



## “Effectiveness of Parental Education Programme on Knowledge, Attitude and Self-Reported Practice on Care of Low Birth Weight Babies among Mothers of LBW Babies in a Selected Hospital at Belagavi, Karnataka”.

**Mrs. Savita Kadam**

Assistant professor, Department of Paediatric Nursing, Government college of nursing, Belagavi institute of medical sciences, Belagavi, Karnataka, India.

**Dr. Ningangouda Patil**

Professor, Department of Paediatric Nursing, Shri B. V. V. Sajjalashree Institute of Nursing science, Navanagar, Bagalkot, Karnataka, India.

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### KEYWORDS

Low birth weight, parental education, maternal knowledge, neonatal care, attitude, practice, postnatal mothers.

### ABSTRACT:

Background:

Low birth weight (LBW) infants are those weighing less than 2,500 grams at birth and are highly susceptible to complications such as hypothermia, infection, feeding difficulties, and developmental delays. In developing countries like India, LBW is a major contributor to neonatal mortality. Mothers often lack the knowledge and skills required to care for these vulnerable infants, especially in government healthcare settings where postnatal education is limited.

Objective:

This study aimed to evaluate the effectiveness of a structured parental education program on improving maternal knowledge and caregiving practices for LBW infants among mothers admitted to the Postnatal maternity ward of District Hospital Belagavi.

Methodology:

A pre-experimental study was conducted among 50 postnatal mothers of LBW babies in a district hospital in Belagavi. Purposive sampling technique was used. Structured tools are used to assess sociodemographic details, knowledge, attitude, and practices. A validated parental education program was implemented. Pretest and post-test scores were compared using paired t-tests, correlations and associations were analysed using Karl Pearson's and Chi-square tests.

Results:

Pre-intervention, 76% of mothers had moderate knowledge, 90% had a good attitude and 96% had good practice. Post-intervention assessment indicates 100% of mothers had adequate knowledge and good practices, while 78% showed excellent attitude. The improvements in all domains were statistically significant ( $p < 0.001$ ). A weak, non-significant correlation was observed between pre-test knowledge, attitude, and practice. Education status and type of family showed significant associations with knowledge and practice levels.

Conclusion:

The structured parental education programme was effective in significantly enhancing maternal



knowledge, attitude, and self-reported practice regarding LBW infant care. Integrating such programs into routine postnatal care is recommended to improve neonatal outcomes.

## Introduction:

Low birth weight (LBW), defined by the World Health Organization (WHO) as a birth weight less than 2,500 grams, continues to be a significant global health issue, especially in developing countries like India. According to the WHO (2025), LBW infants account for more than 15% of all live births globally, and these newborns face an increased risk of neonatal morbidity, developmental delays, and mortality. In India, LBW contributes to nearly 60% of neonatal deaths, making it a key area of concern in maternal and child health<sup>1</sup>.

LBW babies are particularly vulnerable to a range of complications including hypothermia, infection, poor feeding, and developmental delays<sup>1</sup>. These challenges can often be mitigated through effective neonatal care and early parental involvement. Studies have demonstrated that educational interventions targeting mothers of LBW infants significantly improve caregiving skills and neonatal outcomes<sup>2</sup>. Interventions such as structured parental education, Kangaroo Mother Care (KMC), and early breastfeeding support have shown marked improvement in neonatal thermoregulation, weight gain, and reduced hospital readmissions<sup>3</sup>.

Low birth weight (LBW) remains a persistent public health challenge in low- and middle-income countries, including India. Despite national programs aimed at improving maternal and child health, the prevalence of LBW births in India continues to hover around 13%–15%, with higher rates reported in underserved regions such as Belagavi district, Karnataka (NFHS-5, 2021). LBW is associated with increased risk of neonatal mortality, developmental delays, infections, and long-term health complications<sup>4</sup>.

Parental knowledge and practices play a pivotal role in improving the outcomes of LBW babies. Research indicates that structured parental education can enhance maternal understanding of newborn care practices such as thermoregulation, exclusive

breastfeeding, infection prevention, and timely health-seeking behavior<sup>5</sup>. Educational programs tailored for postnatal mothers have shown a significant impact in promoting practices like Kangaroo Mother Care (KMC), proper feeding techniques, and early detection of danger signs, all of which are crucial for LBW infants' survival and growth<sup>6</sup>.

In the postnatal ward setting, mothers are in a critical learning period, and structured education programs can empower them with confidence and competence in newborn care. Recent evidence supports that such interventions not only improve care giving behaviour but also contribute to better neonatal weight gain, reduced readmissions, and stronger mother-infant bonding. However, despite national guidelines and initiatives, the implementation of such educational interventions remains inconsistent across facilities<sup>7</sup>.

Postnatal care, particularly in the early days after delivery, plays a critical role in improving neonatal outcomes. Evidence suggests that mothers of LBW babies often lack adequate knowledge and confidence regarding infant care practices such as thermoregulation, exclusive breastfeeding, hygiene, and early recognition of danger signs<sup>8</sup>. In this context, structured parental education programs have emerged as an effective intervention to bridge this knowledge gap and empower mothers in providing optimal care to their newborns<sup>9</sup>.

Therefore, the present study conducted in 2025 aims to assess the effectiveness of a structured parental education programme in improving knowledge, attitude, and self-perceived practice among mothers of LBW babies admitted to a selected hospital in Belagavi, Karnataka. The findings are expected to contribute to evidence-based improvements in postnatal education and neonatal care policies.

## 2. Objectives:

- To assess the knowledge, attitude and practice before and after parental educational



programme among mothers of low birth weight babies.

- To determine the effectiveness of Parental education Programme.
- To find the correlation between knowledge, attitude and practice regarding care of low birth weight babies.
- To find the association between pre test knowledge, attitude and practice scores with selected demographic variables of mothers of low birth babies.

### 3. Methods:

**Research Design:** It was a Pre experimental: One group pre test and post test design

**Sample Size:** A sample of 50 mothers of low birth weight babies was selected

**Study participants:** The study participants were mothers of low birth weight babies

**Setting of the study:** Based on the investigator's familiarity, availability of the subjects and feasibility to conduct the study, the present study was conducted in Post natal maternity ward BIMS hospital at Belagavi, Karnataka. Formal permission will be obtained from concerned authorities for conducting the study.

**Sampling technique:** The sample was selected by Purposive sampling technique will be used to select the sample from selected BIMS hospital of Belagavi, Karnataka.

#### Sample Size Estimation:

$$p_0q_0 \left\{ Z_{1-\alpha/2} + Z_{1-\beta} \sqrt{\frac{p_1q_1}{p_0q_0}} \right\}^2$$

N =

$$(p_1 - p_0)^2$$

$$q_0 = 1 - p_0$$

$$q_1 = 1 - p_1$$

$$0.5 * 0.5 \left\{ 1.96 + 0.84 \sqrt{\frac{0.7 * 0.3}{0.5 * 0.5}} \right\}^2$$

N =

$$(0.7 - 0.5)^2$$

N = 47

#### Where:

**P<sub>0</sub>** = Proportion (incidence) of population

**P<sub>1</sub>** = Proportion (incidence) of study group

**N** = Sample size for study group

**α** = Probability of Type I error (usually 0.05)

**β** = Probability of Type II error (usually 0.2)

**Z** = Critical Z value for a given α or β

#### Sampling Criteria:

##### Inclusion Criteria:

- Mothers who delivered LBW babies (<2.5 kg).
- Mothers available and willing to participate during the study period.
- Mothers who could read or understand Kannada or English.

##### Exclusion Criteria:

- Mothers of critically ill newborns requiring NICU admission.
- Mothers with cognitive or communication impairments.

#### Operational definition:

**Knowledge:** In this study **knowledge** refers to the mothers' understanding of essential aspects of caring for low birth weight (LBW) babies.

**Attitude:** In this study, **attitude** refers to the mothers' feelings, beliefs, and willingness in caring for low birth weight (LBW) babies.

**Self-reported practice:** In this study it refers to the mothers' behaviours and actions related to caring for LBW babies as they report themselves.

**Ethical clearance:** Ethical clearance certificate was obtained from Institutional ethical committee, Belagavi institute of medical science, Belagavi. Written consent of participation was obtained from participants was obtained from participants before data collection.

#### Data collection instruments:



- Structured Knowledge Questionnaires was used to Assess mothers' knowledge regarding LBW baby care.
- Likert Scale was used to collect the data of mother's attitudes toward caring for LBW babies.
- Rating Scale was used to Assess mothers' self reported practices in caring for their LBW babies.

### Result:

#### Part-I: Classification of mothers of low birth weight babies by sociodemographic data.

Table -1: Sociodemographic Variables of mothers of low birth weight babies

N=50

Sociodemographic Variables		Frequency	Percentage
Age of mother	Below 20 Years	7	14.0 %
	Between 21 – 30 Years	41	82.0 %
	Between 31 – 40 Years	1	2.0 %
	Above 40 Years	1	2.0 %
Religion	Hindu	42	84.0%
	Muslim	8	16.0%
Type of family	Nuclear family	30	60.0%
	Joint family	18	36.0%
	Extended family	2	4.0%
Education status of mother	No formal education	6	12.0%
	Primary education	20	40.0%
	Higher secondary education	22	44.0%
	Diploma	2	4.0%
Occupation of mother	House wife	43	86.0%
	Daily wager	4	8.0%
	Private employee	3	6.0%
Residential Area	Urban	6	12.0%
	Rural	44	88.0%
Number of children	One	26	52.0%
	Two	18	36.0%
	Three	5	10.0%
	More than three	1	2.0%
Birth weight of the baby	1500 – 1750 grams	12	24.0%



	1751 – 2000 grams	7	14.0%
	2001 – 2250 grams	15	30.0%
	2251 – 2500 grams	16	32.0%
<b>Gestational age of the baby</b>	< 30 weeks of gestation	6	12.0%
	31 – 32 weeks of gestation	4	8.0%
	33 – 34 weeks of gestation	19	38.0%
	35 – 37 weeks of gestation	21	42.0%
<b>Family income per months in rupees</b>	Below Rs 5001 /-	11	22.0%
	Rs 7001 – 9000/-	17	34.0%
	Rs 9001 – 11000/-	11	22.0%
	Above Rs 11000/-	11	22.0%
Parity	Primi	26	52.0%
	Multi	18	36.0%
	Grand Multi	6	12.0%
Previous history of LBW	Yes	10	20.0%
	No	40	80.0%
Previous Source of information	Friends and family members	20	40.0%
	Health professional	30	60.0%

The above table depicts that among mothers of low birth weight babies with regard to mother age in years, majority 82.0% of the mothers in between 21 – 30 years of age. 14.0% of mothers of low birth weight babies belong to below 20 years. 2.0% of mothers of low birth weight babies belong to between 31 – 40 years of age. 2.0% of mothers of low birth weight babies belong to above 40 years of age. In mothers of low birth weight babies with regard to religion of mother, majority 84.0% of the mothers belongs to Hindu religion. 8.0% of the mothers of low birth weight babies belong to Muslim religion. In mothers of low birth weight babies with regard to type of family, majority 60.0% of the mothers in Nuclear family. 36.0% of mothers of low birth weight babies belong to joint family. 4.0% of mothers of low birth weight babies belong to Extended family. In mothers of low birth weight babies with regard to education status of mother, majority 44.0% of the mothers in higher secondary

education. 40.0% of mothers of low birth weight babies belong to primary education. 12.0% of mothers of low birth weight babies belong to no formal education. 4.0% of mothers of low birth weight babies belongs to diploma. In mothers of low birth weight babies with regard to occupation of mother, majority 86.0% of the mothers in house wife. 8.0% of mothers of low birth weight babies belong to daily wager. 6.0% of mothers of low birth weight babies belong to private employee. In mothers of low birth weight babies with regard to residential area, majority 88.0% of the mothers in Rural. 12.0% of mothers of low birth weight babies belong to Urban. In mothers of low birth weight babies with regard to number of children, majority 52.0% of the mothers in One child. 36.0% of mothers of low birth weight babies belong to Two children. 10.0% of mothers of low birth weight babies belong to Three children. 2.0% of mothers of low birth weight babies belong to more than children. In mothers of low birth



weight babies with regard to birth weight of the baby, majority 32.0% of the mothers of low birth weight babies in birth weight of the baby 2251 – 2500 grams. 30.0% of mothers of low birth weight babies belong to birth weight of the baby 2001 – 2250 grams. 24.0% of mothers of low birth weight babies belong to birth weight of the baby 1500 – 1750 grams. 14.0% of mothers of low birth weight babies belong to birth weight of the baby 1751 – 2000 grams. In mothers of low birth weight babies with regard to Gestational age of the baby, majority 42.0% of the mothers of low birth weight babies in gestational age of the baby 35 – 37 weeks of gestation. 38.0% of mothers of low birth weight babies belong to gestational age of the baby 33 – 34 weeks of gestation. 12.0% of mothers of low birth weight babies belong to gestational age of the baby < 30 weeks of gestation. 8.0% of mothers of low birth weight babies belong to gestational age of the baby 31 – 32 weeks of gestation. In mothers of low birth weight babies with regard to family income per months in rupees, majority 34.0% of the mothers of low birth

weight babies in family income per months 7001 – 9000/- rupees 22.0% of mothers of low birth weight babies belong family income per months 9001 – 11000/- rupees. 22.0% of mothers of low birth weight babies belong family income per months above 11000/- rupees. 22.0% of mothers of low birth weight babies belong family income per months below 5001/- rupees. In mothers of low birth weight babies with regard to parity of mother, majority 52.0% of the mothers in Primi mothers. 36.0% of mothers of low birth weight babies belong Multi mothers. 12.0% of mothers of low birth weight babies belong to Grand multi mothers. In mothers of low birth weight babies with regard to previous history of LBW, majority 80.0% of the mothers in No. 20.0% of mothers of low birth weight babies belong Yes. In mothers of low birth weight babies with regard to previous source of information, majority 60.0% of the mothers in Health professional. 40.0% of mothers of low birth weight babies belong Friends and family members.

## Part – II: Analysis of Pretest and Post test Knowledge score of respondents on care of low birth weight babies.

**Table -2: Classification of Respondent Pretest knowledge level on care of low birth weight babies.**

N=50

Pre test Knowledge level	Scores	Respondents	
		Frequency	Percentages
Inadequate	≤ 50% score	6	12.0%
Moderate	51 – 75 % score	38	76.0%
Adequate	≥75% Score	6	12.0%
Total		50	100.0%

**Table No. 2:** Reveals that, distribution of level of knowledge among mothers of low birth weight babies regarding care of low birth weight babies during pre-test. Most of them in the pre-test 38(76%) had Moderate knowledge, 6 (12%) had average knowledge and 6(12%) had inadequate knowledge.

**Table -3: Classification of Respondent Post test knowledge level on care of low birth weight babies.**

N=50

Knowledge level	Scores	Respondents	
		Frequency	Percentages
Inadequate	≤ 50% score	0	0



Moderate	51 – 75 % score	0	0
Adequate	≥75% Score	50	100.0%
Total		50	100.0%

**Table No. 3:** Reveals that, distribution of level of knowledge among mothers of low birth weight babies regarding care of low birth weight babies during post-test. Most of them in the post-test 50(100%) had Adequate knowledge. None of them had moderate and inadequate knowledge.

**Part – III: Analysis of Pretest and Post test Attitude score of respondents on care of low birth weight babies.**

**Table -4: Classification of Respondent according to Pretest Attitude level on care of low birth weight babies.**

N=50

Pre Attitude level	Scores	Respondents	
		Frequency	Percentages
Poor	1 – 25 Scores	0	0
Average	26 – 50 Scores	5	10.0%
Good	51 – 75 scores	45	90.0%
Excellent	76 – 100 scores	0	0
Total		50	100.0%

**Table No. 4:** Reveals that, distribution of level of Attitude among mothers of low birth weight babies regarding care of low birth weight babies during pre-test. Most of them in the pre-test 45(90%) had Good attitude, 5(10%) had average attitude and none of them had poor and excellent attitude.

**Table -5: Classification of Respondent according to Post Attitude level on care of low birth weight babies.**

N=50

Post Attitude level	Scores	Respondents	
		Frequency	Percentages
Poor	1 – 25 Scores	0	0
Average	26 – 50 Scores	0	0
Good	51 – 75 scores	11	22.0%
Excellent	76 – 100 scores	39	78.0%
Total		50	100.0%

**Table No. 5:** Reveals that, distribution of level of Attitude among mothers of low birth weight babies regarding care of low birth weight babies during pre-test. Most of them in the pre-test 39(78%) had Excellent attitude, 11(22%) had good attitude and none of them had poor and average attitude.



**Part – III: Analysis of Pretest and Post test Practice score of respondents on care of low birth weight babies.**

**Table -6: Classification of Respondent according to Pretest Practice level on care of low birth weight babies.**  
N=50

Pre Practice level	Category	Respondents	
		Frequency	Percentages
Poor	1 – 25 Scores	0	0
Average	21 – 40 Scores	2	4.0%
Good	41 – 60 scores	48	96.0%
Total		50	100.0%

**Table No. 6:** Reveals that, distribution of level of practice among mothers of low birth weight babies regarding care of low birth weight babies during pre-test. Most of them in the pre-test 48(96%) had Good practice. 2(4.0%) had Average practice and none of them had poor practice.

**Table -7: Classification of Respondent according to Post test Practice level on care of low birth weight babies.**  
N=50

Post Practice level	Category	Respondents	
		Frequency	Percentages
Poor	1 – 25 scores	0	0
Average	21 – 40 scores	0	0
Good	41 – 60 scores	50	100.0%
Total		50	100.0%

**Table No. 7:** Reveals that, distribution of level of practice among mothers of low birth weight babies regarding care of low birth weight babies during pre-test. Most of them in the pre-test 50(100.0%) had Good practice. None of them had Average practice and None of them had Poor practice.

**Table -8: Analysis of Pretest knowledge, Attitude and practice score of respondents on Care of low birth weight babies.**  
N=50

Variable	Minimum	Maximum	Mean	Standard Deviation
Pre knowledge	9	28	20.32	4.901
Pre Attitude	45	68	57.96	4.633
Pre Practice	29	58	52.42	5.222

The above table depict that the level of Pre knowledge among the mothers of low birth weight babies Mean 20.32 and SD 4.901. level of Pre Attitude among the mothers of low birth weight babies Mean 57.96 and SD 4.633. Level of Pre Practice among the mothers of low birth weight babies Mean 52.42 and SD 5.222.



**Table -9: Analysis of Post test knowledge, Attitude and practice score of respondents on Care of low birth weight babies.**  
N=50

Variable	Minimum	Maximum	Mean	Standard Deviation
Post knowledge	26	36	32.20	2.259
Post Attitude	61	86	78.46	4.929
Post Practice	52	59	57.22	1.670

The above table depict that the level of Post knowledge among the mothers of low birth weight babies Mean 32.20 and SD 2.259. level of Post Attitude among the mothers of low birth weight babies Mean 78.46 and SD 4.929. Level of Post Practice among the mothers of low birth weight babies Mean 57.22 and SD 1.670.

**Table No 10: Mean, Standard deviation, Slandered error mean, Paired t Value, degree of freedom and p value of pre and post of knowledge, Attitude and practice score of subjects.**  
N=50

Variables		Mean	Standard Deviation	Standard Error Mean	Paired t value	df	p value	Significance
Pair 1	Pre Knowledge	20.32	4.901	.693	-20.371	49	.000	S
	Post Knowledge	32.20	2.259	.319				
Pair 2	Pre Attitude	57.96	4.633	.655	-24.239	49	.000	S
	Post Attitude	78.46	4.929	.697				
Pair 3	Pre Practice	52.42	5.222	.738	-8.027	49	.000	S
	Post Practice	57.22	1.670	.236				

S= Significant, df= Degree of freedom

The above table depict that there is significance difference between pre test and post test knowledge, attitude and practice scores of mothers of low birth weight babies.

#### **PART - 4: Association between pre test knowledge, attitude and practice scores with selected demographic variables of mothers of low birth babies.**

**Table No. 11: Association between Pre-test Knowledge level scores of subjects and selected socio demographic variables.**

N = 50

Sociodemographic Variables	Pre Knowledge level			Chi-Square value	df	P value	Significance
	Inadequate	Moderate	Adequate				



Age of mother	Below 20 Years	0	6	1	9.016	6	P>0.05 (0.173)	NS
	21 – 30 Years	6	31	4				
	31 – 40 Years	0	0	1				
	Above 40 Years	0	1	0				
Religion	Hindu	5	31	6	1.311	2	P>0.05 (0.519)	NS
	Muslim	1	7	0				
Type of family	Nuclear family	4	23	3	7.242	4	P>0.05 (0.124)	NS
	Joint family	1	15	2				
	Extended family	1	0	1				
Education status of mother	No formal education	0	3	3	12.604*	6	P<0.05 (0.050)	S
	Primary education	2	17	1				
	Higher secondary education	3	17	2				
	Diploma	1	1	0				
Occupation of mother	House wife	3	35	5	9.352	4	P>0.05 (0.053)	NS
	Daily wager	2	1	1				
	Private employee	1	2	0				
Residential Area	Urban	0	5	1	0.99	2	P>0.05 (0.610)	NS
	Rural	6	33	5				
Number of children	One	5	20	1	9.697	6	P>0.05 (0.138)	NS
	Two	0	13	5				
	Three	1	4	0				
	More than three	0	1	0				
Birth weight of the baby	1500 – 1750 grams	3	9	0	11.616	6	P>0.05 (0.071)	NS
	1751 – 2000 grams	0	6	1				
	2001 – 2250 grams	3	8	4				
	2251 – 2500 grams	0	15	1				



Gestational age of the baby	< 30 weeks	1	5	0	11.2	6	P>0.05 (0.082)	NS
	31 – 32 weeks	2	2	0				
	33 – 34 weeks	1	17	1				
	35 – 37 weeks	2	14	5				
Family income per months in rupees	Below Rs 5001 /-	1	8	2	1.37	6	P>0.05 (0.968)	NS
	Rs 7001 – 9000/-	3	12	2				
	Rs 9001 – 11000/-	1	9	1				
	Above Rs 11000/-	1	9	1				
Parity	Primi	4	21	1	4.423	4	P>0.05 (0.352)	NS
	Multi	2	12	4				
	Grand Multi	0	5	1				
Previous history of LBW	Yes	1	6	3	3.838	2	P>0.05 (0.147)	NS
	No	5	32	3				
Previous Source of information	Friends and family members	4	16	0	5.848	2	P>0.05 (0.054)	NS
	Health professional	2	22	6				

NS: Non significant P value -P<0.05 significance \*

The above Table depicts that there is a significant association between Pre test knowledge scores with educational status of mother ( $\chi^2=12.604$ , p-value 0.050). There is no significant association found between other selected socio demographic variable with pre-test knowledge scores.

**Table No. 12: Association between Pre-test Attitude level scores of subjects and selected socio demographic variables.**

N = 50

Sociodemographic Variables		Pre Attitude level			Chi-Square value	df	P value
		Average	Good	Total			
Age of mother	Below 20 Years	1	6	7	19.338*	3	P<0.05 (0.000)
	21 – 30 Years	2	39	41			
	31 – 40 Years	1	0	1			
	Above 40 Years	1	0	1			
Religion	Hindu	5	37	42	1.058	1	P>0.05 (0.304)
	Muslim	0	8	8	NS		



Type of family	Nuclear family	2	28	30	1.481	2	P>0.05 (0.477)
	Joint family	3	15	18	NS		
	Extended family	0	2	2			
Education status of mother	No formal education	1	5	6	0.539	3	P>0.05 (0.910)
	Primary education	2	18	20	NS		
	Higher secondary education	2	20	22			
	Diploma	0	2	2			
Occupation of mother	House wife	3	40	43	3.252	2	P>0.05 (0.197)
	Daily wager	1	3	4	NS		
	Private employee	1	2	3			
Residential Area	Urban	0	6	6	0.758	1	P>0.05 (0.384)
	Rural	5	39	44	NS		
Number of children	One	3	23	26	0.76	3	P>0.05 (0.859)
	Two	2	16	18	NS		
	Three	0	5	5			
	More than three	0	1	1			
Birth weight of the baby	1500 – 1750 grams	1	11	12	4.683	3	P>0.05 (0.197)
	1751 – 2000 grams	2	5	7	NS		
	2001 – 2250 grams	2	13	15			
	2251 – 2500 grams	0	16	16			
Gestational age of the baby	< 30 weeks	0	6	6	1.546	3	P>0.05 (0.672)
	31 – 32 weeks	0	4	4	NS		
	33 – 34 weeks	2	17	19			
	35 – 37 weeks	3	18	21			
Family income per months in rupees	Below Rs 5001 /-	1	10	11	2.347	3	P>0.05 (0.504)
	Rs 7001 – 9000/-	3	14	17	NS		
	Rs 9001 – 11000/-	0	11	11			
	Above Rs 11000/-	1	10	11			
Parity	Primi	3	23	26	0.76	2	P>0.05 (0.684)
	Multi	2	16	18	NS		



	Grand Multi	0	6	6			
Previous history of LBW	Yes	0	45	10	1.389 NS	1	P>0.05 (0.239)
	No	5	10	40			
Previous Source of information	Friends and family members	0	20	20	3.704 NS	1	P>0.05 (0.054)
	Health professional	5	25	30			

NS: Non-significant P value -P<0.05 significance \*

The above Table depict that the there is a significant association between Pretest Attitude scores of respondents with selected socio demographic variables like age of mother ( $\chi^2=19.338, p\text{-value}0.000$ ). There is no significant association found between pre test attitude scores with other selected socio demographic variables.

**Table No. 13: Association between Pre-test Practice level scores of subjects and selected socio demographic variables.**

N = 50

Sociodemographic Variables		Pre Practice level			Chi-Square value	df	P value
		Average	Good	Total			
Age of mother	Below 20 Years	1	6	7	2.272	3	P>0.05 (0.518)
	21 – 30 Years	1	40	41	NS		
	31 – 40 Years	0	1	1			
	Above 40 Years	0	1	1			
Religion	Hindu	1	41	42	1.792	1	P>0.05 (0.181)
	Muslim	1	7	8	NS		
Type of family	Nuclear family	0	30	30	12.384*	2	P<0.05 (0.002)
	Joint family	1	17	18	S		
	Extended family	1	1	2			
Education status of mother	No formal education	0	6	6	12.24*	3	P<0.05 (0.007)
	Primary education	1	19	20	S		
	Higher secondary education	0	22	22			
	Diploma	1	1	2			
Occupation of mother	House wife	1	42	43	7.203*	2	P<0.05 (0.027)
	Daily wager	0	4	4	S		



	Private employee	1	2	3			
Residential Area	Urban	0	6	6	0.284	1	P>0.05 (0.594)
	Rural	2	42	44	NS		
Number of children	One	2	24	26	1.923	3	P>0.05 (0.589)
	Two	0	18	18	NS		
	Three	0	5	5			
	More than three	0	1	1			
Birth weight of the baby	1500 – 1750 grams	1	11	12	3.807	3	P>0.05 (0.283)
	1751 – 2000 grams	1	6	7	NS		
	2001 – 2250 grams	0	15	15			
	2251 – 2500 grams	0	16	16			
Gestational age of the baby	< 30 weeks	1	5	6	3.628	3	P>0.05 (0.305)
	31 – 32 weeks	0	4	4	NS		
	33 – 34 weeks	1	18	19			
	35 – 37 weeks	0	21	21			
Family income per months in rupees	Below Rs 5001 /-	0	11	11	1.816	3	P>0.05 (0.611)
	Rs 7001 – 9000/-	1	16	17	NS		
	Rs 9001 – 11000/-	1	10	11			
	Above Rs 11000/-	0	11	11			
Parity	Primi	2	24	26	1.923	2	P>0.05 (0.382)
	Multi	0	18	18	NS		
	Grand Multi	0	6	6			
Previous history of LBW	Yes	0	10	10	0.521	1	P>0.05 (0.470)
	No	2	38	40	NS		
Previous Source of information	Friends and family members	1	19	20	0.087	1	P>0.05 (0.768)
	Health professional	1	29	30	NS		

NS: Non-significant      P value -P<0.05 significance \*



The above Table Depict that there is a significant association between the Pre test Practice scores of respondents with selected socio demographic variables like type of family ( $\chi^2=12.384, p\text{-value } 0.002$ ), education status of mother ( $\chi^2=12.24, p\text{-value } 0.007$ ), occupation of mother ( $\chi^2=7.203, p\text{-value } 0.027$ ). There is no significant association between pre test practice scores with other selected socio demographic variables.

## Conclusion

This study concludes that the structured parental education program was effective in significantly improving the knowledge and care practices of mothers of LBW babies. The positive outcomes observed in the experimental group emphasize the critical role of maternal education in enhancing newborn care, reducing neonatal complications, and promoting early bonding and breastfeeding.

Given the vulnerability of LBW infants, especially in rural and semi-urban settings like Belagavi, integrating parental education into standard hospital care can contribute meaningfully to improving neonatal survival rates and long-term child health outcomes.

## Recommendations:

Based on the study findings, the following recommendations are made:

- 1. Hospital-level Integration:**  
Incorporate structured parental education as a routine part of discharge planning in all government hospitals and maternity wards.
- 2. Training for Nursing Staff:**  
Provide regular training for nurses and midwives on delivering effective newborn care education to mothers.
- 3. Follow-up Support:**  
Establish follow-up sessions during immunization visits or community health check-ups to reinforce care practices.
- 4. Involvement of Family Members:**  
Encourage inclusion of fathers or caregivers in education sessions to enhance shared responsibility for neonatal care.
- 5. Scalability:**  
Replicate the study with a larger sample across multiple districts to confirm generalizability and sustainability of outcomes.

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## Reference:

1. Ministry of Health and Family Welfare (MoHFW). National Child Health Programme Annual Report 2024–25. Government of India.
2. Kumar, R., Mehta, S., & Tiwari, P. Maternal Education and Neonatal Outcomes: A Systematic Review. *Journal of Neonatal Health*. 2024;9(1):22–30. [PubMed] [Google Scholar]
3. Sharma, R., & Nair, S. Kangaroo Mother Care and Its Effect on Neonatal Outcomes: A Hospital-Based Study. *Indian Journal of Pediatrics and Neonatal Medicine*. 2024;11(1):45–51. [PubMed] [Google Scholar]
4. World Health Organization. Preterm birth. Geneva: WHO; 2023. Available from: <https://www.who.int/news-room/fact-sheets/detail/preterm-birth>.
5. Reddy, A., Thomas, S., & Rao, K. Educating Mothers of LBW Infants: A Strategy for Improving Neonatal Health Outcomes. *International Journal of Neonatal Care*. 2025;10(2):18–24. [PubMed] [Google Scholar]
6. Patel, R., & Nambiar, S. Structured Postnatal Education and Its Impact on Maternal Practices for Low Birth Weight Babies. *Journal of*



- Maternal and Neonatal Nursing. 2025;14(1):35–42. [PubMed] [Google Scholar]
7. Verma, S., Gupta, P., & Shah, M. Postnatal Interventions for Low Birth Weight Infants: Outcomes of a Hospital-Based Parental Training Program. *Indian Journal of Community Pediatrics*. 2025;19(1):12–19. [PubMed] [Google Scholar]
  8. Kumar, A., & Desai, R. Maternal knowledge and practices regarding care of low birth weight infants: A hospital-based study. *Journal of Neonatal and Perinatal Health*. 2024;11(2):45–51. [PubMed] [Google Scholar]
  9. Patel, N., Roy, S., & Mehta, D. Impact of educational intervention on maternal care practices for low birth weight infants. *International Journal of Nursing and Midwifery Research*. 2024;8(1):20–27. [PubMed] [Google Scholar]