Comparison Of Prevalent Newborn Rearing Practices, In Urban And Slum Population Of Chandigarh, Ut, India

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Abstract

Objective:1. To study the home based newborn care practices in slum and urban area of Chandigarh and to compare the practices in both setups.

Study
Design: Cross-sectional

Participants: 226 Women, who had children below 3 months at the time of data collection ie between April 2005- May 2006, were included in the study.

Results: (38.4%) Women gave birth at home only. (45.1%) deliveries were conducted by skilled birth attendant as compared to (7.1%) by traditional birth attendants. (61.9%) of newborn infants had been bathed within the 0-12 hours. Number of infants who were given colostrums were (80.9%) and (26.9%) were put on breast feed within 1-2 hours of birth.

INTRODUCTION

Neonatal deaths, estimated nearly 5 million annually, account for 36% of deaths worldwide in children aged less than 5 years ([1]) 96% of them die in developing countries. Neonatal mortality rate per 1000 live birth varies from 5 in developed countries to 53 in least developed countries ([2]). A great reduction in neonatal deaths will be needed to meet millennium development goals that stipulates a reduction of two thirds in deaths in children aged under 5 years ([3]).

In India, where a quarter of neonatal deaths of world occur, around 50-60% of all infant deaths occur with in first month of life and 1.3 million of children die within 1st 4 weeks of life ([4]) and more than ½ die within a year as per NFHS 3([5]). The risk is greatest during first 24-48 hrs after birth. The problem is more acute in slums or rural area where obstetric care is less and the home environmental conditions are usually not favorable.

The factors accounting to neonatal deaths encompass prematurity (28%) birth asphyxia or injury (23%), infection (26%) & neonatal hypothermia ([6]). Though global & national efforts improve child mortality but factors accounting to neonatal & perinatal mortality were not addressed.

Till date the health of newborn babies is being neglected despite the huge number of deaths & the deaths are not given much importance globally. Majority of the deaths is unseen or undocumented. That is the reason that though infant mortality has fallen in many developing countries, the neonatal mortality has remained steady ([7]). A continuum in elements of care is needed between the maternal & child health programs to reduce neonatal mortality. Poor status of women, low usage of antenatal care & other health services & large number of deliveries by untrained personnel account for high perinatal mortality rate. In many developing countries studies health care during & after child birth is non-existent. Around 53 million women delivered by untrained workers in year 2000 in low income countries([8],[9]) Maternal health & newborn health care closely related. Newborn care in largely affected by perinatal health, infact in developing countries perinatal causes are the common cause of death in children under 5 years of age.

Essential newborn care as per WHO comprise of thermal protection (Kangaroo Technique), hygiene, initiation of

breathing, exclusive BF, immunization, management of illness, cord care & care of LBW babies([10,11]). Neonatal mortality has decreased to 46 in 1997 owing to WHOs programme (IMCI) integrated management of childhood illness & IMPAC (Integrated management of pregnancy & childbirth([12]).

In India, many customs are prevalent that effect the heath status i.e morbidity and mortality of mother and child directly or indirectly. So the factors accounting to Implementation of an effective program for promotion of childbirth and newborn care practices requires understanding of the community and household traditional newborn care practices. Such information will enable the development of programs to promote culturally sensitive and acceptable change in practices. Information about the reasons for delivering at home is also necessary for healthcare planners to design appropriate maternity services. This study was undertaken to describe selected newborn care practices related to cord care, thermal care and breastfeeding in slum and non slum urban population of Chandigarh, and to examine the association of selected socio-demographic, antenatal and delivery care factors with these practices.

METHODS

A cross sectional descriptive study was done in the field practice area of the Urban Health Training Centre (UHTC) affiliated to the department of Community Medicine of Govt. Medical College & Hospital, Sector 32, (GMCH) ,Chandigarh. UHTC is located at a distance of 3kms from GMCH. It caters to urban (15000-16000), peri-urban (15000) and slum (30000) population.

The reference population comprised of mothers of newborn aged 0-3m. A pilot survey was done in 20 mothers. In pilot study it was found that 44% mothers in urban area and 48% in slums were not doing exclusive breast-feeding. With 5% permissible error and 90 % confidence coefficient, taking 46% as average mothers not resorting to exclusive breast feeding, 234-sample size was obtained.

The study was done in the two clusters of population, one being urban slum area (largest slum of Chandigarh, colony no. 5) and the other, non slum urban area (field practice area) in the April 2005 – May 2006. First, all the mothers of infants were identified in the study area. The purpose of the study was explained to them. 226 mothers gave their verbal consent to participate in the study and had given complete information been included in the sample.

A predesigned & pretested proforma was used for collecting the data. Socio demographic characteristics, age, sex, birth order, religion of the newborn were noted. Information regarding education, occupation, monthly income of the family was taken. Socioeconomic status was classified as per Modified Prasad classification adjusted for current income levels.

Information regarding various aspects of antenatal, natal and postnatal care was also taken.

Information related to registered antenatal case (female had paid at least 3 antenatal visits), immunization against tetanus in antenatal period (2 doses of T.T or one dose of T.T if younger child is less than 3 years), intake of iron supplementation (IFA tablets at least for 100 days) was collected . The place of registration along with place of delivery and if the delivery is spontaneous or assisted was studied. Assistance was considered either by traditional birth attendant (trained or untrained) or skilled attendant (doctor, nurse, Auxillary nurse midwife etc). Newborn rearing practices pertaining to thermal care, breast feeding (BF), bathing and cord care along with immunization at birth were also explored.

. Data was collected by a team of resident doctors, interns, medical social workers. Data was collected, compiled and analysed using Epi-info Software.

RESULTS

Socio-demographic characteristics of the study population are depicted in Table – I. Overall, 226 urban and slum respondents (mothers) were considered. Male newborns outnumbered females in both urban and slum area. The ratio being 1.4:1 in urban and 1.5:1 in slum area. Nuclear families were predominant in both clusters followed by joint families and extended families. In urban area 69% (78) were of upper social class where as in slums 72.6% (82) were of lower class.

Figure 1

Table 1

SOCIO- DEMOGRAPHIC CHARACTERISTICS OF THE STUDY POPULATION

Variables	Urban (n=113)		Slum (n=113)		Total (n=226)	
Sex						
Male	66 (58.4)		68 (60.2)		134(59.3)	
Female	47 (41.6)		45 (39.8)		92(40.7)	
Family						
Nuclear	73 (64.1)		84 (74.3)		157 (69.5)	
Joint	26 (23.0)		25 (22.1)		51 (22.6)	
Extended	14 (12.4)		4 (3.5)		18(7.9)	
Education of parents	Mothers	Fathers	Mothers	Fathers	Mothers	Fathers
Illiterate	23 (20.35)	2 (1.8)	56(49.5)	46(40.7)	79 (34.9)	48 (21.2)
Middle	9 (7.9)	8 (7.1)	12 (10.6)	17 (89.3)	21 (9.3)	25 (11.1)
Secondary	19 (16.8)	20 (17.7)	20 (17.6)	18 (82.3)	39 (17.3)	38 (16.8)
Higher-Secondary	39 (34.5)	46 (40.7)	19 (16.8)	18 (82.3)	58 (25.7)	64 (28.3)
Graduate and Above	25 (22.1)	37 (32.7)	6 (5.3)	14 (12.4)	31 (13.7)	51 (22.6)
Socio-Economic Status						
Low	9 (8.0)		82 (72.6)		91 (40.3)	
Middle	26 (23.0)		22 (19.5)		48 (21.2)	
High	78 (69.0)		9 (8.0)		87 (38.5)	

Table-II presents prevalent MCH practices- (antenatal, perinatal & intranatal period). In urban area 93.8% (106) mothers had minimum of 3 antenatal visits compared to slums where 61.9% (70) were registered. Immunization by tetanus toxoid was 90% in urban and 70% in slums. 86.7% (98) mothers in urban area and 44.2% (50) in slum area took iron supplementation (minimum for 3 months). Post term deliveries were more in urban area 5.3% (6) and 15% (17) were pre term deliveries in slums. Proportion of mothers who delivered at full term was similar in urban and slum area. Majorities of the mothers were registered at government institutions, 84% (89) in urban setup and 72.1% (31) in slum setup. In urban area 96.5% (109) deliveries were conducted at hospitals and 70.8% (80) were at mothers residence. In slums more than 50% of the deliveries were at their in laws.

Out of the total home deliveries, 8.4% (19) were done by untrained personnel and (61.9%) 140 by trained personnel. In urban area, 94.7%(107) were by skilled attendants. Around 12.8%(29) deliveries were conducted by mother / in laws / neighbors.

Figure 2

Table 2

STATUS OF MATERNAL HEALTH CARE SERVICES OUTREACH

Variables	Urban	Slum	Total
Antenatal	(n=113)	(n=113)	(n=226)
(at last 3 visits) Registered	106 (93.8)	70 (61.9)	176 (77.9)
Un-registered	07 (6.2)	43 (38.1)	50 (22.1)
TT Immunization			
2 dose/1 dose of younger child less than 3 yrs			
Yes	101 (89.4)	79 (69.9)	180 (79.6)
No	12 (10.6)	34 (30.1)	46 (20.3)
Iron Supplementation (U,n=106 S, n=70)			
(100tabs / 3m prophylactically) Yes	98 (86.7)	50 (44.2)	148 (65.4)
No	15 (13.3)	63 (55.8)	78 (34.5)
Perinatal			
Full term	98 (86.7)	94 (83.2)	192 (84.9)
Pre term	09 (8.0)	17 (15.0)	26 (11.5)
Post term	06 (5.3)	02 (1.8)	08 (3.5)
Registered at Specific Places (U,n=106 S, n=70)			
Government	89 (84.0)	31(72.1)	120 (53.0)
Private	17 (16.0)	12(27.9)	29 (12.8)
Place of Delivery			
Mothers	80 (70.8)	50 (44.2)	130 (57.5)
In-laws	33 (29.2)	63 (55.8)	96 (42.4)
Hospital	109 (96.5)	30(26.5)	139 (61.5)
Home	04 (3.5)	83(73.4)	87 (38.4)
Person Who Assisted At Birth			
Spontaneous	1 (0.88)	06 (5.3)	07 (3.1)
Untrained TBA(Traditional Birth Attendant)	-	19 (16.8)	19 (8.4)
Trained TBA	05 (4.4)	26 (23.0)	31 (13.7)
Skilled Attendant	107 (94.7)	33 (29.2)	140 (61.9)
Mother / in-laws / other relatives / neighbor / Friend	-	29 (25.7)	29 (12.8)

The newborn care practices are shown in Table-III. Out of 157 institutional deliveries, 90.4% were immunized against BCG, Polio 89.2% (140) and 74.5% (117) by Hepatitis. In slum immunization coverage for BCG, zero dose of Polio was around 87%. But for Hepatitis 'B' it was less, 62.5% (30). The practice of observing thermal care in newborns was significantly ($p<0.05$) higher in urban setup, 93.8% in comparison to slums, 12.4%. Majority of newborns were given bath after birth within 6-12 hrs, 61.9% followed by within 12-24 hrs, 14.2%.The practice of not giving bath till 15 days was observed in 3.5% in slums as compared to 2.7% in urban area. 24.8% in urban and 6.2% in slums bathed the newborn with milk or curd. Practice of giving message to new-born was found higher in slums, 72.6% than urban, 56.6. The difference was found to be statistically significant ($p<0.01$). Dabar lal oil(Ayurvedic oil) is most commonly used in slums, 32.9% as compared to Johnson oil in urban

setup (42.2%). Overall 80.5% of the mothers used cloth nappy for newborns. Significantly higher difference was seen in urban and slum area regarding cord care practice ($p<0.05$). Almost half of the study subjects received help from elderly in newborn care, 51.5%. Practice of applying kajal (Black substance used for beautification of eyes) was found to be much higher in slums, 94.7% as compared to 28.3% in urban ($p<0.05$).

Figure 3

Table 3

PREVALENT NEWBORN CARE PRACTICES

Variable	Urban	Slum	Total
Institutional Immunization Status (U,n=109) (S, n=48)			
BCG	100 (91.7)	42 (87.5)	142(90.4)
OPV	98 (89.9)	42 (87.5)	140(89.17)
Hepatitis	87 (79.8)	30 (62.5)	117(74.5)
Thermal Care (n=113)*			
Newborn Dried soon after birth	70(61.9)	36(31.9)	106 (46.9)
Newborn wrapped soon after birth	99(87.6)	25(22.1)	124 (54.9)
Newborn dried and wrapped soon after birth	106(93.8)	14(12.4)	120 (53.1)
Soon after delivery	20 (17.7)	11 (9.7)	31 (13.7)
0 – 6 hrs	52 (46.0)	88 (77.9)	140 (61.9)
6 – 12 hrs	28 (24.8)	04 (3.5)	32 (14.2)
12 – 24 hrs	10 (8.8)	06 (5.3)	16 (7.1)
24 hrs	03 (2.7)	04 (3.5)	07 (3.1)
No(till 15 days)			
Bath given with*			
Soap	72 (63.7)	97 (85.8)	169 (74.7)
Milk or Curd	28 (24.8)	07 (6.2)	35 (15.4)
Others	13 (11.5)	09 (8.0)	22 (9.7)
Massage given**			
Yes	64 (56.6)	82 (72.6)	146 (64.6)
No	49 (43.4)	31 (27.4)	80 (35.4)
If yes then			
Coconut	18 (28.1)	14 (17.1)	32 (21.9)
Mustard	09 (14.1)	19 (23.2)	28 (19.2)
Johnson	27 (42.2)	22 (26.8)	49 (33.6)
Dabar Lal	04 (6.3)	27 (32.9)	31 (21.2)
Ghee	06 (9.4)	0	06 (4.1)
Clothing (Nappy)**			
Yes	98 (86.7)	84 (74.3)	182 (80.5)
No	15 (13.3)	29 (25.7)	44 (19.4)
Cord care *			
Clean Instrument	109(96.5)	78(69.02)	187(82.7)
Clean thread	104(92)	34(30.1)	138(61.1)
Clean cord	109(96.5)	33(29.2)	142(62.8)
Applied Something to cord			
Yes	26 (23.0)	51 (45.1)	77 (34.1)
No	87 (77.0)	62 (54.9)	149(65.9)
Time of falling of cord***			
4-5d	32 (28.3)	25 (22.1)	57 (25.2)
<7d	50 (44.2)	60 (53.1)	110 (48.7)
>7d	31 (27.4)	28 (24.8)	59 (26.1)
Help By Elderly			
Yes	67(59.3)	49(43.4)	116 (51.3)
No	46(40.7)	64(56.6)	110(48.7)
Application of Kajal*			
Yes	32(28.3)	107(94.7)	139(61.5)
No	81(71.7)	6(5.3)	87(38.5)

* Highly Significant (HS) P<0.01

** Significant(S) P<0.05

*** Insignificant

Overall, BF initiation was maximum in 2-12hrs. 15.9% in urban area initiated BF within 12-24hrs.as compared to 31.9% in slums. Colostrum administration was significantly higher (p<0.05), 80% in urban area and 55.7% in slums. The practice of administering prelecteal feed too was significantly higher in slums, 63.7% compared to 23% in urban area. The commonest prelacteal feed so given was honey in both urban and slum set up, followed by water in urban area and Janam Ghutti (Liquid ayurvedic blend)13.9% (10) in slums. (Table IV)

Figure 4

Table 4

PREVALENT INFANT FEEDING PRACTICES

Variables	Urban	Slum	Total
Feeding Practice			
Starting of BF			
0-2hrs	43 (38.1)	18 (15.9)	61(26.9)
>2-12hrs	45 (39.8)	39 (34.5)	84(37.2)
>12-24hrs	18 (15.9)	36 (31.9)	54(23.9)
>24hrs	6 (5.3)	20 (17.7)	26(11.5)
Not Breast Fed	1 (0.88)	0	1 (0.44)
Colostrum Given**			
Yes	90 (79.6)	63(55.7)	153(67.7)
No	23 (20.3)	50(44.2)	73(32.3)
Prelacteal Feed*			
Yes	26 (23.0)	72 (63.7)	98(43.4)
No	87 (76.9)	41 (36.3)	128(56.6)
If yes then (U,n=26)			
(S,n=72)			
Honey	13 (50.0)	40 (55.6)	53(54.1)
Gur(Jaggery)	01 (3.8)	03 (4.2)	4(4.1)
Janam Ghutti	01 (3.8)	10 (13.2)	11(11.2)
Sugar	02 (7.6)	02 (2.8)	4(4.1)
Milk	01 (3.8)	08 (11.1)	9(9.2)
Any Other	08 (30.7)	09 (12.5)	17(17.3)

* Highly Significan t(HS) P<0.01

** Significant(S) P<0.05

*** Insignificant

DISCUSSION

The study showed better coverage of antenatal & perinatal services. More that 90% mothers were registered in our study, which is comparable to the findings of Banerjee B ([13]) but much higher than the findings of Singh P ([14]). In slums antenatal services were availed by only 60% of mothers which is much lower than the findings of Sinha S ([15]). Even according to NFHS 3(5) data, some antenatal services are availed by 90% of mothers where as only 55-75% of mothers received atleast 3 antenatal check ups. Iron & folic acid supplementation was less in mothers of slums. The main reasons accounting for this were financial constraints, non-availability of drugs in the centre (missed opportunities), side effects of certain preparations & unawareness of utility of them. Side effects of certain preparations were the main reasons for not taking preparations in urban mothers

Majority of mothers delivered at full term but pre term was more in slums. This may be due to inadequate nutrition, more physical work & many being multipara. It was found that in both urban & slum setup more mothers were registered at government institutions as compared to private one. Home deliveries were found to be more in slum area (73.4%) which is compatible to the findings of Aggarwal et al([16]) Mothers / friends assist in almost half of the pregnancies in slums.

In urban area where 96.5% of females had institutional deliveries, it was found that around 90% of their newborn were given BCG and Polio. Rest of the newborns being delivered at institutions were not immunized for various reasons like the practice of immunizing the child within a week and not at birth. Usually after normal deliveries mothers come home in a day or two and then get their child immunized from somewhere else. Immunization against hepatitis-B was observed to be less which shows that though being included as the 7th vaccine in some of the states in their immunization schedule still the practice & awareness of getting the children immunized against this is less. Findings corroborated to the findings of Banerjee B([13]) whereas in urban area deliveries were done by skilled attendants i.e. doctors, nurses etc, only 26% were done in slums. Around 70% deliveries in urban area and 45% in slums were at mother's residence which could be due to the fact that females were more comfortable with their mothers at this critical time as compared to in-laws. Moreover in many societies, it is custom to deliver babies at mother's place especially if the child is first. In slums it was found that only some deliveries were at mother's place. The main reason is that in slums migratory population is there and females are quite far from their hometown. Under these conditions they cannot go to their mother's house and afford loss in wage.

Neonatal hypothermia, a common problem, is associated with increased risk of mortality especially in the developing countries.([17]) In developing countries, where majorities of deliveries occur at home, the practice of thermal care is not observed. Results of our study correspond with the results of previous studies ([18,19]) that show practice of delay in drying and wrapping the newborn after birth. In urban setup where most of the deliveries were institutional & done by skilled personnel the thermal care was widely observed in contrary to that in slums. In slums only in 12.4% of cases, thermal care was taken care of. In slums most of the deliveries

occurred at home, usually the practice of maintaining temperature for newborn was not there and in almost 1/6th of the babies the bath was given within 12hrs. Urban mothers were using more milk/curd as compared to that of slums. Similar findings were evident in other studies. Usage of milk/curd or massage by ghee was basically due to the prevalent myth of babies becoming beautiful and healthy.

Mothers in slums were less aware of hygiene. The practice of using nappy cloths was not common in slums. Also the practice of applying kajal or something to cord was seen in slum mothers. Similar findings are evident in other studies too. ([20]) In our study clean instrument was used for cutting cord in slums (household sickle or blade or knife) but in almost 90% cases, they were not sterilized. Also the thread used for tying the cord was not sterilized. Cow dung, oil, ghee or cloth in some cases was applied on the cord after cord cutting ([21]) .Similarly in a study done in Uttar pradesh([22]) the practice of clean cord care was seen in 32% mothers. The study done in Nepal([23]) also showed that 33% mothers received clean cord care for their newborns. Prevalent custom of applying oil or cowdung etc was observed in other studies too. ([24]) This implies that there is an urgent need to educate mothers and health personnels regarding this, as improper cord care is the eminent factor for neonatal infections .([25])

The results of many studies done in India and other developing countries have depicted the wide predominance of practice of giving prelacteal feed ([26], [27], [28]). Results of studies done in rural Uttar Pradesh ([29]) corroborated with the evident practice of administering prelacteal feed whereas in Nepal([30]) only 12% women gave prelacteal feed. The most common prelacteal feed so given was honey. More than half of the mothers in slums and 1/10th of them in urban set up administered it. Other common prelacteal feeds so given were Janam Ghutti and water.

The results of our study support the data of NFHS-3([5]) that shows the practice of discarding colostrum in both urban & rural mothers .The percentage of mothers giving colostrum and prelacteal feeds were almost same as found in the study done in slums of Chandigarh([31]). Literate status of mothers along with fewer adherences to rituals and less influence of elderly may have been responsible for opposite status so observed in urban area. Another custom of discarding colostrum was observed in 1/4th of the respondents in Nepal ([23]) in comparison to 70% of mothers in our study in slums & 20% in urban area.

In slums mean time for starting of breastfeeding was 2-12hrs while it was more than that in urban area. The reasons for delay in starting of breast feeding were, in majority of the cases due to social custom of giving prelacteal feed by some elderly & practice of not giving colostrum. Caesarian section, mothers ill health or inability of baby to suck were found to be other reasons in urban mothers for delay in BF. Previous studies done in Chandigarh ([31])depicts the initiation of breast feeding within 1-6 hrs. NFHS 3(5) data too depicts that 23.4% initiated breast feeding within first hour of birth.

CONCLUSION

The study concludes that prevalence of various harmful practices regarding newborn care like application of kajal, delay in initiation of BF, prevalence of prelacteal feed etc are prevalent in the society especially in the slums. The study suggested that dissemination of information & education regarding health material & newborn care practices is the need of the day. IEC activities play an important role in making community aware of the healthy practices so that harmful traditions should be given up along with promoting healthy traditional practices. Efforts should also be made to encourage institutional deliveries where healthy education can be provided also not only to mothers but to other members of family

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