



Research Article

A Study to Assess the Awareness of Mothers on the Care of Premature Infants after Discharge from Newborn Intensive Care Unit

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A B S T R A C T

Prematurity is one of the major causes of death among infants. In the hospital setting preterm babies are in skilled hands of nurses and pediatricians. After discharge mother needs to have adequate knowledge related to the care of the baby at home to prevent preterm mortality, hence the present study was undertaken to assess the awareness of mothers on the care of premature infants at home after discharge from NICU with a view to develop and disseminate an information booklet on premature infant care to the mothers at the selected hospital of Delhi. Awareness scores were correlated with selected demographic variables. The quantitative descriptive research approach was adopted for the study with non-experimental research design. The non-probability, purposive sampling technique was used and sample comprised of 50 mothers. An interview was conducted to collect the data through structured interview schedule. Out of 50 mothers, 47 (94%) had average, 2 (4%) had poor and 1 (2%) had good awareness. No significance was found between the awareness scores of the mother with the age, religion, educational qualification, family type, number of children type of delivery and registration during antenatal period. Association was found between awareness of mothers and their occupation, area of residence, and total family monthly income. It was found that the mothers were least aware of the prevention of hypothermia and basic concepts about the prematurity. Awareness about nutrition and prevention of infections was found to be average though mothers were well aware about immunization of preterm children.

Keywords: Mothers, NICU, Premature infant, Awareness

Background

Preterm birth, also known as premature birth, is the birth of a baby at lesser than 37 weeks of age. Premature infants are at greater risk for cerebral palsy, delays in development, hearing problems and sight problems.¹In the year 2010, in

India, out of 27 million babies born every year, 3.5 million babies born were reported to be premature.²The top 3 countries with the greatest number of preterm births in India with the highest number of premature infants born with a rate of 35.19 lakh, followed by China with 11.72



lakh, Nigeria 7.7 lakh.³ Every year, an estimated 15 million babies are born preterm. Many survivors face a lifetime of disability, including learning disabilities and visual and hearing problems.⁴ Of all early neonatal deaths, 28% were due to preterm birth that were not related to congenital malformations.⁵

Moreno-Plata H et al. conducted a retrospective study to compare the short-term morbidity of infants born at term with preterm babies. Neonatal complications were compared among those born in the late preterm period and those who born at term period. Result obtained showed that preterm birth accounted for 2.2% of births and had higher incidents of respiratory distress syndrome, longer hospital stays, jaundice requiring phototherapy and hypoglycemia than those born at term. The conclusion was made that preterm births are the vulnerable group for significant neonatal morbidity.⁶

Therese conducted a cross-sectional descriptive study at Rwanda to assess maternal awareness and attitude of the care of their preterm infant at discharge from the selected referral hospital. A standard questionnaire adapted for Rwanda context & five-point Linkert scale. Knowledge of jaundice, a sign of seizures, excessive crying and immunization of the preterm infant was low. Maternal attitudes toward care of their preterm infants were mostly positive. There are specific gaps in knowledge regarding danger signs.⁷

Selvam conducted the study at Puducherry assess knowledge of mothers regarding developmental care for very low weight premature infants and to prepare an information booklet regarding care of premature infants based on findings. The study was conducted using a purposive sampling technique, research was conducted taking a sample of 50 mothers of premature infants. The overall knowledge level of mothers regarding care of premature infants found to be 60%. There was a significant association between age at marriage, religion, education, income, type of family, and there is no association between the number of children of mothers and their knowledge levels.⁸

Aim

To assess the existing level of awareness of mothers on home care of premature infants after discharge from NICU. To correlate mothers' awareness of home care of premature infants after discharge from NICU with selected demographic variables. To develop & disseminate the information booklet for parents about the home care of premature infants after discharge from NICU.

Methods

A quantitative approach and descriptive research design were used. The setting for the study was NICU of Maharishi Valmiki Hospital. Ethical permission was obtained from the

Institutional Ethical Committee of Jamia Hamdard University, New Delhi and also from the selected hospital. Data were collected in the months of October and November, 2018. Confidentiality was maintained by assigning a unique code to the mothers. Informed consent was obtained from the mothers available at the time of data collection, informing them about maintenance of confidentiality and their right to withdraw at any point. A total of 50 mothers and preterm infants were selected by purposive sampling technique. Mothers included in the study were whose premature infants were admitted in NICU, were willing to participate in the study able to understand Hindi or English. Mothers suffering from any postnatal sickness affecting their mental soundness or were admitted to ICU for treatment were excluded from the study. Also the mothers whose premature infant were on ventilator support or had major congenital anomalies were excluded. The demographic data sheet was used for the participants to gather data on the demographic profile. A personalized interview was taken from each mother to assess the awareness of mothers on home care of premature infants after discharge from NICU. The tool consisted of two sections namely; demographic variables of mother and premature infants and structured interview schedule.

Demographic variables consisted of the age, religion, educational qualification, occupation, total family monthly income, number of children, family type, residence, type of delivery, and registration status of mother during antenatal period pertaining to the mother; and sex, age, weight, immunization status, primary nutrition source and gestational age of the premature infant.

Structured interview schedule to assess the awareness of the mother on the care of a premature infant had 5 sub-heading with varied number of items under each such as - general question (2), nutrition (23), prevention from hypothermia (12), immunization (4), prevention from infection (9). The maximum score of the structured interview schedule was 50. Each item was given a score of 1 for the correct answer and 0 for every wrong answer. The total time taken for the interview using a structured interview schedule was 20 min-25 min. Based on awareness scores of mothers categories were made as Poor (0-17), Average (18-34) and Good (35-50). An information booklet was developed and disseminated to mothers on the care of a premature infant at home. To ensure the validity of the structured interview schedule and information booklet, it was given to seven experts. Reliability of the tool came out to be 0.78 which confirmed that the tool was reliable. Descriptive statistics such as mean, median, standard deviation, modified mean, rank order were employed for summarizing demographic data and describing the awareness of mothers. Inferential statistics chi-square was used to correlate the awareness of mothers on the care of premature infant admitted in NICU.

Result

Table 1. Frequency and percentage distribution of demographic variables of mothers of premature infants admitted in NICU by their age, religion, educational qualification occupation, total family monthly income, family type, residence, number of children type of delivery and registration

Demographic variable of mother	Frequency (f)	Percentage
(n=50)		
Age		
Below 18 years	9	18
18 years-35 years	41	82
Religion		
Hindu	26	52
Muslim	24	48
Educational qualification		
Primary	6	12
Matric/ High school	19	38
Intermediate/ Secondary School	14	28
Graduation and post-graduation	8	16
No formal education	3	6
Occupation		
House Wife	33	66
Government job	4	8
Private Job	12	24
Self Employed/ Own Business	1	2
Total monthly family income		
> 6000	15	30
6001 to 16000	24	48
16001 to 27000	6	12
27001 to 38000	1	2
38001 and above	4	8
Family type		
Nuclear	31	62
Joint	19	38
Residence		
Rural area	11	22
Urban area	38	76
Semi	1	2
No. of children including premature infant		
1	26	52

2	23	46
Above 2	1	2
Type of delivery		
Normal vaginal delivery	48	96
LSCS	2	4
Registered case		
Yes	38	76
No	12	24

Table 2. Frequency and percentage distribution of premature infants admitted in NICU by their sex, age, weight at the time of birth, immunization status, primary nutrition and gestational age of the premature infant

Demographic variable of infants	Frequency (f)	Percentage (%)
(n=50)		
Sex of premature infant		
Boy	23	46
Girl	27	54
Age of premature infant		
0 to 7 days	19	38
8 to 14 days	21	42
More than 14 days	10	20
Weight at the time of birth		
>1000 gm	10	20
1001 gm to 2000 gm	27	54
2001 gm to 2500 gm	13	26
Immunization status		
Appropriate	38	76
Inappropriate	12	24
Primary nutrition for infant		
Breast milk	43	86
Formula milk	7	14
Gestational age		
32 to 37 weeks	25	50
28 to 32 weeks	25	50

From the Table 3, it is seen that the obtained range of scores was 15-35. Mean scores of awareness of mothers on home care of premature infants after discharge from NICU was 26.38 which represents average knowledge among the group, with standard deviation ± 4.45 . Median was 25.5 and IQR was 7 of awareness of mothers regarding care of a premature infant.

Table 3. Mean, median, standard deviation and IQR of awareness scores of mothers regarding care of a premature infant

Possible range of scores	Obtained range of scores	Mean ± Standard Deviation	Median	IQR
0-50	15-35	26.38 ± 4.45	25.5	7
Poor (0-17)				
Average (18-34)				
Good (35-50)				

(n=50)

Table 4. Frequency and percentage distribution level of the awareness scores of mothers regarding care of premature infant

Awareness score	Frequency (f)	Percentage (%)
Poor (0-17)	2	4
Average (18-34)	47	94
Good (35-50)	1	2

(n=50)

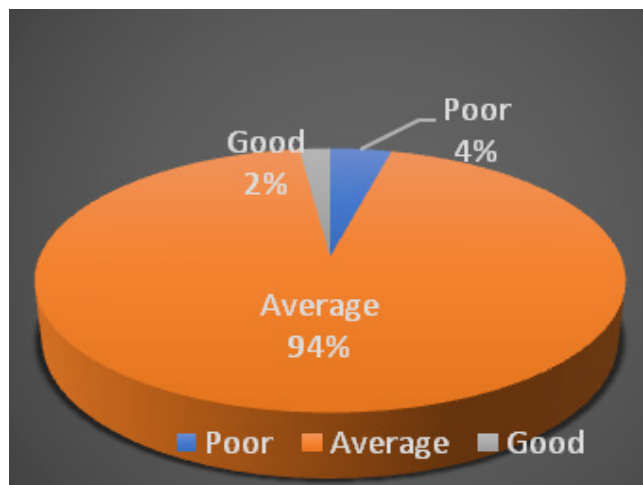


Figure 1.3-D Pie diagram showing frequency and percentage of awareness scores of mothers on care of premature infants after discharge from NICU

As shown in the Table 5, the modified mean score of the mothers related to the care of premature infant revealed that their awareness was highest in the domain of immunization and least awareness was there in prevention from hypothermia.

Table 5. Rank order of the awareness scores of mothers in different domains of awareness scale related to the care of a premature infant at home

Category	Mean±SD	Modified mean±SD	Rank order
Immunization status (Number of items-4)	2.32±0.683	0.58 ± 0.17	1
Nutritional Feeding (Number of items-23)	13.3±2.59	0.57 ± 0.11	2
Prevention from infection (Number of items-9)	4.6±1.33	0.51 ± 0.14	3
Prevention from Hypothermia (Number of items-12)	5.3±1.72	0.44 ± 0.15	4
General question (Number of items-2)	0.88±0.69	0.44 ± 0.34	4

(n=50)

Table 6. Association of the awareness scores of mothers related to care of premature infant with selected demographical variables

Demographic variable of mother	Awareness level of mothers			Chi square. χ^2	(p)
	Poor	Average	Good		
Age					
Below 18 years	0	9	0	0.701	0.704
18 years-35 years	2	38	1		
Religion					
Hindu	2	21	1	3.457	0.178
Muslim	0	26	0		
Educational Qualification					
Primary	0	5	1	10.439	0.236
Matric	0	19	0		
Intermediate	1	13	0		

(n=50)

Graduation and post-graduation	1	7	0		
No formal education	0	3	0		
Occupation					
House wife	0	33	1	26.744	0.000***
Government job	0	4	0		
Private Job	1	10	0		
Self-employed/ own business	1	0	0		
Total monthly family income					
> 6000	0	14	1	32.793	0.000***
6001 to 16000	0	24	0		
16001 to 27000	0	6	0		
27001 to 38000	1	0	0		
38001 and above	1	3	0		
Family type					
Nuclear	1	29	1	0.737	0.692
Joint	1	18	0		
Residence					
Rural area	1	10	0	26.586	0.000***
Urban area	0	37	1		
Semi	0	1	0		
Number of children including the premature infant					
1	2	23	1	2.946	0.567
2	0	23	0		
Above 2	1	0	0		
Type of Delivery					
Normal vaginal delivery	2	44	1	.204	0.903
LSCS	0	3	0		
Registered Case					
Yes	1	36	1	1.066	0.587
No	1	11	0		

χ^2 p***<0.001.

As shown in Table 6, the association between awareness scores of mothers whose infants were admitted in NICU with their demographic variables reflects that awareness of mothers regarding care of premature infants was significantly associated at 0.05 level with the mother's occupation, total monthly family income, and residence of the mother. No significant association is shown between the awareness of mothers with the age, religion, educational qualification, family type, number of children type of delivery and registration during the antenatal period.

Discussion

It was found that out of 50 study subjects, 2 (4%) of mothers of premature infants had poor awareness, 47 (94%) of mothers of premature infants had average awareness and only 1 (2%) mothers of premature infants had good awareness.

The finding of the present study revealed that the awareness of mothers regarding the care of a premature infant at home was best in immunization domain followed by nutrition,

prevention from infection, prevention from hypothermia. A similar cross-sectional study was conducted by Therese A⁷ at Rwanda with the aim to assess maternal awareness and attitude of the care of their preterm infant at discharge from the selected referral hospital. Results revealed that knowledge of mothers regarding jaundice, a sign of seizures, excessive crying, and immunization of preterm was low which are in partial agreement with the present study.

In the present study, it was revealed that awareness in the domain of prevention of hypothermia and the basic concept of prematurity was found to be least with a moderate mean of 0.44 and the statistically significant association was found between the awareness scores with occupation, family monthly income and residence. These findings are consistent with similar prospective cohort study conducted by Ontita MK et al.⁹ The aim of the study was to assess the knowledge and practices recommended for care of preterm and low birth weight infants while in the hospital and after discharge. Knowledge of mothers regarding thermo-regulation was insufficient. Mothers reported that they had not been counseled on kangaroo mother care and need of a warm room for the infant. Majority of the mothers lacked knowledge about pre-lacteal feeds that these are detrimental to the infant. A weak association existed between gestational age and maternal knowledge scores.

Conclusion

It may be concluded that most of the mothers needed education regarding care of preterm babies at home after discharge from hospital. Nurses can play a significant role in imparting education and clarifying mothers' doubts about preterm care at home and thereby reducing preterm mortality and morbidity. Information booklet prepared may prove to be a handy material for the same. Further, impact of Information booklet may be evaluated in terms of mothers' knowledge and practice on preterm infant care.

Conflict of Interest: None

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