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A STUDY TO ASSESS CORD CARE PRACTICES AMONG MOTHERS OF NEW BORN IN URBAN AREAS OF ROHTAK HARYANA

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ABSTRACT

Annually about 3.3 million neonatal deaths occur around the world; of these, more than 30% are caused by infections. The umbilical cord area supports growth of some innocuous or beneficial microorganisms (commensals) whereas others are harmful (e.g., *Clostridium tetani*). A cross-sectional study was carried out among all women who delivered during the study period. Deliveries were traced telephonically and with the help of Anganwadi worker and health workers and were interviewed using pre-designed pre-tested interview schedule. Categorical data was analysed using Chi square test. Data analysis was performed using Statistical Package for Social Sciences (SPSS) version 20.0 software. Majority (91.3%) of the deliveries were institutional deliveries. Out of the total home deliveries in majority (88.6%) clean blade was used to cut the umbilical cord. less than fifty percent (40%) of mothers had applied some substance on cord. Though literacy rate was good but harmful cord care practices (i.e. application on cord) were common. Traditions, community practices also seem to be important contributors as harmful practices were observed even in some institutional deliveries or after discharge from the institution

Keywords: *Newborn, Cord Care, Pregnant Women*

INTRODUCTION

The first 28 days of life – the neonatal period – is the most vulnerable time for a child's survival. Annually about 3.3 million neonatal deaths occur around the world (Oestergaard, 2011) of these, more than 30% are caused by infections (Lawn, 2005; Mullany, 2009). The umbilical cord area supports growth of some innocuous or beneficial microorganisms (commensals) whereas others are harmful (e.g., *Clostridium tetani*). Data on the incidence of omphalitis in low-income countries is generally scarce, the available data estimate the risk to range between 2 and 77 per 1000 live births in hospital settings, with fatality rates of between 1% and 15% depending on the definition of omphalitis used (Mir, 2011). Community-based data show even higher infection rates: for example, 105 per 1000 live births in Nepal, (Mullany, 2006) 217 per 1000 live births in Pakistan and about 197 per 1000 live births in India (Mir, 2011).

Internationally, the World Health Organization has advocated since 1998 for the use of dry umbilical cord care (keeping the cord clean without application of anything and leaving it exposed to air or loosely covered by a clean cloth, in case it becomes soiled it is only cleaned with water). World Health Organization recommends topical antiseptics in situations where hygienic conditions are poor and/or infection rates are high (WHO, 1998). Care practices immediately following delivery contribute to newborns' risk of infection and mortality. New born care is strongly influenced by the women's social status, health status and home care practices for newborn. So it is necessary to understand the difference between good and harmful new born care practices. So this study was planned to find out the prevailing cord care practices in urban areas of Rohtak.

MATERIALS AND METHODS

Study area: The present study was carried out in an urban field practice area attached with Community Medicine Department of PGIMS Rohtak.

Study type: community based, descriptive cross-sectional study.

Study period: The study was carried over a period of September 2013 to October 2014

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Studied Population and Sampling

All pregnant women who delivered during the study period were included in the study. The population of the area as on March 31st 2012 was 23997 and considering the birth rate of 17.2 per thousand population, 412 live births were expected during the study period.

All pregnant women who were the local residents of the area and also consented for participation were included in the study. Whereas all women who were not available even after three visits and did not give consent were excluded from the study.

Methodology

A list of all pregnant women, who delivered, during the study period was made by going through the ANC registers available at the Urban Health Centres and with the help of Anganwadi workers.

Purpose of study was explained to every pregnant woman.

Willingness to participate in the study was enquired. Those who agreed to participate were included in the study and an informed consent was taken.

Deliveries were traced with the help of health workers, AWWs or telephonically.

The families were visited within 43-45 days of child birth and the mother or caretaker was interviewed using a predesigned and pretested semi-structured interview schedule. All possible efforts were made to keep nonresponse to a minimum. Also, reasons for the same were recorded.

Statistical Analysis

Data entry was done using MS Excel 2010. Data clean-up was performed to check for accuracy, consistencies and completeness.

Any error identified was corrected.

Categorical data were presented as percentages (%). Normally distributed data were presented as means and standard deviation, or at 95% confidence intervals (CI).

The statistical tests were performed at a 5% level of significance, thus an association was significant if the p value was less than 0.05.

Categorical data was analysed using Chi square test. Data analysis was performed using Statistical Package for Social Sciences (SPSS) version 20.0 software.

RESULTS AND DISCUSSION

Total 426 females delivered during the study period. Out of the total deliveries, 8 were still births and three neonates died so 415 mothers were interviewed regarding cord care practices.

The demographic characteristics of the subject are summarized in Table 1.

Majority (96%) of study subjects were Hindu by religion. Less than half (46.7 %) were of general category.

Two-fifth (40.4%) of study participants had a monthly family income of 10,000-20,000.

Majority (90.8%) of study subjects were literate.

Majority (83.8 %) were housewives while 14.1% were in service.

Mean age of subjects at the time of first pregnancy was 22.6 ± 2.38 years.

Nearly two third (64.3%) of study participants were multiparous out of which 44.1% were of parity two. Nearly one tenth (7.3%) had abortions during previous pregnancies.

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Table 1: Distribution of study subjects based on socio-demographic variable (n= 426)

Religion	Females	Percentage
Hindu	409	96.0
Muslim	6	1.4
Sikh	11	2.6
Type of family		
Nuclear	115	27.0
Joint	311	73.0
Category		
General	199	46.7
OBC	143	33.6
SC	84	19.7
Occupation		
Government	15	3.5
Private	45	10.6
Labourer	9	2.1
Housewife	357	83.8
Total income per month		
<10,000	125	29.3
10,000-20,000	172	40.4
20,000-30,000	110	25.8
>30,000	19	4.5
Literacy		
Illiterate	39	9.2
Primary	70	16.4
Middle	56	13.1
Secondary	62	14.6
Senior Secondary	107	25.1
Graduate	74	17.4
Post Graduate	18	4.2
Total	426	100.0

Table 2: Distribution of new borns according to cord care practices

Application on cord (n=415)	New borns	Percent
Yes	166	40.0
No	249	60.0
Type of applicants (N=166)		
Oil/Ghee	85	51.2
Cream	27	16.3
Turmeric Powder	11	6.6
Povidone iodine	35	21.1
Powder	8	4.8
Cord cut (N=35)		
Clean new blade	31	88.6
Used blade/ knife	4	11.4
Time of falling of cord (N=415)		
<7days	274	66.0
7-14 days	116	28.0
≥14 days	25	6.0

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Majority (91.3%) of the deliveries were institutional deliveries. The variety of cord care practices are depicted in Table 2. Out of the total home deliveries in majority (88.6%) clean blade was used to cut the umbilical cord. less than fifty percent (40%) of mothers had applied some substance on cord. Oil or ghee was the most common applicant (51.2%) followed by povidone iodine (21.1%), cream (16.3%), turmeric powder (6.6%) and powder (4.8%). In two thirds (66.0%) of new borns cord fell within 7 days of birth and in only 6% it fell after fourteen or more days.

Nearly half (43.6%) of the new borns, in joint families had some application on cord while 70% of them who were born in nuclear families had clean cord stump. Most (61.5%) of the illiterate study participants had applied some substance on cord this was in contrast to 34.4% of subjects who had an education of more than matric level. Nearly half (51.9%) of study participants who were of SC category had applied some substance on cord stump as compared to 30.6% of who were of general category. Application on cord stump was more common in new borns, born to multiparous mothers as compared to primiparae (27.2%). More than one third (36.1%) of new borns delivered in an institution had application on their cord as compared to 82.9% who were delivered in home. Type of family, category, education, parity and place of delivery were significantly associated with safe cord care practices (Table 3).

Table 3: Association of application on cord with profile of study participants

Type of Family	Application on cord		Total	$\chi^2=6.24$ df=1 p=0.013
	Yes (N=166)	No (N=249)		
Nuclear	33(30.0)	77(70.0)	110(100.0)	
Joint	133(43.6)	172(56.4)	305(100.0)	
Education of Mother				
Illiterate	24(61.5)	15(38.5)	39(100.0)	$\chi^2=10.3$ df=2 0.006
≤10th	75(41.4)	106(58.6)	181(100.0)	
>10th	67(34.4)	128(65.6)	195(100.0)	
Category				
SC	42(51.9)	39(48.1)	81(100.0)	$\chi^2=14.3$ df=2 p=0.001
OBC	64(46.4)	74(53.6)	138(100.0)	
General	60(30.6)	136(69.4)	196(100.0)	
Parity				
1	40(27.2)	107(72.8)	147(100.0)	
2	72(38.5)	115(61.5)	187(100.0)	$\chi^2=34.7$ df=3 p=0.000
3	44(68.8)	20(31.2)	64(100.0)	
≥4	10(58.8)	7(41.2)	17(100.0)	
Place of delivery				
Home	29(82.9)	6(17.1)	35(100)	$\chi^2=29.3$ df=2 p=0.000
Institutional	137(36.1)	243(63.9)	380(100)	
Total	166(40.0)	249(60.0)	415(100)	

Discussion

In the present study, clean new blade was used for cord cutting in majority (88.6%) of homedeliveries. In two fifth (40%) of the new borns, mothers had applied something on the cord.

Main applicants used were oil and ghee (51.2%) followed by (betadine 21.1%). In spite of home deliveries majority had good cord cutting practice. This might be due to the fact that more than half of home deliveries were attended by trained birth attendants and increased awareness regarding safe delivery practices. In the present study cord care practices were not satisfactory. Ideally nothing should be applied on cord but most of the mothers applied mustard oil and tincture iodine thinking it might prevent infection. Lack of knowledge about safe cord care practices, joint family culture might be the other contributing factors as the elderly people force the younger generation to follow these harmful practices.

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Similar findings were observed by Thakur *et al.*, (2012) Rahi *et al.*, reported that a new shaving blade was used in 78.3% of home deliveries and 73.2% of babies had some application on cord (Rahi, 2006). Khunt *et al.*, found that in 83% of home deliveries clean blade was used which was in accordance with the present findings; but rate of application on cord was high (90%). Khunt (2013) in a study by Khan *et al.*, umbilical cord was cut by a new blade in 59.9% of the cases and by traditional objects such as the edge of a broken cup in 40.3% of the cases (Khan, 2009). This difference might be attributed to increased awareness regarding safe delivery practices. High percentage of institutional deliveries and skilled birth attendance in 97.0% of deliveries might also have contributed to clean cord care practices. Sinha *et al* in their study in rural area of Mewat also obtained similar results with less than half (49.9%) mothers applied some substance on cord stump (Sinha, 2013). This shows that there is not much of disparity between urban and rural areas. In the present study, education of study participants, caste, and parity, type of family and place of birth had significant association with application on cord. A study by Kaphle *et al* also found significant association between parity, caste and place of delivery with safe cord care practices. (Kaphle HP, 2013) Grover *et al* reported significant association between type of family and application on cord in accordance with the present findings (Grover, 2012). Similar results were obtained by Tuladhar SinNepal and Gul *et al* in their study in tertiary care institute of Karachi (Tuladhar, 2010; Gul, 2014).

Limitations

The study is based on reported newborn care and not based on actual observations. As a result response for some of the practices could not be obtained in case of institutional deliveries, as mothers were not aware of those. The survey is likely to have missed information on neonates who died before the visit of the investigator as well as mothers who were not present at the time of study.

Conclusion

The study revealed that cord cut practices in home deliveries were good in the present study. Though literacy rate was good but harmful cord care practices (i.e. application on cord) were common. Traditions, community practices also seem to be important contributors as harmful practices were observed even in some institutional deliveries or after discharge from the institution.

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