

Original Article

Newborn care practices among slum dwellers in Aligarh City, Uttar Pradesh

Khan MH¹, Khalique N², Siddiqui AR³, Amir A⁴¹Assistant Professor, Community Medicine, Ruhelkhand Medical College, Bareilly, ²Professor, ^{3,4}Associate Professor, Department of Community Medicine, Jawaharlal Nehru Medical College (JNMC), Aligarh Muslim University (AMU), Aligarh, U.P. India.**Abstract****Background:** The newborn health challenge faced by India is more formidable than that experienced by any other country in the world. The current neonatal mortality rate (NMR) of 44 per 1,000 live births, accounts for nearly two-thirds of all infant mortality and translates into at least two newborn deaths every minute.**Methods:** The present community based study was conducted in the field practice area of the Urban Health Training Centre (UHTC), Department of Community Medicine, Jawaharlal Nehru Medical College, Aligarh Muslim University, Aligarh, Uttar Pradesh, India. Purposive sampling i.e. nonrandom sampling to include subjects that serve the specific purpose was used. Two hundred pregnant women were chosen for the study. The study was carried out from one year. Data were analyzed with Epi Info version 3.5.1. Percentages, and Chi Square Test used. Objective was to study the knowledge and practices related to newborn care among slum dwellers in Aligarh, UP.**Results:** Majority of pregnant women (75%) had more than one live issue. Majority of pregnant women 91.5% delivered at home by untrained dais. Unhygienic delivery practices were common. There were low level of breastfeeding practices, practices to prevent hypothermia and knowledge of danger signs in newborns requiring medical consultation, among pregnant women in periurban area of Aligarh, Uttar Pradesh India.**Conclusion:** It was concluded that there was a poor newborn care practices among slum dwellers in Aligarh.**Keywords:** Delivery practices, breastfeeding practices, danger signs, hypothermia, newborns.**Introduction:**

Neonatal deaths, estimated at nearly 4 million annually, now account for 36% of deaths worldwide in children aged less than 5 years. Millennium Development Goal 4 (MDG-4), regarding child survival, stipulates a reduction of two-thirds in deaths in children aged less than 5 years, from 95 per 1000 in 1990 to 31 per 1000 in 2015¹. Given that the current global neonatal mortality rate is estimated to be 31 per 1000 livebirths², a substantial reduction in neonatal deaths will be required to meet MDG-4. Reduction of neonatal deaths should become a major public-health priority.

In India every year 26 million babies are born, of these 1.2 million die in the first 4 weeks of life accounting for 20% of global burden of newborn deaths. Three-quarters of neonatal death occurs in the first week-the highest risk of death is on the first day of life. Most neonatal deaths (99%) arise in low income and middle income countries, and about half occurs at home³.

In India, about 2 million births take place annually among the urban poor⁴. Of these, 54.1% or

approximately 1.1 million births take place at home in the debilitating environment and nearly 78,000 (NMR 39.1%, NFHS 2 Re-analysis) newborns die. Poor living conditions, ignorance and poverty resulting in a large number of women in slums working outside the home results in inadequate care during pregnancy and neglect of the newborn⁵. So the present study has been planned to study the knowledge and practices related to newborn care among slum dwellers in Aligarh city Uttar Pradesh.

Materials & Methods: The present community based study was conducted in the field practice area of the Urban Health Training Centre, Department of Community Medicine, Jawaharlal Nehru Medical College, Aligarh Muslim University, Aligarh, Uttar Pradesh. The Urban Health Training Center (UHTC) of the Department of Community Medicine is located 2 Kms away from the medical college on the Qila road. The area is basically a peri-urban area situated on the outskirts of the city. The subjects included in the study were residents of four registered areas of the urban

Address for Correspondence:

Mohd. Haroon Khan, Assistant Professor, Department of Community Medicine, Ruhelkhand Medical College, Bareilly, U.P. India.
E-mail: drharoonkhan99@yahoo.com

health training center. Urban Health Training Centre caters a total population of 11199 at the start of the study. There were four slums i.e. Firdaus Nagar, Nagla Qila, Patwari ka Nagla, and Shahanshabad under UHTC. Out of these 4 areas, 2 areas (Firdaus Nagar, Nagla Qila) were chosen for group A and the other 2 areas (Patwari ka Nagla, Shahanshabad) served as group B. Later on Group A was chosen for Behaviour Change Communication intervention and Group B served as control (no intervention). The population in this area was relatively stable and allowed for follow up visits. Approval for study was passed from the institutional board of study meeting. Purposive sampling i.e. nonrandom sampling to include subjects that serve the specific purpose was used. The study was carried out from one year i.e. from October 2008 to July 2009 which included the development of study tools, collection of data, analysis, tabulation of findings, and interpretation of results.

Exclusion criteria were primigravida, high-risk pregnant women, pregnant women who opted to deliver outside Aligarh. Ethical considerations are local cultural values and ideas were respected. Confidentiality was assured. All pregnant women were approached individually and an informed consent was taken before collecting data. Proper management or referral was given to women who were found to have any health problem.

A house to house visit was made to get the information about pregnant women as observed from the previous record till 200 pregnant women were enrolled in the study (purposive sampling). The data were collected by using pre-designed and pre-tested semi structured questionnaire. It included information regarding identification, socioeconomic status, delivery practices, breastfeeding practices, danger signs and practices to

hypothermia in newborns. Socioeconomic status was assessed using Modified Kuppuswami Scale⁶. Data entry and statistical analysis were carried out using software Epi Info version 3.5.1. Significant difference was determined using Chi-square test. P-value was calculated using chi-square test and difference was accepted significant at more than 95% (p-value <0.05).

Results:

83% pregnant women were in the age group of 15-30 years 17% in the age group of 31-45 years ($\chi^2=1.3$, p-value>0.05). Most of the pregnant women (90%) were Muslim and rest of them belonged to Hindu community ($\chi^2=13.08$, p-value<0.05). High percentage of Muslim in the study was due to the fact that study area had mainly Muslim population. It was calculated by Chi-Square test. 75% of pregnant women were illiterate ($\chi^2=0.97$, p-value>0.05). Education of husbands of pregnant women was also low i.e. 54% illiterate ($\chi^2=3.70$, p-value>0.05). Majority of the families (64.5 %) were nuclear. 99% pregnant women were housewives. 48.5% pregnant women were belonged to upper lower class according to Modified Kuppuswami Scale of socio-economic status.

Delivery practices:

The majority of pregnant women (91.5%) delivered at home (Table 1). All the home deliveries except one were conducted by untrained dais. Untrained Dai washed their hands only in 35.6% of home deliveries. Clean surface was used in 18.5% deliveries. The cord was cut with a new blade in 31.2% of deliveries. Umbilical cord tied with clean and sterile (boiled) thread in 9.3% deliveries. Nothing was applied on the cord of 6.5% deliveries (Table 2).

Table 1: Place of delivery during last pregnancy

| Place of delivery | Group A | Group B |
|-------------------|-----------------------------------|---------|
| | N=100 | N=100 |
| Home | 92 | 91 |
| Institutional | 08 | 09 |
| | $\chi^2=.06$, df=1, p-value>0.05 | |

Table 2: Delivery practices at home in last delivery

| Delivery practices | | Group A | Group B |
|------------------------|-------------------------------------|-----------|------------|
| | | n=92 | n=91 |
| Delivery conducted by | Trained Dai | 01 (1.1) | 00 (0.0) |
| | Untrained Dai | 91 (98.9) | 91 (100.0) |
| Clean hands | Yes | 32 (34.8) | 33 (36.3) |
| | No | 60 (65.2) | 58 (63.7) |
| | $\chi^2=0.04$, df=1, p-value >0.05 | | |
| Clean surface | Yes | 15 (16.3) | 18 (19.8) |
| | No | 77 (83.7) | 73 (80.2) |
| | $\chi^2=1.5$, df=1, p-value >0.05 | | |
| Clean instrument | Yes | 26 (28.3) | 31 (34.1) |
| | No | 66 (71.7) | 60 (65.9) |
| | $\chi^2=0.72$, df=1, p-value >0.05 | | |
| Sterile cord tie | Yes | 08 (8.7) | 09 (9.9) |
| | No | 84 (91.3) | 82 (90.1) |
| | $\chi^2=.007$, df=1, p-value>0.05 | | |
| No application of cord | Yes | 05 (5.4) | 07 (7.7) |
| | No | 87 (94.6) | 84 (92.3) |
| | $\chi^2=0.38$, df=1, p-value>0.05 | | |

Figures in parentheses are percentages

Table 3: Breast feeding practices

| Variables | | Group A | Group B | |
|--------------------------------------|--|--------------------------------------|---------|----|
| | | N=100 | N=100 | |
| Breastfeeding initiation within 1 hr | Yes | 17 | 15 | |
| | No | 83 | 85 | |
| | $\chi^2= 1.49$, df= 1, p-value >0.05 | | | |
| Colostrum given | Yes | 39 | 43 | |
| | No | 61 | 57 | |
| | $\chi^2=0.33$, df= 1, p-value >0.05 | | | |
| Exclusive Breastfeeding | Yes | 19 | 21 | |
| | No | 81 | 79 | |
| | $\chi^2=0.13$, df= 1, p-value >0.05 | | | |
| Induction of burping | Most of the time | Yes | 16 | 13 |
| | | No | 84 | 87 |
| | | $\chi^2=0.36$, df= 1, p-value >0.05 | | |
| Prelacteal feeds given | Yes | 81 | 79 | |
| | No | 19 | 21 | |
| | $\chi^2=0.12$, df= 1, p-value >0.05 | | | |
| Pacifiers given | Yes | 75 | 70 | |
| | No | 25 | 30 | |
| | $\chi^2=0.62$, df= 1, p-value >0.05 | | | |

Prevailing Breastfeeding Practices: Initiation of breastfeeding within 1 hour was done only in 16% of babies. Colostrum was given by 41% mothers. 20% babies were exclusively breastfed. 14.5% mothers had induced burping most of the time in their babies after breastfeeding. Prelacteal feeds were given in 80% and pacifiers in 72.5% babies (Table 3).

Practices to Prevent Hypothermia in Home Deliveries: All newborns were wiped dry immediately and first bath was given within 6 hours of birth. Mostly mothers and newborns (98.9%) were kept together. Vigorous removal of vernix caseosa after birth was practiced by 29% of untrained dais. 45.4% deliveries were conducted in warm room. Abnormal temperature of baby was checked by 92.7% of mothers after birth. Only 25 % mothers had correct knowledge about cold extremities. 24.5 % mothers had knowledge about cold abdomen as a sign for medical consultation. Low level of knowledge regarding blue extremities (9.5%) was present in both the groups. only 33.5% of mothers had knowledge of skin-to- skin contact (kangaroo mother care). Breastfeeding during transportation was done by 47 % mothers. Majority (85%) of the mothers had knowledge about stabilization of temperature of baby during transportation to hospital (Table 4).

Table 4: Practices to prevent hypothermia in home deliveries

| Variables | | Group A | Group B |
|---|------------------------------------|------------|------------|
| | | n=92 | n=91 |
| Baby wiped dry immediately after birth | | 92(100.0) | 91(100.0) |
| Vigorous removal of vernix caseosa | Yes | 29 (31.5) | 24 (26.4) |
| | No | 63 (68.5) | 67 (73.6) |
| | $\chi^2=0.59$, df=1, p-value>0.05 | | |
| Warm delivery room | Yes | 39 (42.4) | 44 (48.4) |
| | No | 53 (57.6) | 47 (51.6) |
| | $\chi^2=0.65$, df=1, p-value>0.05 | | |
| First bath given to the baby within 6 hrs | Yes | 92 (100.0) | 91 (100.0) |
| | No | 00 (0.0) | 00 (0.0) |
| Rooming-in | Yes | 91 (98.9) | 90 (98.9) |
| | No | 01 (1.1) | 01 (1.1) |
| Check for abnormal Temperature | Yes | 83 (90.2) | 87 (95.6) |
| | No | 09 (9.8) | 04 (4.4) |
| | $\chi^2=2.01$, df=1, p-value>0.05 | | |

Figures in parentheses are percentages

Danger signs: Correct knowledge about cold to touch was present in 14% mothers whereas correct knowledge of hot to touch and chest in drawing were present in 91% and 74.5 % mothers respectively. 37% mothers had correct knowledge regarding loose stool. Correct knowledge of drainage of pus from umbilicus 43%, convulsion 36%, and multiple boils/pustule 32.5% on skin and palm and sole yellow 25.5% were found in mothers. No mother had knowledge about minimum numbers of 8 feeds given to the baby in 24 hours (Table 5).

Discussion:

There was a poor newborn care practices among slum dwellers in Aligarh. A study from Gadchiroli⁷, India revealed that large number of women (94%) gave birth at home. A cross-sectional descriptive study was conducted in an urban slum of Aligarh, reported that

Table 5: Knowledge of mothers about danger signs in newborns requiring medical consultation

| Variables | | Group A | Group B |
|---------------------------------------|--------------------------------------|---------|---------|
| | | N=100 | N=100 |
| Cold to touch | Yes | 13 | 15 |
| | No | 87 | 85 |
| | $\chi^2=0.20$, df=1, p-value >0.05 | | |
| Hot to touch | Yes | 90 | 92 |
| | No | 10 | 08 |
| | $\chi^2=0.24$, df=1, p-value> 0.05 | | |
| Chest in drawing | Yes | 72 | 77 |
| | No | 28 | 23 |
| | $\chi^2=0.65$, df=1, p-value> 0.05 | | |
| Loose stool | Yes | 32 | 42 |
| | No | 68 | 58 |
| | $\chi^2=2.14$, df=1, p-value >0.05 | | |
| Palm and sole yellow | Yes | 21 | 30 |
| | No | 79 | 70 |
| | $\chi^2= 2.13$, df=1, p-value >0.05 | | |
| Convulsion | Yes | 34 | 38 |
| | No | 66 | 62 |
| | $\chi^2= 0.3$, df=1, p-value >0.05 | | |
| Draining pus from umbilicus | Yes | 40 | 46 |
| | No | 60 | 54 |
| | $\chi^2=0.73$, df=1, p-value >0.05 | | |
| < 8 feed in 24 hrs | | 00 | 00 |
| 10 and more skin pustules or big boil | Yes | 31 | 34 |
| | No | 79 | 66 |
| | $\chi^2=0.21$, df=1, p-value >0.05 | | |

the majority of women (67%) preferred to have delivery at home⁸.

During present study only one birth was assisted by a trained birth attendant, when compared to NFHS-3 India where birth was assisted by a doctor/nurse/ANM/others health personals was 48.3% of deliveries⁹. In a study

on delivery practices in west UP, only 3.1% deliveries washing of floor was done, in 43% deliveries the cord cutting instrument was not sterilized. Blade was the commonest (90.8%) cord cutting instrument¹⁰. The difference in result may be due large sample size. Another community based survey was conducted in urban slum of Delhi¹¹. It was revealed that unsterile threads were used in 71.7% of home deliveries. Nothing was applied to the cord in 63% of home deliveries. Findings were higher from the present study due only 82 mothers of newborn in the study area were interviewed. In a study on maternal and newborn care practices among the urban poor in Indore found that Clean cloth/washed sun dried polythene was laid on the delivery surface in 46% homes. 61.4% birth attendants washed their hands with soap and water prior to delivery, Nearly all families (96.6%) used a new blade for cutting the cord, an unsterilized yet new cotton thread was used to tie the cord in nearly all families. The cord stump was left clean with no applicant in 50% of families¹². Delivery practices were better in indore than peri-urban area of Aligarh.

In the present study, initiation of breastfeeding within 1 hour was done in 16% of babies. Lower percentage of initiation of breastfeeding within 1 hour was reported by other researcher Banapurmath¹³, Mandal¹⁴. Higher percentage of initiation of breastfeeding within 1 hour (63%, 57.9%) were presented by Osrine¹⁵ and Sreeramareddy¹⁶ respectively. Colostrum was given by 41% mothers where as Ganjoo¹⁷ reported that 57% of mothers believed colostrum to be unhygienic and did not give it to their infants and these findings are comparable to present study.

In the present study 20% babies were exclusively breastfed. Higher percentage of exclusive breastfeeding was reported (72.2% and 60.5%) by Kakrani¹⁸ and Kabra¹⁹. Prelacteal feeds were given in 80% of mothers or family members. Higher percentage (100%) of prelacteal feed was reported by Banapurmath¹³. Lower percentage of practicing prelacteal feed was reported by Singhania¹⁹ 51.7 %. Pacifiers were given to babies in 72.5% babies. Researcher from Brazil Ledo Alves da Cunha²⁰ reported that 60% of the children were using pacifier by the 1st month.

Kumar²¹ reported that risks of newborn like low birth weight, fever, cough /rapid breathing and hypothermia were known to 20.2%, 31.6%, 17.7% and 1.3% of the TBAs respectively. In the present study, knowledge of danger signs was also low.

Conclusion:

It was concluded that there was a poor newborn care practices among slum dwellers in Aligarh. Neonatal survival is influenced much by care provided by the family before, during and after delivery, which in turn is influenced not only by mother's beliefs, but also perceptions of her immediate family. Thus there is an urgent need to educate adolescent girls, mothers and train health care providers including ANM, ASHA and CMC workers etc. about newborn care. Doctors and staff of the centre should be involved in the educational sessions along with the elderly females; mother-in-laws, dais and reproductive age group women and efforts should be made to address the harmful socio-cultural beliefs and practices prevalent in the community. Behaviour change communication²² (BCC) package should be designed focusing on changing the adverse behaviour of pregnant women regarding newborn care. BCC should be applied through health workers in the community to improve newborn care that can decrease the morbidity and mortality among mothers and infants.

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