

Level Of Knowledge And Practices In New Born Care Among Mothers And Practices In Hospitals – A Cross Sectional Study

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Abstract

Introduction: Developing and underdeveloped countries contribute 98% of neonatal deaths of world. In India 72% of 1.72 million annual infant deaths are neonatal. Majority of them are preventable through educating community and bringing attitudinal change in health care givers.

Aims: To assess beliefs, knowledge, attitude and practices adapted by mother towards care of newborn, and the existing perinatal care practices.

Methodology: interviewed 500 mothers of healthy term newborn babies attending our tertiary care center through a pre-structured questionnaire.

Results: 76.8% of mothers received 3 or more ante-natal checkups but only 3.8% received counseling regarding breast feeding. 20% have not received Iron Folic Acid tablets and 20% were not tested for HIV. 27% have bathed baby within 24 hours. First feed was breast milk in only 59.4%. Only 14% have fed within 30 minutes after birth and 29.4% in 60 minutes. 3.8% were aware of importance of colostrum and 11.2% knew duration of exclusive breast feeding. 38.7% were aware of danger signs.

Conclusions: Ante-natal counseling of mother and post-natal supervision regarding breast feeding is poor including in hospitals. Delayed breast feeding and pre lacteal feeding were prevalent even in hospitals.

Key words: Awareness, breast feeding, newborn care, practices.

I. Introduction

One of the United Nations Millennium Development Goals (MDG) is the reduction by two-thirds of the mortality among children <5 years of age by 2015. The global burden of neonatal death is primarily concentrated in developing countries, where care of neonates is grossly inadequate^{[1][2]}. Of the 4 million neonatal deaths that occur every year, 98% are in the poorest countries of the world^[3]. In India, as many as 1.72 million children die annually before reaching their first birthday and, of these, 72% die during their first month of life, the neonatal period^[4]. The neonatal mortality rate varies by state but, overall, it is reported to be 43 per 1,000 live births^[5].

India has achieved a 2.6 point reduction in Child Mortality between 1990 and 2006. The average annual rate of reduction over the next nine years must be far higher, or around 7.6 points as per UNICEF, SOWC 2008 to achieve the MDG 4 goal^[6]. All evidences pointed to the overwhelming priority for impacting the stagnating Neonatal Mortality to be able to keep the date with Millennium Development Goal 4^{[7][8]}. Newborn deaths decreased from 4.6 million in 1990 to 3.3 million in 2009, but fell slightly faster since 2000. More investment into health care for women and children in the last decade when the United Nations Millennium Development Goals (MDGs) were set, contributed to more rapid progress for the survival of mothers (2.3% per year) and children under the age of five (2.1% per year) than for newborns (1.7% per year)^{[8][9]}.

Infant mortality rate is a very sensitive indicator of the socio-economic development including the status of healthcare of any country. We have reduced the post-neonatal mortality rate due to the successful implementation of programs like, universal immunization program (UIP), diarrheal disease control program and ORS use and acute respiratory infection control program^{[10][11]}.

Three causes account for three quarters of neonatal deaths in the world: preterm delivery (35%), asphyxia (23%) and severe infections, such as sepsis and pneumonia (24%). Existing interventions can prevent two-thirds or more of these deaths if they reach those in need^{[8][10]}. The majority of neonatal deaths could be prevented with existing interventions including some that can be delivered at community level with potential to reduce neonatal deaths by one-third, such as proper ante-natal care, delivery at medical facility, improved hygiene at birth, breastfeeding, and simple approaches to keeping babies warm, regular immunization. Bringing awareness in the community, particularly mothers about these simple measures is the most cost effective strategy to bring down neonatal mortality.

In spite of all efforts by the governments and medical care takers through their programs and commitment, results depend mostly on the awareness and participation of the members of community.

Keeping the above points in view, the present study about knowledge, attitude and practices about care of newborn which includes interventions mentioned above was conducted.

II. Aims And objectives

1. To assess beliefs, knowledge, attitude and practices adapted by mother towards care of newborn.
2. To assess the existing ante-natal, natal and post-natal practices.

III. Materials And methods

This is a cross sectional prevalence study done in a tertiary care center of a Government medical college in south India. 500 mothers of full term normal babies attending immunization and well-baby clinics were interviewed with a pre-designed, pretested questionnaire between August 2011 and January 2012 regarding ante-natal, natal, post-natal and newborn care practices and beliefs.

Briefing was done to the mothers regarding the questionnaire administered to them. The questionnaire which had 30 questions about socio-demographic profile, topics related to essential new born care practices like breastfeeding, cord care, thermal care, prevention of infections, about harmful cultural practices and knowledge regarding danger signs was administered. Their respective mother tongues were used and explanations were offered whenever necessary like as to what is clean, unclean, etc. At the end of the study, after collecting the data from the mothers, all their queries were answered satisfactorily.

Data analysis was done by simple manual analysis using frequency and percentage.

Inclusion Criteria

- All mothers with normal term newborns.

Exclusion Criteria

- Mothers with post-natal complications.
- Mothers of infants requiring admission to the NICU in the immediate post-natal period.

IV. Observations and Results

All mothers included in the study were aged between 17-30 years (Table 1). Most of the mothers included in the study were primi (339). Age at marriage of mothers was relatively low (Fig 1). Educational qualification of 51.4 % of mothers was less than 7th standard and 26.6% had no schooling at all (Table 2). Fathers' status was slightly better in that 16.4% studied upto 7th and 42.6% between 7th to 10th standard. 5.8% were graduates (Table 3). 9.8% of mothers got only one ante-natal checkup. Regarding first ante-natal visit, only 26.8% got their first visit during first trimester. While 51.4% got it during second trimester, 4.2 % did not have any ante-natal checkup at all (Table 4). 21.6% of mothers did not get their HIV status tested and another 21.6% did not receive iron folic acid supplementation. Only 3.8% got counseled regarding breast feeding ante-natally. Intra-natal and post-natal care was in hospital by doctors in almost 90 % of cases and was near appropriate. Remaining close to 10-11 % of mothers received unacceptable levels of care or no care (Table 5). Breast milk was the first feed in 59.4% of cases. 14.4% of mothers initiated feeding in <30 minutes and 29.4% in <60 minutes. 3.8% mothers knew the importance of colostrum and 11.2% knew the duration of exclusive breast feeding (Table 6). 8.6% were aware of most of danger signs.

In general, 76.8% and 89.4% of mothers received satisfactory ante-natal and natal care respectively. 89.4% received appropriate cord and thermal care (Figs 2 & 3). 40.6% of mothers gave other fluids than breast milk as first feed and only 14.4% of mothers have fed their babies within 30 minutes (Figs 4 & 5)

Table 1: Distribution of maternal ages

Maternal age	Mothers (total-500)
15-20	109(21.8%)
20-25	243(48.6%)
25-30	115 (23.1%)
>30	33(6.6%)

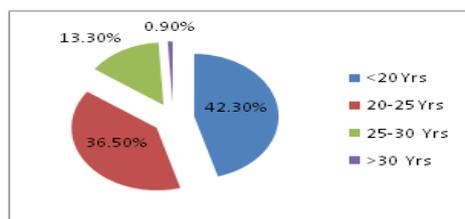


Figure 1: Age at marriage

Table 2: Distribution of education status of mother

No schooling	133 (26.6%)
1-7 Std.	257 (51.4%)
8-10 Std.	72 (14.4%)
Pre degree	35 (7.01%)
Degree	3 (0.6%)
Professional/semi professional	0 (0%)

Table 3: Distribution of education status of father:

No schooling	43 (8.6%)
1-7 Std.	82 (16.4%)
8-10 Std.	194(42.6%)
Pre degree	139 (21.8%)
Degree	29 (5.8%)
Semi professional	13 (2.6 %)
Professional	None

Table 4: Ante-natal care

Number of ante-natal check ups	1- 49 (9.8%) 2-3-107(21.7%) >3 -323 (64.3%)	No ante-natal visits 4.2%(21)
Trimester of 1stante-natalvisit	1 st trimester 26.8%(135) 2 st trimester 51.4%(257) 3 rd trimester 17.4%(87)	No ante-natal visits 4.2%(21)
Iron and folate supplementation	Yes 78.4%(392)	No-21.6%(108)
Tested for HIV infection	Yes 78.4%(392)	No-21.6%(108)
Counselling regarding breast feeding during ante-natal period:	Yes 3.8%(19)	No- 96.2% (481)
Examination of nipples during ante-natal period	Yes 5.8%(29)	No- 94.2%(473)

Table 5: Natal and post-natalcare

Place of delivery	Hospital89.4%(441)	Home10.2%(51) Others1.6%(8)
Birth attendant	Doctor 89.4%(441)	Trained dai6.4%(32) Untrained5.4%(27)
Surface of delivery	Clean89.4%(441)	Unclean 11.8%(59)
Instrument used to cut the cord:	Clean89.4%(441)	Unclean 11.8%(59)
Material used to tie the cord	Clean89.4%(441)	Unclean 11.8%(59)
What was put on cord	Nothing94.6% (473)	Ash/Powder-5.4%(27)
Time to wrapping of baby	<5 mins 89.4%(441) <1o mins 11.8%(59)	<30 mins(nil) < 1 hour(nil) >1 HOUR(nil)
Cloth used for wrapping baby:	Clean89.4%(441)	Unclean11.8%(59)
Time to bathing baby:	< 15 MINS 2.4%(12) < 30 MINS 4.7%(23) < 1 hour 5.72% (29)	< 6 hrs. 14.2% (71) >24 hrs73.2%(365)

Table 6: Breast Feeding and Danger Signs

Infants' first feed	Mother's milk 59.4%(297) Ghee, sugar water, or honey 4.7%(24) Cows' or buffalos' milk 35.8%(174) Other 0.9(4)	
Time to first breast feed	≤30 min 14.4%(72) ≤1 hour 29.4%(147) ≤6 hours 37.9%(189) ≤24 hours 13.6% (68) >24 hours 4.8% (24)	
Do you know importance of colostrum	Yes 3.8%(19)	No 96.2%(481)
Do you know till when the baby should be exclusively breast fed:	Yes 11.2%(56)	No 88.8(444)
Do you know about danger signs in a neonate*	Yes 8.7%(193.5)	No 61.3%(306.5)
Harmfulpractices:	Yes a. giving water to breast fed babies b. Use of pacifier or dummy nipple c. branding of baby to expel evil spirits	No Application of cow dung, ash on umbilical cord Instillation of oil into nose and ears Starving of baby with fever, diarrhea

*Not necessarily all the signs.

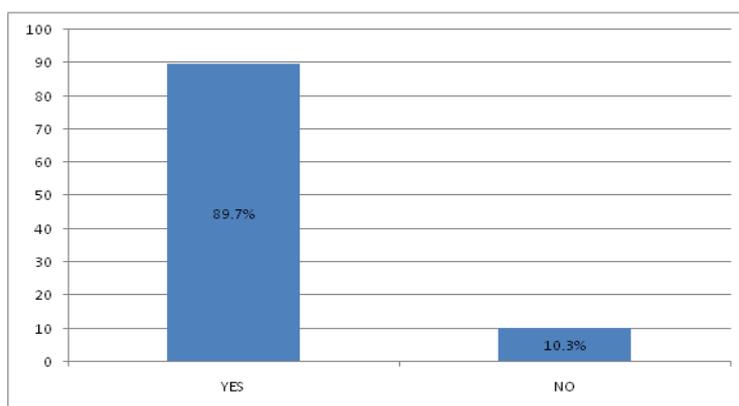


Figure 2: Appropriate cord care

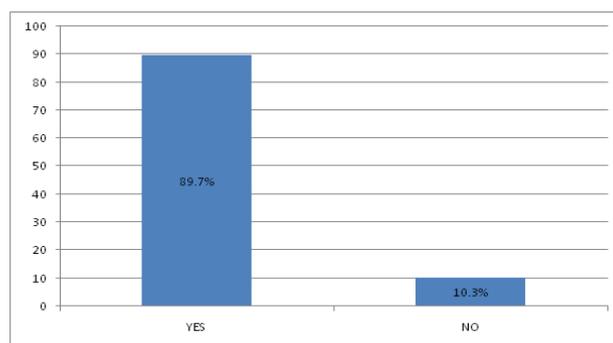


Figure 3: Appropriate thermal care

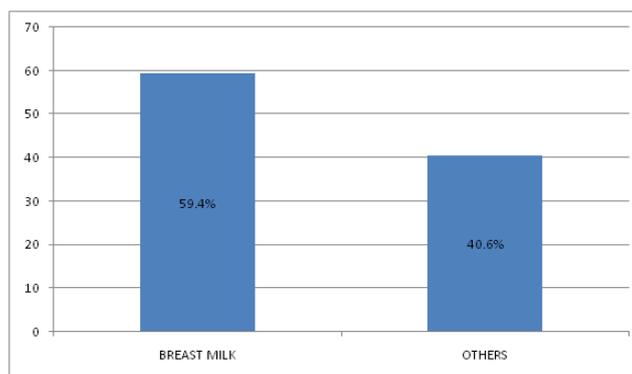


Figure 6: First feed to the baby

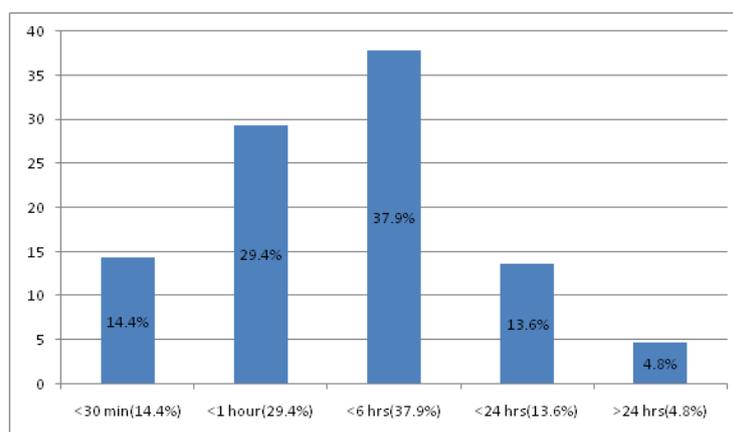


Figure 7: Time to first breast feed

V. Discussion

The present study reveals that there is delay in initiation breast feeds and still there is prevalence of pre-lacteal feeds in the community. This highlights the need of ante-natal examination of nipples and counseling regarding breast feeding which can considerably decrease feeding problems.

Almost all mothers belonged to low socio economic status and most of them were uneducated (77.9%). This can be a reason for the poor awareness of right things. Marital age of mothers was considerably low with 63.5% of them were married below the age of 20 yrs. before they mature enough to know much about the nature and importance of proper ante-natal and neonatal care.

Ante-natal care:

The prevalence of ante-natal visits is at satisfactory level with about 76.8% of mothers having more than three ante-natal visits. Most of the mothers took iron folate supplementation and tetanus immunization. (78.4%) This fact must be cautiously interpreted as the study subjects are the mothers who had the interest and accessibility to this tertiary care center. The prevalence of HIV testing is commensurate with the number of mothers attending ante-natal services. (78.4%) which indicates that screening of HIV on the part of ante-natal care givers is good.

Even though the percentage of mothers who received ante-natal care is considerably good, the preparation of mother for feeding of the baby is neglected. This is evident in the present study as the counseling regarding feeding and examination of nipples rates are considerably low – 3.8% and 5.8% respectively. Even this was biased as the mothers whose breasts were examined were only of those who had symptoms like breast tenderness.

Natal care:

The percentage of delivery at a medical facility is good (89.4%). Still there is significant percentage of home deliveries (11.6%). This means about 12 % of families cared to bring the baby to hospital but not cared for getting the delivery done at hospital. Cord care was appropriate for hospital deliveries (89.4%). Usage of ash or dung was not practiced at all by the participants in our study. An unused razor blade was used in all home deliveries. Usage of powder including antiseptics was present. Thermal care was appropriate in 78.4% of the babies. They were wrapped within 5 minutes. But most of these deliveries occurred at hospital. In home deliveries wrapping was done at appropriate time but the cloth used for wrapping baby was unclean. Thermal care after discharge was not appropriate as the parents were not adequately explained about the importance of

prevention of hypothermia. Many mothers could not recall the appropriate time taken to wrap the baby. 73.2% gave bath to the baby after 24 hours but the remaining 26.8% gave bath within 24 hours.

Post-natal care:

The most important observation in the present study is regarding delay in initiation of breast feeding. Only 14.4% of mothers' breast fed their babies within 30 minutes. About 29.4 % mothers breast fed their babies at one hour of age. 37.9% of mothers breast fed their babies within 6 hours. 13.6% in first 24hrs. 4.8% did not breast feed their babies on the first day. Considering the fact that 89.4% of the deliveries were conducted in hospital, this gross delay is an ominous sign of poor concern about correct breast feeding practices among the delivery conducting teams. The delay in initiation of feeding even in hospitals was due to failure to practice the second step of essential newborn care - skin to skin contact after drying the baby.

Immediately after delivery the newborn was separated from the mother for drying, weighing and tagging of identity etc. but not given back to mother immediately. This led to delay in initiation of breastfeeding. In tertiary care hospitals where the number of deliveries is more, mother and baby are separated for more than one hour to complete these procedures and shifting of mother from delivery room to post-natal ward.

In cesarean deliveries, the average delay in breast feeding is more than four hours. Much of the time is consumed in shifting of the mother from operation theatre to ward and regaining complete consciousness of the mother.

In our study the newborn first feed was breast feeding in 59.4%. Other 41.6% opted for pre lacteal feeds. The reason most commonly expressed by mothers for opting pre lacteal feeds was that breast milk would not be produced during the first three days and if produced, was considered insufficient. Even though neonates' first feed was breast milk in 59.4% babies a considerable number of mothers were not satisfied with the milk production and ultimately decided to give top milk for the first 3 to 4 days.

Regarding colostrum only 3.8% of mothers in our study know about the importance of colostrum. In 59.4% of mothers who breast fed their baby colostrum was discarded by 5.3% mothers. Colostrum was considered as unhygienic and insufficient for the babies. Only 11.2% of mothers know about the fact that babies should be exclusively breast fed for 6 months and no water should be given to the babies. 38.7% mothers knew about the danger signs but could express only after asking leading questions. Harmful practices like giving water to breast fed babies, branding on skin against evil spirits, usage of pacifier to console babies was seen in our study. Instillation of oil into nose, starving of infants, and application of cow dung were not seen.

VI. Conclusions And Key Observations

- 31.7% of the mothers were married at below 21 years of age.
- Many mothers lacked appropriate knowledge about breastfeeding and danger signs.
- Ante-natal care and counseling of mother and post-natal supervision regarding breast feeding and newborn care is not adequate in many a setting including hospitals.
- Delay in initiation of breast feeding was prevalent even in hospital deliveries - mostly due to remediable reasons.
- A significant percentage of top feeding / pre lacteal feeding practices were seen even in hospitals.

VII. Recommendations:

- Every mother and her family members should be adequately counseled and educated during the ante-natal period regarding breastfeeding and danger signs in new born.
- All mothers should be adequately supported throughout the ante-natal and post-natal period by health care givers and family.
- Attitude of staff and procedures in delivery room should be changed to facilitate initiation of breast feeding within 30 minutes of delivery, by amending the routine procedures and formalities.
- All obstetricians, other doctors, nurses, health care workers including 4th class employees should be adequately trained as an ongoing program, regarding essential new born care practices and breast feeding.
- Information, Education and Communication (IEC) activities should be used more aggressively and effectively to educate the community.
- There should be effective utilization of media for pushing health education to grass root level.

Limitations of the Study:

- The present study was conducted in a Government referral hospital catering to the urban and suburban low socioeconomic class people with accessibility and hence the data cannot be interpreted for all the population.
- There may be some amount of recall bias as some of the mothers could not recall some details and the exact time of events like first bathing etc.

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