<u>A</u>
STUDY TO ASSES THE EFFECTIVENESS OF PLANNED TEACHING PROGRAMME ON KNOWLEDGE AND PRACTICLE REGARDING CARE OF LOW BIRTH WEIGHT NEWBORNS AMONG STAFF NURSES WORKING IN N.IC.U AT BISHNOI HOSPITAL BALOTRA RAJASTHAN

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<u>ABSTRACT</u>,

INTRODUCTION:

Birth weight is the first weight of a live or still born baby which should preferably be taken within the first hour of life. Low birth weight (LBW) is a term used to describe babies who are born weighing less than 2500 grams (5pounds, 80 ounces) in contrast, the average new born weighs about 7 pounds. Babies with a birth weight of less than 1500 gram (up to and including 1499 gram) are considering as very low birth weight (VLBW) babies and babies with a birth weight of less than 1000 gram considering as extremely low birth weight (ELBW) babies.[1]

AIM OF THE STUDY:

To assess the effectiveness of planned teaching programme on knowledge and practicle regarding care of low birth weight newborns among staff nurses working in N.I.C.U at Bishnoi Hospital Balotra Rajasthan.

MATERIAL AND METHODS:

A pre experimental study was carried out to asses the knowledge and practice of 6 staff nurses working in N.I.C.U at Bishnoi Hospital Balotra Rajasthan by structured questionnaire for assessing knowledge and observational checklist for practice, Planned teaching program was given after pretest

and posttest was conducted after 7-15 days of pretest, Descriptive and inferential statistics were used for data analysis.

RESULTS:

In pretest, 5(83.33%) staff nurses are having inadequate knowledge and 1 (16.67%) staff nurse is having moderately adequate knowledge .In post test,, 1(16.67%)staff nurse is having moderately adequate knowledge and 5 (83.33%) staff nurse are having adequate knowledge. In pretest, 5(83.33%) staff nurses are performing inadequate adequate practice. The 't' value of 9.137 which is greater than the tabulated value at 0.05 level of significance. So we accept H_1 and conclude that there is significant difference between pre-test and post-test knowledge score of the staff nurses exposed to planned teaching programme regarding care of low birth weight newborns. This supports that the planned teaching programme was effective in increasing Knowledge of staff nurses regarding care of low birth weight newborns. The 't' value of 2.162 which is greater than the tabulated value at 0.05 level of significance. So we accept the H_2 and conclude that there is significant difference between pre-test and post-test practice score of the nurses exposed to planned teaching programme regarding care of low birth weight newborns. This supports that the planned teaching programme was effective in increasing practice of staff nurses regarding care of low birth weight newborns. The r value is 0.1. So we accept H_3 and conclude that there is positive significant correlation between posttest knowledge score and posttest practice score regarding care of low birth weight newborns among staff nurses. The χ^2 calculated value is less than the tabulated value at 0.05 level of significance. So we reject H_4 and conclude that there is no significant association between posttest knowledge score and selected demographic variables. The x^2 calculated value is less than the tabulated value at 0.05 level of significance. So we reject H_5 and conclude that there is no significant association between posttest practice score and selected demographic variables.

INTRODUCTION & BACKGROUND OF THE STUDY

In India alone 6 to 8 million low birth weight infants are born annually. High incidence of LBW babies in our country is accounted for by a higher number of babies with intra uterine growth retardation. (small for dates) rather than the pre term babies.[2]

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Low birth weight babies are broadly of two clinical types. First are those born before 37 weeks (pre term) because birth weight is a function of gestation, a preterm baby is expected to have less in weight. Secondary category of LBW infants includes those babies who have intrauterine growth retardation (IGUR). These babies are under nourished (or small) for a given gestation (dates). They are, therefore called small for gestational age (SGA) or small for dates (SFD) babies.[3]

A study was conducted at Jaipur with an aim to assess knowledge, attitude and practices about neonatal hypothermia among medical and paramedical staff. A total of 160 subjects were assessed. The result showed that about 47.8% of the subjects defined neonatal hypothermia correctly. As many as 52.2% of the interviewees considered it to be an uncommon problem. Decreased body temperature, cyanosis, apnea, and edema of feet were found as common sign. Only 18.6% of the interviewees had knowledge about correct method of recording the temperature in a newborn. [4] The Hindu news paper reported that the current neonatal mortality rate (NMR) of 44 deaths per 1000 live births accounted for nearly two thirds of the global infant mortality and half of the global child mortality. The study also pointed out that undivided states of Uttar Pradesh, Madhya Pradesh, and Bihar together accounted for over 50% of the number of neonatal deaths in India in the year 2000.The study has revealed that almost eight million low birth weight infants were born in India every year. It is also said that 75% of neonatal deaths occurred in infants with low birth weight.[5] In university of Wisconsin conducted a continuing education program for hospital and public health nurses to guide families of very low birth weight infants in care giving. Nurses have a critical role in family development of competencies for giving care to very low birth weight infants.[6]

A study to evaluate the effectiveness of planned teaching regarding assessment of LBW infants in terms of knowledge and skills of nursing personnel working in neonatal care unit in a selected hospital of Delhi. The study results showed that the mean post-test knowledge score (44.47) and skill score were significantly higher than the mean pre-test knowledge scores and skill scores (17.91) ($p<0.01$). There was a significant positive coefficient of correlation (0.41) between post-test knowledge score and skill score ($p<0.05$). Thus the PTP was effective in enhancing knowledge as well as skill of nursing personnel regarding assessment of LBW infants[7]

The nurses have great role in reducing neonatal morbidity and mortality through the care of low birth weight baby because in the initial days they are the prime care givers to the newborn baby. So nurses should have a proper knowledge about the care. Based on the experiences of the researcher realized the increased incidence of LBW and its effects in life and deficiency of knowledge among staff nurses. Thus the investigator has decided to design study on self instructional module regarding prevention and management of low birth weight babies.

OBJECTIVES OF THE STUDY

The objectives of the study is

1. To assess pretest knowledge of staff nurses regarding care of low birth weight newborns.
2. To assess pretest practices of staff nurses regarding care of low birth weight newborns
3. To determine effectiveness of planned teaching programme on knowledge regarding care of low birth weight newborns among staffnurses.
4. To determine effectiveness of planned teaching programme on practice regarding care of low birth weight newborns among staff nurses.
5. To correlate the posttest knowledge score and posttest practice score regarding care of low birth weight newborns among staff nurses.
6. To associate posttest knowledge score with selected demographic variables.
7. To associate posttest practice score with selected demographic variables.

HYPOTHESIS

H1 :There will be significant difference between pretest and posttest knowledge score of staff nurses exposed to planned teaching programme regarding care of low birth weight newborns.

H2 :There will be significant difference between pretest and posttest practice score of staff nurses exposed to planned teaching programme regarding care of low birth weight newborns.

H3 :There will be significant correlation between posttest knowledge score and posttest practice score regarding care of low birth weight newborns among staff nurses.

H_4 :There will be significant association between posttest knowledge score and selected demographic variables.

H_5 :There will be significant association between posttest practice score and selected demographic variables.

MATERIAL & METHODS

Research Design -:A pre experimental study was carried out to asses the knowledge and practice of 6 staff nurses at Bishnoi Hospital Balotra by structured questionnaire for assessing knowledge and observational checklist. For practice, Planned teaching program was given after pretest and posttest was conducted after 7-15 days of pretest ,Descriptive and inferential statistics were used for data analysis

Sample and Sampling Technique

6 nurses were selected by purposive (Judgemental) sampling technique from neonatal intensive care unit of Bishnoi Hospital, Balotra Rajasthan. Each participant was informed about the study and that they could withdraw at any time and a written
consent was also obtained.

Research Tool - A structured questionnaire including 25 multiple choice questions regarding care of low birth weight newborns and 5 questions on demographic variables .Checklist including 25 questions to assess the practices regarding care of low birth weight newborns. Structured Knowledge Questionnaire developed by the researcher, and appraised by the 5 experts a range from senior neo nate intensive care unit

practitioner, one asst. professor from pediatric department professor and asst. professor and HOD paediatric department. The reliability was established by using split half method and Karl Pearson's product moment correlation formula and it is found to be reliable

Data Collection Procedure - Data were collected from the participants by administering the Structured Knowledge Questionnaire. The average time taken for filling the questionnaire was 10-15

minutes. Immediately after pre-test, PTP on care of low birth weight baby was administered with the help of power point presentation. Evaluation of the effectiveness of PTP was done by conducting post-test, 15 days after the implementation of PTP.

DATA ANALYSIS

Table 1: Frequency and percentage distribution of samples according to the demographic variables

SR.NO.	DEMOGRAPHIC DATA	FREQUENCY	PERCENTAGE (%)
1	**AGE**		
	18-27	3	50
	28-37	2	33.33
	38-47	1	16.67
	48 and above	0	0
2	**GENDER**		
	MALE	0	0
	FEMALE	6	100
3	**QUALIFICATION**		
	G.N.M	4	66.67
	POST BASIC B.Sc.NURSING	0	0
	B.Sc. NURSING	2	33.33
	M.Sc. NURSING	0	0
4	**CLINICAL EXPERIENCE**		
	UPTO 3	3	50
	4 TO 6	2	33.33
	7 TO 9	1	16.67
	10 and above	0	0
5	**PREVIOUS PARTICIPATION**		
	NO OPPORTUNITY	4	66.67
	ONCE	2	16.66
	TWICE	0	0
	MORE THAN TWICE	0	0

The table – 1 indicates that majority of the subjects 3 (50%) belong to the age group of 18-27 yrs,2(33.33%) subjects belong to age group of 28-37 years and only 1 (16.67%) subjects belong to the age group of 38-47 yrs. All of the subjects 6 (100%) were female. Majority of the subjects 4 (66.67%) were ear educated up to G.N.M.. and only 2(33.33%) subjects were educated B.S.c nursing. Majority of subjects 3(50%) were having up to 3 years of clinical experience, 2 (33.33%) subjects were having 4 to6 years of clinical experience and only 1(16.67%) was having 7 t0 9 years of clinical experience. Majority of the subjects 4 (66.67%) had no opportunity to participate previously and only 2 (16.66%) subject has previously participated.

Table 6: Distribution category of knowledge score

CATEGORY OF KNOWLEDGE	SCORE RANGE
Inadequate	0-8
Moderately adequate	9-16
Adequate	17-25

Table 3 : Distribution of frequency and percentage of pre-test & post-test knowledge score according to the category of knowledge

CATEGORY OF KNOWLEDGE	FREQUENCY		PERCENTAGE (%)	
	PRE-TEST	POST-TEST	PRE-TEST	POST-TEST
INADEQUATE	5	0	83.33%	0%
MODERATELY ADEQUATE	1	1	16.67%	16.67%
ADEQUATE	0	5	0	83.33%

Interpretation : Table : 3 shows that in pretest, 5(83.33%) staff nurses are having inadequate knowledge and 1 (16.67%) staff nurse is having moderately adequate knowledge.Inpost test,,

1(16.67%)staff nurse is having moderately adequate knowledge and 5 (83.33%) staff nurse are

having adequate knowledge.

Table 5: Comparison of the pre-test and post-test knowledge score (sub-section wise)

Components	Observation	Percentage (%)	Standard Deviation	Mean	Mean Difference
Meaning	Pre-test	38.89	0.8819	1.17	1
	Post-test	72.22	1.3642	2.17	
Causes & Clinical features	Pre-test	30.56	0.7177	1.83	2.5
	Post-test	72.22	0.6513	4.33	
Management	Pre-test	30.21	1.5289	4.83	6.17
	Post-test	68.75	3.2805	11	

Table 4 : Distribution category of practice score

CATEGORY OF PRACTICE	SCORE RANGE
Inadequate	0-8
Moderately adequate	9-16
Adequate	17-25

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Table 5 : Distribution of frequency and percentage of pre-test & post-test practice score according to the category of practice

CATEGORY OF KNOWLEDGE	FREQUENCY		PERCENTAGE (%)	
	PRE-TEST	POST-TEST	PRE-TEST	POST-TEST
INADEQUATE	5	0	83.33%	0%
MODERATELY ADEQUATE	1	1	16.67%	16.67%
ADEQUATE	0	5	0%	83.33%

Interpretation : Table : 5 shows that in pretest, 5(83.33%) staff nurses areperforming inadequate adequate practice. Inpost test, no one is performing inadequate practice. in pretest and posttest 1(16.67%) staff nurse is performing moderately adequate practice. In pretest, no one is perfoming adequate practice. In posttest, 5(83.33%) staff nurses are performing adequate practice.

Table 6 : Comparison of the pre-test and post-test knowledge score of samples

Total No. of Questions	Min – Max marks	Observation	Percentage (%)	S.D	Mean	Mean difference	't' calculated value	't' tabulated value	Significance
25	0 – 25	PRE-TEST	31.33%	2.5	7.83	9.67	9.137	2.015	P<0.05
		POST-TEST	70%	5.4	17.5				

Interpretation : Table : 6 shows the 't' value of 9.137 which is greater than the tabulated value at 0.05 level of significance. So we accept H_1 and conclude that there is significant difference between pre-test and post-test knowledge score of the staff nurses exposed to planned teaching programme

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regarding care of low birth weight newborns. This supports that the planned teaching programme was effective in increasing Knowledge of staff nurses regarding care of low birth weight newborns.

Table 7: Comparison of the pre-test and post-test practice score of samples

Total No. of Questions	Min – Max marks	Observation	Percentage (%)	S.D	Mean	Mean difference	't' calculated value	't' tabulated value	Significance
25	0 – 25	PRE-TEST	30%	2.4	7.5	10	2.162	2.015	P<0.05
		POST-TEST	70%	6.3	17.5				

Interpretation : Table : 7 shows the 't' value of 2.162 which is greater than the tabulated value at 0.05 level of significance. So we accept the H_2 and conclude that there is significant difference between pre-test and post-test practice score of the nurses exposed to planned teaching programme regarding care of low birth weight newborns. This supports that the planned teaching programme was effective in increasing practice of staff nurses regarding care of low birth weight newborns.

Table 8: Corelation between posttest knowledge score and posttest practice score

	Total Value	r value
POSTTEST KNOWLEDGE SCORE	105	0.1
POSTTEST PRACTICE SCORE	105	

Interpretation : Table : 8 shows the r value is 0.1. So we accept H $_3$ and conclude that There is positive significant correlation between posttest knowledge score and posttest practice score regarding care of low birth weight newborns among staff nurses.

Table 9: Association between post-test knowledge score and demographic variables

Demographic Variables		Inadequate		Moderately Adequate		Adequate		Chi-square (χ^2)	Significance at α = 0.05 level
		f	%	f	%	f	%		
1. Age in years	18-27	0	0	1	16.67	2	33.33	χ^2_{cal} =1.17	d.f = 2 *Not Significant*
	28-37	0	0	**0**	0	2	33.33		
	38-47	0	0	0	0	1	16.67	χ^2_{tab} =7.81	
	>48	0	0	0	0	0	0		
2. Gender	Male	0	0	0	0	0	0	$\chi^2_{cal =0}$	d.f =1 *Not Significant*
	Female	0	0	0	0	0	0	$\chi^2_{tab =}$	
3. Educational qualification	G.N.M.	0	0	0	0	4	66.67	χ^2_{cal} =2.42	d.f =2 *Not Significant*
	P.B.B.Sc	0	0	0	0	0	0		
	B.Sc.	0	0	1	16.67	1	16.67	χ^2_{tab} =7.81	
	M.Sc.	0	0	0	0	0	0		

N	Up to 3	0	0	1	16.67	2	33.33	$\chi^2_{cal} = 1.2$	$d.f = 2$
	4-6	0	0	0	0	2	33.33	$\chi^2_{tab} = 7.81$	*Not Significant*
	7-9	0	0	0	0	1	16.67		
	>10	0	0	0	0	0	0		
5. Previous Participation	No	0	0	0	0	4	66.67	$\chi^2_{cal} = 2.43$	$d.f = 1$
	Once	0	0	1	16.67	1	16.67	$\chi^2_{tab} = 3.84$	*Not Significant*
	Twice	0	0	0	0	0	0		
	> Twice	0	0	0	0	0	0		

Interpretation : Table : 9 shows the χ^2 calculated value is less than the tabulated value at 0.05 level of significance. So we reject H_4 and conclude that there is no significant association between posttest knowledge score and selected demographic variables.

Table 9: Association between post-test practice score and demographic variables

Demographic Variables		LEVEL OF PRACTICE						Chi-square (χ^2)	Significance at α = 0.05 level
		Inadequate		Moderately Adequate		Adequate			
		f	%	f	%	f	%		
1.	18-27	0	0	0	0	3	50	χ^2_{cal}	$d.f = 2$

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Age in years	28-37	0	0	1	16.67	1	16.67	=2.43	*Not Significant*
	38-47	0	0	0	0	1	16.67	$\chi^2_{tab} = 5.99$	
	>48	0	0	0	0	0	0		
2. Gender	Male	0	0	0	0	0	0	$\chi^2_{cal} = 0$	*d.f = 0*
	Female	0	0	0	0	0	0	$\chi^2_{tab} =$	*Not Significant*
3. Educational qualification	A.N.M	0	0	1	16.67	3	50	$\chi^2_{cal} = 0.59$	*d.f = 2* Not
	G.N.M	0	0	0	0	0	0		*Significant*
	P.B.B.Sc	0	0	0	0	2	33.33	$\chi^2_{tab} = 5.99$	
	B.Sc.	0	0	0	0	0			
4. Experience in years	Up to 3	0	0	0	0	3	50	$\chi^2_{cal} = 2.43$	*d.f = 2* Not
	4-6	0	0	1	16.67	1	16.67		*Significant*
	7-9	0	0	0	0	1	16.67	$\chi^2_{tab} = 5.99$	
	>10	0	0	0	0	0	0		
5. Previous Participation	No	0	0	1	16.67	3	50	$\chi^2_{cal} = 0.59$	*d.f = 1* Not
	Once	0	0	0	0	2	33.33	$\chi^2_{tab} = 3.84$	*Significant*

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Twice	0	0	0	0	0	0		
> Twice	0	0	0	0	0	0		

Hg Interpretation : Table : 10 shows the x^2 calculated value is less than the tabulated value at 0.05 level of significance. So we reject H_5 and conclude that there is no significant association between posttest practice score and selected demographic variables.

DISCUSSION

Discussion

The aim of the study was to assess the pre-test knowledge score and practice of care of low birth weight newborns among staff nurses working in N.I.C.U. To determine the effectiveness of Planned teaching program by comparing the pretest and post test knowledge & practice regarding care of low birth weight newborns among staff nurses of N.I.C.U.. To correlate knowledge and practice regarding care of low birth weight newborns among staff nurses working in N.I.C.U. .To find out the association between pretest knowledge and practice of the care of low birth weight newborns among staff nurses working in N.I.C.U. and selected demographic variable.

The present study evaluate that in pretest, 5(83.33%) staff nurses are having inadequate knowledge and 1 (16.67%) staff nurse is having moderately adequate knowledge. In post test,, 1(16.67%)staff nurse is having moderately adequate knowledge and 5 (83.33%) staff nurse are having adequate knowledge. In pretest practice 5(83.33%) staff nurses are performing inadequate adequate practice .In post test, no one is performing inadequate practice .in pretest and posttest 1(16.67%) staff nurse is performing moderately adequate practice. In pretest, no one is performing adequate practice. In posttest, 5(83.33%) staff nurses are performing adequate practice. Following planned teaching program the knowledge and practice regarding care of low birth weight newborns among staff nurses working in N.I.C.U. The finding was also supported by the study conducted by the Sarin J. Nursing assessment of LBW infants [7]

The main limitation of this study was its sample size and no control group. Indeed the statistical significance of the findings cannot be precisely interpreted with these small numbers. However , the study was intended as a pilot study for a future investigation on a larger scale. Nevertheless, in spite of its limitations, the consistency of the findings provides confidence that these may be representative of this area of practice.

INTERPRETATION CONCLUSION

The findings raised concerns about all the aspects of knowledge and practice of care of low birth weight newborns among staff nurses working in N.I.C.U.. A considerable lack of knowledge and practice about various aspects of care of low birth weight newborn .However ,it was encouraging to note that the study group showed considerable improvements in their knowledge and practice regarding care of low birth weight newborns among staff nurses working in N.I.C.U.. These improvements were generally sustained, and provided evidence of the effectiveness of the educational intervention. This study has made some progress in establishing the current status of, care of low birth weight newborns among staff nurses working in N.I.C.U. And is able to provide a framework for developing guidelines for future practice. Thus investigator concluded that the planned teaching program was a good method to improve the knowledge and practice of care of low birth weight newborns among staff nurses working in N.I.C.U.. which is very effective to improve care of low birth weight newborns.

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