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A study to assess the knowledge and practice on prevention of neonatal infections among mothers in a hospital of Shillong, Meghalaya

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Abstract

A neonate is a child who is four weeks old or less and is also known as newborn. Every minute while neonatal infections accounts for 33% of neonatal death (UNICEF). The study aimed to assess the knowledge and practice on prevention of neonatal infections among mothers.

A cross sectional descriptive study was carried out using consecutive sampling technique. Data was collected from 125 mothers using self-administered structured questionnaire. Majority of the mothers had poor knowledge 66 (52.8%) on prevention of neonatal infections. While 74(59.2%) instilled breast milk on eyes, 2(1.6%) applied Kajal and 3 (2.4) used sin door and 2(1.6) still used cow-dung for prevention of umbilical infection. Association was found between knowledge score and educational qualification and occupation.

The study concludes that the mothers had inadequate knowledge and also practices some of the harmful and unhygienic methods while caring their neonates.

Keywords: Knowledge, practice, prevention, neonatal infections

Introduction

The most critical period for survival of neonates are the early new born period (WHO). Most of the neonatal infections are bacterial in origin and results in death of over 550,000 neonates^[1]. Neonatal infections can be acquired right from the prenatal development or in the first four weeks of life (Neonatal Period) in the intrauterine life, during delivery or in the neonatal period. Due to lack in natural immunity and weak immune system neonates are very prone to infection because they take some time to develop acquired immunity^[2].

Need for the study

The first 28 days of a child's life (the newborn period) are the most hazardous for their survival. The risk of mortality in the first month of life is highest for children, a rate of 18 fatalities per 1,000 live births on average worldwide in 2021, down 51% from 37 deaths per 1,000 live births in 1990. In contrast, it was expected that in 2021, there would be 10 deaths per 1,000 people who would die before they became five and 11 deaths per 1,000 people who would die after they turned one^[3].

Objectives of the study

- To assess the knowledge on prevention of neonatal infections among mothers in a hospital of Shillong, Meghalaya.
- To assess the practice on prevention of neonatal infections among mothers in a hospital of Shillong, Meghalaya.
- To find the association of knowledge of mothers on prevention of neonatal infections with selected demographic variables.

Methodology

Institutional Ethical clearance and administrative permission was obtained and a cross sectional descriptive study was conducted from 5th of January 2023 to 4th of February 2023. To assess the knowledge and practice on prevention of neonatal infections among mothers. A total of 125 were selected using consecutive sampling technique.

The research tools were validated by experts from various departments like Department of Pediatrics, Department of Community Medicine, and Department of Obstetrics & Gynaecology. Pre-testing of tools and pilot study was conducted for feasibility and data was collected using self-structured questionnaire regarding prevention of neonatal infections.

Based on the proportion of mothers with poor knowledge on neonatal infections as 60%, a study conducted by El-Aziz A, Wafaa H, *et al.* (2017) to assess mothers knowledge and practices regarding their children with acute infective conjunctivitis at Benha Ophthalmic Hospital which showed that 60% of mothers had poor knowledge score and 14.8% of mothers had satisfactory practice score regarding their children with acute infective conjunctivitis [4].

With 95% absolute error at 95% confidence level, the sample size is estimated to be 114 mothers using N Master 2.0. Using a non-response rate of 10% a total of 125 mothers was needed for this study.

Study procedure

The purpose and confidentiality of the study was assured and informed consent was taken from mothers who met the inclusion criteria. Data was collected using self-structured questionnaire.

Results

1. The quantitative data were analysed using descriptive (frequency and percentage) and inferential statistics (Chi-square test/Fischer exact test).

Table 1: Frequency and percentage distribution of participants according to demographic variables among mothers in a selected hospital of Shillong, Meghalaya, N=125

Socio Demographic Variable	Frequency (F)	Percentage (%)
Age (In Years)		
19-25	28	22.4
26-32	59	47.2
33-40	38	30.4
Educational Qualification		
Primary school	7	5.6
Middle school	16	12.8
High school	39	31.2
Higher secondary	23	18.4
Graduate and above	40	32.0
Occupation of mother		
Housewives	98	78.4
Self employed	19	15.2
Government employee	8	6.4
Religion		
Christianity	74	59.2
Hinduism	37	29.6
Khasi	6	4.8
Islam	4	3.2
Buddhism	4	3.2
Type of family		
Nuclear	67	53.6
Joint	58	46.4
No of children		
1-2	67	53.6
3 and above	58	46.4
Residence		
Rural	79	63.2
Urban	46	36.8

The findings in Table 1, shows the distribution of participants according to socio-demographic variables, out of 125 participants 59 (47.2%) were within the age group of 26-32 years with mean age of 29.6 years ± 5.07, 40(32%) have completed graduation and above. 98(78.4%) were house wives. 74(59.2%) of participants follow Christianity. 67 (53.6%) were from nuclear family. 67(53.6%) of participants have 1-2 children. and 79(63.2%) were from rural area.

Table 2: Frequency and Percentage distribution of knowledge score on prevention of neonatal infections among mothers in a hospital of Shillong, Meghalaya, N=125

Level of knowledge score	Frequency (F)	Percentage (%)	Mean	Standard Deviation
Poor ≤ 8 (≤ 50%)	66	52.8	8.29	2.52
Average 9-12 (51%-75%)	52	41.6		
Good ≥ 13 (≥ 76%)	7	5.6		

The data presented in the Table 2, shows that 52.8% have poor knowledge, 41.6% have an average and 5.6% have good knowledge on prevention of neonatal infections. The mean knowledge score of the participants on prevention of neonatal infections is 8.29±2.52 which depicts that the data is normally distributed as mean is more than twice standard deviation.

Table 3: Association of level of knowledge of mothers on prevention of neonatal infections with selected demographic variables in a hospital of Shillong, Meghalaya, N=125

Demographic Variables	Level of Knowledge			Fishers Exact Test
	Poor F (%)	Average F (%)	Good F (%)	
Age (in years)				
19-25	12(9.6)	16(12.8)	0	0.133
26-32	36(28.8)	20(16)	3(2.4)	
33-40	18(14.4)	16(12.8)	4(3.2)	
Educational Qualifications				
Primary school	6(4.8)	1(0.8)	0	0.016*
Middle school	11(8.8)	5(4)	0	
Secondary school	22(17.6)	17(13.6)	0	
Higher secondary	13(10.4)	10(8)	0	
Graduate and above	14(11.2)	19(15.2)	7(5.6)	
Occupation of mother				
Housewives	52(41.6)	44(35.2)	2(1.6)	0.004*
Self employed	12(9.6)	5(4)	2(1.6)	
Government employed	2(1.6)	3(2.4)	3(2.4)	
Religion				
Christianity	43(34.4)	27(21.6)	4(3.2)	4.706
Hinduism	15(12)	19(15.2)	3(2.4)	
Khasi	4(3.2)	2(1.6)	0	
Islam	2(1.6)	2(1.6)	0	
Buddhism	2(1.6)	2(1.6)	0	
Type of family				
Nuclear	35(28)	29(23.2)	3(2.4)	0.838
Joint	31(24.8)	23(18.4)	4(3.2)	
No of children				
1 - 2	29(23.2)	33(26.4)	5(4)	0.564
3 and above	37(29.6)	19(15.2)	2(1.6)	
Residence				
Rural	44(35.2)	31(24.8)	4(3.2)	0.679
Urban	22(17.6)	21(16.8)	3(2.4)	

*Significant p≤0.05

The findings in the Table 2, shows that there is no association between knowledge scores with age, religion, type of family, number of children and residence since the p value in Exact Fisher test is more than 0.05 whereas there is an association between knowledge of participants with educational qualification and occupation as the calculated value (0.016 and 0.004 respectively) is less than 0.053.

Table 4: Frequency and percentage distribution of mothers for prevention of neonatal infections when the neonates initially starts developing whitish discharge making the eyes sticky in a hospital of Shillong, Meghalaya, N=125

Methods adopted by mothers when the neonate initially starts developing whitish discharge making the eyes sticky	Frequency (F)	Percentage (%)
Seek medical attention	111	88.8
Do nothing	11	8.8
Seek help from pharmacy	3	2.4

The findings in Table 4 shows that most of the mother 111(88.8%) will seek for medical attention when the baby initially starts developing whitish discharge making the eyes sticky.

Table 5: Frequency and percentage distribution of mothers for prevention of development of redness, purulent discharge and swelling of eyes in neonates in a hospital of Shillong, Meghalaya, N=125

Methods adopted by mothers to prevent the development of redness, purulent discharge and swelling of eyes in the neonates	Frequency (F)	Percentage (%)
Instill breast milk on the affected eye	74	59.2
Apply antibiotic ointment	26	20.8
Do nothing	18	14.4
Clean with clean moist cloth	5	4
Apply Kajal	2	1.6

The above Table reveals that 74 (59.2%) of the mothers will instill breast milk on the affected eye for prevention of development of redness, purulent discharge and swelling of eyes in neonates.

Table 6: Frequency and percentage distribution of mothers for prevention of neonatal infection before touching the eyes of neonates in a hospital of Shillong, Meghalaya, N=125

Methods adopted by mothers before touching the eye of the neonates	Frequency (F)	Percentage (%)
Wash hands with soap and water	108	86.4
Wash hands with plain water	9	7.2
Warm hands on fire	8	6.4

The above Table shows that 108 (86.4%) of mothers washes hands with soap and water before touching the eye of the neonates.

Table 7: Frequency and percentage distribution of mothers for maintaining eye hygiene of neonates in a hospital of Shillong, Meghalaya, N=125

Methods adopted by mothers for maintaining eye hygiene of neonates	Frequency (F)	Percentage (%)
Clean with clean cotton and normal water	55	44
Clean with normal water only	48	38.4
Clean with water and apply ointment	17	13.6
Apply antibiotic ointment	5	4

The above Table depicts that 55(44%) will clean the eyes with clean cotton and normal water to maintain eye hygiene for neonates.

Table 8: Frequency and percentage distribution of mothers to prevent the occurrence of redness, swelling and discharge from umbilical cord in a hospital of Shillong, Meghalaya, N=125

Methods adopted by mothers to prevent the occurrence of redness, swelling and discharge from umbilical cord	Frequency (F)	Percentage (%)
Use mustard oil	51	40.8
Use of antibiotic ointment	46	36.8
Nothing is applied	23	18.4
Use vermilion (sindoor)	3	2.4
Use cow-dung	2	1.6

The above Table shows that 51(40.8%) of mothers will prevent the occurrence redness, swelling and discharge from umbilical cord by using mustard oil.

Table 9: Frequency and percentage distribution of methods adopted by mothers to take care of umbilical cord in a hospital of Shillong, Meghalaya, N=125

Care of the umbilical cord	Frequency (F)	Percentage (%)
Keep it dry and clean	74	59.2
Massage with mustard oil	26	20.8
Wash with antiseptic solution	25	20

The above Table shows that 74(59.2%) of mothers will take care of umbilical cord by keeping it dry and clean.

Table 10: Frequency and percentage distribution of mothers about performance of hand hygiene before touching or cleaning the umbilical cord of the baby in a hospital of Shillong, Meghalaya, N=125

Performance of hand hygiene before touching or cleaning the umbilical cord of the baby	Frequency (F)	Percentage (%)
Yes	121	96.8
No	4	3.2

The above Table shows that 121(96.8%) of the mothers will perform hand hygiene before touching or cleaning the umbilical cord of the baby.

Table 11: Frequency and percentage distribution of mothers according to the number of times of changing the diapers of baby in a hospital of Shillong, Meghalaya, N=125

Number of times of changing the diapers of babies	Frequency (F)	Percentage (%)
Whenever the baby passes urine and stool	108	86.4
Only when the baby cries	8	6.4
Only once a day	5	4
2 times a day	4	3.2

Table 12: Frequency and percentage distribution of mothers continuing breast feeding if the neonate suffers from any kind of infection in a hospital of Shillong, Meghalaya, N=125

Continuation of breastfeeding if the neonate suffers from any kind of infections	Frequency (F)	Percentage (%)
Yes	97	77.6
No	28	22.4

The above Table shows that 108(80.4%) of the mothers

changes diapers of babies whenever the baby passes urine and stool.

The above Table reveals that 97(77.6%) will continue breastfeeding if the neonates suffer from any kind of infections.

Table 13: Frequency and percentage distribution of measures adopted by the mothers, if the child has any of the conditions like eye infection, umbilical cord infection and diaper rashes in a hospital of Shillong, Meghalaya, N=125

Measures adopted by mothers, if the child has any of the conditions like eye infection, umbilical cord infection and diaper rash	Frequency (F)	Percentage (%)
Continue breastfeeding	100	80
Continue breast feeding along with some fluids	10	8
Stop breast feeding for 24 hours	8	6.4
Give Cow's Milk	7	5.6

The above Table shows that 100(80%) of mothers will continue breast feeding, if the child has any of the conditions like eye infection, umbilical cord infection and diaper rash.

Table 14: Frequency and percentage distribution of mothers providing any prelacteal feed in a hospital of Shillong, Meghalaya, N=125

Providing any of the prelacteal feed like	Frequency (F)	Percentage (%)
Sugar syrup	41	32.8
Plain water	39	31.2
Breast milk only	30	24
Dal water	11	8.8
Honey	4	3.2

The above Table shows that 41(32.8%) of mothers give sugar syrup to the neonates.

Discussion

In the present study only 5.6% had good knowledge which means there is a significant lack of knowledge on prevention of neonatal infections, similar to the study of Raju F, *et al.* (2015) found that only 2% had good knowledge on neonatal infections which showed mothers had inadequate knowledge on prevention of neonatal infections [5].

In the present study association was found on knowledge score with demographic variables such as educational qualification and occupation of mothers with (0.016 and 0.004 respectively) p -value ≤ 0.05 . Similarly, Raju F, *et al.* (2015) found there is a significant association between the knowledge of post-natal mothers on neonatal infections and demographic variable age (0.0235) p -value ≤ 0.05 [5].

In the present study, 73.6% practiced hand washing before touching the baby, 20.8 use oil to care umbilical cord, 1.6% apply Kajal in the eyes which is similar to the study conducted by Chhetri BT, *et al.* (2014) found out that 62.5% practiced hand washing before touching the baby, 72.5% use mustard oil to care umbilical cord, 52.5% apply Kajal in the eyes [6].

In the present study, 32.8% feed sugar syrup 31.2% plain water, 24% breast milk only, 8.8% dal water 3.2% honey

which is similar to study conducted by Mersha A, *et al.* (2017) revealed that 53 (58.9%) of the mothers provided simple water, 28(31.1%) offered butter, 8(8.9%) gave animal milk, and 1(1.1%) gave honey during prelacteal feeding, (70.1%) applied substances on the stump, (27.9%) applied butter (1.6%) applied animal dung and (0.4%) applied ash on the stump [7]. Similarly, a study conducted by Memon J *et al.* (2017) found out that 15.4% feed animal or other formula milk 24.5% honey and 5.2% fresh butter/ghee [8].

Conclusion

The study concludes that most of the participants 52.8% have poor knowledge on prevention of neonatal infections. Some of the harmful and unhygienic practices while caring for the eyes, umbilical cord and diaper rashes could be harmful, promoting to infection leading to greater risk of morbidity of the neonates. Findings stress the need for teaching programs and health education to mothers which may enhance the overall health standard, reducing neonatal mortality and morbidity rate.

References

1. Neonate: MedlinePlus Medical Encyclopedia; c2016 [Cited 2022 Jan 19]. Available from: <https://medlineplus.gov/ency/article/002271.htm>
2. Newborn and child health [Internet]. UNICEF. [Cited 2022 Jan 19]. Available from: <https://www.unicef.org/india/what-we-do/newborn-and-child-health>
3. UNICEF. Neonatal mortality - UNICEF DATA [Internet]; c2018 [Cited 2022 Jan 19]. Available from: <https://data.unicef.org/topic/child-survival/neonatal-mortality/>
4. El-Aziz A, Wafaa H, AEEM, Mahmoud A. Mothers' Knowledge and practices regarding their children with acute infective conjunctivitis. Menoufia Nursing Journal. 2018 May 1;3(1):77-90. [Cited 2022 Jan 19]. Available from: https://menj.journals.ekb.eg/article_1502982d2d479718df452a01ef76097c84c64b.pdf
5. Feba Raju, *et al.* Knowledge Assessment of post natal mothers on prevention of neonatal infections. [Cited 2022 Jan 19]. Available from: https://www.ijhsr.org/IJHSR_Vol.5_Issue.6_June2015/59.pdf
6. Chhetri BT, Bhandari SS, Karna BK, Chaudhary R, Yadav U. Newborn care practices at home among mothers of neonates admitted with sepsis. Religion. 2019;29:72-5. [Cited 2022 Jan 19]. Available from: https://www.researchgate.net/publication/335473414_Newborn_Care_Practices_at_Home_among_Mothers_of_Neonates_Admitted_with_Sepsis
7. Mersha A, Assefa N, Teji K, Shibiru S, Darghawth R, Bante A. Essential newborn care practice and its predictors among mother who delivered within the past six months in Chencha District, Southern Ethiopia, 2017. PLOS ONE. 2018 Dec 11;13(12):e0208984. doi:10.1371/journal.pone.0208984. [Cited 2022 Jan 19]. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC62895>

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8. Memon J, Naieni HK, Majdzadeh R, Yekaninejad MS, Garmaroudi G, Raza O, Nematollahi. Knowledge, attitude, and practice among mothers about newborn care in Sindh, Pakistan. *BMC Pregnancy Childbirth*. 2019 Dec;19:1-9. [Cited 2022 Jan 19]. Available from: <https://pubmed.ncbi.nlm.nih.gov/31492146>

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