



A cross-sectional study to assess the level of knowledge and attitude of the danger signs of newborn among postnatal mothers who are attending maternity unit of secondary hospital of Chittoor Andhra Pradesh, South India

¹Medona Rosy V, ²Anbarasi S and ³Nirmala Margaret Emmanuel

^{1, 2, 3} College of Nursing, Christian Medical College Vellore, Chittoor campus, Andhra Pradesh, India

Corresponding Author: Medona Rosy V

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Abstract

The neonatal period is a vulnerable time in an individual's life. Identifying neonatal warning signs is a crucial step in the direction of improving child survival. This study was done with an aim to assess the knowledge and attitude of postnatal mothers regarding danger signs of newborns and to find its association between selected demographic variables. This quantitative descriptive study included 250 postnatal mothers who were recruited using purposive sampling. A self-administered tool consisting of demographic data, knowledge checklist and attitude scale which was prepared by the Investigator was given to study participant. Only 44.4% of mothers had adequate knowledge. Most of the subjects had positive attitude towards confidence in recognizing danger signs, perceived importance of seeking medical care, preference for seeking advice from family/friends, beliefs about the severity of newborn danger signs, emotional responses to seeking medical care, perceived accessibility of healthcare professionals and potential barriers to seeking medical care. Empowering mothers with accurate information and supportive resources is essential to improving neonatal outcomes and reducing infant morbidity and mortality rates.

Keywords: Danger signs of newborn, postnatal mother's knowledge, newborn, attitude of postnatal mother

Introduction

The neonatal period is the first four weeks of life and represents a vulnerable time in an individual's life ^[1]. Early detection of neonatal infection through identifying neonatal warning signs is a crucial step in the direction of improving new child survival ^[2]. Globally, each year approximately 4 million children die in the first 28 days of life, and this accounts for 40% of children passed away under the age of 5 years globally ^[3]. Most neonatal deaths occur in low-income and middle-income countries when compared to industrialized countries ^[4]. According to World Health Organization in 2018, an estimated 0.6 million newborns died in INDIA ^[5]. In 2020, the infant mortality rate within the Andhra Pradesh become 24 deaths per 1,000 live births ^[6]. However, there are limited studies done in India. The main aim of the study is to assess the level of knowledge and attitude among postnatal mothers regarding danger signs of newborns and to find association between selected demographic variables and knowledge and attitude of postnatal mothers regarding danger signs of newborn.

Materials and methods

A descriptive study to assess the knowledge and attitude of postnatal mothers regarding danger signs of new born was undertaken for a period of two months in a rural area in Andhra Pradesh. A quantitative approach was used. Purposive sampling technique was used to select 250

postnatal mothers who were included in study after fulfilling the sampling criteria. Postnatal mothers who attended the maternity OPD, admitted in the wards and mothers of newborn admitted in Nursery were included in the study. Postnatal mothers who had still birth, intra uterine death, abortion and who were not willing to give consent for the study were excluded from the study.

The data collection tool comprised of demographic data, knowledge checklist and attitude scale. The demographic profile included the age, education, occupation, number of children, previous hospitalization, gender of the baby and type of family. Knowledge questionnaire was developed by the Investigator which consisted of questions related to danger signs of newborn as stated by WHO, which included- cold to touch, hot to touch, refused to suck or not able to feed, fast breathing / nasal flaring/ chest indrawing, yellowish discoloration in yellow palm and sole, abdominal distension, movement only when stimulated or no movement even on stimulation, Umbilicus redness or drain of pus, excessive crying, pus drainage in eye, vomiting, diarrhea, and mottling/ dusky. The knowledge score was interpreted as inadequate (50% and below), moderately adequate (51 - 80%) and adequate (> 80%). Attitude scale was also developed by the Investigator which had a set of 8 statement which on a five- point Likert scale stating strongly agree (5), agree (4), neutral (3), disagree (2), strongly disagree (1). A higher score denotes positive attitude and

lower score denotes negative attitude. The scoring of positive statements increased with favourable attitude and scoring for negative statements reduced with favourable attitude. The attitude score is computed as the sum of participant response. Both the knowledge questionnaire and the attitude scale were validated by experts in the field of Nursing and the CVI was 0.8.

Data were analyzed using Statistical Product and Service Solutions (SPSS) version 26. Categorical data were analyzed using frequency and percentage. Chi square test and logistic regression was used to find the association between selected demographic variables and level of knowledge.

Results & Discussion: Table 1 reveals the participant information. Majority of the subjects were between the age group of 26 - 35 years (66.4%), undergraduates in their educational qualification (57.6%), unemployed (71.6%), has one child (58%), has no history of previous hospitalization (92.4%), boy as gender of the baby (50.8%) and joint family (61.6%). These findings are similar to the findings of a cross-sectional descriptive study conducted in Gwalior rural area of India in the year 2024, this study was aimed to assess the knowledge level of postnatal mothers about danger sign of newborn, they reported that a total of 375 postnatal mothers had participated with majority of the participants below 30 years. Most of the mothers were educated (60.5%), unemployed (73.6%), and belonged to joint family (74.4%) [7].

Table 1: Distribution of subjects based on their demographic variables (N = 250)

S.no	Demographic variables	Frequency (n)	Percentage (%)
1	Age		
	18 - 25 years	68	27.2%
	26 - 35 years	166	66.4%
	36 - 45 years	16	6.4%
2	Education		
	Primary	1	0.4%
	Secondary	23	9.2%
	Intermediate	29	11.6%
	Degree / diploma	144	57.6%
	Post graduate	53	21.2%
3	Occupation		
	unemployed	179	71.6%
	employed	71	28.4%
4	No. of children		
	One	145	58%
	Two	93	37.2%
	Three	12	4.8%
5	Previous hospitalization		
	Yes	19	7.6%
	No	231	92.4%
6	Gender of the baby		
	Boy	127	50.8%
	Girl	123	49.2%
7	Type of family		
	Nuclear	96	38.4%

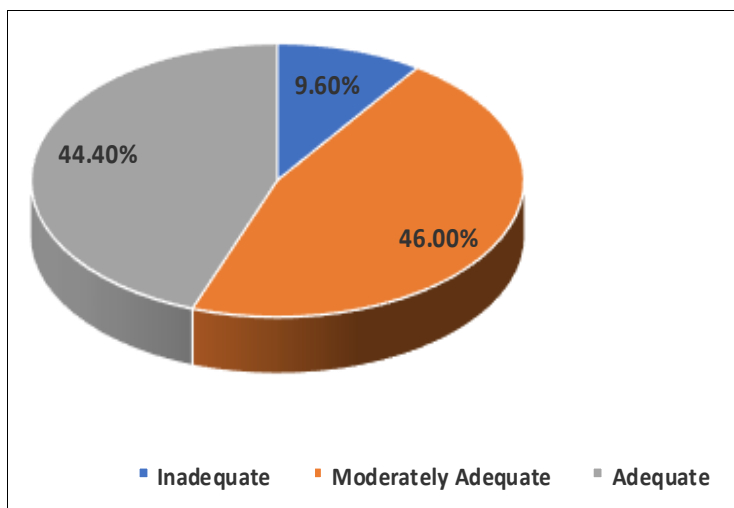


Fig 1: Level of knowledge of postnatal mothers regarding danger signs of newborn

Figure 1 reveals that 24 respondents (9.6%) have inadequate knowledge, scoring below 50% based on the criteria, 115 respondents (46.0%) possess moderately adequate knowledge, with scores ranging from 51% to 80%. Of 250 mothers, 111 respondents (44.4%) demonstrate adequate

knowledge, with scores above 80%. The findings of the present study contradict the study findings which was done in Gwalior rural area of India in the year 2024 on knowledge of danger signs of newborn among postnatal mothers [7].

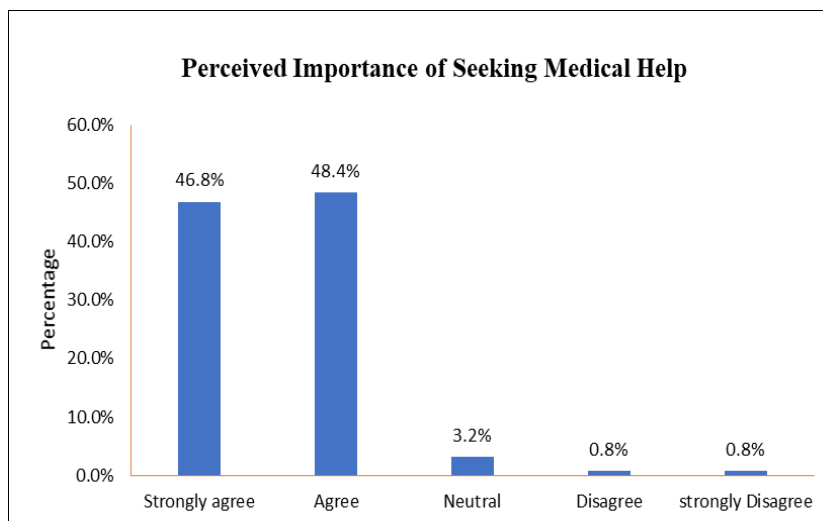


Fig 5: Distribution of subjects based on perceived importance of seeking medical help

The finding of the present study was that 79.6% were confident in recognizing newborn danger sign, 95.2% have positive attitude towards importance of seeking medical help for danger signs of newborn, 40% reported that they will come to hospital rather than seeking help from family or friends, 84.4% have agreed danger signs of newborn are serious illness, 52% were anxious for seeking medical care for their newborn, 92.4% of subjects reported that healthcare professional were available when needed, 90.4% have reported that they do not have any signiant barriers for seeking medical care like travelling long distance or waiting for long time in OPD. According to Ahmed N (2017) 86.2% of respondents interfere when the newborn develops one of the danger signs and also reported that 32% would seek medical care for their newborn rather than managing in home [8].

Table 2: Association between demographic variables and the knowledge level of the post natal mothers

S.no	Demographic variables	Chi square value	p value
1	Age	18.27	0.424
2	Education	5.194	0.736
3	Occupation	0.901	0.63
4	Number of children	6.105	0.189
5	Previous hospitalization	0.492	0.772
6	Gender of the baby	4.799	0.09
7	Type of family	1.25	0.517

Chi-square analysis was done to estimate the association between the demographic variables with the knowledge level of danger sign of newborn. The results suggest that there is no significant association between the level of knowledge and the selected demographic variable. However, trends indicate education level and age group are likely influential. Gender of the baby might also play a role, with mothers of boys showing slightly better adequate

knowledge scores than girls. This finding is similar to the study findings of Zhou (2022), which reveals that knowledge level is not statistically associated with demographic profile [9].

Conclusion

The findings reveal that only 44.4% of mothers possess a basic understanding of common danger signs. In conclusion, enhancing the knowledge and attitudes of postnatal mothers is a pivotal step in ensuring the early detection and management of newborn danger signs, ultimately contributing to better health and survival rates of infants.

Acknowledgments

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The authors declare no conflicts of interest.

Statement of ethical approval

This study was conducted after approval by the Institutional Review Board on 16/10/23 (minute no: 2410125). Informed consent was obtained from all individual participants included in the study.

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