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(RESEARCH ARTICLE)

Neonatal care practiced by the mothers in Muslim-communities in Birgunj Metropolitan city, Parsa, Nepal

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Abstract

Neonatal period is the most vulnerable period of the survival of the child, so good neonatal care practices is crucial for the prevention of morbidity and mortality of a neonate. Descriptive cross-sectional study design with 219 Muslim women having less than 1year old babies were selected by probability sampling technique to find out the neonatal care practices. A semi-structured interview schedule was used for data collection. Data were analyzed using descriptive and inferential statistics. Early marriage and illiteracy is common in these Muslim communities**.** Only around half (49.8%) of mothers had sufficient neonatal care practice. However, there is good eye care practice in those communities. All of the mothers practiced oil massage to their babies once or more than one time in a day. Regarding breastfeeding, more than four fifth (83.87%) of mothers fed exclusively to their newborn; 13.24% mothers had home deliveries, among them 75.85% of deliveries were assisted by unskilled personnel. The significant association was found between level of neonatal care practice and age of mother (p-value 0.024). Likewise, mother's education is also associated with the feeding of colostrum (p-value 0.038). Insufficient neonatal care practiced was predominant among mothers of those Muslim communities so there is need for strengthening community awareness by mobilizing female community health volunteers (FCHVs). Home delivery by unskilled personnel is very common so they should be motivated for institutional delivery and completion of the recommended antenatal visits.

Keywords: Female Community Health Volunteers; Muslim Communities; Mothers; Neonate; Neonatal Care Practice

1. Introduction

Neonatal period is the most vulnerable period for the child's survival. Globally, nearly 6 million children are reported to have died, among them 45% (2.7 million) during the neonatal period in 2015[1]. Almost one million neonatal deaths occurred on the day of birth and around two million died in the first week after the birth amongthem43% die due to preventable infectious diseases such as pneumonia, diarrhea and sepsis [2]. Such situation mostly common in low and middle-income countries due to sub-standard neonatal care practice [3].Around 23,000 children die in Nepal each year before reaching their fifth birthday and three fifth babies die in their neonatal period [4].

Remarkable progress has been made in recent decades in the reduction of child deaths worldwide, but neonatal mortality rates have declined at a slower pace than expected [2]. Leading causes of neonatal deaths are pre-term birth, severe infections, asphyxia and low birth-weight. The rate of neonatal mortality is known to be dependent on various factors including maternal, child and birth related factors including socio-demographic characteristics of mothers and other caregivers' health care practices and treatment seeking behaviors [3].

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Neonatal care include thermal protection, early and exclusive breast feeding, cleanliness, eye care, cord care, baby bath, immunization and care during illness, which are very crucial for the survival of neonate [1]. Despite the initiatives of the Government of Nepal, neonatal mortality has remained constant 33/1000 live births from 2006 to 2011and reduced to 23/1000 in 2014, occupy 70% of total infant mortality rate of Nepal [5].Reducing newborn mortality at least 12/1000 live birth is target of Sustainable Development Goals (SDG) in Nepal. Community Based Integrated Management of Childhood illness (CB-IMCI) and Community Based Neonatal Care Program (CB-NCP) was integrated into Community Based Integrated Management of Neonatal and Childhood Illness (CB-IMNCI) for effectiveness of the programme to reduce under five and neonatal morbidity and morbidity in 2015 [4].

Unhealthy neonatal care practices were found in rural Muslim community of Bangladesh; 6% delivered by skilled providers, unclean cord care 42%, and delay initiation of breastfeeding 60% and early bathing 71% [6]. Only one out of ten newborns in Nepal is found to have received optimum thermal care [7]. Majority of the women in urban Uganda had no knowledge of the importance of skin-to-skin care as a thermo protective measure [8].Initiation of breast feeding within one hour was found 52.5% at Tharu community of Chitwan [9], similarly, 36% women in Nepal did not initiate breastfeeding within one hour of delivery [10, 7].

Neonatal mortality rate was 36/1000 live births among the babies born in disadvantaged caste and ethnic groups in Nepal compared with 26/1000 live births in non-disadvantage group [11].Despite various efforts laid by Government of Nepal to improve the mother and child condition, the success has remained far from expected. Therefore, the researchers felt an urgent need to study neonatal care practice especially those belonging minority and marginalized Muslim communities in Nepal.

2. Methods

Descriptive cross-sectional research study was used to carry out at Muslim communities of Birgunj Metropolitan city. Out of 32 wards of Birgunj Metropolitan City, 7 wards were selected where Muslim population densely resided. Two hundred nineteen women having less than 1year old babies were selected by probability simple random sampling technique with lottery method. Semi-structured interview schedule was developed by researchers themselves especially neonatal care practices focuses on eye & cord care, thermal protection, breastfeeding and treatment seeking or utilization. Content validity was maintained through extensive literature review and consulting with the subject experts. Pretesting of the instrument was done among 10% (22) respondents in similar setting in Bara district and some needed modification was done.

Ethical approval was taken from the Institution Review Board of Institute of Medicine. Subsequently, administrative approval obtained from Birgunj Metropolitan City office and ward secretaries of selected wards. Women were interviewed after obtaining, informed consent, which was taken from each respondent prior to data collection and participant's wish and refusal for participation respectfully allowed at any time of research. Researchers collected data at their door steps with face to face interview technique. After collecting data, it was reviewed, edited, organized, coded and entered in Epi-data and analyzed in SPSS. Descriptive statistics (percentage, frequency, mean and standard deviation) was use for neonatal care practice and inferential statistics (Chi-square test) was applied to measure the association and p-value was considered in 0.05% level of significance.

3. Findings

Table1: Socio-demographic Characteristics of Respondents (n= 219)

Socio-demographic Characteristics	Frequency	Percent
Age of the Mothers		
≤ 20 years	63	28.76
20-29 years	216	57. 53
≥ 30 and above	30	13. 24
Education status of Mother		
Cannot read and write	73	33.33
Can only read and write	24	10.95
Primary	43	19.63
Secondary	63	28.76
Higher Secondary and above	16	7.30
Education status of Father		
Cannot read and write	33	15.06
Can only read and write	17	7.76
Primary	41	18.72
Secondary	100	45.66
Higher Secondary and above	28	12.78
Occupation of Mother		
Homemaker	217	99.08
Business/Labour	2	0.9
Occupation of Father		
Business	73	33.33
Labourer/Rickshaw or Tanga puller/ Agriculture	58	26.46
Service	48	21.91
Foreign employment	23	10.5
Driver	17	7.76
Types of Family		
Nuclear	50	22.83
Joint	130	59.36
Extended	39	17.80
Economic Status		
Insufficient for a year	46	21.00
Sufficient for a year	96	43.83
Sufficient for a year and surplus	77	35.15
Birth Order		
First child	55	25.11
Second child	70	31.96
Third child and more	94	42.91

Tables 1, shows that more than one quartered (28.7%) of mothers were below 20 years. Mean ± SD age of the mother was 23.94 ± 4.39, minimum 17 and maximum age was 40 yrs. There is pitiable condition of education status of mothers of newborn in those communities. Which revealed that, one third (33.33%) of the mothers was illiterate in comparison

to 15.06% father. Almost all (99%) of the mothers were homemakers, however, all of the fathers were engaged in outside work for earning. More than half (59.36%) were lived in joint family.

Table 2: Safe Delivery Practices of Respondents

Characteristics	Frequency	Percent
Planned for Hospital delivery (n 219)	184	84.01
Place of Delivery (n 219)		
Hospital	190	86.75
Home	29	13.24
Assistant at Home Delivery (n 29)		
Unskilled personnel	22	75.85
Skilled personnel	7	24.13
Used Safe Delivery Kits (n 29)	13	44.82

About delivery practices, table 2 represents that more than four fifth (86.75%) of mothers had hospital delivery. Among home deliveries just 24.13% were delivered by skilled personnel and 55.17% of mothers had used unsafe delivery kits during delivery.

Table 3: Newborn Care Practices after Delivery (n =219)

Characteristics	Frequency	Percent
Substances applied on Cord except Chlorohexadine	124	58.90
Clean Eye of Newborn		
Once or more than once a day	201	91.8
Some time	9	4.1
Not at all	9	4.1
Substances Applied on Eye		
Kajal	188	85.8
Oil	12	5.5
Clothes Used for Baby Wrapping		
New and old clean cotton clothes	210	95.9
New and old unclean clothes	9	4.1
Uses of Napkin *		
Clean cotton cloth	190	86.8
Diaper	57	26
Ways of Making Baby Warm*		
Wrapping with extra clothe	218	99.54
Keeping under sunlight	152	69.4
Keeping warm by fire	97	44.3
Use heater	56	25.6
First Newborn Bath after Delivery		
Before 24 hours	43	19.63
After 24 hours	176	80.36
Oil Massage of Newborn		
Two and more times per day	136	62.09
Once a time per day	71	32.42
Two times a week	12	5.47

*Multiple responses

About the newborn care practice, 58.90% mothers applied other substances except chlorohexadine on newborn cord. Similarly 91.8% of mothers cleaned the newborn eye one or more than one time a day and 85.80% regularly applied kajal on newborn eye. Majority (95.9%) of mothers used clean new and old cotton cloths for wrapping newborn baby. Almost all mothers wrapped the baby for making warm. Very good practice found in oil massage to the newborn, 62.09% of newborn were massaged twice or more than twice in a day; likewise 19.63%provided first newborn bath before 24 hours of birth.

Table 4: Antenatal Visit of Mother and Breastfeeding Status of the Newborn (n= 219)

Breastfeeding Status	**Frequency**	**Percent**
Breastfeeding		
Breastfeeding to the baby	217	99.08
Not feeding at all	2	0.91
Feeding of Colostrum	201	92.20
Exclusive Breastfeeding to the newborn	182	83.87
Maintain comfort for Position of Mothers and Babies	204	98.88
Frequency of Breastfeeding (n =215)		
Demand feeding	78	36.27
1 hourly	75	34.88
2 hourly	62	28.83
Burping after feeding to the baby	126	57.53
Status of Antenatal Visit		
Visit to Antenatal Clinic (n =219)	200	91.32
Frequency of ANC Visit (n =200)		
3 times and less	90	45.0
4 or more	110	55.00

Regarding breast feeding, table 4 showed that majority (92.20%) of mothers feed colostrum to their babies; 83.87% followed criteria of exclusive breastfeeding. Almost all (98.88%) of the mothers maintain comfortable position of mother and baby while feeding, similarly 57.53% mothers burped their newborn immediately after breast feeding. Most (91.32%) of the mothers had visited for antenatal checkup, however just more than half (55.00%) had completed four recommended visit or more, which is lower than national data of Nepal.

Table 5: Level of Neonatal Care Practice among the Mothers (n =219)

Neonatal Care	**Frequency**	**Percent**
Inadequate	110	50.2
Adequate	109	49.8

Concerning level of neonatal care practice; table 5, revealed that only half (49.8%) of the mothers had adequate level of practice and remaining half (50.2%) had inadequate on neonatal care. Friends and relatives (94.97%), were the most popular source of information about neonatal care, followed by health workers (31.50%) and list (27.39%) from mass media.

Table 6: Association between Level of Neonatal Care Practice and Selected Socio-demographic Variables

Variables	Level of Neonatal Care Practice		P-value
Age of mother	Inadequate	Adequate	
<25 Yrs	70 (56.5%)	54 (43.5%)	0.024
≥25Yrs	40 (42.1%)	55 (57.9%)	
	Newborn Morbidity		
Age of Mother	No	Yes	
<25	57 (46.0%)	67 (54.0%)	0.019
≥25	58 (61.1%)	37 (38.9%)	
Birth Order			
<2 Child	54 (43.2%)	71 (56.8%)	0.001
≥2 Child	61(64.9%)	33 (36.1%)	
	Education of Mother		
Feeding of Colostrum	Illiterate	Literate	
Yes	62 (87.3%)	139 (95.2%)	0.038
No	9 (12.7%)	7 (4.8%)	
Burping after Feeding			
Yes	31 (43.7%)	95 (65.5%)	0.002
No	40 (56.3%)	50 (34.5%)	
Antenatal Visit			
<4 visit	36 (57.1%)	54(39.4%)	0.014
≥ 4 visit	27 (42.9%)	83 (60.6%)	
Antenatal Visit	**Income**		
	Not Adequate	Adequate	
<4 visit	26 (72.2%)	64(39.0%)	0.000
≥4 visit	10 (27.8%)	100(61.0%)	

P< 0.05 statistically significant values

Table 6, revealed that there is significant association between age of mother (p-value 0.024) and level of neonatal care practice. Similarly mother's education is associated with feeding of colostrum (P-value 0.038) and burping after feeding (p-value 0.002). There is also significant association between ages of mother (P-value 0.019) with newborn got sick. There is also significant association between income (p-value 0.00) and education of mothers (p-value 0.014) with antenatal checkup.

4. Discussion

Early marriage and child birth is common in those Muslim communities, almost all mothers (99.08%) were homemaker among them 33.33%were illiterate; more than four fifth (84.01%) had planned for hospital delivery but 87.21% delivered in hospital;12.78% were at home and 55.17%were conducted by unskilled personnel it may be due to poor education status. A study of two different rural areas of Nepal showed 82% and 76% were of mothers had planned for

delivery by skilled personnel [12]. Another finding from by MoHP et al. (2016), identified only 56% of women delivered in health facilities in Nepal and another study of western Nepal reveled 91.5% delivery had taken place at home [13]. Report of MoHP showed that 44% home birth in Nepal [13]; likewise another study of rural Nepal found out 45.3% home birth [14]. Similarly, in rural Bangladesh, almost all (93.7%) had delivered by unskilled persons [6].

Concerning newborn care, 41.10% mothers applied nothing to umbilical cord which is supported by a study of rural Bangladesh, 43.9% applied nothing on cord [6]. Almost all (99.54%) of the mothers wrapped the baby with extra cloth, keeping under sunlight 69.4% and only 44.3% used fire to make baby warm. Opposing finding was identified in a study of Western Nepal 84.4% had used firewood for making baby warm [13]. In this study, four fifth (80.36 %) of the women were provided first bath after 24 hours to the newborn. A study of Ethiopia also revealed 78.4% mother provided first bath after 24 hours of delivery [15]. Likewise other studies identified around half of the newborn were provided bath within 24 hours of the birth [6, 16].

As regards breast feeding, majority (92.20%) of mothers feed colostrum to their babies, which is supported by others studies [14, 6], which identified just 9% and 5% women discarded colostrum prior to initiating breastfeeding respectively. In this study, more than four fifth (83.87%) of the women followed criteria of exclusive breastfeeding, which is higher than national level of Nepal [17], it was because of almost all of the women were homemaker so that they have time for exclusive breastfeeding to their baby.

Regarding antenatal visit; most (91.32%) of the mothers visited the clinic for antenatal checkup, but only 55% completed 4th ANC visit. Antenatal visit found higher than national figure (84%) but 4th ANC visit found lower than national figure (69%) of Nepal [17].

About source of information almost all (94.97%) of the mothers got information about neonatal care by friends and relatives, followed by health workers (31.50%), however another study of rural Nepal reveled that health workers were appeared to be the most popular source for information regarding new born care [12]. In this study internet was the least used source of Information but in Bardiya, Nepal, 66% of women used internet as source of information regarding the neonatal care [12]. Likewise, income and mother's education is associated with antenatal checkup (p-value 0.014), which is supported by a study of western rural area of Nepal [13], which revealed that there is significant association between mother's education and antenatal visits.

5. Conclusion

Early marriage and illiteracy found more common in those Muslim communities; around half of mothers had sufficiently practiced adequate neonatal care. Among home deliveries, more than half were delivered by unskilled personnel without using safe delivery kids. Oil massage, eye care practices and exclusive breastfeeding practice was very good, in those communities. Only around half of the women had completed fourth ANC visits and three in five of mothers applied substances except chlorohexadine in cord of newborn. Friends and relatives are the most popular source of information regarding neonatal care practice so FCHVs and health personnel should be mobilized effectively for awareness and information. Awareness campaign and mass education program on neonatal care, completions of four antenatal visit and safe delivery practice by skilled personnel are essential to enhance neonatal care practices.

Compliance with ethical standards

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Disclosure of conflict of interest

The authors have no conflict of interest related to research, authorship and publication of this article.

Statement of ethical approval

Ethical approval for the study was taken from Institutional Review Committee (IRC), Institute of Medicine, Tribhuvan University, then permission from Birgunj Metropolitan city office was taken before visiting the communities and

respective wards. Informed written consent was taken with each participants with explaining the purpose and procedure of the study.

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

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Author's short biography

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