



Original Research Article

## Knowledge Assessment of Post Natal Mothers On Prevention of Neonatal Infections

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### ABSTRACT

Near 27 million babies are born in India each year; this accounts for 20% of global births. Of these 1 million die before completing 4 weeks of life. The important causes of neonatal deaths are bacterial infections (sepsis and pneumonia), low birth weight and asphyxia. Neonatal infections are one of the major causes of neonatal deaths.

#### Objectives:

- Assess the knowledge of post natal mothers on prevention of neonatal infections.
- To find out the association between the knowledge score with selected demographic variables.

**Materials and Methods:** A descriptive approach was found to be appropriate for the study. Between 29:9:2014 – 25:10:2014, hundred post natal mothers admitted in the post natal ward of Krishna Institute of Medical Sciences Karad were selected conveniently for data collection. Data was collected using structured knowledge questionnaire.

**Results:** Study result shows that 87% of the post-natal mothers had average knowledge, 11% of the post-natal mothers had poor knowledge and 2% had good knowledge on neonatal infections. The study reveals that there is no significant association between the knowledge of post-natal mothers on neonatal infections and demographic variables such as religion, educational status, occupation and parity and there is a significant association between the knowledge of post-natal mothers on neonatal infections and demographic variable age.

**Conclusion:** The study result showed that mothers had inadequate knowledge on the prevention of neonatal infections.

**Key Words:** Knowledge, Post natal mothers, Neonatal infections

### INTRODUCTION

Neonatal infection is one among the major leading causes of neonatal deaths during the neonatal period. It can contribute up to 13-15 % of all the deaths during the neonatal period with the mortality rate

reaching as high as 50% for infants who are not treated timely. <sup>[1]</sup>

At present child health has shifted to neonatal health. Every year an estimated 4 million babies die in the first 4 weeks of life (the neonatal period). A similar number are

stillborn, and 0.5 million mothers die from pregnancy-related causes. Three-quarters of neonatal deaths happen in the first week--the highest risk of death is on the first day of life. Many of the deaths can be prevented through increasing the awareness regarding newborns care practices. <sup>[2]</sup>

The combination of an immature and slow responding immune system increases the risk of infection in the neonate. One reason for the increased risk is that antibodies, which help protect mothers from infections, do not cross through the placenta to the foetus until approximately 30 weeks of gestation. The antibodies present at birth take time to reach optimum levels, which also affects protection provided. <sup>[3]</sup>

## **MATERIALS AND METHODS**

The study was carried out in 100 post natal mothers who were admitted in the post natal ward of Krishna Hospital, Karad, Maharashtra. The study was conducted from 29:9:2014 - 25:10:2014. Mothers who were interested and who were available during the data collection time were included in the study. The study excluded the unwilling mothers and those mothers who were in pain or illnesses. Ethical clearance was obtained from the institutional ethical committee. Formal administrative permission was obtained from the medical officer of the hospital to conduct the research study. Consent was obtained from the participants before conducting the research study.

Assessment of knowledge was done by administering structured knowledge questionnaire to 100 samples. The final tool for assessing the knowledge of post natal mothers on prevention of neonatal infections consisted of two parts: Part 1: demographic data & Part 2: structured knowledge questionnaire. The researcher herself collected the data from the subjects. The data collected was recorded systematically and was organized for data analysis. The

data obtained in this study was planned to be analysed by both descriptive and inferential statistics.

## **RESULTS**

Data was analysed using descriptive and inferential statistics and are summarized in terms of percentage.

Majority of the post-natal mothers (64%) were in the age group of 22-26 years, 27 % were in the age group of 27-31 years, 6% were in the age group of 18-21 years and only 3% belongs to the age group greater than 32 years.

Percentage distribution of post-natal mothers according to their religion shows that higher percentages of the mothers (84%) were Hindus, 10% were Muslims and 6% were Christians.

Distribution of respondents according to the educational status shows that maximum number of mothers (34%) has pre-university level education, 27% has high school education, 17% of the mothers studied up to the primary level and 22% have graduate level educational qualification.

Distribution of mothers according to their occupation reveals that majority of the mothers (82%) were house wives, 9% were Government employees and 9 % were Private or Corporate employees.

Percentage distribution of mothers according to their type of delivery shows that majority of the mothers had normal vaginal delivery (47%), 43% had caesarean delivery, 7% had vacuum delivery and 3% of the mothers had forceps delivery.

Distribution of mothers according to the parity shows that majority of the mothers are primi (49%), 28% of the mothers had their second parity, 18% of the mothers had their third parity and 5% of the mothers had parity greater than 3.

Percentage distribution of mothers according to their gestational week shows that majority of the mothers (56%) delivered

at 38-40 weeks of gestation, 29% delivered at 40-42 weeks of gestation, 12% of the mothers delivered before 37 weeks of gestation and 3% delivered after 42 weeks of gestation

Distribution according to current neonatal problems reveals that 5% of the new born had skin rashes, 4% of them had white lesions on the inner tongue and teeth and 2% had fast breathing and eye discharges.

In order to find out the level of knowledge of post-natal mothers on neonatal infections a three point scale was used. Categorization of post-natal mothers on the basis of the level of knowledge was done as follows. Scores 0-10 shows poor knowledge level, scored 11-20 shows

average knowledge level and scores 21-30 shows that the mother's knowledge level is good.

**Table (1): Knowledge level on neonatal infections among post-natal mothers N=100**

Level of knowledge	Score level	Number of respondents	Percentage (%)
Poor	0 – 10	11	11
Average	11 – 20	87	87
Good	21 – 30	2	2
	Total	100	100

The scores ranged from 0-10, 11-20, 21-30. Further data shows that 87% of the post-natal mothers had average knowledge, 11% of the post-natal mothers had poor knowledge and 2% had good knowledge on neonatal infections.

**Table 2: Area wise mean, standard deviation and mean percentage of knowledge score of post-natal mothers on neonatal infections**

Area	Maximum possible score	Mean	Standard deviation	Mean%
Concept on neonatal infections	5	3.23	1.118	64.6
Risk factors and signs and symptoms of neonatal infections	5	1.76	1.215	35.2
Complication and prevention of neonatal infections	10	5.48	1.41	54.8
Management of neonatal infections	10	4.28	1.443	42.8

**Table 3: The association between the knowledge scores of post-natal mothers with selected demographic variables**

Sl no	Demographic variables	Poor	Average	Good	Chi square $\chi^2$	P value	Df	Inference
1	<b>Age</b>				14.61	0.0235	6	S*
	18 -21	2	4	0				
	22 – 26	5	57	2				
	27 – 31	2	25	0				
	32 & above	2	1	0				
2	<b>Religion</b>				7.68	0.104	4	NS
	Hindu	10	73	1				
	Christian	0	5	1				
	Muslim	1	9	0				
	Others	0	0	0				
3	<b>Educational status</b>				4.267	0.6406	6	NS
	Primary	2	15	0				
	High school	2	24	1				
	Pre university	6	27	1				
	Graduate & above	1	21	0				
	No formal education	0	0	0				
4	<b>Occupation</b>				7.497	0.1119	4	NS
	Government employee	1	8	0				
	Private/Corporate employee	0	9	0				
	House wife	10	17	2				
	Others	0	0	0				
5	<b>Parity</b>				6.8	0.3398	6	NS
	Primipara	6	43	0				
	Second para	2	24	2				
	Third para	3	15	0				
	More than third	0	5	0				

P>0.05

Area wise analysis revealed that the mean percentage was highest (64.6%) in the area of concept of neonatal infections, with mean  $\pm$  SD of  $3.23 \pm 1.118$ . Mean percentage in the area of complication and prevention of neonatal infections was 54.8% with mean  $\pm$  SD of  $5.48 \pm 1.41$ , in the area of management of neonatal infections was 42.8% with mean  $\pm$  SD of  $4.28 \pm 1.443$  and the mean percentage in the area of risk factors and signs and symptoms of neonatal infections was 35.2% with mean  $\pm$  SD of  $1.76 \pm 1.215$ . The findings revealed that the mothers had inadequate knowledge on prevention of neonatal infections.

Chi-square test was done to analyze the association between the knowledge score and selected demographic variables. The data reveals that there is no significant association between the knowledge of post-natal mothers on neonatal infections and demographic variables such as religion, educational status, occupation and parity and there is a significant association between the knowledge of post-natal mothers on neonatal infections and demographic variable age.

## DISCUSSION

Description of the demographic data of the post natal mothers revealed the following features:

Majority of the post-natal mothers (64%) were in the age group of 22-26 years, 27 % were in the age group of 27-31 years, 6% were in the age group of 18-21 years and only 3% belongs to the age group greater than 32 years.

Percentage distribution of post-natal mothers according to their religion shows that higher percentages of the mothers (84%) were Hindus, 10% were Muslims and 6% were Christians.

Distribution of respondents according to the educational status shows that maximum number of mothers (34%) has

pre-university level education, 27% has high school education, 17% of the mothers studied up to the primary level and 22% have graduate level educational qualification.

Distribution of mothers according to their occupation reveals that majority of the mothers (82%) were house wives, 9% were Government employees and 9 % were Private or Corporate employees.

Percentage distribution of mothers according to their type of delivery shows that majority of the mothers had normal vaginal delivery (47%), 43% had caesarean delivery, 7% had vacuum delivery and 3% of the mothers had forceps delivery.

Distribution of mothers according to the parity shows that majority of the mothers are primi (49%), 28% of the mothers had their second parity, 18% of the mothers had their third parity and 5% of the mothers had parity greater than 3.

Percentage distribution of mothers according to their gestational week shows that majority of the mothers (56%) delivered at 38-40 weeks of gestation, 29% delivered at 40-42 weeks of gestation, 12% of the mothers delivered before 37 weeks of gestation and 3% delivered after 42 weeks of gestation.

Distribution according to current neonatal problems reveals that 5% of the new born had skin rashes, 4% of them had white lesions on the inner tongue and teeth and 2% had fast breathing and eye discharges.

Analysis of the knowledge scores of the post natal mothers showed that 87% of the post-natal mothers had average knowledge, 11% of the post-natal mothers had poor knowledge and 2% had good knowledge on neonatal infections.

Area wise analysis revealed that the mean percentage was highest (64.6%) in the area of concept of neonatal infections, with mean  $\pm$  SD of  $3.23 \pm 1.118$ . Mean percentage in

the area of complication and prevention of neonatal infections was 54.8% with mean  $\pm$  SD of  $5.48 \pm 1.41$ , in the area of management of neonatal infections was 42.8% with mean  $\pm$  SD of  $4.28 \pm 1.443$  and the mean percentage in the area of risk factors and signs and symptoms of neonatal infections was 35.2% with mean  $\pm$  SD of  $1.76 \pm 1.215$ . The findings revealed that the mothers had inadequate knowledge on prevention of neonatal infections.

Chi-square test was done to analyze the association between the knowledge score and selected demographic variables and the result shows that there is no significant association between the knowledge of post-natal mothers on neonatal infections and demographic variables such as religion (7.68), educational status (4.267), occupation (7.497) and parity (6.8). The data shows that there is a significant association between the knowledge score and the demographic variable age (14.61).

This study is consistent with another study to assess the effectiveness of structured teaching program on knowledge regarding prevention of post-natal and neonatal infections among primipara mothers at RSRM hospital Chennai. 45 primipara mothers were selected using non-probability convenient sampling technique. Pre-experimental one group pre-test post-test design was used. The study result revealed that in pre-test 57.5% of the mothers had inadequate knowledge, 32.5% had moderately adequately knowledge, and only 10% had adequate knowledge. [4]

The finding of the study is consistent with another study to assess the awareness of danger signs of new-borne illnesses among mothers in the post-natal wards of Vydehi hospital, Bangalore. The sample consisted of 100 post-natal mothers. The study result revealed that there was statistically significant association between awareness of danger signs of new borne

illnesses among mothers and the selected socio demographic variables of mothers such as religion ( $\chi^2=7.02$ ), type of family ( $\chi^2=6.8$ ), income ( $\chi^2=8.3$ ), gender of the present child ( $\chi^2=8.5$ ) and gestational age of the child ( $\chi^2=6.5$ ) and  $p<0.05$  level. [5]

These study findings have been similar to the findings of the present study wherein there is poor knowledge of mothers on prevention of neonatal infections and a statistically significant association of the knowledge scores on prevention of neonatal infections with selected demographic variables.

The study findings have several limitations such as small sample size and the use of a structured knowledge questionnaire which restricts the amount of information that can be obtained from the respondents.

## CONCLUSION

From this study it could be concluded that, majority of the post natal mothers are having inadequate knowledge regarding the prevention of neonatal infections and there is no significant association between the knowledge of post-natal mothers on neonatal infections and demographic variables such as religion, educational status, occupation and parity and there is a significant association between the knowledge of post-natal mothers on neonatal infections and demographic variable age.

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