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Research Article

ACOMPARATIVE STUDY OF NEW-BORN CARE PRACTICES AMONG URBAN SLUM AND NON-SLUM MOTHERS

Ipsa Mohapatra*, Nibirnath Sarma and Amrita Kumari

Department of Community Medicine, Kalinga Institute of Medical Sciences, Bhubaneswar, India

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ABSTRACT

Neonatal mortality is 27% higher in developed countries. Odisha accounts for high neonatal mortality and morbidity, major reason being, a disparity in newborn-care practices in urban slum and non-slum population. The study was done with objectives: to study the newborn care practices among mothers, to assess their knowledge regarding newborn-care and to find differences between newborn-care practices between the slum and non-slum population. A cross-sectional study was done among mothers with infants less than 6 months, from August to October 2015, using a semi-structured proforma. 134 eligible mothers at Immunisation clinic, KIMS and 110 at UHTC. Majority of non-slum (65.00%) and slum mothers (51.70%) were between 20-24 years of age and were literates (92.54 and 80%, respectively). Majority of the mothers gave prelacteal & discarded the colostrum. Inappropriate practices were prevalent both in slum as well as non-slum. Elder's advice had an important influence on the newborn-care practices.

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INTRODUCTION

A newborn is an infant up to 28 days of life (Agarwal S et al 2007). Every year all over the world, 130 million babies are born of whom about 4 million die in the first four weeks. More than one-third of these neonatal deaths in the world occur in three South Asian countries - India, Pakistan and Bangladesh (Manish Singh et al). Neonatal period is the most vulnerable period of human life. Among all these countries, India has the largest number of neonatal deaths primarily because of large number of births. The factors contributing to the high newborn mortality rates include widespread low birth weight, lack of skilled health care at birth, and low levels exclusive breastfeeding in the initial month of life (Manish Singh et al).

Although, globally under-five and infant mortality rates have declined over the past four decades, but neonatal mortality rates remain high. There is sufficient evidence to show that most of the basic neonatal care can be delivered at homes through primary care in a highly cost-effective manner. Hence, to reduce neonatal mortality, strategies must be developed for safe home deliveries including essential neonatal care, besides devising means of proper care of the neonate in domestic settings and ensuring proper referral of only those neonates who cannot be managed at home. Newborn care is strongly influenced by women's social and health status and by home care and practices for mother and newborn, as well as by

maternal and newborn care services. In India, neonatal care has been included as an integral component of essential service delivery or primary health care. Despite efforts by the government and other agencies, neonatal morbidity and mortality continue to be high. Among other reasons, newborn care practices are major contributors for such high rates.

India is a land of diverse cultures and traditions, a lot of which have their effect over health including newborn care practices. By assessing the knowledge, attitude and practices of mothers regarding their newborn care practices, an overview can be obtained about the areas which need modifications and hence specific intervention strategies can be made to correct the same. Infant and neonatal mortality rates have declined in India but are relatively higher in urban slums and rural areas (Manish Singh et al). About one-third of India's urban population resides in slums and squatters and this is expected to rise (Madhu K et al 2009). Urban health care indicators are better than rural areas but these numbers disregard the differences between urban rich and poor slum dwellers (ManjuRahi et al 2006). The government of India has an elaborate and variably functioning healthcare delivery system in the rural areas. Urban slum areas lack such healthcare systems. Urban slums were compared to surrounding rural areas for aspects related to newborn care and care seeking. Such comparisons will put in context the poor status of newborn health and health seeking in slums of even smaller cities and give direction to policy

*Corresponding author: Ipsa Mohapatra

Department of Community Medicine, Kalinga Institute of Medical Sciences, Bhubaneswar, India

making in the future. The urban slums contribute significantly to the overall neonatal mortality rate. There is no access to basic infrastructure or public services for urban slum dwellers. There is insufficient investment in Health for this segment and hence a serious public health problem and challenge is being faced

Appropriate newborn care practices by mother, her family members and also by health care providers can play a major role in preventing neonatal deaths. 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, which are context specific (Agarwal S et al 2007). With this background the present study was proposed to assess the various newborn care practices, with the following objectives:

1. To study the newborn care practices among mothers who delivered within last 6 months.
2. To assess the knowledge of mothers regarding newborn care
3. To find differences between newborn care practices between the slum and non-slum population if any

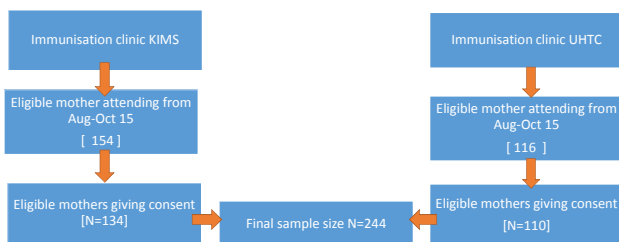
MATERIALS AND METHODS

A cross-sectional study was conducted among mothers with infants aged one to 6 months attending the immunization clinic of Urban Health & Training Centre [UHTC], and immunization clinic, Kalinga Institute of Medical Sciences [KIMS], Bhubaneswar from August 2015 to October 2015. The UHTC serves a total population of 12,152 over 5 slums, located at NiladriVihar, Bhubaneswar and is the field practice area of Department of Community Medicine, KIMS. The Immunisation Clinic of KIMS is attached to the tertiary care hospital and medical college, Kalinga Institute of Medical Sciences & Pradyumna Bal Memorial Hospital, Bhubaneswar. Study period: August 2015 to October 2015.

Study population: Post natal woman with infants aged one to 6months. The 6-month limit was set with the intention of mitigating recall bias by the mother.

Sample Size: All mothers with infants aged one to 6 months of age, satisfying our inclusion criteria and giving consent, during the study period (August-October 2015); attending immunization clinic at UHTC & KIMS.

Sample size:



Sampling Technique: consecutive sampling

Inclusion criteria

1. All post natal women who delivered within last 6 months attending immunization clinic.

2. With infants aged one to six months
3. Those mothers who were willing to participate in the study.

Exclusion criteria

1. Mentally ill or severely ill mothers.
2. Mothers attending immunization clinic who were already included in the study.

Study tool: Semi-structured, predesigned, pretested questionnaire containing,

1. Socio demographic details
2. Birth history, place, mode of delivery
3. Awareness about care of new-born
4. Breast feeding practices
5. Cord care practices
6. Thermal care practices

Data Collection: After written informed consent was from eligible mothers, face-to-face interviews using a pretested structured questionnaire were conducted. Data collected included maternal socio-demographic characteristics, knowledge of women about newborn danger signs, and experience of respondents in caring for their babies during the first one month of life.

Dependent and Independent Variables: The main outcome measures were good essential newborn practices, for which the three composite outcome variables were: (i) safe cord care (ii) optimal thermal care and (iii) good neonatal feeding practices. These composite variables were then dichotomized to Yes (all practices present) or No (one or more practices missing).

The independent variables were socio-demographic factors including maternal age, educational status, religion, marital status, and occupation of mothers, maternal knowledge on newborn care practices.

Data Analysis: Descriptive and inferential statistics were performed using frequency distributions. Chi square test was used for testing the significance of association between socio-demographic parameters and newborn care practices, at p value of 0.05.

Ethical Considerations: Ethical clearance was obtained from the Institutional Ethics Committee, KIMS & PBM Hospital, prior to the start of the study. Written informed consent was obtained from the study participants before obtaining any information from them. Utmost care was taken to maintain privacy and confidentiality.

Operational Definitions

Neonatal Period: First 28 days of life. ^[1]

Newborn: Infant up to 28 days of life. ^[1]

Predominant BF: Requires that the infant receives: Breast milk as the predominant source of nourishment
Allows the infant to receive: liquids (water and water-based drinks, fruit juice, ORS), ritual fluids and drops/syrups (vitamins, minerals, medicines)
Does not allow the infant to receive: anything else (in particular, animal milk, food based fluids) ^[1]

Partial BF Requires that the infant receives: Breast milk as the predominant source of nourishment.

Allows the infant to receive: liquids (water, and water-based drinks, fruit juice, ORS), ritual fluids, drops/syrups (vitamins, minerals, medicines) and animal milk Does not allow the infant to receive: anything else (in particular, semi-solid or solid foods).^[1]

Exclusive BF Requires that the infant receives: Breast milk Allows the infant to receive: drops/syrups (vitamins, minerals, medicines)

Does not allow the infant to receive: anything else.^[1]

Clean Delivery: Delivery attended by a trained birth attendant observing principles of cleanliness (clean hands, clean surface, clean blade, clean cord tie and clean cord stump)^[1]

Safe cord care: defined as use of a clean cutting instrument to cut the umbilical cord, clean thread to tie the cord and no substance applied to the cord stump

Optimal thermal care: defined as baby wrapped within ten minutes of birth, baby being dried/wiped immediately after birth and first bath after 24 or more hours

Good neonatal feeding practices: defined as initiating breastfeeding within the first one hour after birth, giving no prelacteal and feeding the child with colostrums

RESULTS

A majority (51.7% slum and 64.93% non-slum) of the mothers were in the age group of 20-24 years [Table 1]; with a mean age of 23.20± 2.64 years in slum and 23.45± 2.34 years in non-slum. Majority of the mothers were literate [Fig 1]. 72.23% of the slum population were housewives, while 52.99% of non-slum mothers were working. Majority of the slum population belonged to nuclear family. Among non-slum respondents, 58.96% belonged to upper, 35.07% upper-middle and 5.97% to lower-middle modified kuppuswami socio-economic class; while, 69.09% of slum respondents belonged to lower class.

Table 1 Socio-Demographic Characteristics of Respondents

Socio-demographic variables	Urban slum (%) N=110	Urban non-slum (%) N=134
Mother's age		
≤19 years	8 (7.27)	22 (16.42)
20-24 years	55 (50.00)	87 (64.93)
25-29 years	43 (39.09)	17 (12.69)
≥30 years	4(3.64)	8 (5.96)
Religion		
Hindu	98 (89.09)	134 (100)
Muslim	9 (8.18)	-
Christian	3 (2.73)	-
Others	-	-
Literacy status		
Illiterate	22 (20)	6 (4.48)
Literate	88 (80)	128 (95.52)
Occupational status		
Housewife	80 (72.73)	63 (47.01)
Working	30 (27.27)	71 (52.99)
Type of family		
Nuclear	81 (73.64)	59 (44.03)
Joint	29 (26.36)	75 (55.97)

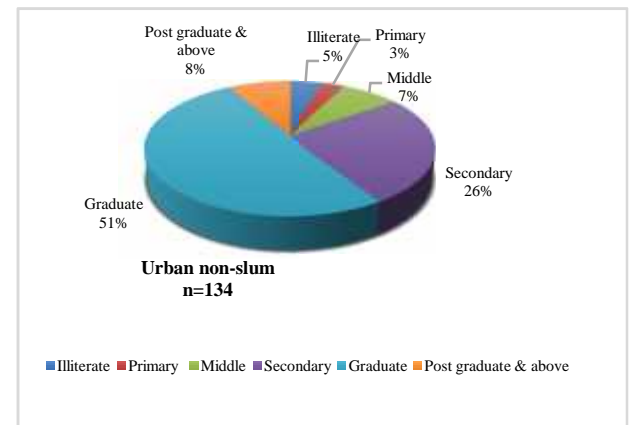
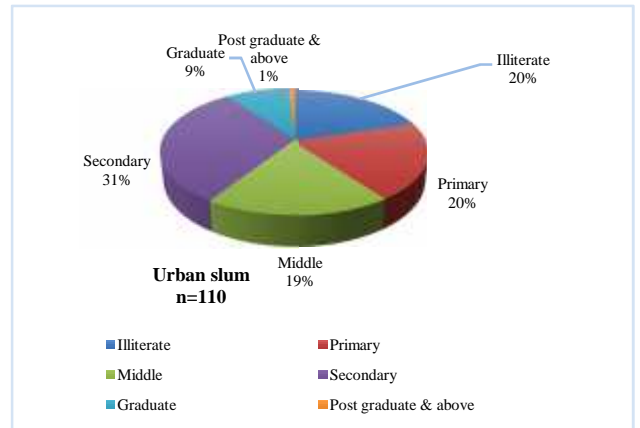


Fig 1 Literacy status of the respondents

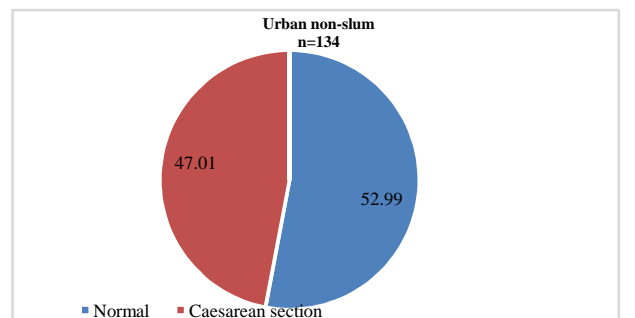
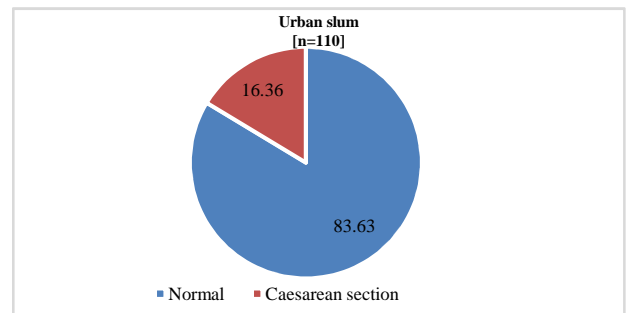


Fig 2 Distribution of study participants according to mode of delivery

Majority of the urban slum 101(91.8%) and urban non-slum 128(95.5%) mothers had an institutional delivery and it was also found to be highly significant statistical. The normal mode of delivery was higher in non-slum as opposed to slum population (fig 2), which was also found to be statistically significant.

Table 2 Knowledge of mothers on breast feeding practices

Factors	Urban slum (% of correct responses) N=110	Urban non slum (% of correct responses) N=134	p-value
Knowledge of exclusive breastfeeding	107(97.27)	127(94.78)	0.51
Adequacy of breast feeding	107(97.27)	88(65.67)	<0.0001
Knowledge about demand feed	49(44.55)	81(60.45)	0.0189
Knowledge on expressed breast milk	57(51.82)	67(50.0)	0.887
Know benefits of breastfeeding			
a) To baby	82(74.55)	115(85.82)	0.039
b) To mother	27(24.55)	38(25.37)	0.596
Ideal position for breastfeeding	26(23.64)	34(25.37)	0.862
Hand washing before breastfeeding	78(70.91)	129(96.27)	<0.0001

Table 2 shows the comparison between the knowledge of mother on breast feeding practices. The knowledge between “adequacy of breast feeding”, the “benefit of breast feeding for the baby” and “hand washing before breast feeding” were found to have statistically significant difference between two groups.

107(97.27%) study participants knew “adequacy of breast feeding” in slum area while 88(67.67%) in non-slum area and it is found to be highly statistically significant ($P<0.0001$). 49(44.5%) in slum and 81(60.45%) in non-slum have knowledge about breastfeeding and it was also found to be statistically significant ($p=0.0189$). Regarding hand washing before breastfeeding 78(70.9%) of the urban slum mothers have the knowledge and 129(96.27%) in non-slum mothers have the knowledge and it is found to be statistically significant ($P<0.0001$).

Table 3 Distribution of study participants according to newborn care practices

Breast feeding practices	Urban slum (%) N=110	Urban non slum (%) N=134	
Prelacteal feeds given			
Yes	22 (20.00)	23 (17.16)	$X^2=0.16$
No	88 (80.00)	111 (82.84)	$P=0.689$
Colostrum given			
Yes	102(92.73)	117 (87.31)	$X^2=138$
No	8(7.27)	17(12.69)	$P=0.240$
Initiation of breast feeding after delivery			
½ to 1 hour	56(50.90)	83(61.94)	$X^2=$ $P=0.314$
1-4 hours	24(21.82)	51(38.06)	
4-24 hours	25(22.73)	-	
> 24 hours	05(4.55)	-	
Demand feeding practices			
Yes	79 (71.82)	83(61.94)	$X^2= 2.22$
No	31 (28.18)	51 (36.06)	$P= 0.136$
Exclusive breast feeding practiced			
Yes	67 (60.91)	91 (67.91)	$X^2=1.01$
No	43 (30.09)	43 (32.09)	$P=0.314$
Cord care			
Yes	101(91.8)	103(76.87)	$X^2=8.77$
No	9(8.2)	31(23.13)	$P=0.003$
Bathing after 24 hours of birth			
Yes	92(83.63)	71(52.99)	$X^2=24.23$
No	18(16.37)	63(47.01)	$P<0.0001$

Table 3 shows the distribution of new born care practices (cord care, breastfeeding and bathing). Majority of the slum (80%)

and non-slum (82.24%) mothers had the good practice of not giving prelacteal feeds. Among those giving prelacteals, reasons cited were that “these acted as bowel cleansers”, “helped in quenching the thirst of the baby”, etc. Type of prelacteals fed were jaggery water, misri water, honey, boiled water, “traditional ghutti”. As high as 92.73% of the slum where as 87.31% of non-slum mother had given colostrum as first feed. In the present study 50.9% of slum and 62.94% of non-slum mothers initiated breast feeding within an hour of birth. The commonest reason for delayed breast feeding initiation was either due to mother-in-law or an elder’s advice (22.73% in slum and 20% in non-slum mothers). 5 mothers from the slum also stated that “first milk is harmful as its gets accumulated in the stomach of the baby”, for delayed breast feeding initiation beyond 48 hours.

Cord care practices of mothers were in accordance with accepted standards. Mothers who knew about newborn care practices were more likely to use sterilized equipment for cord cutting, clean cord tying and applying nothing or using antiseptic for cord stump dressing than those who do not know about it. Newborns, in almost all cases were bathed after 24 hours of delivery. Bathing after 24 hours of birth was common in institutional deliveries than home deliveries.

DISCUSSION

Benefits of good newborn care practices have been stressed all over the world by various health organisations. The present study was carried out to compare urban slum and non-slum areas to know whether there are any differences and also to know whether various socio-demographic factors influence these practices. In our study, most(51.7% of slum and 64.93% of non-slum) of the respondents were in the age group of 20-24 years, similar results were seen in studies done by [Sujatha P et al](#) and [Poreddi et al](#).^[6, 7] In another study done by Madhu K et al the majority of the mothers were between the ages of 21 and 25 years old (60%) and 15-20 years old (30%)^[3]

In our study most (89.09% of slum and 100% of non-slum) of the respondents were Hindus, which was similar to studies done by [Sujatha et al](#) and [Poreddi et al](#)^[6, 7]. Most of the study participants were literate in our study; similar results have been seen in studies by [Sujatha et al](#) and [Poreddi et al](#)^[6, 7]. In a study done by Madhu K et al 52% of the mothers were illiterate and belonged to a low to medium socio-economic class (55%).^[3] About 20% in slum, whereas only 4.48% of non-slum mothers were illiterate. The majority of slum mothers were housewives (72.22%); while 52.99% of non-slum mothers were working. In a study done by [Madhu K et al](#) majority of the mothers were housewives (69%) and mothers who were employed were 22%.^[3]

97.2% of slum and 94.78% of non-slum mothers had knowledge about exclusive breast feeding in the present study; whereas there was lesser level (27%) of knowledge of EBF in another study.^[6] The slum population showing higher awareness is a welcome sign and marks the efforts put in by the government in creating awareness.

Most of the mothers initiated breastfeeding within an hour (50.90% in slum & 61.94% in non-slum). Similar results were seen in a study by [Poreddi et al](#)^[6] where 36.9% of mothers

initiated breastfeeding within an hour. In a study done by Madhu K *et al* a total of 44% of the mothers initiated breastfeeding within 30 minutes in home deliveries and 38% in Caesarean sections. [3] Among those who did not initiate breast feeding early, majority (22.73% in slum & 20% in non-slum) said they did so due to advice from the mother-in-law and other elderly members present in the family. In a study done by Madhu K *et al* most of the mothers initiated breastfeeding (97%) and the other 3% were not able to initiate due to separation from mother (2%) or due to advice from the mother-in-law (1%). [3] These findings throw light on the age old cultural practices still prevalent in our society.

A total of 4.55% of the slum mothers in our study didn't breastfeed even after 24 hours after the delivery. In a study done by Madhu K *et al* 19% of the mothers didn't breastfeed even after 24 hours after the delivery. [3] They were given pre lacteal feeds (20% in slum & 17.16% in non-slum) and colostrum was discarded (7.27% in slum & 12.69% in non-slum). Discarding colostrums was again due to advice of elder's. Hence it is advisable to provide health education not only to expectant mothers but also the elders present in the family. Majority of mothers were not aware about that pre-lacteal feeds should not be given, both in urban slum (80%) and non-slum (82.84%) in the present study. Similar findings found in a study by Sujata *et al* [7], where (79%) mothers were unaware that pre-lacteal feed should not be given. In a study done by Madhu K *et al* 13% of the babies were fed with sugar water alone for more than 48 hours. Honey (6%) and ghee (3%) were also commonly used pre lacteal feeds. [3] The current study showed almost same proportion who gave pre-lacteals. Probably, the traditional cultural practices prevailing in these areas may be the reason for this.

The present study highlights that most of the deliveries in urban slum (91.8%) and urban non slum (95.5%) were institutional deliveries and home deliveries were not common because maternity services are relatively easily accessible in these areas. Similar findings were found by Chandrasekhar *et al*. [2] In a study by Madhu K *et al* 90% of the deliveries were hospital deliveries and 10% were home deliveries. [3] The proportion of home deliveries is similar to that reported from earlier studies in Kathmandu and its surrounding areas. These studies reported that the proportion of home deliveries increased, the further one gets from urban areas. [6, 7]

Limitations: There are some limitations to the findings of the study. Our study design being cross-sectional, the strength of causality is weak and limits our ability to draw any causal relationships. Secondly, we included only those deliveries that took place within last six months of the study to avoid recall bias, however, some amount of recall bias cannot be completely ruled out. Lastly, interviews of mothers of infants (<6 months) were taken. Hence, there is some bias as those babies who died (non-survivors) what were the practices of their mothers if taken could have give the real picture of the community under study.

Despite these limitations, our results have thrown light on the prevailing cultural practices which was prevailing in both the segments- slum & non-slum- leading to the lapses for the ultimately desired level of newborn care.

CONCLUSION

Present study revealed that various inappropriate newborn care practices which are still prevalent in both urban slum and non-slum areas; though urban mothers had more favourable practices compared to slum mothers. Elders' advice played an important role in shaping the practices. Traditions, reinforced by elders' advice prevented practices of optimal behaviours especially like early initiation of breast feeding, not giving pre-lacteals and bathing the baby within 24 hours of birth. Collective dialogue with them on ways of avoiding these traditions needs to be discussed such that optimal behaviours are also practiced and their traditions are given due respect.

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