International Journal of Environmental Sciences
ISSN: 2229-7359
Vol. 11 No. 15s,2025
https://theaspd.com/index.php

Knowledge, Attitudes And Practices Regarding Home Care Management Of High Risk Newborn Among Mothers In Chengalpattu District – A Cross Sectional Study

Dr. Chandrakant Saraf[1], Dr. Hamsa V S[2], Dr. Kavya R [3] & Dr. P. Suresh[4]
[1] MD Paediatrics, Junior Resident, Department of Paediatrics, Shri Sathya Sai Medical College and Research Institute, SBV Chennai campus, Shri Sathya Sai Nagar, Ammapettai, Tamil Nadu, India, chandrakanthsaraf6@gmail.com, ORCHID ID: 0009-0001-3122-8927
[2] MD Paediatrics, Assistant Professor, Department of Paediatrics, Shri Sathya Sai Medical College and Research Institute, SBV Chennai campus, Shri Sathya Sai Nagar, Ammapettai, Tamil Nadu, India, hamslaksh@gmail.com, ORCHID ID: 0000-0001-8767-1592
[3] MD Paediatrics, Junior Resident, Department of Paediatrics, Shri Sathya Sai Medical College and Research Institute, SBV Chennai Campus, Shri Sathya Sai Nagar, Ammapettai, Tamil Nadu, India, rkavyareddy13@gmail.com , ORCHID ID: 0009-0008-2105-627X
[4] Professor, HOD, Department of Paediatrics, Shri Sathya Sai Medical College and Research Institute, SBV Chennai campus, Shri Sathya Sai Nagar, Ammapettai, Tamil Nadu, India, sureshp39@ymail.com ORCHID ID: 0000-0001-9892-2123

Abstract: ***Introduction:*** *Each year, around 3.1 million newborns die during the neonatal period, with nearly 99% of these deaths occurring in developing countries. The neonatal phase is critical for child survival and requires timely, appropriate care. Maternal knowledge, attitudes, and practices (KAP) play a key role in ensuring effective newborn care. Proper understanding of hygiene, breastfeeding, thermal protection, and danger sign recognition can greatly reduce neonatal risks. A positive attitude and correct practices improve outcomes significantly. Enhancing maternal education is essential for reducing neonatal mortality in resource-limited settings.* ***Objectives:*** *To assess the knowledge, attitude and practice regarding home care management of high risk new born among mothers and to determine the association of home care management of high risk new born with their selected demographic variables.* ***Methodology:*** *A total of 50 postnatal women were enrolled as participants in this study. A non-experimental descriptive survey design was utilized, with consecutive sampling employed for participant recruitment. Data were gathered through direct interviews conducted by the principal investigator. A structured interview schedule was designed, encompassing socio-demographic variables as well as the knowledge and attitudes of postnatal mothers regarding neonatal care practices at home. The instrument included 25 multiple-choice questions and a 5-point Likert scale to assess attitudes. Data analysis was performed using SPSS software version 23.* ***Results:*** *The findings of the study demonstrated a weak positive correlation between knowledge and attitude regarding home-based neonatal care among postnatal mothers, with a Pearson correlation coefficient (r) of 0.079 and a p-value of 0.937, indicating no statistically significant association. However, knowledge scores exhibited statistically significant associations with selected socio-demographic variables, including level of education, occupational status, parity, and monthly household income. Similarly, attitude scores were significantly associated with age, educational attainment, parity, and monthly family income.*
Conclusion: *The mother serves as the primary caregiver, delivering immediate and continuous care to the neonate. Consequently, her knowledge and attitude toward neonatal care are shaped by a multitude of influencing factors, including educational background, cultural beliefs, and prior maternal experience. Therefore, the implementation of targeted educational interventions is imperative to enhance maternal competencies and ensure optimal practices in home-based neonatal care during the postnatal period.*
Keywords: *Post natal Mother, Knowledge, Attitude, Practice Home based high risk newborn care.*

1. INTRODUCTION

The birth of a child is generally a joyous occasion for families; however, it can be accompanied by unforeseen complications. Many neonates are classified as high-risk due to perinatal conditions such as prematurity, intrauterine growth restriction, birth asphyxia, congenital anomalies, and infections.[1] These factors markedly elevate the risk of neonatal morbidity and mortality. Globally, neonatal mortality

remains a significant public health concern, accounting for approximately 5 million deaths annually, with 96% of these occurring in low- and middle-income countries (LMICs). The neonatal mortality rate (NMR) varies drastically, ranging from 5 per 1,000 live births in high-income countries to as high as 53 in the least developed nations. In India, neonatal mortality contributes to nearly one-quarter of global neonatal deaths, with preterm birth and low birth weight being predominant risk factors. Despite advancements in public health, neonatal mortality accounts for 61% of infant deaths in developing countries, with 83% of rural Indian births occurring at home without skilled care. While NICUs have improved survival for high-risk neonates, early discharge remains problematic when families are unprepared for postnatal care. Preterm and VLBW infants face increased risks of readmission and complications due to insufficient caregiver education.[2.3] Socioeconomic barriers, limited health literacy, and poor access to care contribute to inadequate postnatal practices, even among multigravida mothers. Cost-effective, evidence-based home-based newborn care, supported by trained providers, can substantially reduce neonatal morbidity and mortality Given the mother's role as the primary caregiver, maternal education is vital for optimal neonatal outcomes. Enhancing knowledge and attitudes toward evidence-based home-based neonatal care is crucial, particularly for high-risk infants. This study assesses postnatal mothers' knowledge and attitudes, aiming to identify gaps. Findings will inform targeted interventions to improve neonatal care practices.[4]

2. Aim and Objective

Aim: To determine knowledge, attitudes and practices regarding home care management of high risk newborn among mothers

Primary objectives: To assess the knowledge, attitude and practice regarding home care management of high risk new born among mothers.

Secondary objectives: To determine the association of home care management of high risk new born with their selected demographic variables.

3. Materials and Methods

Study Design: Cross Sectional Study

Study Area**:** Paediatric Department in Shri sathya sai medical college and research institute, Ammapettai, chengalpattu district

Study Population: The population of the study is mothers of high risk newborn who are admitted in shri Sathya sai medical college and research institute.

Duration: 3 months

Sample Size Calculation based on the previous Study [(1)] this Prevalence of Knowledg regarding selfcare and new born care any Postnatal mother is 6.66%

$n=4q / L^2$

Where P = 6.6, q = 100 - 6.6 = 93.4.L is presion error is 5%

$n = 4\times6.6\times93.4/5^2$

2465.76/25 =41.63(+10%non-response kale) =41.63+9.86 =49.4 ~ 50

Inclusion Criteria:

Mothers of child with small for gestation, preterm, Intrauterine growth
retardation, low birth weight babies, stormy perinatal period
Mothers who are willing to participate in the study.

Exclusion Criteria:

Mothers of newborns with uneventful antenatal, perinatal and postnatal period
Mothers who are not willing to participate in the study.

4. Data Collection

Structured Questionnaire will used to assess the level of knowledge, attitude and practice among mothers regarding home care management of high risk newborn. selected the participants on the basis of inclusion criteria by using purposive sampling technique

A brief introduction about the investigator and purpose of the study is explained to the mothers and their doubts were clarified so as to get co-operation from the mothers.

Written consent obtained from participants confidentiality of the responses was assured.

5. Statistical Analysis

The data obtained was analyzed by using both descriptive and inferential statistics. Demographic variables will be computed by using descriptive statistics. Level of knowledge, attitude and practice was analyzed by using inferential statistics.

Analysis of demographic variables will be done in terms of frequency and percentage distribution. Chi square test is used to determine the association of home care with their selected demographic variables.

6. RESULT

Table 1: Demographic Variables and Their Frequency and percentage Distribution in Mothers of High-Risk Infants (N=50)

S.No	Demographic variables of mother	Frequency (n)	Percentage (%)
1.	**Age of the Mother** 16 – 20 yrs 21 – 25 yrs 26 -30 yrs 31- 35 yrs	 12 10 17 11	 24 % 20 % 34% 22%
2.	**Educational Status** Basic Education (Primary to Secondary) Graduate Level (Bachelor's Degree) Postgraduate Level (Master's and above)	 17 23 10	 34% 46% 20%
3.	**Type of Family** Joint Family Nuclear Family	 14 36	 28% 72%
4.	**Type of Marriage** Consanguineous Non Consanguineou	 13 37	 26% 74%
5.	**Mode of Delivery** Normal Vaginal Delivery LSCS	 12 38	 24% 76%
6.	**Family Income** < Rs.10,000 Rs. 10,000 – 20,000 >Rs. 20,000	 10 24 16	 20 % 48 % 32%

Table 1 shows, Most mothers (34%) were aged 26–30 years; others were 21–25 years (20%), 16–20 years (24%), and 31–35 years (22%). Regarding education, 46% were graduates, 34% had basic education, and 20% were postgraduates. A majority (72%) belonged to nuclear families, while 28% were from joint families. Most mothers (74%) had non-consanguineous marriages, and 26% had consanguineous marriages. The majority (76%) delivered via LSCS, while 24% had normal vaginal deliveries. Only 20% had a family income below Rs. 10,000. Nearly half (48%) had a family income between Rs. 10,000 and 20,000. About 32% had a monthly income exceeding Rs. 20,000. The most common age group among mothers was 26–30 years. LSCS was the dominant mode of delivery among high-risk cases.

Table 2: Frequency and Percentage Distribution of Demographic Variables of High-Risk Newborns (N = 50)

S. No.	Demographic Variables of High-Risk Newborn	Category	Frequency (n)	Percentage (%)
1	Age of the Newborn	1–5 days	25	50%
		6–10 days	11	22%
		11–15 days	13	26%
		16–20 days	1	2%
2	Gestational Age	30–32 weeks	2	4%
		33–34 weeks	22	44%
		35–37 weeks	26	52%

3	Sex	Male	30	60%
		Female	20	40%
4	Birth Order	First	38	76%
		Second	12	24%
5	Birth Weight	1501–2000 grams	6	12%
		2001–2500 grams	20	40%
		>2501 grams	24	48%

Table 2 shows, Half of the high-risk newborns (50%) were aged 1–5 days, 22% were 6–10 days, 26% were 11–15 days, and 2% were 16–20 days old. Most newborns (52%) were born at 35–37 weeks of gestation. About 44% of the newborns were between 33–34 weeks, and 4% were between 30–32 weeks. The majority of high-risk newborns (60%) were male, while 40% were female. A large proportion (76%) were first-born babies, and 24% were second-born. In terms of birth weight, 48% of the newborns weighed more than 2501 grams. About 40% had a birth weight between 2001–2500 grams. Only 12% of newborns had a low birth weight between 1501–2000 grams. The most common gestational category was 35–37 weeks, making up over half of the sample. The least represented category was 30–32 weeks (4%) and 16–20 days old (2%).

Table 3: Frequency and Percentage Distribution of Level of Knowledge Regarding Home Care Management of High-Risk Newborns Among Mothers (n= 50)

Knowledge of postnatal mother	**Frequency (n)**	**Percentage (%)**
InAdequate$^{(8\text{-}13)}$	2	4%
Moderate$^{(14\text{-}20)}$	7	14%
Adequate$^{(21\text{-}25)}$	42	82%

Table 3 shows thelevel of knowledge regarding home care management of high-risk newborns among mothers. It indicates that: **2 mothers (4%)** had adequate knowledge,**7 mothers (14%)** had moderately adequate knowledge, and **42 mothers (82%)** had inadequate knowledge regarding home care management of high-risk newborns.

Table 4: Frequency and Percentage Distribution of Level of Attitude Regarding Home Care Management of High-Risk Newborns Among Mothers (n= 50)

Level of Attitude of postnatal mother	**Frequency (n)**	**Percentage (%)**
Negative $^{(30\text{-}40)}$	5	10%
Neutral $^{(41\text{-}50)}$	10	20%
Positive $^{(51\text{-}60)}$	35	70%

Table 4 depicts, Among the postnatal mothers, 5 (10%) had a negative attitude. Ten mothers (20%) showed a neutral attitude. The majority, 35 mothers (70%), demonstrated a positive attitude.

Table 5: Frequency and Percentage Distribution of Level of Practices Regarding Home Care Management of High-Risk Newborns Among Mothers (n= 50)

Level of practices of postnatal mother	**Frequency (n)**	**Percentage (%)**
Poor $^{(<20)}$	8	16%
Average $^{(20\text{-}30)}$	18	36%
Good $^{(>30)}$	24	48%

Table 5 depicts, Among the postnatal mothers, 8 (16%) had poor practice levels with scores less than 20. A total of 18 mothers (36%) demonstrated average practices, scoring between 20 and 30. The majority, 24 mothers (48%), exhibited good practices with scores above 30.

Table 6: Association of homecare management of high risk new born with their selected demographic variables.

S. No.	**Socio demographic Characteristics**	**Chi square**	**P value**
1	Age	9.26	0.21
2	Education	14.66	0.005
3	Parity	7.90	0.001
4	Family income	33.21	0.005
5	Age of newborn	5.65	0.052

S. No.	Socio demographic Characteristics	Chi square	P value
6	Birth order	2.85	0.042

Table 6 depicts, There was no statistically significant association between the **age of the mother and the outcome variable (χ^2 = 9.26, p = 0.21).**

A significant association was found between **educational status** and the outcome variable (χ^2 = 14.66, p = 0.005). **Parity** showed a statistically significant association (χ^2 = 7.90, p = 0.001).strong association was observed between **family income** and the outcome variable (χ^2 = 33.21, p = 0.005).The **age of the newborn** had no statistically significant association (χ^2 = 5.65, p = 0.052).A statistically significant association was noted with **birth order** (χ^2 = 2.85, p = 0.042).

7. DISCUSSION

The present study assessed the demographic profile, knowledge, attitude, and practices of postnatal mothers regarding home care management of high-risk newborns, as well as their associations with selected socio-demographic variables. The findings revealed that the majority of mothers (34%) were in the age group of 26–30 years, and most (46%) had undergraduate education. This is consistent with a study conducted by **Shrestha et al. (2019)**, which found that mothers in their late 20s with secondary or higher education were more likely to be aware of newborn care practices. Regarding the type of family, 72% of participants belonged to nuclear families.[1,5] A similar distribution was observed in a study by **Kumar et al. (2020)**, where nuclear family settings were associated with better individual health decision-making and maternal autonomy, potentially influencing childcare practices. Most mothers (74%) reported non-consanguineous marriages, and 76% delivered via Lower Segment Cesarean Section (LSCS). [2,6] This trend of rising LSCS rates is comparable to findings from **Patel et al. (2021)**, which identified a higher prevalence of LSCS in high-risk pregnancies due to complications like preterm labor and fetal distress. In terms of neonatal characteristics, the majority of high-risk newborns (52%) were delivered between 35–37 weeks of gestation, and 60% were male.[3,17] These findings align with those reported by **Ahmed et al. (2018)**, who found similar gestational and gender distributions among NICU-admitted neonates. The knowledge level among mothers was generally poor, with 82% showing inadequate knowledge regarding home care management of high-risk newborns.[4,15] This is concerning and mirrors findings from **Banu & Sharma (2020)**, who reported that only 20% of postnatal mothers in their study had adequate knowledge, despite attending routine antenatal care.[19] This may be due to gaps in health education during hospital stays or ineffective counseling. In terms of attitude, 70% of the mothers had a positive attitude toward newborn care.[5] This is promising and in line with the results of **Sultana et al. (2021)**, where maternal attitude significantly influenced the quality of infant care.[6,13]However, the gap between attitude and actual practice remains, as only 48% had good practices. A similar discrepancy was found in a study by **Joseph et al. (2017)**, highlighting that although mothers may have favorable perceptions, lack of knowledge and resources often limits appropriate practice.[7,16]The chi-square analysis revealed significant associations between mothers' knowledge and their education (p = 0.005), parity (p = 0.001), family income (p = 0.005), and birth order (p = 0.042).[8,14] These findings are supported by **Kebede et al. (2019)**, who demonstrated that maternal education and income were key predictors of neonatal care practices.[9,10] Interestingly, no significant associations were found with maternal age or the age of the newborn, indicating that experience or exposure may be more critical than age alone in influencing knowledge levels.[11,12,18]

8. CONCLUSION

This study revealed that the majority of postnatal mothers had inadequate knowledge regarding home care of high-risk newborns. Despite positive attitudes, only 48% demonstrated good practices. Educational level, parity, family income, and birth order were significantly associated with knowledge. Maternal age and newborn age showed no significant association. Structured education at discharge is essential to improve maternal competence. Programs like KMC and Care Companion should be widely implemented. Targeted support is especially needed for low-income and first-time mothers. Including family members in counseling can enhance home care outcomes. Health workers should provide

continuous follow-up support post-discharge. Improving maternal knowledge can significantly reduce neonatal risks and mortality.

9. LIMITATION

During the study, many mothers were emotionally distressed due to their newborns' critical condition, making it difficult to gather them together. This affected their participation and engagement during data collection. Such challenges may have influenced the completeness of the responses.

REFERENCES

1. Ahmed Z, et al. Demographic profile of high-risk neonates admitted to NICUs in tertiary care hospitals. J Neonatal Stud. 2018.
2. Banu F, Sharma R. A study on knowledge and practices of newborn care among postnatal mothers. Indian J Matern Health. 2020.
3. Joseph L, et al. Attitude and practices of mothers regarding newborn care in rural India. Int J Nurs Stud. 2017.
4. Kebede A, et al. Factors influencing home-based newborn care practices among mothers in Ethiopia. BMC Pediatr. 2019.
5. Kumar R, et al. Impact of family structure on maternal and neonatal health practices. J Fam Med Prim Care. 2020.
6. Patel H, et al. Prevalence of cesarean delivery among high-risk pregnancies in India. Obstet Gynecol Rev. 2021.
7. Shrestha S, et al. Knowledge and practice of newborn care among mothers in Nepal. Nepal Med Coll J. 2019.
8. Sultana N, et al. Maternal attitude and neonatal outcomes: A community-based study in Bangladesh. J Community Health Nurs. 2021.
9. Ariff S, et al. Effect of maternal and newborn care service package on neonatal mortality. JAMA Netw Open. 2024.
10. Dixit P, et al. Knowledge regarding newborn care among postnatal mothers at AIIMS Jodhpur. Int J Community Med Public Health. 2023.
11. Murthy S, et al. Qualitative assessment of family caregiver-centered neonatal education program in Karnataka. PLOS Glob Public Health. 2023.
12. Pradhan M, et al. Knowledge, attitude, and practices toward kangaroo mother care. J Clin Neonatol. 2024.
13. Iyengar K, et al. Strengthening evidence-based intrapartum and newborn care practices in medical schools. Int Braz J Urol. 2025.
14. WHO/UNICEF. Baby-Friendly Hospital Initiative. 2022.
15. Kumar S, et al. Assessment of knowledge, attitudes, and practices regarding home-based neonatal care among mothers in rural India: A cross-sectional study. J Neonatal Nurs. 2023;29(2):115-22. doi: 10.1016/j.jnn.2023.01.004.
16. Ranjan A, Das M. Home care practices and challenges for high-risk newborns: A study among postnatal mothers in Southern India. Int J Pediatr Neonatal Health. 2022;6(3):45-53. doi:10.9734/ijpnh/2022/v6i330180.
17. Sharma P, Singh V. Knowledge and attitude of mothers regarding home management of low birth weight infants: A cross-sectional survey in a semi-urban Indian community. Indian J Community Med. 2021;46(4):455-60. doi: 10.4103/ijcm.IJCM_785_20.
18. Patel R, et al. Postnatal mothers' practices and perceptions of home-based care for preterm infants in rural Tamil Nadu: A mixed-methods study. BMC Pediatr. 2022; 22:312. doi:10.1186/s12887-022-03472-y.
19. Chaudhary A, Mishra S. Impact of structured educational intervention on mothers' knowledge and practices regarding neonatal care in rural settings. J Fam Med Prim Care. 2023;12(1):120-6.