥10 year	Nil	Nil

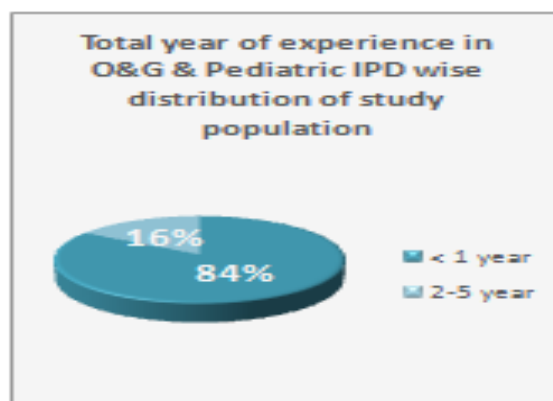


Table-6: Monthly income wise distribution of study population N=50

Sample characteristics		Staff nurses HMCH, Bhubaneswar	
		Frequency	Percentage
Monthly income	<5,000/	27	54
	5,001-10,000/	12	24
	10,001-15,000/	6	12
	>15,000/	5	10

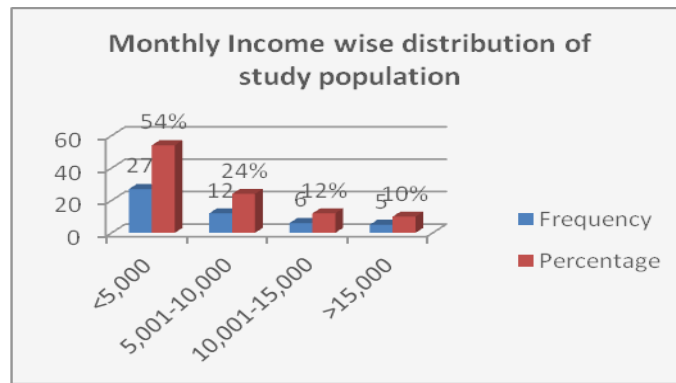
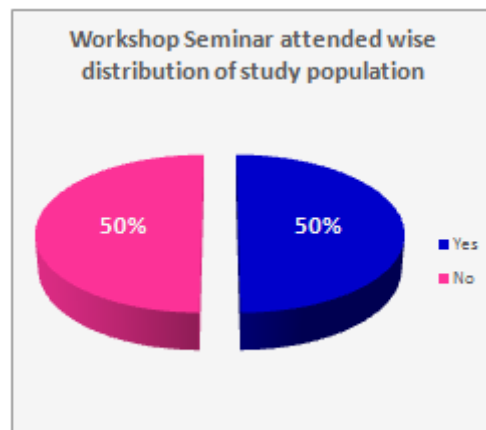


Table-7: Frequency and percentage distribution of staff nurses according to their workshop seminar attended. N=50

Sample characteristics			Staff nurses HMCH, Bhubaneswar	
			Frequency	Percentage
Workshop seminar attended	Yes		25	50
	No		25	50



SECTION –II

AREA WISE KNOWLEDGE SCORE OF STAFF NURSES ON KANGAROO MOTHER CARE BEFORE ADMINISTRATION OF SELF INSTRUCTIONAL MODULE

Table-8: Mean standard deviation and mean% of Knowledge score of Staff Nurses on Kangaroo mother care.

Area wise Knowledge	Maximum mark	Scores		
		Mean	S.D	Mean%
Concept of KMC	3	1.96	0.75	63.33
Component of KMC	5	1.78	1.04	35.6
Preparation of KMC	2	0.64	0.73	34
Procedure of KMC	10	3.68	1.16	37.8

Benefit of KMC	2	0.62	0.74	31
Discharge & Follow up criteria	3	0.96	0.77	30
Overall	25	9.58	2.37	38.32

Table-9: Mean standard deviation and mean% of Knowledge score of Staff Nurses on Kangaroo mother care.

Area wise Knowledge	Maximum mark	Scores		
		Mean	S.D	Mean%
Concept of KMC	3	2.88	0.33	96
Component of KMC	5	3.86	0.93	77.2
Preparation of KMC	2	1.58	0.67	79
Procedure of KMC	10	8.22	1.42	82.2
Benefits of KMC	2	1.68	0.68	84
Discharge and follow up criteria	3	2.6	0.70	86.67
Overall	25	20.82	2.14	83.28

SECTION –III

Table-10: Mean standard deviation and mean% of Knowledge score of Staff Nurses on Kangaroo mother care.

N-50

Area wise Knowledge	Maximum mark	Scores		
		Mean	S.D	Mean%
Concept of KMC	3	1.96	0.75	63.33
Component of KMC	5	1.78	1.04	35.6
Preparation of KMC	2	0.64	0.73	34
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Benefit of KMC	2	0.62	0.74	31
Discharge & Follow up criteria	3	0.96	0.77	30
Overall	25	9.58	2.37	38.32

Table-11: Mean standard deviation and mean% of Knowledge score of Staff Nurses on Kangaroo mother care.

Area wise Knowledge	Maximum mark	Scores		
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Component of KMC	5	3.86	0.93	77.2
Preparation of KMC	2	1.58	0.67	79

Procedure of KMC	10	8.22	1.42	82.2
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Overall	25	20.82	2.14	83.28

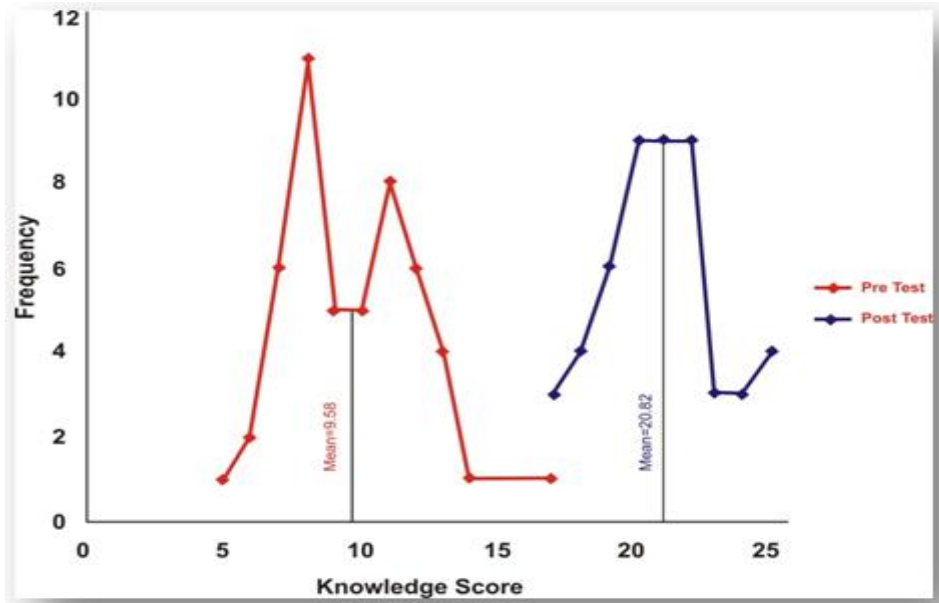


Fig: 3: Denotes that pre-test knowledge score mean 9.5 lies between (5-10) interval score whereas posttest knowledge score mean 20.82 lies between (20-25) intervals. It shows the enhancement of knowledge of Staff Nurses and effectiveness of Self Instructional Module.

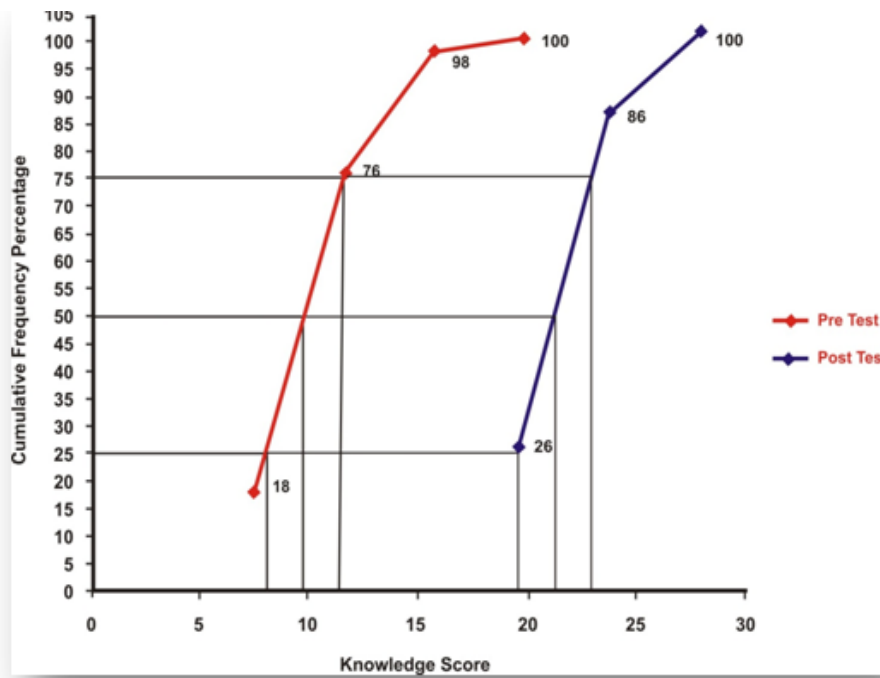


Fig: 4: Give Curve showing comparison of pre and posttest of cumulative percentage of knowledge score

SECTION - IV

Table – 12: Percentage wise distribution of level of knowledge of Staff Nurses regarding Kangaroo mother care

Sl. No	Level of knowledge	Pre test		Post test	
		No	%	No	%
1	Less than 12 Average	44	176	0	0
2	13-19 Good	6	24	15	60
3	>20 Excellent	0	0	35	140

SECTION - V

Table – 13: Age wise distribution of mean & mean% of Knowledge score of Staff Nurses on Kangaroo Mother Care

Age	frequency	Pre test			Post test			Difference in Mean%
		Mean	Mean%	SD	Mean	Mean%	SD	
20-25	20	0.6	1.2	9.89	21.4	42.8	2.18	41.6
26-30	15	8.93	17.86	2.46	20.3	40.6	2.03	22.74
31-35	13	9.61	19.23	2.98	20.9	41.8	2.14	22.57
>35	2	10.5	21	0.71	21	42	3	21

Table – 14: Professional qualification wise distribution of mean & mean% of Knowledge score of Staff Nurses on Kangaroo Mother Care

Professional qualification	frequency	Pre test			Post test			Difference in Mean%
		Mean	Mean%	SD	Mean	Mean %	SD	
B.Sc	8	7	14	1.31	19.62	39.24	1.76	25.24
GNM	42	10.1	20.2	2.20	21.2	42.4	2.14	22.2

Table – 15: Total year of experience wise distribution of mean & mean% of Knowledge score of Staff Nurses on Kangaroo Mother Care

Total year of experience	Frequency	Pre test			Post test			Difference in Mean%
		Mean	Mean %	SD	Mean	Mean%	SD	
2-5 year	25	9.72	19.44	2.17	21.24	42.48	2.14	23.04
6-9 year	25	9.72	19.44	2.67	20.6	41.2	2.14	21.76

Table – 16: Marital status wise distribution of mean & mean% of Knowledge score of Staff Nurses on Kangaroo Mother Care

Marital status	frequency	Pre test			Post test			Difference in Mean%
		Mean	Mean%	SD	Mean	Mean%	SD	
Unmarried	35	9.86	19.72	2.33	21.1	42.2	2.22	22.48
Married	15	9	18	2.42	20.1	40.2	1.79	22.2

Table – 17: Total year of experience in O&G & Pediatric IPD distribution of mean & mean% of Knowledge score of Staff Nurses on Kangaroo Mother Care.

Year of exp in O&G & Pead IPD	Frequency	Pre test			Post test			Difference in Mean%
		Mean	Mean%	SD	Mean	Mean%	SD	
2-5 yrs	42	9.67	19.34	2.36	20.8	41.6	2.25	22.26
6-9 yrs	8	9.25	18.5	2.49	20.6	41.2	1.50	22.7

Table – 18: Monthly Income wise distribution of mean & mean% of Knowledge score of Staff Nurses on Kangaroo Mother Care

Monthly Income	frequency	Pre test			Post test			Difference in Mean%
		Mean	Mean%	SD	Mean	Mean%	SD	
<5000	27	9.9	19.8	1.98	20.7	41.4	2.28	21.6
5001-10,000	12	8.25	16.5	8.89	20.4	40.8	2.02	24.3
10,001-15,000	6	11.5	23	3.50	22	44	1.9	21
>15,000	5	9.2	18.4	2.04	20.8	41.6	2.49	23.2

Table – 19: Workshop seminar attend wise distribution of mean & mean% of Knowledge score of mother on Kangaroo Mother Care

Workshop seminar attend	frequency	Pre test			Post test			Difference in Mean%
		Mean	Mean%	SD	Mean	Mean%	SD	
yes	25	9.84	19.68	2.73	21.1	42.2	1.93	22.52
no	25	9.63	19.26	4.60	20.5	41	2.36	21.74

SECTION - VI HYPOTHESIS TESTING

Table – 20: Paired 't*' value of pre and posttest knowledge score of Staff Nurses on Kangaroo mother care.

N=50

Areas of knowledge	T value	p' value	Significance
Concept of KMC	9,7	<0.05	HS
Components of KMC	14,6	<0.05	HS
Preparation for KMC	8,98	<0,05	HS
Procedure of KMC	19,38	<0,05	HS
Advantages of KMC	8,21	<0,05	HS
Discharge and follow up criteria	10,84	<0.05	HS

V. CONCLUSION

The conclusion of the study was that the Staff Nurses need CNE Program on management of LBW Babies and periodical conduction of In-service Education Program, Seminar, Workshop and Conference for improvement of knowledge of Staff Nurses in neonatal nursing so that the state, country will achieve a reduction in neonatal mortality and mobility rate in future.

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