RESEARCH PAPER

"A Study To Assess The Impact Of Health Education On Management Of Neonatal Jaundice Among Post Natal Mothers At Selected Hospitals Of Chitradurga"

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ABSTRACT
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INTRODUCTION

Pregnancy and child birth are special events in womens life and indeed in the lives of their families[1]. Proper care of newborn babies from the foundation for subsequent life not only in terms of qualitative outcome without any medical and physical disabilities. Newborn is an important link in the chain of events from conception to adulthood[2]. Newborn undergo many profound physiological changes at birth. Because they have been released from a warm, darkened liquid filled environment, which has met all of their need, into chills gravity by based, outside world[3]. During the process of physiological process or adaptation for its survival of the infants life or neonate have to face many life threatening problems such as asphyxia, hypothermia, hyperthermia, infection and Neonatal Jaundice etc. So the assessment and care of newborn is very essential[4].

Neonatal jaundice is one of most common neonatal problems, nearly 65 - 70%of neonate have visible jaundice in first few day of life. The word jaundice is derived from French word "jaune" meaning yellow, when it is said to baby is jaundiced, it simply means that the colour of skin appears yellow, which is often seen in first few days after birth. The yellow colour is due to the bilirubin that is produced R.B.C get old and are broken down by the body. When there is excessive R.B.C breakdown, the bilirubin level in the blood goes up and it also gets deposited in the tissue imparting a yellow colour to the skin[5]

Bilirubin consist of conjugated and unconjugated bilirubin and it is abnormal to have conjugated bilirubin accounting for more than 5% of total serum bilirubin, reports from the 1960"s indicate that breast feeding is a risk factor for severe hyperbilirubinemia. Kernicterus has reemerged as a significant concern in the last 15 year and breast feeding has been suggested as a contributing factor,since 98%of kernicteric infants were exclusive breast fed compared to the US national average of 68%[6].

Newborn infants who develops hyperbilirubinemia may require therapeutic intervention (eg; phototherapy) with in first 24 to 72hrs of life during hospitalisation. Home phototherapy may be used as an alternate to hospital phototherapy for early discharge or prevention of re-admission in tern infants with elevated T.S.B (total serum bilirubin) without the presence of haemolytic diseases or any other pathological process. Peer reviewed literature has demonstrated that management of neonatal jaundice (T.S.B 12-18mg/dl) with home phototherapy to be safe, effective method of T.S.B and allows for discharge home with the mothers for continued bonding, because device available for home phototherapy may not provide the same degree of irradiance or surface area exposure as those available in the hospital, home phototherapy should be used only in the optional phototherapy range is not appropriate for infants with higher bilirubin concentration.

Health education is most effective weapon to prevent and control illness. It promotes health, prevents and reduces suffering prolongs life with quality with less cost, timely health education provided at frequent intervals help all individual to achieve good health by their own action and effort.

OBJECTIVES

To assess the preexisting knowledge about the management of neonatal jaundice among post natal mothers through pretest

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To prepare and implement health education regarding management of neonatal jaundice for the mother of neonates.
To evaluate the effectiveness of health education regarding management of neonatal jaundice among post natal mothers through post test.
To identify the association between different socio demographic variables of mothers with their knowledge on management of neonatal jaundice.

METHODOLOGY

Research approach

Research approach is the most significant part of any research. The appropriate choice of the research approach depends upon the purpose of research study which has been undertaken in order to accomplish the main objectives of the study; an evaluative approach was used for this study to test the impact of health education for postnatal mothers regarding the management of neonatal jaundice.

Research design

The research design provides a platform for the researcher to explore the new knowledge in an effort to describe and understand the phenomena, clarify possible explanations and identification of potential causative factors. In this research in order to accomplish the objectives of the study, pretest posttest design with pre experimental approach was used to evaluate the knowledge on neonatal jaundice of postnatal women.

On group pretest and posttest design

Group	Pre – test (X)	Treatment (T)	Post-test (Y)
Postnatal mothers in selected hospital	Day 1 (Closed – ended structured questionnaire)	Day 1 (Structured program)	Day 8 (closed ended structured questionnaire)

One group pretest posttest design helps in judging the effectiveness of the intervention by the differences between the pretest and post test scores without comparing with a control group.[39]

Variables

A variable is a measurable or potentially component of an object or event that may fluctuate in quantity. It is the focus of the study and reflects the empirical aspects of the concepts being studied, the investigator measures the variable.

Dependent variable: In this study, the level of knowledge of postnatal mothers regarding the management of neonatal jaundice is the dependent variable.

Independent variable: In this study, health education on management of neonatal jaundice is the independent variable.

Demographic variables: Baseline characteristics such as age, religion, education level, food pattern of the family, monthly family income, occupation, type of family, source of information

Setting

Setting is a physical location and condition in which data collection takes. This research was conducted in selected hospital of Chitradurga including Govt. district hospital and Basaveshwara Medical College Hospital and research centre, Chitradurga.

Population

The term population refers to the aggregate or totality of all subjects or members that conform to set of specifications.[40] The population of the of the study consists of postnatal women.

Sample and sample size

Sample is the subset of population to participate in the research study. The sample comprised of 60 postnatal mothers of neonates attending inpatient department of Govt. district hospital.

Sampling technique

Sampling is the process of selecting a subset of elements from a larger set of elements.[3] Non-probability - convenience sampling technique was used to select the sample. The investigator has selected the 60 samples from Govt District hospital, chitradurga who were postnatal mothers of neonates for the study.

CRITERIA FOR SELECTION OF SAMPLE

Inclusion criteria

The postnatal women having neonates.
Those who were able to understand Kannada or English.
The postnatal women available at the time of data collection.
The postnatal women who were willing to participate in the study.

Exclusion criteria

The postnatal women who were not co-operative.
The postnatal women who were not available during the study.
The postnatal women who were not ready to participate in the study.

Development of tool

The instrument used to collect the data acts as a vehicle for obtaining the data for drawing conclusions which were pertinent to the study.[41] A structured questionnaire was developed to collect the information on knowledge about neonatal jaundice. An intense search of related literature and discussion with experts in the field of obstetrics and gynecology, pediatrics and neonatology were consulted for developing an appropriate tool.

To assess the knowledge of the postnatal mothers at selected Hospital of Chitradurga district
A closed ended questionnaire was prepared consisting of two sections

Section A : Section A of the questionnaire included eight items dealing with the age, religion, education level, food pattern of the family, monthly family income, occupation, type of family, source of information about neonatal jaundice.

Section B was divided in to three parts
Part I: Part I of the questionnaire dealt with the General information about neonatal jaundice and included six items.
Part II: Part II of the questionnaire included 10 items dealing with causes, signs and symptoms of neonatal jaundice.
Part III: Part III of the questionnaire included fourteen items dealing with the items about management of neonatal jaundice.

Score interpretation
The knowledge regarding the management of neonatal jaundice was measured in terms of knowledge scores. Each correct scoring was given a score of one and wrong answers a score of zero. The maximum score was 30 and the minimum score was 0. To interpret level of knowledge the score was distributed as follows:

Inadequate knowledge : < 50%
Moderate knowledge : 50-75%
Adequate knowledge : > 75%

Content validity of the Tool:

Content validity is defined as the adequacy of the sampling of the domain under study.[42]

Five exerts from the field of Community medicine, Pediatrics and nursing reviewed the constructed tool for content validity. The blue print and evaluation criteria checklist was also given for validation of the tool. The experts were sought the opinion about the relevance, appropriateness and degree of agreement to the tool. The experts suggested no major changes except rewording of few items and depending upon the suggestions of the experts the tool was modified.

Reliability of the tool

Reliability is defined as a measure which measures the extent to which the items in the instrument are related to one another. In other words the reliability measures the internal consistency of the questionnaire.
The internal consistency in this research was established by using split half technique. The tool was administered to 10 mothers and the number of items was split in to two equal parts. The crohnbach"s alpha of the tool was 0.722. Since it is more than 0.7, it was considered as good.
The stability of the tool was assessed by test – retest method. The tool was administered to 10 nursing students 2 times with an interval of 4 days. The correlation coefficient was 0.8 and its corresponding p value was less than 0.05. Hence it was considered that the tool has sufficient reliability.

Data collection method:

Permission for the study was obtained from the District Surgeon (DS) of the Government district hospital and Medical Superintendent of the Basaveshwara Medical College Hospital and Research centre. Data was collected from the postnatal mothers from the inpatient department of this hospital from 21/02/2018 to 23/02/2018. Sixty postnatal mothers were pretested for the knowledge about the neonatal jaundice.

First demographic data was collected from the mothers after obtaining an informed consent to be included in the study. Then the knowledge questions were asked were asked one after the other and the mother"s responses were marked on the interview schedule by the investigator.

A structured teaching programme was implemented after the pretest and the same mothers were consulted after two days for post test.

Plan for data analysis
The data thus obtained was analyzed in terms of the objectives of the study using descriptive and inferential statistics.

The plan for data analysis was as follows

Frequencies and percentages for the baseline characteristics
Mean, standard deviation and t test to determine the significance of the difference in the pre and post test knowledge scores.
Chi square test for finding the difference in pre and post test scores within the baseline characteristics.
A p value of less than 0.05 was considered as statistically significant.

RESULTS

This chapter deals with the analysis and interpretation of the data collected from 60 postnatal mothers in settings of Chitradurga district.
The data analysis is defined as "categorizing, ordering, manipulating and summarizing the data to reduce to intelligible and interpretable form so that the research problem can be studied and tested including the relationship between the variables."[7] The tabulated data and its interpretation can bring light and real meaning to the findings of the study. The knowledge of the postnatal

mothers regarding the management of neonatal jaundice has been studied using descriptive and inferential statistics.[44]
The analysis and interpretation of the data of this research are based on data collected from sixty postnatal mothers through interview approach on knowledge of management of neonatal jaundice. The steps used in analyzing the data as follows,

The data obtained from the interview was entered and organized in a master sheet to help for statistical processing.
Frequencies and percentages were calculated to study the distribution of subjects according to baseline characteristics.
Descriptive statistics was computed like mean, standard deviation, mean % and Standard deviation%.
Inferential statistics was computed by using paired „t" test to compare the pre and post test scores about knowledge of neonatal jaundice.
The χ^2 test was used to compare the frequency distributions of categorical variables across 2 or more groups.
The analysis and interpretation of the data has been conducted based on the following objectives of the study and was organized under five sections.

Presentation of Data:
Section – I: The description of baseline characteristics of the study group.
Section – II: The classification of the respondents by pre and posttest knowledge levels.
Section – III: The comparison of pre and post test knowledge scores in the study group.
Section – IV: The association between the socio demographic variables of mothers with their pretest knowledge level.
Section – V: The association between the socio demographic variables of mothers with their post-test knowledge level.
Section – I:
The description of baseline characteristics of the study group.

This section describes the baseline characteristics of the study group in terms of age, religion, education level, food pattern of the family, monthly family income, occupation, type of family, source of information.

T

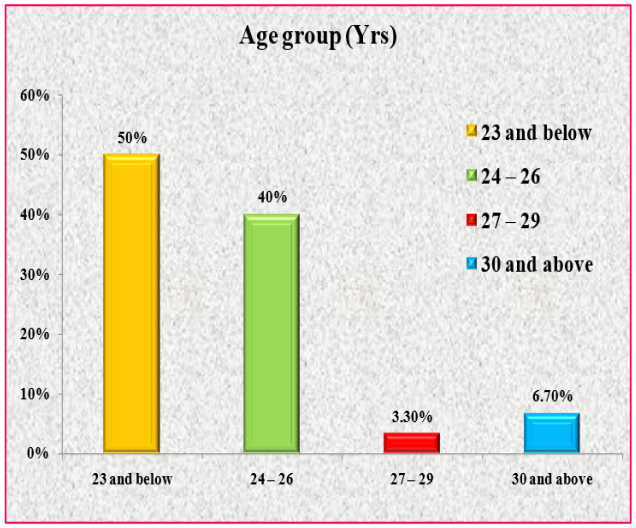
able 1. Classification of Respondents by Age group, Religion, Educational level and food pattern of the family (n=60)

Characteristics	Category	Respondents	%
Age group (yrs)	**23 and below**	30	50
	24 – 26	24	40
	27 – 29	2	3.3
	30 and above	4	6.7
Religion	**Hindu**	33	55
	Muslim	21	35
	Christian	6	10
	Others	0	0
Educational level	**No formal education**	1	1.7
	Primary education	19	31.7
	Secondary education	30	50
	Graduation and above	10	16.7
Food Pattern of the family	**Vegetarian**	23	38.3
	Non Vegetarian	16	26.7
	Mixed	21	35.0
Total		**60**	**100**

Table no 1 shows the distribution of the study group according to age group, religion, education level and food pattern of the family. In the study group, about 50% of the postnatal mothers belonged to 23 years and below, 40% belonged to 24 – 26 years and 3.3% belonged to 27 – 29 years. About 55% of the mothers were Hindu by religion, 35% were Muslims, 10% were Christians and none of them belong to other religion out of sixty mothers, 1.7% had no formal education, 31.7% had primary education, 50% had completed secondary education and 16.7% had completed graduation and above and about 38.3% of the postnatal

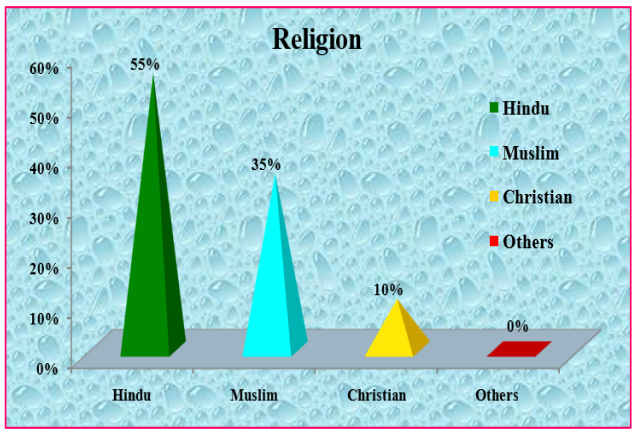
mothers were having vegetarian diet, 26.7% belonged to non-vegetarian diet and 35% were having mixed diet.

n=60



Graph 1. Classification of Respondents by Age group

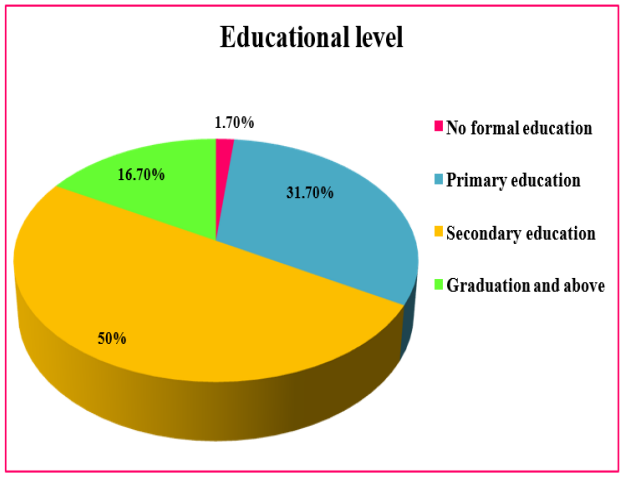
n=60



Graph 2. Classification of Respondents by Religion

n=60

Graph 3. Classification of Respondents by Educational level



n=60

Graph 4 Classification of Respondents by food pattern of the family

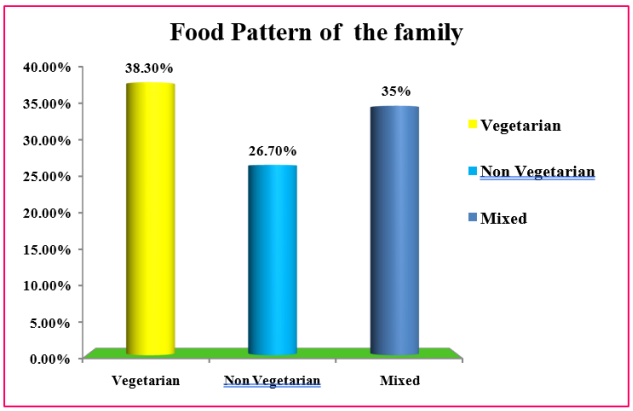


Table 2. Classification of Respondents by monthly family income, occupation, type of family and source of information.

n=60

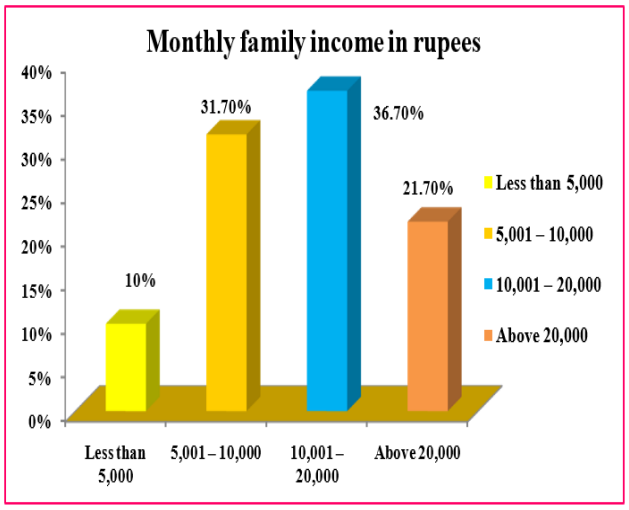
Characteristics	Category	Respondents	%
Monthly family income in rupees	Less than 5,000	06	10.0
	5,001 – 10,000	19	31.7
	10,001 – 20,000	22	36.7
	Above 20,000	13	21.7
Occupation	House wife	12	20.0
	Self employed	09	15.0

	Private employed	39	65.0
Type of family	**Nuclear**	14	23.3
	Joint	46	76.7
	Extended	0	0
Source of information	**No information**	20	33.3
	Mass media	18	30.0
	Relatives / friends	4	6.7
	Health professionals	18	30.0
Total		60	100

Table no 2. Show the distribution of the study group by about 10% of the postnatal mother's family had monthly income of less than 5,000 rupees, 31.7% had income of 5,001–10,000 rupees, 36.7% had income of 10,001–20,000 rupees and 21.7% had income of above 20,000 rupees. About 20% of the postnatal mothers were housewives, 15% were self-employed and 65% were private employed. About 23.3% of the postnatal mothers belong to nuclear family, 76.7% were belonging to joint family and none of them were belong to extended family type. About 33.3% of the postnatal mothers had no information on neonatal jaundice, 30% had obtained the information from mass media and 6.7% from relatives and friends and 30% obtained the information from health professionals.

n=60

Graph 5. Classification of Respondents by monthly family income in rupees

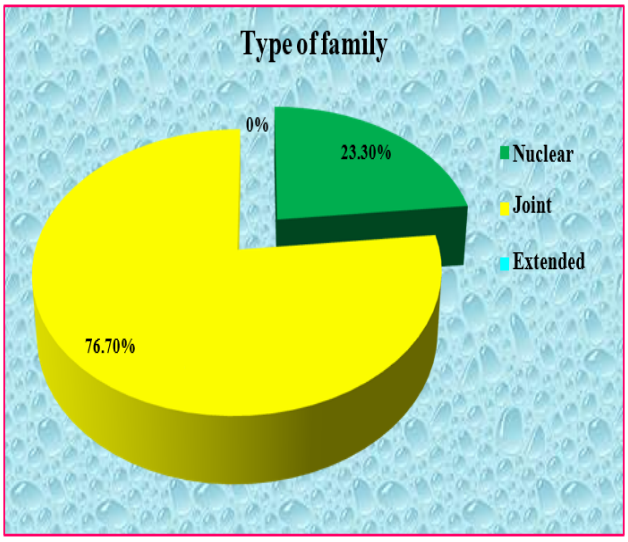


n=60

Graph 6. Classification of Respondents by occupation

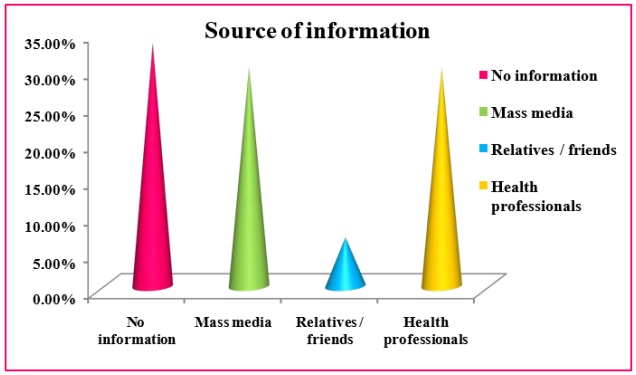
n=60

Graph 7. Classification of Respondents by type of family.



n=60

Graph 8. Classification of Respondents by source of information



Section – II: The classification of the respondents by pre and post test
Knowledge levels.

Table 3. Classification of respondents by pretest knowledge scores

n=60

Pretest knowledge levels	Scores	Respondents	
		Number	Percent
Inadequate	0 to 15	56	93.3
Moderate	15 to 22.5	4	6.7
Adequate	22.5 to 30	0	0
Total		60	100

Table no 3 shows that about 93.3% of the postnatal mothers had inadequate knowledge of management of neonatal jaundice and 6.7% had moderate knowledge and the graph depicts the same.

n=60

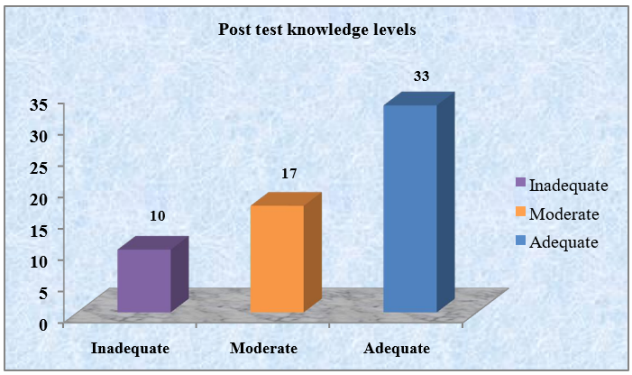
Graph 9. The pre test knowledge level of postnatal mothers.

Table 4. Classification of respondents by post-test knowledge scores

Post - test knowledge levels	Scores	Respondents	
		Number	Percent
Inadequate	0 to 15	10	16.7
Moderate	15 to 22.5	17	28.3
Adequate	22.5 to 30	33	55.0
Total		60	100

The above table shows the post test knowledge levels in the study group. About 16.7% of the study group had inadequate, 28.3% had moderate and 55% of had adequate post test knowledge level and the graph 10 depicts the same.
n=60

Graph 10. The pre test knowledge level of postnatal mothers.



Section – III: The comparison of pre and post test knowledge scores in the study group.

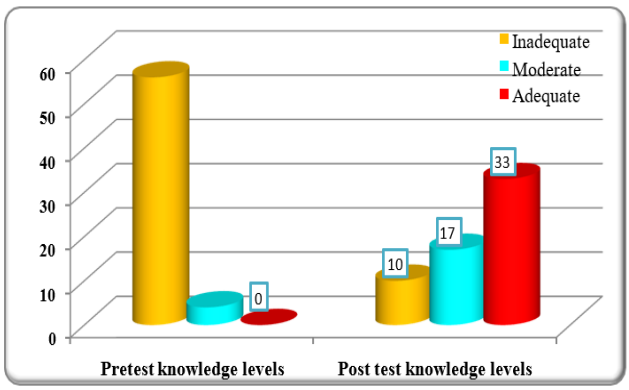
Table 5. Comparison of the pre and post knowledge levels in the study group

n=60

Level of Severity	Category	Classification of Respondents				χ^2 Value
		Pre test		Post test		
		Number	Percent	Number	Percent	
Inadequate	**0 to 15**	56	93.3	10	16.7	73.11, P=0.0001, HS
Moderate	**15 to 22.5**	4	6.7	17	28.3	
Adequate	**22.5 to 30**	0	0	33	55	
Total		60	100	60	100	

Note: HS- Highly significant

The above table and graph 11 shows that about 33 postnatal mothers had adequate knowledge level during post test against none during pre test. About 17 had moderate knowledge level during post test against 4 during pre test; While 10 postnatal mothers had inadequate knowledge level during post test against 56 during pre test. This difference was statistically significant between the pre and post test levels.
n=60



Graph 11. The pre and post test knowledge level of postnatal mothers.

Table 6. Comparison of Pretest and Posttest level of knowledge scores

	Max.	Respondents Knowledge	Paired t

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	Score	Mean	SD	Mean (%)	SD (%)	Test
Pre test	30	8.53	4.7	28.43	15.7	20.56***
Post test	30	21.92	5.2	73.07	17.3	
Enhancement	30	13.383	5.04	44.61	16.8	

*** Significant at 0.1% level, t (0.0001, 59 df) = 1.96

The above table shows the pre and post test knowledge score about the management of neonatal jaundice among post natal mothers. The mean pre test score was 8.53 with a standard deviation of 4.7. The mean percentage was 28.43. The mean score in the post test group was 21.93 with a standard deviation of 5.2. The mean difference in knowledge scores was pre and post test scores was 13.383 with a standard deviation of 5.04. This difference was statistically significant at 0.05 levels.

Table 7. Pretest scores of knowledge aspects

Sl. No.	Knowledge aspects	Statements	Max score	Respondents knowledge			
				Mean	SD	Mean %	SD %
1	**General information**	6	6	2.6	2.1	43.3	35.0
2	**Causes, signs and symptoms**	10	10	2.83	2.85	28.3	28.5
3	**Management**	14	14	3.10	2.69	22.1	19.2
TOTAL		30	30	8.53	4.7	28.4	15.7

The above table shows that the mean pre test scores of part I dealing with general information was 2.6, part II dealing with causes, signs and symptoms was 2.83 and management of neonatal jaundice was 3.1. The overall mean score was 8.53 with a standard deviation of 4.7.

Table 8. Post test scores of knowledge aspects

S.No.	Knowledge aspects	Statements	Max score	Respondents knowledge			
				Mean	SD	Mean%	SD%
1	**General information**	6	6	5.1	1.32	85.0	22.0
2	**Causes, signs and symptoms**	10	10	7.12	2.94	71.2	29.4
3	**Management**	14	14	9.7	3.45	69.3	24.6
	TOTAL	30	30	21.92	5.2	73.1	17.3

The table above shows that the mean post test scores of part I dealing with general information was 5.1, part II dealing with causes, signs and symptoms was 7.12 and management of neonatal jaundice was 9.7. The overall mean score was 21.92 with a standard deviation of 4.7.

Table 09. Comparison of pre and post test scores of knowledge aspects

n=60

Sl. No.	Knowledge level									T-Test
	Knowledge aspects	Statements	Max score	Pretest		Posttest		Enhancement		
				Mean%	SD%	Mean%	SD%	Mean%	SD%	
1	General information	6	6	43.3	35.0	85.0	22.0	41.7	30.5	10.598*
2	Causes, signs and symptoms	10	10	28.3	28.5	71.2	29.4	42.8	30.8	10.768*
3	Management	14	14	22.1	19.2	69.3	24.6	47.1	26.3	13.863*
	TOTAL	30	30	28.4	15.7	73.1	17.3	44.6	16.8	20.559*

* Significant at 0.1% level, t (0.0001,59 df) = 1.96

Table no 09 shows the comparison of knowledge scores of postnatal mothers between the pre and post test scores. The mean percent of enhancement in part I scores was 41.7%, part II was 42.8%, part III was 47.1%. The mean differences between the pre and post test scores of these three knowledge aspects were statistically significant. The mean percentage difference between the pre and post test knowledge scores was 44.6 and this difference was also statistically significant.

Section – IV: The association between the socio demographic variables of postnatal mothers with their pretest knowledge level.

Table 10. Comparison of pretest knowledge levels and baseline characteristics.

n=60

Characteristics	Frequency	Adequate	Moderate	Inadequate	χ^2 Value	p-value
Age group(yrs)						
23 and below	30	0	0	30	43.93 Df=6	0.001, Sig
24 – 26	24	0	0	24		
27 – 29	2	0	2	0		
30 and above	4	0	2	2		
Religion						
Hindu	33	0	0	33	38.571	0.001

Muslim	21	0	0	21	Df=4	, Sig
Christian	6	0	4	2		
Educational level						
No formal education	1	0	0	1	21.43 Df=6	0.001 , Sig
Primary education	19	0	0	19		
Secondary education	30	0	0	30		
Graduation and above	10	0	4	6		
Food pattern of the family						
Vegetarian	23	0	0	23	2.79 Df=4	0.247 , NS
Non Vegetarian	16	0	2	14		
Mixed	21	0	2	19		
Monthly family income (In Rs)						
Less than 5,000	6	0	0	6	15.495 Df=6	0.001 , Sig
5,001 – 10,000	19	0	0	19		
10,001 – 20,000	22	0	0	22		
Above 20,000	13	0	4	9		
Occupation					24.286 Df=4	0.001 , Sig
House wife	12	0	0	12		
Self employed	9	0	4	5		
Private employed	39	0	0	39		
Type of family					2.807 Df=3	0.246 , NS
Nuclear	14	0	0	14		
Joint	46	0	1	45		
Information					0.714 Df=6	0.870 , NS
No information	20	0	2	18		
Mass media	18	0	1	17		
Relatives / friends	4	0	0	4		
Health professionals	18	0	1	17		
Total	60	0	4	56		

Table no 10 shows the distribution of baseline characteristics and pre test knowledge levels. The table shows that the postnatal mothers aged more than 27 years, Christian religion, graduation and above, belonging to mixed diets and family monthly income level of more than 20,000 rupees, working self employed, with joint family type had moderate knowledge.

The difference between the age group, religion, education level, Income, Occupation and knowledge level was statistically significant.

Section – V: The association between the socio demographic variables of mothers with their post-test knowledge level.

Table 11. Comparison of post test knowledge levels and baseline characteristics.
n=60

Characteristics	**Frequenc y**	**Adequate**	**Moderat e**	**Inadequate**	**χ^2 Value**	**p-value**
Age group(yrs)						
23 and below	30	17	9	4	4.227 Df=6	0.646 , NS
24 – 26	24	11	7	6		
27 – 29	2	2	0	0		
30 and above	4	3	1	0		
Religion						
Hindu	33	20	8	5	5.033 Df=4	0.284 , NS
Muslim	21	8	8	5		
Christian	06	5	1	0		
Educational level						
No formal education	1	0	1	0	8.719 Df=6	0.190 , NS
Primary education	19	10	5	4		
Secondary education	30	14	10	6		
Graduation and above	10	9	1	0		
Food pattern of the family						
Vegetarian	23	12	9	2	3.551 Df=4	0.47, NS
Non Vegetarian	16	8	4	4		
Mixed	21	13	4	4		
Monthly family income (in Rs)						
Less than 5,000	6	3	3	0	19.683 Df=6	0.003 , Sig
5,001 – 10,000	19	5	10	4		
10,001 – 20,000	22	13	3	6		

Above 20,000	13	12	1	0		

Occupation						
House wife	12	7	3	2	2.318 Df=4	0.678 , NS
Self employed	9	6	3	0		
Private employed	39	20	11	8		
Type of family						
Nuclear	14	11	2	1	1.782 Df=3	0.776 , NS
Joint	46	35	7	4		
Information						
No information	20	11	6	3	2.961 Df=6	0.814 , NS
Mass media	18	9	6	3		
Relatives / friends	4	2	2	0		
Health professionals	18	11	3	4		
Total	60	33	17	10		

Table no 11 shows the distribution of baseline characteristics and post test knowledge levels. The table shows that the postnatal mothers aged below 23 years Hindu, graduated and above, belonging to joint family type with income level of more than 3,000, self-employed, with 3rd trimester of gestational age had shown adequate knowledge. The difference between Income and knowledge level was statistically significant.

DISCUSSION

This study was taken up with an aim of assessing the knowledge of postnatal mothers regarding management of neonatal jaundice before and after implementation of a structured teaching programme. The discussion is therefore organized under following headings,

The description of baseline characteristics of the study group.
The classification of the respondents by pre and post test knowledge levels.
The comparison of pre and post test knowledge scores in the study group.
The association between the socio demographic variables of postnatal mothers with their pretest knowledge level.
The association between the socio demographic variables of post natal mothers with their post-test knowledge level.
The description of baseline characteristics of the study group

The researcher studied the baseline characteristics of the study group. About 50% of the postnatal mothers belonged to less than 23 years. About 55% of the mothers were Hindu by religion, 50% had completed secondary education. In the study group, about 38.3% of the mothers were vegetarians, 36.7% had income of 10,001 – 20,000 rupees and 65% were private employed. Above 76.7% were from joint family and 33.3% of the postnatal mothers had no information on neonatal jaundice.

The classification of the respondents by pre and post test knowledge levels

This study revealed that almost 93.3% of the postnatal mothers had inadequate knowledge about the management of neonatal jaundice. This study also revealed that about 33 postnatal mothers had adequate knowledge level during post test against none during pre test. About 17 had moderate knowledge level during post test against 4 during pre test; While 10 postnatal mothers had inadequate knowledge level during post test against 56 during pre test. This difference was statistically significant between the pre and post test levels. The knowledge level had shown drastic improvement from pre to post test. Since the

postnatal mothers were included in the study the researcher does not expect 100% improvement in the knowledge level.

The comparison of pre and post test knowledge scores in the study group

The mean pre test score was 8.53 with a standard deviation of 4.7 and the mean score was increased to 21.9 in the post test group with a standard deviation of
5.2. The mean pre test scores of part I dealing with general information was 2.6 which improved to 5.1 amounting to an improvement of 41.7%, part II dealing with causes, signs and symptoms was 2.83 which improved to 7.12 to an extent up to 42.8% and management of neonatal jaundice was 3.1 which improved to 9.7 to an extent of 47.1%. The overall mean score was 8.53 which improved to 21.93. The mean difference in knowledge scores was pre and post test scores were 13.4 to an extent of 44.6% which was statistically significant at 0.05 levels.
In a similar study by Amirshaghaghi et al, studied the knowledge of 1666 mothers of icteric children. The mean knowledge score was 3.38 ± 1.23 (out of 6). About 77% of the mothers had moderate to high level of knowledge of neonatal jaundice.[45]

In a cross sectional study by Khaleshi et al, he studied 400 mothers of infants born in Ali-Ebne Abitaleb Hospital in Zahedan-April and May 2006 were interviewed to complete 21-point questionnaires. The mean age of mothers was 26.8+/-6.5 years. The mean of knowledge score was 7.25+/-2.1 although knowledge of mothers about diagnostic methods was acceptable, it was not sufficient about causes, complications, harmful symptoms and prevention of the disease.[46]

The association between the socio demographic variables of mothers with their pretest knowledge level

The postnatal mothers aged more than 27 years, Christians, graduated and above, non-vegetarian and mixed diet, with income level of more than 20,000, self-employed; belonging to joint family had moderate knowledge. The difference between the age group, religion, education level, Monthly family income, Occupation and knowledge level was statistically significant.

The association between the socio demographic variables of mothers with their post-test knowledge level

The majority of the postnatal mothers aged 20 – 26 years, Hindus, Secondary education, having mixed diet, with income level between 10,001 – 20,000, working in private employed, belonging to joint family had shown adequate knowledge. The difference between monthly family income and knowledge level was statistically significant.

CONCLUSION

The study findings indicate that health education was effective in improving the knowledge of postnatal mothers regarding the management of neonatal jaundice. Most mothers had inadequate knowledge in the pretest, whereas a significant improvement was observed in the posttest, with many participants achieving adequate knowledge levels. The results also showed a significant association between knowledge and certain demographic variables. Therefore, health education programs are essential for increasing awareness and promoting early management of neonatal jaundice, which may help reduce neonatal morbidity and mortality.

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