

Determining the Knowledge, Attitude and Practice of Mothers Regarding Neonatal Care at Department of Pediatrics Fatima Hospital, Baqai Medical University Karachi

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ABSTRACT

Objective: The aim of this study was to assess the mother's knowledge of neonatal care and their attitude towards existing preventive methods and practices.

Materials and Methods: A hospital based Cross-Sectional descriptive Study was conducted on mothers who delivered recently in Fatima Hospital, Baqai Medical University and the mothers visiting with their neonate age of 28 days.

Results: A total of 385 participants including the neonates of age 1 to 28 days were included in the study. We found statistically significant relationship between the mother's age and the mother knowledge of neonatal care (P value = 0.002). Moreover, other factors that we found significantly conducive were the relationships between illness and medication, mother's age and breast feeding, mother's education, and neonate vaccination (P value = 0.002).

Conclusion: In this study, we observed that most of the mothers were unaware of neonatal care. Many of them were ignorant of the neonate vaccination and national immunization days. Most of them treated their sick neonates with traditional home remedies rather bringing them to the hospitals. A high proportion of mothers withheld breast feeding and top feeding during neonate illness. Their knowledge regarding infected umbilicus, neonate inactivity and lethargy was scarce. These findings indicate that there is a room of improvement in the current mother's knowledge and practices of neonatal care. This study will facilitate the policy makers to design new care seeking practices that foster better knowledge of neonatal care among mothers.

Keywords: Neonatal Care, immunization, breast feeding

INTRODUCTION

Mothers are the primary caregiver to the neonates and their neonatal care knowledge can improve the quality of newborns physical and mental health (1). Previous studies had shown that mother's education level and decision making had encouraging influence on her knowledge and how she handled newborns health care issues. Lack of mother's knowledge regarding neonate common illnesses, nutrition, immunization and behaviors had led to increased neonatal mortality (2).

Unsafe conduct such as use of untrained attendants, unhygienic umbilical cord care, quick washing of the neonate can risk the neonate life (3). Mother's knowledge of immediate neonate care i.e., drying the baby, placing the baby skin-to-skin with the mother, covering the baby with dry linen to maintain temperature, early breastfeeding, clear the airway, evaluate cardiorespiratory function, clamping and cutting the umbilical cord can overcome negligence on part of nursing staff and can increase neonate survival chances (1). Neonatal period involves the initial 28 days of extra uterine life. As this period is a critical time in the neonate's life and connected with the origination of adulthood, mother's good neonatal care knowledge can program newborns good future behavior and health stability. Different studies had estimated that proper knowledge in neonatal care could reduce the neonatal deaths by 20% (4).

Pakistan is the most populated country in the world and unfortunately due to poor health policies has always faced highest neonatal mortality rate. Though, due to the implementation and initiations of different programs for decreasing neonatal mortality, mortality rate has decreased from 86 deaths/1000 live births to 62 deaths/1000 in the last thirty years, but still Pakistan ranks third among the top ten countries with high incidence of neonatal deaths (5). The main contributing factor in neonatal mortality is the lack of knowledge and practices of mother regarding neonatal care besides socioeconomic inequalities and poor economic conditions.

Given the scarcity of reliable information in Pakistan, the objective of this study was to assess the mother's knowledge of neonatal care and their attitude towards existing preventive methods and practices.

We identified significant gaps in knowledge and practices of neonatal care. Knowledge gain from this study will help purpose new corrective measures, design better policies which eventually will reduce neonatal mortality.

MATERIAL AND METHODS

A hospital based Cross-Sectional descriptive Study was designed based on participants from Fatima Hospital, Baqai Medical University. Our study involved new mothers who recently delivered a baby and the mothers with neonate age of 28 days. Only the mothers who presented written informed consent were contacted for the interview. Sample size for this study was calculated using the following formula

$$n = (z)^2 p (1 - p) / c^2$$

Where n is the required sample size, z is the confidence level required for the normal distribution (for this study we were using 95% confidence interval so z = 1.96, p is the expected proportion of population that present the characteristics (when unknown we can use p = 0.5) and c is the error margin which in our study is 0.05 (5%). Based on this calculation our required sample size was 385 mothers. Selection of study participants were made based on following inclusion and exclusion criteria. Inclusion criteria for the study participant were mothers who recently delivered a baby in Fatima Hospital BMU and mothers with neonates who were visiting OPD & E/R of Fatima Hospital (BMU) during the study period. Exclusion criteria for the study participants were mothers who had neonates above 28 days old and mothers who had neonates at home or in other hospitals. The survey questionnaire was designed in several language including English, Urdu, Sindhi and Pashtu. Self-structured closed ended questions were adopted from different sources after literature survey and were modified according to the current study. The questionnaire was divided into four sections. First section was based on demographic characteristics, second section involved knowledge, third section inquired about attitude and fourth section was built on general practices. Knowledge, general information and attitude were determined using descriptive statistics. Chi-Square (χ^2) test was used for inferential statistics and results with P-values < 0.05

(95% confidence interval) were considered statistically significant . The data was analyzed using the SPSS statistical software version 21.0. This study was approved by the Institutional Ethics Committee of Board of advanced studies and research (BASR) Baqai Medical University Karachi.

RESULTS

A total of 385 mothers were included in this study. The detailed distribution of mother's age is given in Table 1. The neonates involved in the study were of 1 to 28 days old. On average, female neonates were more in number than the males (Female vs Male: 63.4 % vs 36.6 %).

Table 1: Age of mothers (in Years) included in the study

Mothers Age	Frequency	Percent	Valid Percent	Cumulative Percent
17	19	4.9	4.9	4.9
19	7	1.8	1.8	6.7
21	35	9.1	9.1	15.8
23	27	7.0	7.0	22.8
24	27	7.0	7.0	29.8
25	46	11.9	11.9	41.7
26	7	1.8	1.8	43.5
27	48	12.5	12.5	56.0
29	53	13.8	13.8	69.8
31	10	2.6	2.6	72.4
32	7	1.8	1.8	74.2
34	11	2.9	2.9	77.1
36	30	7.8	7.8	84.9
37	6	1.6	1.6	86.5
40	25	6.5	6.5	93.0
41	27	7.0	7.0	100.0

Mother's knowledge of neonatal care was assessed by their perception regarding mother's immunization, colostrum, neonate vaccination and antenatal visits (Table 2). The overall situation of mothers' knowledge about neonatal care was alarming and majority of the respondents were not aware of the neonatal care in terms of importance of the colostrum, neonate vaccination, antenatal visits and immunization of the mother as shown in table 2.

Table 2: Mother's knowledge of neonatal care

Mother's Knowledge of Neonatal Care		Frequency	Percent	Valid Percent	Cumulative Percent
Do you know the importance of colostrum?	Yes	137	35.59	35.59	35.59
	No	248	64.41	64.41	100.0
Do you know the importance of neonate vaccination?	Yes	75	19.5	19.5	19.5
	No	310	80.5	80.5	100.0
Do you know schedule of antenatal visits?	Yes	140	36.4	36.4	36.4
	No	245	63.6	63.6	100.0
Do you know the importance of Tetanus Toxoid immunization?	Yes	45	11.6	11.6	11.6
	No	340	88.4	88.4	100.0

Mother's attitude towards existing preventive methods of neonatal care was assessed by investigating their knowledge about infected umbilicus, jaundice, abdominal distention, convulsions, inactivity and lethargy of their neonates. We found based on their responses that only 2.3 % mothers were aware that infected umbilicus could be dangerous for their neonate's health whereas 97.7 % were totally unaware. Only 5.5% (21) of the mothers were aware about the detrimental effect of jaundice on neonate's health while 94.5% (364) were ignorant. About abdominal distention, 51.7% (199) mothers were aware of its aftereffects on neonate's health but 48.3 % (186) mothers were totally naive. 52.7% (203) mothers were aware that convulsions are dangerous for the health of the neonates whereas 47.3% (182) were not.

In case of inactivity and neonate lethargy, 49.4% (190) were aware of its harmful effects on neonates health and 50.6% (195) mothers were not familiar how dangerous it could be for the

neonate health. Overall, majority of the mothers were aware of how abdominal distention, convulsions could influence neonate's health. However, additional efforts are needed to raise awareness about neonate inactivity and lethargy, infected umbilicus and jaundice in mothers.

Among 385 mothers, 19.5% (75) vaccinated their neonates while 80.5% (310) didn't give vaccination. 34.3% (132) mothers vaccinated their neonate on national immunization days. 76.6% (295) neonates fell ill in last few days whereas 23.4% (90) neonates stayed healthy. 5% (19) mothers had waited for the illness to subside without any action, 25% (96) brought their neonates to the private/Government medical doctors, 30.1% (116) treated their neonates with traditional home remedies, 11% (42) purchased medicine from pharmacy, 3% (12) took their neonates to the quaker and 2.5 % (10) took their neonates to either temple, traditional healer or took advice from elder female of the family (Table 3).

Table3: Neonate's vaccination, illness and Medication

		Frequency	Percent	Valid Percent	Cumulative Percent
Do you have a vaccination for youngest neonate?	Yes	75	19.5	19.5	19.5
	No	310	80.5	80.5	100.0
Do you give your neonate vaccine on national immunization days?	Yes	75	19.5	19.5	19.5
	No	310	80.5	80.5	100.0
Has this neonate be ill in last few days?	Yes	295	76.6	76.6	76.6
	No	90	23.4	23.4	100.0

There were several reasons that the neonates were brought to the medical facility. Either because they were crying excessively or had convulsions. 4.4% (17) neonates had inactivity, lethargy and were hot or cold to touch. 5.5% (21) neonates had diarrhea or abdominal distention. 4.7% (18) neonate had fast breathing. 5.2% (20) neonates had blood in stool. 2.6% (10) neonates had vomiting 2.6% (10) mothers had taken different measures at home to treat their neonate's symptoms. 9.3% (36) mothers gave Ghutti or Qahwa for abdominal distention, 5.1%(20) applied surma or coconut oil over umbilical cord to prevent infection, 2.0%(8) exposed their neonate to sunlight to prevent jaundice, 4.9%(19) gave Honey or Black tea for cough and cold, 4.9%(19) gave rice water, ORS, milk or herbal tea for prevention of dehydration and 3.9%(15) put rose water or surma in both eyes for infection.

Regarding change of feeding practice during illness, 26% (100) mothers withheld breast feeding, 8.8% (34) continued breast feeding during illness, 13% (50) decreased breast feeding during illness, 22.1% (85) mothers withheld top feeding, 14.3%(55) continued top feeding and 15.8%(61) decreased top feeding.

Mothers were asked about how they care for the neonate in case of ARI (pneumonia) or Diarrhea. According to them, neonates developed fever, 22.3% (86) neonates became more sick, 11.7% (45) neonates were not able to drink or breast fed, 11.4% (44) neonates had difficulty in breathing, 23.4% (90) neonates had blood in stool and 16.9%,(65) had vomiting.

In addition to these percentage and frequency counts, we performed Chi-square test to check the relationship between all above mentioned variables. We found statistically significant relationship between mother's age and the mother's knowledge of neonatal care (P value= 0.002), mothers age and breast feeding. (P value= 0.000), mother's education, neonate vaccination, illness and medication (P value= 0.001). However, we found insignificant relationship between the mothers age and mothers' attitude towards the existing preventive methods of neonatal care, mother's age and mother's record of antenatal care, labor and delivery, mother's education and feeding habits which points towards the need to enhance awareness among mother's regarding neonatal care in order to reduce the national morbidity and mortality.

DISCUSSION

Lack of mother's knowledge about neonatal care are linked with neonatal illness and mortality around the world especially in the developing countries like Pakistan (6-8). Poor knowledge of neonatal care can lead to meningitis induced neonatal sepsis, pneumonia, pyelonephritis, gastroenteritis and ultimately neonatal death (9). Neonate healthy growth and development requires the active contribution of informed and skilled mothers who knows how to care and take responsibility for their children. Lack of knowledge can lead to thoughtless decision and may affect the way mothers handles the situations that may arise.

We examined mother's knowledge, attitude and practices regarding neonatal care by their perception about colostrum, neonate vaccination, antenatal visits and mother's immunization, infected umbilicus and neonatal illness symptoms. Our results revealed that majority of the mothers lacked adequate knowledge and practices about neonatal care and were interested to overcome the challenges if they were informed properly. Other studies on this subject also observed the similar results (10). These studies further emphasized how learning newborn care and parenting skills can change mothers and child's behavior. Moreover, they added that advanced knowledge and skills of parenting can provide child with an environment favorable to their healthy growth and development (11).

Our results indicated that majority of the mothers were aware of infected umbilical cord and jaundice however their handling skills were not satisfactory. They believed that best method to treat a child with jaundice was to expose them to sunlight and umbilical cord infections can be cured by coconut oil. More disturbing was the fact that they didn't feel the need to bring their child to the hospital regardless of their poor feeding habit and constant cries. A previous study undertaken in Pakistan from Sindh reported similar findings and stressed that unhygienic and unsafe cord cutting with the infectious umbilical cord can result in sepsis which can lead to maternal and neonatal illness and deaths (5). Similar findings were observed in rural India where mothers were ignorant of newborns health and these threatening signs and majority relied on elder member of the family or friends as their main source of information (12). Similar gaps have been reported from Bangladesh where only 37 % mothers had satisfactory level of knowledge regarding newborns care (13).

Another alarming fact was mothers breast feeding habits which needs to be substantially improved. Though, majority of the mothers breastfed newborns immediately after birth, nearly fifty percent did not breastfeed their neonates and relatively fewer number gave supplemental food to the neonate along with breastmilk. These results are in accord with a study reported from India where most mothers were aware that good breast-feeding knowledge and practices can improve immunity and overall well-being of newborns (14).

We further found that most mothers had no knowledge of neonate immunization and the national vaccination program. Majority of the newborns had convulsions issues which led to neonate inactivity and lethargy. Many new-borns fell ill and the duration of illness was more than seven days. Few newborns recovered without any medication. Our results revealed that some mothers either waited for illness to subside without any action or brought neonate to private or government medical facility. Some preferred to take their neonate to the temple or treated them with traditional home remedies. Home remedies included giving Ghutti or qahwa for constipation and honey for cough and cold. Mothers preferred putting rose water in both eyes for infected eyes. For dehydration, mothers prefer water, milk rice water, oral dehydration, home based solution and herbal tea to the infants.

Mothers also changed their feeding practices during neonate illness. These findings were consistent with the findings from India (14). These shortcomings can be improved by the development of program which promotes culturally sensitive and acceptable changes in the practices followed. Health policy makers should emphasize more on their policies regarding implementation of behavioral changes among people.

CONCLUSION

The finding of this study identified gaps in mothers existing knowledge, attitude and practices regarding neonatal care. These gaps will facilitate the policy makers to provide basic health facilities and design new strategies to improve maternal and newborn survival rates. Information gained from this study can improve awareness programs designed by health system and traditional birth attendant training to reduce newborns mortality rate likewise improving the quality of neonatal care.

Conflict of interest: There is no conflict of interest between the authors.

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