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New Born Care Knowledge and Practices Among Post Natal Mothers in Slums of Bhubaneswar City

RASHMITA BEHERA*[1] AND SURYAMANI PATRO[2]
[1]Ph.D. Research Scholar and [2]Associate Professor
P.G. Department of Home Science, Ramadevi Women's University, Bhubaneswar (Odisha) India

ABSTRACT

In developing countries like India, neonatal mortality is the most neglected health issue by the health system, leading to its emergence as a public health problem. A study was undertaken to assess the knowledge and newborn care practices among post natal mothers in slums of Bhubaneswar city. **Methodology**: The descriptive cross-sectional study was organized in the slum dwellers of municipal corporation of Bhubaneswar city of Odisha state. Study participants were selected based on the mothers who gave birth to a baby during the last six months. The mothers who delivered in that area within six months were included and, using the semi-structured questionnaire, data were collected. Data were analyzed using Microsoft Excel and SPSS 2021 version for windows. **Results**: Out of 200 deliveries, almost all (100.00%) the deliveries were happened at hospital. It was observed that 69 (34.50%) numbers of the respondents had good knowledge about new born care practice and rest 131 (65.50%) numbers of respondents had poor knowledge about new born care practices, respectively. However, family size less than 3 numbers of members (17.00%) had good knowledge about new born care practices and family size having more than six numbers of family members had poor knowledge about new born care practices. The data pertaining to this was statistically non- significant. Respondents belong to the nuclear family type had good new born care practices than respondents of joint family type. However, respondents belong to the upper lower socio economic class group had good new born care practices followed by lower middle class family. As regards to the education of the mother, mothers having graduate level qualification had good new born care practices followed by high school and intermediate, respectively. **Conclusion**: The practice of essential newborn care still needs to improve in slum dwellers of Bhubaneswar city; there is a need to create awareness among the mothers and family members on newborn and early neonatal care aspects.

Key Words : New-born; cord care, Home deliveries, Hospital deliveries, Breastfeeding

INTRODUCTION

Universally, in the last two decades, neonatal mortality has dropped almost 51 per cent; the neonatal mortality rate in 1990 was 37/1000 live births, which dropped to approximately 18/1000 live births in 2021. In 2023, 2.3 million neonates have died in the first four weeks of life, roughly 6400 neonatal deaths per day (UNICEF, 2023; Bekele *et al.,* 2022). However, the reduction in neonatal mortality has decelerated from 1990 to 2023 compared to infant mortality and under-five mortality during the same period. The neonatal mortality rates remain static, especially in non-industrialized countries (Sartorius and Sartorius, 2014; World Data Atlas, India, 2020; Sandberg *et al.,* 2014). India contributes 17.7% of the world's population and nearly one-sixth of the total live births. Neonatal deaths in India have declined by nearly three-fourths in the last five decades from 83.6/1000 live births in 1971 to 20.3/1000 live births in 2023. The deceleration of the neonatal mortality rate that accelerated in the recent decade is due to the introduction of the neonatal resuscitation program, and the National Health Mission program to address maternal and child care, including newborn care (Sankar *et al.*, 2016;

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Darmstadt *et al.*, 2005; Rasaily *et al.,* 2020). It has been confirmed from some studies that, care during the early neonatal period and newborn care practices on day one after delivery to the lower neonatal risk of morbidity and mortality. Newborn care practice interventions can prevent neonatal deaths. Quality care during antenatal and perinatal periods are essential for reducing neonatal mortality (Otolorin *et al.*, 2015). World Health Organization (WHO) recommended preventing neonatal mortality through the preparation of mothers for managing complications, adequate good quality antenatal care, practicing clean delivery, and cord care, to avoid hypothermia through the skilled care of mothers such as thermal care, early and exclusive breastfeeding, and immunizing the child (Young *et al.*, 2012). Some societies lack the familiarity and exercise of newborn care, for instance, the feeding of colostrum, prevention of hypothermia, and exclusive breastfeeding; even awareness about care seeking on the identification of life-threatening signs was very poor. Though the antenatal tetanus toxoid immunization was implemented long before as a cost-effective solution to prevent neonatal tetanus, skilled attendance during delivery, clean cord care, early initiation of colostrum, and exclusive breastfeeding, the neonatal mortality rate has changed relatively little. The WHO recommends improving essential newborn nurturing practices at birth to lessen neonatal morbidity and mortality. In developing countries, neonatal mortality is the most neglected health issue by the health system leading to its emergence as a public health problem. In India, adverse consequences on the child survival rate were due to different cultural beliefs and practices among the age-old traditional populations. The essential basic and emergency obstetric and newborn care interventions were introduced to reduce under-five mortality, but do not yet fully address the roots (Marsh *et al.*, 2002). With this background, this study was undertaken to determine the attributing factors and newborn care practices influencing newborn health in the slum of Bhubaneswar city of Odisha (Rahi *et al.,* 2006; Puri *et al.,* 2008; Vijayalakshmi *et al.*, 2014; Sartaj *et al.*, 2012; Bang *et al.,* 2005).

METHODOLOGY

Study Settings:

The current study was planned to be conducted in the slum area of Bhubaneswar city of Odisha.

Study Design:

An analytical cross-sectional study was conducted from 1 August 2022 to 31 July 2023 on all the mothers who had a live baby aged below six months and residing in the selected slum areas of Bhubaneswar city of Odisha.

Sampling:

The sample size came out to be 263 and finally we studied 200. Two hundred mothers that had a live baby of an age below six months in selected slum area made the estimated sample size.

Methods :

The data was collected from the participants by making personal visits to the household having eligible mothers; after explaining the purpose and objectives of the study to all post-natal mothers, voluntary informed consent was obtained. The data was obtained by filling out the validated pre-designed questionnaire through face-to-face interviews with eligible mothers who had a live baby of an age below six months and residing in the selected villages. The study tool included a socio-demographic profile, the utilization of maternal health services, pre and post-natal newborn care knowledge, and practices.

Inclusion Criteria:

1. All the mothers who gave birth within the last six months to a live baby
2. Mothers willing to participate in the study.

Exclusion Criteria:

1. Mothers who delivered and stayed outside of the study area.
2. Mothers who were seriously ill and hospitalized.

Statistical Analysis:

The Data was entered into Microsoft Excel 2021 software version for windows and imported to SPSS-21 software, and statistical analysis was performed (Statistical Package for Social Science software version-21 IBM Corporation, Armonk, NY, USA). Categorical variables were expressed in frequencies and proportions. A Chi-square and Fisher's exact test established the association between qualitative variables.

RESULTS AND DISCUSSION

Nearly three-fourths, 95 (47.50%), of post-natal

mothers were in the 20-24 years age group, followed by 72 (36.00%) in the 25-29 age group, respectively. Approximately 25.095 years was the mean age of the mother. As regards to the education of the mothers, 36.00% of them are illiterate, 23.50% of them are upto high school level and 22.50% of them have completed their graduation, respectively. About more than half of the mothers are belonged to upper lower level, 33.50% of them are in lower middle level. Almost all the mother have given birth to their children in hospital. The majority of mothers, 153 (76.50%), had normal delivery and rest 47 (23.50%) had caesarean deliver as described in Table 1.

Table 1 : Socio Demographic Characteristics of Study Population (N=200)

Variable	Category	Frequency	% age
Age of Mother	≤ 19	8	4.00
	20 – 24	95	47.50
	25 – 29	72	36.00
	≥30	25	12.50
Size of family	3 or less	99	49.50
	4 – 6	85	42.50
	6 or more	16	8.00
Type of family	Nuclear	129	64.50
	Joint	71	35.50
Socio economic class	Lower	5	2.50
	Upper lower	121	60.50
	Lower middle	67	33.50
	Upper middle	4	2.00
	Upper	3	1.50
Educational level of mother	Illiterate	72	36.00
	Up to high school	47	23.50
	Intermediate	36	18.00
	Graduate	45	22.50
	Post Graduate	0	0.00
Educational level of father	Illiterate	0	0.00
	Up to high school	70	35.00
	Intermediate	123	61.50
	Graduate	5	2.50
	Post Graduate	2	1.00
Number of ANC visits	<3	199	99.50
	>3	1	0.50
Place of Birth	Hospital	200	100.00
	Home	0	0.00
Type of Delivery	Normal	153	76.50
	Caesarean	47	23.50
Number of PNC visits	<3	131	65.50
	>3	69	34.50

As evident from the Table 2 and Fig. 1, initiation of breast feeding was started within one hour as stated by 58 (29.00%) of respondents and rest of the mothers have stated that, initiation of breast feeding was started within one 24 hours. However, 145 (72.50%) of the mothers have opined that pre lacteal feeding was given to the new born child. Feeding pattern was as per schedule as stated by 118 (59.00%) of mothers. Regarding cord care,

Table 2 : Distribution of Samples According to New Born Care Practices (N=200)

Sr. No.	Variables	Category	Frequency and %
1.	Feeding Practices		
	Initiation Breast Feeding	Within 1 hour	58 (29.00)
		Within 24 hour	142 (71.00)
	Colostrums	Yes-1	85 (42.50)
		No-2	115 (57.50)
	Pre lacteal feed	Yes-1	145 (72.50)
		No-2	55 (27.50)
	Feeding pattern	Demand	82 (41.00)
		Schedule	118 (59.00)
2.	Cord Care	Instruments used to cut the cord	89 (44.50)
		Materials used to tie the cord	111 (55.50)
3.	Drying of cord	Yes	162 (81.00)
		No	38 (19.00)
4.	Thermal protection	Wrapping new born with warm clothes	Yes-22 (11.00) No-178 (89.00)
		Skin to skin contact	Yes-94 (47.00) No-106 (53.00)
5.	Eye care	Yes	93 (46.50%)
		No	107 (53.50%)
6.	Immunization	Yes	60 (30.00%)
		No	140 (70.00%)
	Type of Immunization	BCG	126 (63.00%)
		OPV	74 (37.00%)

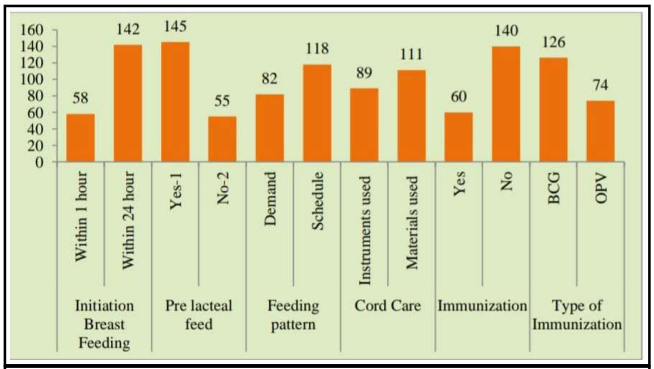

Fig. 1 : Distribution of samples according new born care practices

89 (44.50%) of mothers have told that, sterilized instruments were used to cur the cord are rest 111 (55.50%) of them have suggested that materials were used to tie the cord. Immunization was done to 30.00% mothers and was not done to rest 70.00% of mothers, respectively as evident from the Table 2.

Table 3 : Distribution of Mother According to Knowledge Regarding New Born Care (N=200)

Sr. No.	Variables		Frequency	%
1.	Knowledge about breast Feeding	Breast feeding should be initiated within 1 hour of birth	58	29.00
		Colostrum should not be discharged	85	42.50
		Babies should be breast fed on demand	82	41.00
		Pre lacteal food should not be given	145	72.50
		Exclusive breast feeding	120	60.00
		Overall knowledge		49.00%
2.	Dry Cord Care	Umbilical Stump should be left uncovered	89	44.50
		Put nothing on the Stump	162	81.00
		Umbilical Stump should be left uncovered	104	52.00
		Overall knowledge		59.17%
3.	Thermal	Warm clothing prevents heat loss in baby	22	11.00
		Skin to skin contact prevents heat loss in baby	94	47.00
		Overall knowledge		29.00%
4.	Eye Care	Ointment or drops should be put everyday to prevent infections	93	46.50
		Eyes should not be washed	81	40.50
		Overall knowledge		43.50%
5.	Immunization	One should start vaccination just after birth	60	30.00
		The child should be vaccinated to prevent diseases	126	63.00
		Overall knowledge		46.50%

Table 4 : Association of Socio Demographic Character and New Born Care Practices

Variable	Category	New Born Care Practices		P Value
		Good-1	Poor-2	
Age of Mother	≤19	0	8	0.130
	20 – 24	35	60	
	25 – 29	23	49	
	≥30	11	14	
Size of family	3 or less	34	65	0.705
	4 – 6	28	57	
	6 or more	7	9	
Type of family	Nuclear	44	85	0.498
	Joint	25	46	
Socio economic class	Lower	6	5	0.000*
	Upper lower	20	81	
	Lower middle	27	40	
	Upper middle	9	3	
	Upper	7	2	
Educational level of mother	Illiterate	16	20	0.002*
	Up to high school	19	14	
	Intermediate	9	27	
	Graduate	24	70	
	Post Graduate	1	0	
Educational level of father	Illiterate	0	0	0.439
	Up to high school	19	51	
	Intermediate	47	76	
	Graduate	2	3	
	Post Graduate	1	1	

Table 3 describes about the knowledge of the mothers about different new born care. It is evident from the table that, out of 200 respondents, only 49.00% of mothers had knowledge about breast feeding, 59.17% of the mothers have knowledge about dry cord care, 29.00% of the mothers are aware about thermal care. However, 43.50% of the mother have knowledge about eye care of the new born child and 46.50% of the mothers have stated that they have knowledge about immunization programme, respectively.

Association of socio economic variables with new born care practices has been presented in Table 4. Data pertaining to these variables were subjected to statistical analysis by using cross tab analysis and chi square analysis. It is observed from the table that, social economic class of the respondents was found to be statistically significant with the new born care practices and also the association between the education level of the mother with the new born care practice was found to be statistically significant. However rest of the parameters are not significantly associated new born care practices, respectively.

Discussion:

In the present study, most of the study participants were between 25 to 29 years of age, the majority were staying in nuclear families, and most were illiterates. A study conducted in Ethiopia by Semanew *et al.* (2019) also observed that the majority of the participants were between the age of 21 to 35 years. Regarding educational status, most of the participants were either illiterate or just able to read and write. Our result is corroborated with the result found by Ethiopia. Pre lacteal feeding practice was done by 72.50% of mothers and schedule feeding pattern was practised by 59.00% of the lactating mothers. Initiation of breast feeding was started within one hour by 29.00% mothers and within 24 hours by rest 71.00% of mothers, respectively. Cord care practice such as instruments used to cut the cord was used by 44.50% of mothers and materials were used to tie the cord by rest 55.50% of mothers. The results aligned with NFHS-4 data (Ministry of Health and Family Welfare, 2019). It was found that most of the newborns, 93% of the mothers used ointment or drops to prevent infections and 81% of the mother did not wash the eyes of the new borns. As per our study, 60% of the mothers have stated that vaccination should be started just after birth and they have stated that the child should be vaccinated to prevent diseases (Mishra and Qamra, 1989; Singh *et al.,* 1997).

Conclusion:

There was a significant difference in essential newborn care and factors influencing the newborn care practices. Most of the new born were born in hospitals rather in home. Around 71.00% of the respondents started breast feeding within 24 hours of birth. Most newborns were given pre lacteal feed and feeding pattern was as per schedule. Cord care practice was followed and sterilized materials were used to tie the cord. This implies that there are still many lacunae in the clean delivery practices and the community's early neonatal care. The Govt. of India initiated several programs to improve maternal and child health, to decrease the neonatal deaths; still, it has not reached the needy people. The creation of awareness about the programs such as National Health Mission, Janani surakha yojan to promote institutional deliveries, Janani Sishu Suraksha Karyakram, Newborn action plan to improve the neonatal care, etc., and the benefits of the programs need to be propagated within the public to utilize the available services.

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