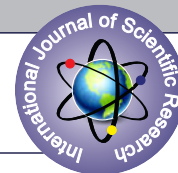


'A PRE EXPERIMENTAL STUDY TO EVALUATE THE EFFECTIVENESS OF SELF DIRECTED LEARNING ON KNOWLEDGE REGARDING CARE OF LOW BIRTH WEIGHT (LBW) BABIES AMONG POSTNATAL MOTHERS AT HOSPITALS, KOLHAPUR.'



Nursing

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ABSTRACT

Background: A LBW new born may face problems like hypothermia, increased chance to acquire infection due to lack of immunity and LBW newborns are at high risk of having problem with feeding which later can lead to malnutrition. Hence it is important to educate the mother about the problem and how to manage the newborn with such problems. 1

Objectives:

1. To evaluate the effectiveness of self directed learning on knowledge regarding care of low birth weight babies among postnatal mothers.
2. To find out an association between pre test knowledge score regarding care of low birth weight babies among postnatal mothers with their selected socio demographic variables.

Methodology: A pre experimental, one group pre test and post test research design was used, which consisted of a group of 60 participants that were selected by using non-probability, purposive sampling technique. Data was collected by using selected socio demographic variables, structured knowledge questionnaire regarding care of low birth weight (LBW) babies. A self directed learning was administered to the participants at the end of the pre test and a post test was conducted on 8th day. The main study was conducted from 08/03/2022 to 18/03/2022. The collected data were tabulated and analysed. **Result:** The result showed that, out of 60 participants, in pre-test 50 (83.33%) had average knowledge and 08 (13.33%) participants had poor knowledge and 02 (3.33%) participants had good knowledge, where as in post test 32 (53.33%) participants had good knowledge, 28 (46.66%) participants had average knowledge and none of the participants had poor knowledge. The calculated paired 't' value ($t_{cal} = 12.98$) was greater than tabulated value ($t_{tab} = 1.67$). Hence H1 was accepted. This indicated that the gain in knowledge score was statistically significant at $p < 0.05$ level. There was significant association between pre test knowledge scores and selected socio-demographic variables, like age [$\chi^2_{cal} = 13.56$, $\chi^2_{tab} = 12.59$], religion [$\chi^2_{cal} = 14.83$, $\chi^2_{tab} = 12.59$], number of parity [$\chi^2_{cal} = 12.61$, $\chi^2_{tab} = 9.49$], occupation [$\chi^2_{cal} = 15.85$, $\chi^2_{tab} = 12.59$], type of family [$\chi^2_{cal} = 14.05$, $\chi^2_{tab} = 5.99$], family income in Rupees [$\chi^2_{cal} = 18.42$, $\chi^2_{tab} = 12.59$], education [$\chi^2_{cal} = 19.37$, $\chi^2_{tab} = 12.59$], area of residence [$\chi^2_{cal} = 7.25$, $\chi^2_{tab} = 5.99$]. The calculated chi-square values were greater than tabulated value at 0.05 level of significance. **Conclusion:** The study revealed that majority of postnatal mothers had good knowledge on care of low birth weight (LBW) babies. Therefore it was concluded that the self directed learning on knowledge regarding care of low birth weight (LBW) babies helped to increase the knowledge of postnatal mothers.

KEYWORDS

Care of low birth weight (LBW) babies; Effectiveness; self directed learning; Knowledge; postnatal mothers.

INTRODUCTION:

A healthy neonate born at term (between 38th to 42th week) has an average birth weight above 2.5 kg. In India, the weight varies from 2.7 to 3 kg. The internationally accepted definition of a LBW baby is one whose weight at birth is 2,500 gm or less (WHO, 1977). Further classification within the LBW group include the very low-birth-weight (VLBW) baby weighing 1,001-1,500 gm and the extremely low-birth-weight (ELBW) baby who weighs 1,000 gm or less.²

LBW babies are more vulnerable to all the neonatal complications. Specially feeding problems required assisted feeding, KMC and nutrition. One of the methods to reduce such complications is KMC which improves growth and reduces morbidity in low birth weight infants. It is simple, acceptable and can be continued at home. It is a low-cost method of care of low birth infants, consisting of skin to skin care, exclusive breastfeeding and an early discharge with an adequate follow-up.³

LBW babies need special attention and extra care. The reason why preterm or LBW babies need extra care is that they have a very less resistance to fight infectious diseases, as their immune system isn't fully developed yet. Breastfeeding is the best and the most natural way of nourishing LBW baby. Due to poor suck and swallow coordination and with weak reflexes, mother can find it hard to breastfeed her baby. Hypothermia or the loss of heat is the common sickness in LBW babies, as they have less body fat. So making baby is warm during their sleep time and keep them well covered is very necessary.⁴

MATERIAL AND METHOD:

A pre experimental, one group pre test and post test research design was used at selected hospitals, Kolhapur to evaluate the effectiveness of self directed learning on knowledge regarding care of low birth weight (LBW) babies among postnatal mothers. For this group of 60 participants were selected by using non-probability, purposive

sampling technique. The tool was developed into two section, Section A- Selected socio-demographic variables, Section B- Structured knowledge questionnaire. Total eight selected socio-demographic variables were used in this study and those were age, religion, number of parity, occupation, type of family, family income in Rupees, education and area of residence. Structured knowledge questionnaire included questions regarding care of low birth weight (LBW) babies. The reliability of the tool was tested by test by using Karl Pearson's coefficient of correlation formula which was $r = 0.88$.

The main study was conducted from 08/03/2022 to 18/03/2022. Research investigator introduced self and established rapport with the postnatal mothers. Informed consent was obtained from participants after explaining the objectives of the study. Pre test was done and after the end of pre test a self directed learning was administered to the participants and a post test was conducted after 07 days. Average time taken by participants for filling up the tool was 30 minutes approximately. The collected data were tabulated and analysed.

RESULT:

SECTION I: Findings related to frequency and percentage distribution of postnatal mothers according to socio-demographic variables.

In this section the researcher analyzed and categorized the participants of the study to various groups based on the socio demographic variables.

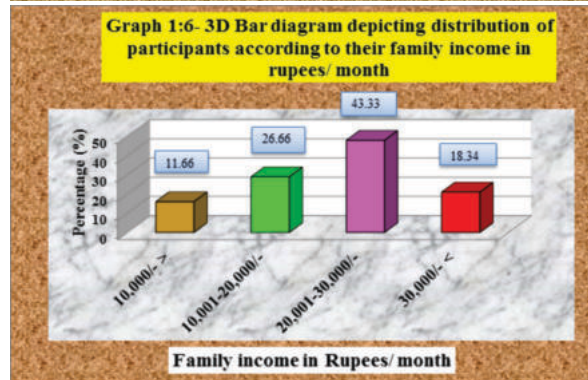
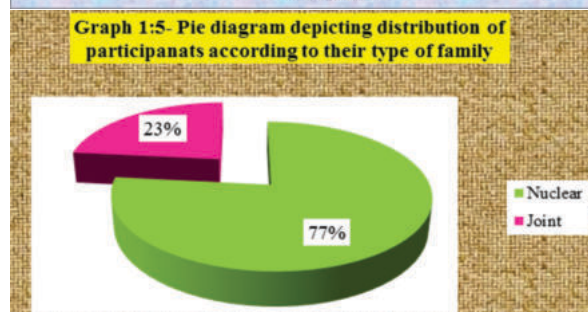
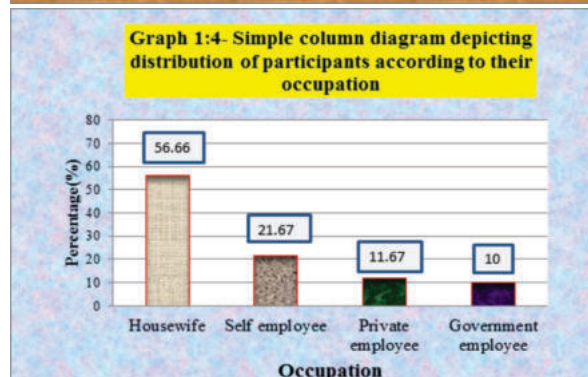
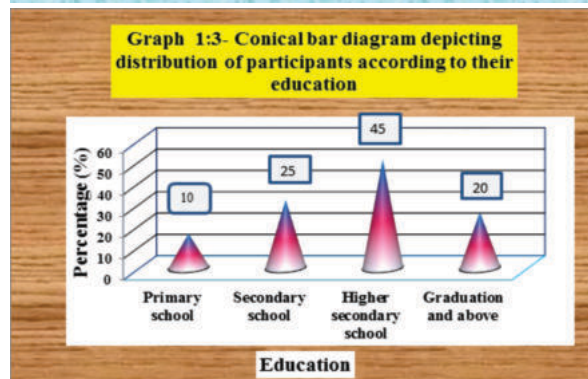
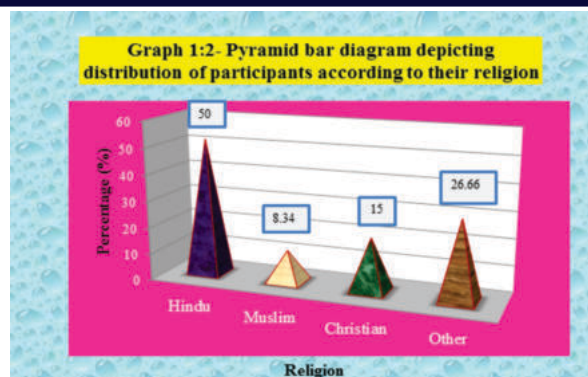
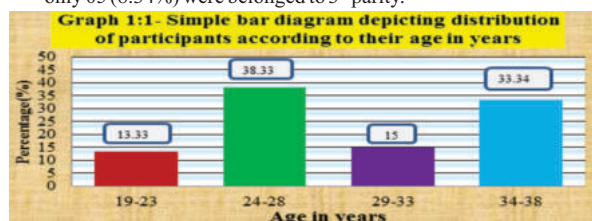
Table-1: Frequency and percentage distribution of participants according to their selected socio demographic variables. n=60

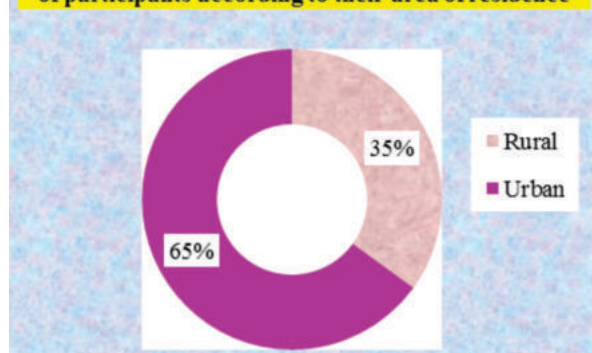
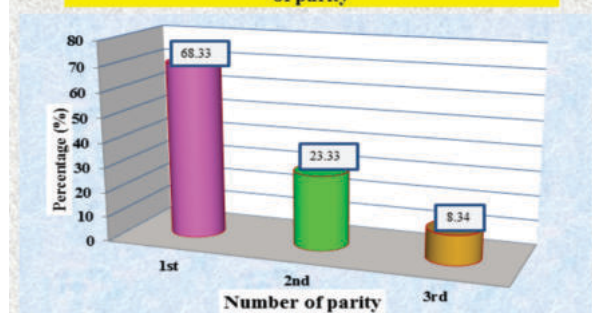
Sr.no	Socio-Demographic Variables	Frequency(f)	Percentage(%)
1.	Age in years		
	a. 19-23	08	13.33
	b. 4-28	23	38.33
	c. 29-33	09	15.00

	d. 34-38	20	33.34
2.	Religion		
	a. Hindu	30	50.00
	b. Muslim	05	08.34
	c. Christian	09	15.00
	d. Other	16	26.66
3.	Education		
	a. Primary school	06	10
	b. Secondary school	15	25
	c. Higher secondary school	27	45
	d. Graduation and above	12	20
4.	Occupation		
	a. Housewife	34	56.66
	b. Self employee	13	21.67
	c. Private employee	07	11.67
	d. Government employee	06	10.00
5.	Type of family		
	a. Nuclear	46	76.66
	b. Joint	14	23.33
Sr.no	Socio-demographic variables	Frequency(f)	Percentage(%)
6.	Family income in rupees per month		
	a. 10,000>	07	11.66
	b. Rs.10,001- 20,000	16	26.66
	c. Rs.20,001-30,000	26	43.33
	d. Rs.30,000<	11	18.34
7.	Area of residence		
	a. Rural	21	35
	b. Urban	39	65
8.	Number of parity		
	a. 1 st	41	68.33
	b. 2 nd	14	23.33
	c. 3 rd	05	08.33

Table 1: Indicated that,

- Majority of the participants 23 (38.33%) were belonged to the age group of 24-28 years, 20 (33.34%) participants were belonged to the age group of 34-38 years, 09 (15%) participants were belonged to the age group of 29-33 years and only 08 (13.33%) participants belonged to the age group of 19-23 years.
- Findings about religion shown that 30 (50%) participants were Hindu, 16 (26.66%) participants were from other religion, 09 (15%) participants were Christian and only 05 (8.34%) participants were Muslim.
- Maximum participants 27 (45%) were educated upto higher secondary level, 15 (25%) participants were educated upto secondary school, 12 (20%) participants were educated graduation and above and only 06 (10%) participants were educated upto primary school.
- Majority of the participants 34 (56.66%) were belonged to housewife by occupation, 13 (21.67%) participants were belonged to self-employee, 07 (11.67%) participants were belonged to private employee and only 06 (10%) were belonged to government employee by occupation.
- Majority of the participants 46 (76.66%) were belonged to nuclear family and only 14 (23.34%) were belonged to joint family.
- Majority of the participants 26 (43.33%) family income in rupees per month was 20,001- 30,000/-, 16 (26.66%) participants having 10,001- 20,000/- family income in rupees per month, 11 (18.34%) participants having more than 30,000/-family income in rupees per month and only 07 (11.66%) were having less than 10,000/-family income in rupees per month.
- Majority of the participants 39 (65%) were belonged to rural area of residence and only 21 (35%) were belonged to urban area of residence.
- Majority of the participants 41 (68.33%) were belonged to 1st parity, 14 (23.33%) participants were belonged to 2nd parity and only 05 (8.34%) were belonged to 3rd parity.



Graph 1:7- Doughnut diagram depicting distribution of participants according to their area of residence**Graph 1:8- Cylindrical bar diagram depicting distribution of participants according to their number of parity**

Section II: Findings related to frequency and distribution of pre-test and post-test knowledge scores of postnatal mothers regarding care of low birth weight (LBW) babies.

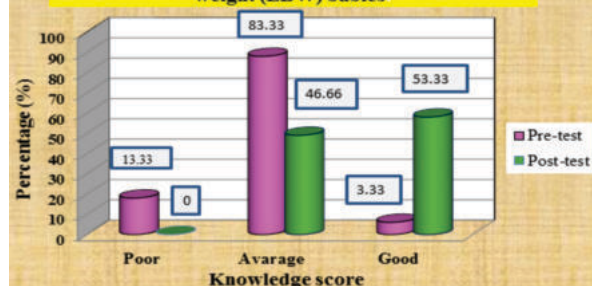
In this section the researcher analysed and categorised the pre-test and post-test knowledge scores of the participants regarding care of low birth weight (LBW) babies.

Table 2: Frequency and percentage distribution of pre test and post test knowledge scores of participants regarding care of low birth weight (LBW) babies. n=60

Knowledge Scores	Pre test		Post test	
	Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
Good(21-30)	02	3.33	32	53.33
Average(10-20)	50	83.33	28	46.66
Poor (0-9)	08	13.33	00	00

Table 2: Indicated that,

- In pre test majority of the participants 50 (83.33%) had average knowledge and 08 (13.33%) participants had poor knowledge and 02 (3.33%) participants had good knowledge, where as in post test 32 (53.33%) participants had good knowledge, 28 (46.66%) participants had average knowledge and none of the participants had poor knowledge.

Graph 2:9- Cylindrical cluster bar diagram depicting distribution of participants according to their pre test and post test knowledge scores on care of low birth weight (LBW) babies.

Section III: Findings related to mean, median, mode, standard deviation, range & their differences of pre-test and post-test knowledge scores of participants regarding care of low birth weight (LBW) babies.

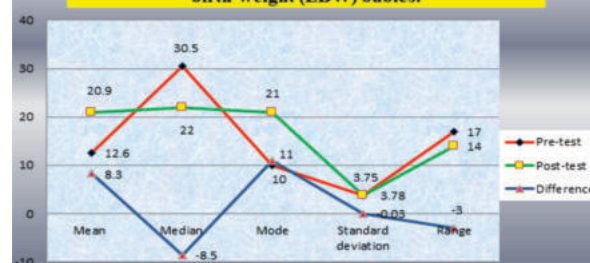
In this section the researcher analyzed and categorized the mean, median, mode, standard deviation, range & their difference of pre test and post test knowledge scores of participants regarding care of low birth weight (LBW) babies.

Table 3: Mean, Median, Mode, Standard Deviation and Range of knowledge scores of participants regarding care of low birth weight (LBW) babies. n=60

Area of analysis	Mean	Median	Mode	Standard Deviation	Range
Pre test	12.6	30.5	10	3.78	17
Post test	20.9	22	21	3.75	14
Difference	8.3	-8.5	11	-0.03	-3

Table 3: Indicated that,

- The overall knowledge score of participants was increased by mean difference 8.3 and median difference was -8.5 where as mode difference was 11.
- The variability around the mean of knowledge score distribution was -0.03.
- The difference between pre test and post test score was -3.

Graph 3:10- Line diagram showing distribution of participants according to mean, median, mode, standard deviation and range of knowledge score of care of low birth weight (LBW) babies.

Section IV: Testing of hypothesis for an effectiveness of self directed learning on knowledge regarding care low birth weight (LBW) babies.

In this section the researcher analyzed and categorized the mean difference, standard error difference and paired 't' values of knowledge scores of participants regarding care of low birth weight (LBW) babies.

H₁-The mean post test knowledge score of postnatal mothers was greater than the mean pre test knowledge score regarding care of low birth weight (LBW) babies after administration of self directed learning.

Table 4: Effectiveness of self directed learning on knowledge regarding care of low birth weight (LBW) babies among postnatal mothers. n = 60

Mean Difference	Standard Error (SE)	Paired 't' Values Calculated	Tabulated	df
8.3	0.64	12.98*	1.67	59

*p < 0.05

Table 4: Indicated that,

- The calculated paired't' value ($t_{\text{cal}} = 12.98$) was greater than tabulated value
- ($t_{\text{tab}} = 1.67$). Hence H₁ is accepted. This indicated that the gain in knowledge score was statistically significant at p<0.05 level.
- Therefore the findings revealed that the self directed learning on care of low birth weight (LBW) babies was effective in increasing the knowledge, among postnatal mothers.

Section V: Testing of hypothesis for an association between pre-test knowledge scores of postnatal mothers with their selected socio-demographic variables.

In this section the researcher analyzed and categorized the association between pre test knowledge scores of postnatal mothers regarding care of low birth weight (LBW) babies with their selected socio-demographic variables.

H₂- There was an association between pre-test knowledge scores of postnatal mothers regarding care of low birth weight (LBW) babies with their selected socio-demographic variables.

Table 5: Association between pre-test knowledge scores of

postnatal mothers with their selected socio-demographic variables, n=60

Sr. No	Variable	Scores			Chi - square values		df
		Good	Average	Poor	Calculated	Tabulated	
1]	Age in year						
	a) 19- 23	01	04	03	13.56*	12.59	06
	b) 24- 28	01	21	01			
	c) 29- 33	00	06	03			
	d) 34- 38	00	19	01			
Sr. No	Variable	Scores			Chi - square values		df
		Good	Average	Poor	Calculated	Tabulated	
2]	Religion						
	a) Hindu	01	27	02	14.83*	12.59	06
	b) Muslim	01	03	01			
	c) Christian	00	05	04			
	d) Other	00	15	01			
3]	Number of parity						
	a) 01	02	35	04	12.61*	9.49	04
	b) 02	00	13	01			
	c) 03	00	02	03			
4]	Occupation						
	a) Housewife	01	30	03	15.85*	12.59	06
	b) Self employee	00	13	00			
	c) Private employee	00	05	02			
	d) Government employee	01	02	03			
Sr. No	Variable	Scores			Chi - square values		df
		Good	Average	Poor	Calculated	Tabulated	
5]	Type of family						
	a) Nuclear	02	42	02	14.05*	5.99	02
	b) Joint	00	08	06			
6]	Family income in Rupees						
	a) 10,000/- >	00	05	02	18.42*	12.59	06
	b) 10,001- 20,000/-	00	15	01			
	c) 20,001- 30,000/-	01	25	00			
	d) 30,000/- <	01	25	05			
7]	Education						
	a) Primary school	00	02	04	19.37*	12.59	06
	b) Secondary school	00	13	02			
	c) Higher secondary school	02	24	01			
	d) Graduation and above	00	11	01			
8]	Area of residence						
	a) Rural	00	15	06	7.25*	5.99	02
	b)Urban	02	35	02			

*p < 0.05

Table 5: Indicated that,

- There was significant association between pre test knowledge scores and selected socio-demographic variables, like age [$\chi^2_{\text{cal}} = 13.56$, $\chi^2_{\text{tab}} = 12.59$], religion [$\chi^2_{\text{cal}} = 14.83$, $\chi^2_{\text{tab}} = 12.59$], Number of parity [$\chi^2_{\text{cal}} = 12.61$, $\chi^2_{\text{tab}} = 9.49$], occupation [$\chi^2_{\text{cal}} = 15.85$, $\chi^2_{\text{tab}} = 12.59$], type of family [$\chi^2_{\text{cal}} = 14.05$, $\chi^2_{\text{tab}} = 5.99$], family income in Rupees [$\chi^2_{\text{cal}} = 18.42$, $\chi^2_{\text{tab}} = 12.59$], education [$\chi^2_{\text{cal}} = 19.37$, $\chi^2_{\text{tab}} = 12.59$], area of residence [$\chi^2_{\text{cal}} = 7.25$, $\chi^2_{\text{tab}} = 5.99$]. The calculated Chi-square value was higher than tabulated value at 0.05 level of significance.
- Hence H₁ is accepted.** This indicated that there was significant association between pre test knowledge scores and selected socio-demographic variables at 0.05 level of significance.

DISCUSSION:

A pre experimental, one group pre test and post test research design was used at selected hospitals, Kolhapur to evaluate the effectiveness of self directed learning on knowledge regarding care of low birth weight (LBW) babies among postnatal mothers. For this group of 60 participants were selected by using non-probability, purposive sampling technique. The tool was developed into two section, Section A- Selected socio-demographic variables, Section B- Structured knowledge questionnaire. The data was collected from 08/03/2022 to

18/03/2022. First pre test was done after end of pre test self directed learning was administered and on 8th day post test was done.

The knowledge results reveals that the calculated paired't' value ($t_{\text{cal}} = 12.98$) was greater than tabulated value ($t_{\text{tab}} = 1.67$). Hence H₁ was accepted. This indicates that the gain in knowledge score was statistically significant at $p < 0.05$ level. Therefore the finding revealed that the self directed learning on care of low birth weight (LBW) babies was effective in increasing the knowledge regarding care of low birth weight(LBW) babies among postnatal mothers.

There was significant association between knowledge scores and selected socio-demographic variables, like age [$\chi^2_{\text{cal}} = 13.56$, $\chi^2_{\text{tab}} = 12.59$], religion [$\chi^2_{\text{cal}} = 14.83$, $\chi^2_{\text{tab}} = 12.59$], Number of parity [$\chi^2_{\text{cal}} = 12.61$, $\chi^2_{\text{tab}} = 9.49$], occupation [$\chi^2_{\text{cal}} = 15.85$, $\chi^2_{\text{tab}} = 12.59$], type of family [$\chi^2_{\text{cal}} = 14.05$, $\chi^2_{\text{tab}} = 5.99$], family income in Rupees [$\chi^2_{\text{cal}} = 18.42$, $\chi^2_{\text{tab}} = 12.59$], education [$\chi^2_{\text{cal}} = 19.37$, $\chi^2_{\text{tab}} = 12.59$], area of residence [$\chi^2_{\text{cal}} = 7.25$, $\chi^2_{\text{tab}} = 5.99$]. The calculated Chi-square values was higher than tabulated value at 0.05 level of significance. Hence H₂ was accepted. This indicated that there was significant association between pre test knowledge scores and selected socio-demographic variables at 0.05 level of significance.

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