RESEARCH ARTICLE

NEWBORN CARE PRACTICES OF MOTHERS IN RURAL AREA OF NAVSARI DISTRICT

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ABSTRACT

Background: Newborn mortality is one of the world's most neglected health problems. It is estimated that globally four million newborns die before they reach 1 month of age and another four million are stillborn every year.

Aims & Objectives: (1) To study the maternal care in terms of Antenatal, Intranatal and Postnatal care practices; (2) To assess newborn care practices in rural areas.

Materials and Methods: A cross-sectional study in rural areas of Navsari district, Gujarat, included 243 women who had one child aged 12 to 23 months preceding data collection. Data were analyzed using statistical software Epi Info 6.

Results: All the mothers under study had adequate ANC check-ups. All the mothers had received Iron supplements during ANC but 72.8% of them completed it for 3 months. Majority (99.2%) had institutional delivery. Regarding thermal care practices, half of the women reported that the baby was dried and wrapped within 15 minutes of birth. More than one third (37.8%) of babies were bathed in less than 24 hours of birth. Most of the mothers (93.4%) had put substances on the umbilical cord. About 32% of the infants had received pre-lacteals feeds. The colostrum was fed by 90.9% of mothers. Only 56.4% mothers initiated breast-feeding within 1 hour of birth.

Conclusion: In majority of cases, correct practices regarding newborn care were observed among mothers and this should be promoted through improved coverage with existing health services.

Key Words: Newborn; Pre-Lacteal; Thermal Care; Colostrum; Postnatal Care

Introduction

Globally, there has been a considerable decline in under-five and infant mortality during last four decades. However, neonatal mortality rates remain unchanged especially in developing countries.[1,2] In India, government, bilateral and multilateral agencies have made several efforts in the area of maternal and child health welfare. The introduction of government schemes like Janani Suraksha Yojana, Chiranjeevi Scheme, Propagation of Emergency Obstetric Care (EmOC), Implementation of Integrated Management of Childhood and Neonatal Illness, etc. has resulted in an increase in institutional delivery and decrease in infant and child mortality rates. But there is no significant difference in neonatal mortality rates, as evidenced by analysis of infant and child mortality rates over the past decade.

Even though the primary causes of neonatal deaths are estimated to be preterm birth (28%), severe infections (26%), birth asphyxia and injuries (23%), tetanus (7%), congenital anomalies (7%) and diarrhoea (3%), with Low Birth Weight contributing to large proportion of neonatal deaths[3]; studies show evidence about contribution of care practices immediately following delivery to newborn's risk of morbidity and mortality[4].

Studies on newborn care in some communities show that the knowledge and practice of basic newborn care for instance prevention of hypothermia, feeding of colostrums and exclusive breast-feeding are lacking; even awareness regarding care seeking on the identification of life threatening signs has been found to be very low.[5] Despite implementation of proven cost-effective solutions such as promoting antenatal tetanus toxoid immunization, skilled attendance during delivery, immediate and exclusive breast-feeding, and clean cord care; there has been relatively little change in neonatal mortality rate (NMR).[6]

The World Health Organization recommends improving essential newborn care practices at birth in order to reduce neonatal morbidity and mortality.[7] Two Lancet series, on newborn health and maternal health propose key evidence-based interventions and packages which, if implemented to scale, could greatly contribute to saving maternal and newborn lives in low income countries. These interventions emphasize strengthening the continuum of maternal, newborn and child care during the antenatal, natal and postnatal phase.[2,8]

With this background we were interested in assessing practices of women in relation to care during pregnancy, delivery and for newborn. Aims and Objectives are,

- To study the maternal care in terms of Antenatal, Intranatal and Postnatal care practices.
- To assess newborn care practices of mothers in rural areas.

Materials and Methods

It was a Cross sectional study which was done during August 2012 to April 2013. Gandevi block of Navsari district was selected for this study purposively. Three Primary Health Centres (PHC) out of six in Gandevi block were randomly selected for this study. Mothers having one child in the age group of 12-23 months from these randomly selected PHCs were enrolled in this study.

Percent distribution of mothers who have not received even a single TT vaccine during last pregnancy was taken for calculation of sample size. This was taken because it had lowest prevalence among all other variables in this study. According to DLHS-3 Gujarat, (2007-2008) percentage of mothers who have not received even a single TT vaccine was 31.4%. An allowable error of 20% was taken to calculate the sample size. Considering a 10% of non-response, the sample size came out to be 240; however in the present study 243 children were covered. This was calculated by using formula, $4PQ / L^2$, where, P = prevalence of No TT taken, Q = 1-P and L = allowable error.

We have randomly selected two sub-centres from each selected PHC. So we have selected 40 mothers randomly from each selected sub-centres. Verbal consent of mothers of all the children was taken prior to study. Those mothers who denied participating in the study were excluded.

A structured questionnaire was constructed and pretested on a group of nonparticipating mothers, and adjustments to the questions were incorporated accordingly. The pretested questionnaire was used to collect information from mothers with children between 12 and 23 months of age.

Statistical Analysis

Data was collected and entered in MS Office XL sheet and statistical analysis was done by using the EPI Info 6 software.

Results

Mean age of the study population at time of first child birth was 22.05 (± 3.08) years. At the time of first child birth, 39 (16%) mothers were ≤19 years. Majorities were Hindus and belongs to OBC caste. Higher secondary & above education was seen more commonly among mothers as compared to the fathers. Most common occupation among fathers was skilled work followed by labour, business, and agricultural work while majority of the mothers were housewives.

Table-1: Distribution according to Socio-demographic characteristics of mothers

Characteristics (N=243)		N (%)
Mother's Present Age (Years)	≤ 19	2 (0.8)
	≥ 20	241 (99.2)
Mother's Age at the Time of 1st child birth (Years)	≤ 19	39 (16.0)
	≥ 20	204 (84.0)
Religion	Hindu	234 (96.3)
	Muslim	9 (3.7)
Caste	General	13 (5.3)
	ST	58 (23.9)
	SC	10 (4.1)
	OBC	162 (66.7)
Total families	BPL families	43 (17.7)
	APL families	200 (82.3)

Table-2: Distribution of study population according to education and employment

Characteristics (N=243)		Mother	Father
Education	Illiterate	11 (4.5)	10 (4.1)
	Primary*	43 (17.7)	51 (21.0)
	Secondary**	84 (34.6)	105 (43.2)
	Higher secondary & above***	105 (43.2)	77 (31.7)
Employment	Labourer	14 (5.8)	96 (39.5)
	Agriculture	0 (0.0)	4 (1.6)
	Skilled worker	13 (5.3)	132 (54.3)
	Business	0 (0.0)	11 (4.5)
	Housewife / Stays at home	216 (88.9)	0 (0.0)

*Figure in the parenthesis indicates percentage; * Primary education: education up to 8th standard; ** Secondary education: education up to 10th standard; *** Higher secondary & above: 12th standard completed & more*

Table-3: ANC and intranatal care practices of mothers under study

Characteristics (N=243)		N (%)
Adequate ANC check-up (≥ 3 ANC check-ups)		243 (100)
ANC check-up by skilled health professionals		243 (100)
TT injection received		243 (100)
Iron supplements received		243 (100)
Iron supplements consumed for ≥ 3 months		177 (72.8)
Mothers eligible for government schemes (N=88)	Janani Suraksha Yojana benefit taken	69 (78.4)
Place of Delivery	Government hospital	16 (6.6)
	Private hospital	165 (67.9)
	Trust/NGO hospital	60 (24.7)
	Home delivery	2 (0.8)
Type of Delivery	Normal	193 (79.4)
	Caesarean section	50 (20.6)
Post natal care practices	Infant seen by health provider in first 24 hours	243 (100)

Table-4: Birth profile of living children and thermal care practices for newborn babies

Characteristics (N=243)		N (%)
Sex of the child	Male	125 (51.4)
	Female	118 (48.6)
Birth weight	<2.5	47 (19.3)
	≥2.5	196 (80.7)
Time to drying & wrapping of baby	≤ 15 min	121 (50.2)
	16-30 min	110 (45.6)
	> 30 min	10 (4.2)
Time to bathing of baby	< 24 hour	92 (37.8)
	≥ 24 hour	151 (62.2)
Bath given by	Health professional	84 (34.6)
	Family members/Relatives	132 (54.3)
	Dai	27 (11.1)
Temperature of water to bath the baby	Warm water	243 (100)

Table-5: Newborn care practices regarding neonatal massage

Newborn Care Practices		N (%)
Neonatal massage done (N=243)	Yes	240 (98.8)
	No	3 (1.2)
What was used for massage*	Johnson baby oil	98 (39.9)
	Dabar red oil	54 (21.9)
	Coconut oil	32 (13.0)
	Butter with gram flour	29 (11.9)
	Figaro olive oil	16 (6.5)
	Cotton seed oil	9 (3.6)
	Mustard oil	4 (1.6)
	Himalaya oil	4 (1.6)
Massage advice by (N=240)	Family members	214 (89.1)
	Health professionals	15 (6.3)
	Dai	11 (4.6)

** Multiple responses*

Table-6: Pre-lacteal feeding & colostrum feeding practices

Infant feeding Practices		N (%)
Practices of pre-lacteal feeds (N=243)	Yes	78 (32.1)
	No	165 (67.9)
Type of pre-lacteal feeds (N=78)	Gripe water	35 (44.9)
	Janam ghutti	21 (26.9)
	Honey	17 (21.8)
	Plain/boiled/sugar water	3 (3.8)
	Animal milk	2 (2.6)
Practices of colostrums (N=243)	Yes	221 (90.9)
	No	22 (9.1)
Reasons for discarding colostrums (N=22)	Milk is not coming out of breast for the first 3-5 days	9 (40.9)
	Low birth weight baby	8 (36.4)
	LSCS delivery	2 (9.1)
	Baby was hypothermic & kept in radiant warmer	3 (13.6)

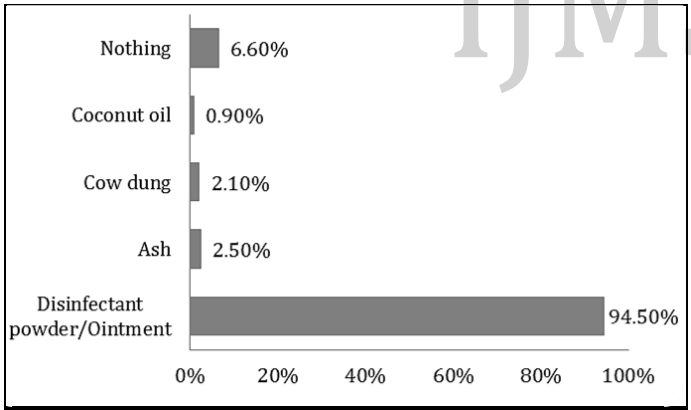

Figure-1: Newborn care practices for care of umbilical cord

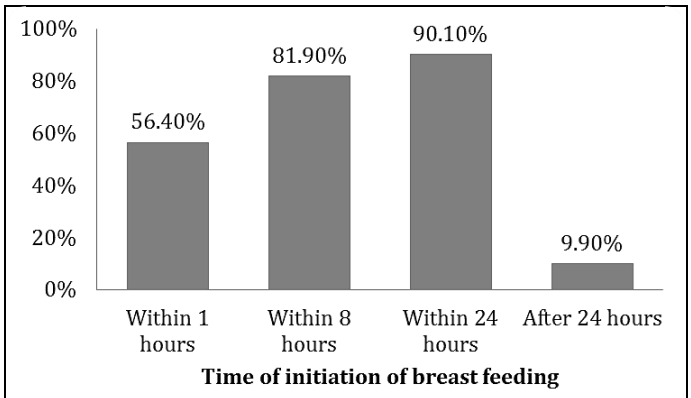

Figure-2: Breastfeeding practice

All the mothers under study had adequate ANC check-up (≥ 3 ANC check-up) by skilled health provider and received TT vaccination during pregnancy. Iron supplements for 90 days or more during pregnancy was not consumed by around 30% mothers. Many mothers had not availed benefit of Janani Suraksha Yojana. Almost all mothers had institutional delivery; majority had utilized private hospital. All the infants were seen by health provider in first 24 hours of delivery.

It was found that male and female children were almost in equal proportion. It was found that 19.3% of babies had birth weight of less than 2.5 kg. Regarding thermal care practices, half of the mothers reported that the baby was dried and wrapped within 15 minutes of delivery. More than one third of babies were bathed in less than 24 hours of birth. All the babies were bathed in warm water.

Most of the mothers had put substances on the umbilical cord. Most common application on the cord was disinfectant powder/ointment. Other substances were ash, cow dung and coconut oil.

Body massage to newborns was practiced by almost all mothers; substances mostly used included Johnson baby oil and Dabar red oil. Other substances that used were Coconut oil, Butter with gram flour, Figaro olive oil, Cotton seed oil, Mustard oil and Himalaya oil. Family members had advised neonatal massage in majority of the mothers. Massage was done by family members in majority of babies followed by Dai.

In this study, one third of the infants had received pre-lacteals feeds. Among infants who had received pre-lacteals, most common feed was Gripe water, followed by Janam ghutti and Honey.

In this study, 90.9% mothers fed colostrums to their child. About asking the reasons for not giving colostrums, out of 22 mothers, majority replied that milk is not coming out from breast for the first 3-5 days and because of LBW baby.

This study depicted that, around half of the mothers initiated breast-feeding within one hour of birth. Proportion of mothers who had initiated it after 24 hours was 9.9%. Majority of mothers (93.0%) were giving breast-feeding on demand. Only one third of the mothers had given exclusive breast-feeding to their baby for 6 months. (Figure 2)

Discussion

Improving newborn survival is a major priority in child health today. Specific programs for enhancing the maternal and child health have been in place since the early 1950s till date, like the MCH program, immunization, ORS for the control of diarrheal disease, anemia, and vitamin A prophylaxis program, CSSM, and RCH II.

In present study, it was found that all the mothers under study had adequate ANC check-up (≥ 3 ANC check-up) by skilled health provider. In contrary to this, In NFHS-3 study for Gujarat revealed that among mothers during their last delivery, 55.8% had 3 ANC visits.[9] In present study only 72.8% mothers had consumed iron supplements for 90 days or more during pregnancy. In contrary to this finding, in NFHS-3 study for Gujarat revealed that 28.9% of pregnant mothers had consumed IFA for 90 days or more in rural areas.[9]

Present study found that majority of mothers (99.2%) had institutional delivery. In NFHS-3 study for Gujarat in rural area, 39% mothers had institutional delivery. In present study 79.4% were normal deliveries, while 20.6% were Caesarean section. In NFHS-3 study for Gujarat in rural area, 5.5% were caesarean deliveries.[9] In present study, it was found that all the infants were seen by health provider in first 24 hours of delivery. According to DLHS-3 for Gujarat, 57.2% infants had received health check-up within 24 hours of birth.[12]

In present study, it was found that 19.3% of babies had birth weight of less than 2.5 kg, similar findings were observed in NFHS-3 study.[12] In present study, regarding thermal care practices, 50.2% women reported that the baby was dried and wrapped within 15 minutes of delivery. More than one third (37.8%) of babies were bathed in less than 24 hours of birth. All the babies were bathed in warm water. S. Barnett et al found that 59% of the infants were wiped, and 64% were wrapped immediately after delivery. About 44% of newborns were bathed immediately after birth.[14]

In present study, most of the mothers (93.4%) had put substances on the umbilical cord. Most common application on the cord was disinfectant powder/ ointment (94.5%). Other substances were ash, cow dung and coconut oil. Afsheen Ayaz et al found that 58% women used some application on the umbilical cord which included ointment (33%), ghee (saturated oil) (27%), coconut oil (19%), mustard oil (9.5%) , some also applied substances like surma (locally made kohl), clove oil, turmeric and talcum powder on umbilical stump.[13] In present study, Body massage to newborns was practiced by almost all (98.8%) mothers; substances mostly used included Johnson baby oil (39.9%) and Dabar red oil (21.9%). Afsheen Ayaz et al found that body massage to newborns was practiced by nearly 89% of women; substances mostly used included mustard oil (73%) and ghee (15%).[13]

Present study depicted that 32% of the infants had received pre-lacteals feeds, most common feed was Gripe water (44.9%). I.I. Meshram et al found that 45% children had received pre-lacteal feeds.[10] In this study, the colostrum were fed by 90.9% mothers. I.I. Meshram et al found that 15.1 % babies had not received colostrum.[10] About asking the reasons for not giving colostrum, out of 22 mothers, 9 mothers (40.9%) replied that milk was not coming out from breast for the first 3-5 days, 8 mothers (36.4%) had not given colostrum because of LBW baby, 3 mothers (13.6%) had not given colostrum because baby was hypothermic and kept in radiant warmer whereas 2 mothers (9.1%) had not given because of LSCS. Saxena D et al found that 11.22% mothers had not given colostrum to their child. Most common reason was custom (53%) not to give colostrum, followed by harmful for baby (26.1%) and mother's illness (3.5%).[11]

This study depicted that 56.4% mothers of 12-23 months children initiated breast-feeding within one hour of birth, while 90.1% initiated it within one day of birth. NFHS-3 study for Gujarat revealed that 30.0% mothers of under five children initiated breast-feeding within one hour of birth, while 58.0% mothers initiated breast-feeding within one day of birth.[9] I.I. Meshram et al found that 22% infants had received breast-feeding within one hour of birth while 64% had received it within 24 hours of birth.[10]

Conclusion

Even though the higher rates of early initiation of breastfeeding and exclusive breast-feeding were observed, there was low awareness of the benefits of exclusive breastfeeding. Creating an awareness of the advantages of exclusive breastfeeding by grass-root level workers will further strengthen and support this common practice in rural communities.

In majority of cases, correct practices regarding newborn care was observed among mothers and this should be

promoted through improved coverage with existing health services. Community based health workers have a major role to play in the eradication of harmful newborn care practices and the sustenance of good practices and also prove to be a link between families and health system.

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