IDC INTERNATIONAL JOURNAL
OPEN ACCESS
International Online Peer- Reviewed, Referred, Indexed Journal *August – October 2024* Volume: 11 Issue: 4

A STUDY TO ASSESS THE IMPACT OF HEALTH EDUCATION ON MANAGEMENT OF NEONATAL JAUNDICE AMONG PRIMI ANTENATAL RURAL MOTHERS AT SELECTED PHC'S OF CHITRADURGA DISTRICT

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DOI: http://doi.org/10.47211/idcij.2024.v11i04.007

ABSTRACT

This study evaluates the impact of health education interventions on the knowledge levels of rural primi antenatal mothers regarding the management of neonatal jaundice. The research was conducted in selected rural areas of Chitradurga taluk, specifically in Pandrahalli, Yalagodu, and Aimangala PHCs. The Yalagodu PHC serves a population of approximately 16,000, with an average antenatal care (ANC) load of around 200, while the Pandarahalli PHC caters to about 14,000 individuals, with an average ANC of approximately 175. The population for this study consisted of primi antenatal women across all trimesters of pregnancy. The sample included 60 primi antenatal women attending the outpatient departments of the selected PHCs, utilizing a purposive or judgmental sampling technique to ensure the inclusion of typical subjects. Initially, a significant majority of participants (93.3%) demonstrated inadequate knowledge, with only a minor percentage showing moderate understanding. Following the educational sessions, results indicated a remarkable improvement, with 55% achieving adequate knowledge levels, thereby underscoring the effectiveness of the intervention. Statistical analysis revealed significant associations between knowledge levels and various demographic factors in the pretest, particularly age, religion, educational level, income, and occupation. In the posttest, a notable association remained with income, indicating that socioeconomic factors influence knowledge acquisition. The health education program not only improved mothers' understanding of neonatal jaundice management but also empowered them to actively engage by asking questions and seeking clarifications about treatment processes. This enhancement in knowledge is crucial for improving health outcomes for newborns and highlights the importance of targeted educational initiatives in rural healthcare settings.

Key Words: *Neonatal jaundice, health education, primi antenatal mothers, rural health, Chitradurga district, maternal health, knowledge assessment, healthcare intervention, newborn management, public health.*

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INTRODUCTION

Neonatal jaundice is a prevalent condition in newborns, characterized by the yellowing of the skin and eyes due to elevated levels of bilirubin in the blood. While it is often a benign condition that resolves on its own, severe cases can lead to serious complications, including kernicterus, a form of brain damage. The management of neonatal jaundice is crucial, particularly in rural settings where healthcare access may be limited, and awareness among caregivers is often low. This study focuses on assessing the impact of health education on the management of neonatal jaundice among primi antenatal rural mothers at selected primary health centers in Chitradurga district.

The significance of addressing neonatal jaundice in rural populations cannot be overstated. In many developing regions, including rural India, there is a high incidence of neonatal jaundice, often exacerbated by a lack of knowledge about its causes, symptoms, and management. Primi antenatal mothers, or first-time pregnant women, are particularly vulnerable as they may lack prior experience and knowledge regarding newborn care. This gap in understanding can lead to delays in seeking treatment, increasing the risk of adverse outcomes for the infant.

METHODOLOGY

Research approach

In this study, an evaluative approach was employed to assess the effectiveness of health education on rural primi antenatal mothers concerning the management of neonatal jaundice.

Research design

For this research, a pre-test post-test design with a pre-experimental approach was utilized to evaluate the knowledge of primi antenatal women regarding neonatal jaundice and to meet the study's objectives.

Setting

This research was carried out in selected rural areas of Chitradurga taluk, specifically in Pandrahalli, Yalagodu, and Aimangala PHCs. The Yalagodu PHC serves a population of approximately 16,000, with an average antenatal care (ANC) load of around 200. Meanwhile, the Pandarahalli PHC caters to about 14,000 individuals, with an average ANC of approximately 175.

Population

In this study, the population consists of primi antenatal women across all trimesters of pregnancy.

Sample and sample size

The sample for this study included 60 primi antenatal women who were attending the outpatient departments of Pandarahalli, Yalagodu, and Aimangala PHCs.

Sampling technique

For this study, purposive sampling was deemed suitable for selecting 60 primi antenatal women.

RESULTS

Section – I: The description of baseline characteristics of the study group. **Section – II:** The classification of the respondents by pre and post test 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 group, religion, Education level, Type of family, Income, Occupation, Gestational age and source of information.

Table 1. Classification of Respondents by Age group, Religion and Educational level. n=60

Characteristics	Category	Respondents	%
Age group(yrs)	20 - 23	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
Educational level	No formal education	1	1.7
	Primary education	19	31.7
	Secondary education	30	50
	Graduation and above	10	16.7
Total		60	100

Table .1 shows the distribution of the study group according to age group, religion and education level of the study group. About 50% of the antenatal mothers belonged to 20 – 23 years, 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 and 10% were Christians. 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.

Table 2. Classification of Respondents by Type of family, Income and Occupation. n=60

Characteristics	Category	Respondents	%
Type of family	Nuclear	23	38.3
	Joint	16	26.7
	Three generation	21	35.0
Income	Less than 1000	6	10.0
	1001 – 2000	19	31.7
	2001 – 3000	22	36.7
	Above 3000	13	21.7
Occupation	House wife	12	20.0
	Self employed	9	15.0
	Private employed	39	65.0
Total		60	100

Table 2 shows the distribution of the study group by type of family, Income and Occupation. In the study group, about 38.3% of the mothers were from nuclear family, 26.7% belonged to joint family and 35% were from three generation family. About 10% of the antenatal mothers had monthly income of less than 1000 rupees, 31.7% had income of 1001 – 2000 rupees, 36.7% had income of 2001 – 3000 rupees and 21.7% had income of above 3000 rupees. About 20% of the antenatal mothers were housewives, 15% were self employed and 65% were private employed.

Table 3. Classification of Respondents by gestational age and source of information. n=60

Characteristics	Category	Respondents	%
Gestational age	1st trimester	17	28.3
	2nd trimester	20	33.3
	3rd trimester	23	38.3
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 3 shows the distribution of the study group according to gestational age and source of information. About

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28.3% of the antenatal mothers had first, 33.3% had second and 38.3% had third trimester of pregnancy. About 33.3% of the antenatal 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.

SECTION – II: THE CLASSIFICATION OF THE RESPONDENTS BY PRE AND POST TEST KNOWLEDGE LEVELS.

Table 4. 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 .4 shows that about 93.3% of the antenatal mothers had inadequate knowledge of management of neonatal jaundice and 6.7% had moderate knowledge.

Table 5. 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

Table .5 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.

SECTION – III: THE COMPARISON OF PRE AND POST TEST KNOWLEDGE SCORES IN THE STUDY GROUP.

Table 6. 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	

Table .6 shows that about 33 antenatal 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 antenatal 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.

Table 7. Comparison of Pretest and Posttest level of knowledge scores.

	Max. Score	Respondents Knowledge				Paired 't' Test
		Mean	SD	Mean (%)	SD (%)	
Pre test	30	8.53	4.7	28.43	15.7	
Post test	30	21.92	5.2	73.07	17.3	20.56***
Enhancement	30	13.383	5.04	44.61	16.8	

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

Table .7 shows the pre and post test knowledge score about the management of neonatal jaundice. 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 8. Pretest scores of knowledge aspects

S .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

Table .8 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 9. 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

Table .9 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.

The comparison of knowledge scores of antenatal primi 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 MOTHERS WITH THEIR PRETEST KNOWLEDGE LEVEL.

The distribution of baseline characteristics and pre test knowledge levels. It shows that the antenatal mothers aged more than 27 years, Christians, graduated and above, belonging to joint and three generation, with income level of more than 3,000, self employed, with 3rd trimester of gestational age 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.

It shows the distribution of baseline characteristics and post test knowledge levels. The table shows that the majority of the antenatal mothers aged 20 – 26 years, Christians, graduated and above, belonging to joint and three generation, 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.

CONCLUSION

In conclusion, the findings of this study indicate a significant improvement in the knowledge levels of rural primi antenatal mothers regarding the management of neonatal jaundice after health education interventions. Initially, a substantial majority of the participants (93.3%) exhibited inadequate knowledge, while only a small percentage demonstrated moderate knowledge. However, following the educational sessions, the results revealed that 55% of the population achieved an adequate level of knowledge, highlighting the effectiveness of the intervention.

Furthermore, the statistical analysis showed significant associations between knowledge levels and various demographic variables in the pretest, particularly age, religion, educational level, income, and occupation. In the posttest, a notable association persisted with income, suggesting that socioeconomic factors may play a role in knowledge acquisition.

Overall, the health education program not only enhanced the understanding of neonatal jaundice management among the mothers but also encouraged them to engage actively by asking questions and seeking clarification on treatment processes. This improvement in knowledge is essential for better health outcomes for newborns and underscores the importance of targeted educational initiatives in rural healthcare settings.

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