

Demand, Awareness and Implementation Gap of Home Based Newborn Care in Rural Area of Meerut, UP

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Abstract : The Home Based Newborn Care (HBNC) Scheme has been under implementation across the country since the year 2011, as one of the key components of the Newborn Care continuum. In Uttar Pradesh this programme is running for last 7 years. The present study was a community based cross sectional study which was carried out in the rural area of Meerut district of UP with the help of WHO standardized 30 cluster sampling technique. The sample size was 210 children between age group 6 weeks – 14 weeks of age and all available ASHA. Majority of the mothers had knowledge about the danger signs of fever (86.7%) and fast breathing (78.6%) followed by not taking feed (6.7%), chest indrawing (4.8%), hypothermia (3.8%), bleeding/oozing stump (3.8%), convulsion and jaundice (2.4%). None of the mothers have knowledge about pustules, grunting and flaring of nostrils. majority of the ASHAs had knowledge about the danger signs of bleeding/oozing stump (90.9%) and fever (59.7%) while knowledge was not satisfactory for other danger signs of chest indrawing, not taking feed, fast breathing, lethargy/unconsciousness, jaundice, pustule, flaring of nostrils and grunting. 79.5% institutional deliveries still none of the mothers were aware about the HBNC provision for home visits and majority (88.1%) of the newborns got appropriate home visits while 11.9% had received inappropriate or lesser number of home visits. None of the mothers were aware about the HBNC provision for home visits. Majority of ASHA (98.7%) had HBNC home visit form, 93.5% have functional and balanced weighing scale with sling, 92.2% have digital thermometer and 93.5% have blankets. All ASHAs were not found with complete drug kit.

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I. Introduction

Home Based Newborn Care is considered to be one of the important intervention to decrease Neonatal Mortality which is the part of SDG. In Uttar Pradesh this programme is running for last 7 years. The Home Based Newborn Care (HBNC) Scheme has been under implementation across the country since the year 2011, as one of the key components of the Newborn Care continuum.¹ In Uttar Pradesh this programme is running for last 7 years. The Government of India introduced HBNC package – to be delivered by ASHA – that include five or six home visits i.e on 1st, 3rd, 7th, 14, 21st, 28 and 42nd day, after birth for children born at health facilities or at home respectively. Postnatal care of baby is an important opportunity to check for danger signs such as insufficient feeding, fast breathing, severe chest indrawing, lethargy, fever, low body temperature, or jaundice.² Still no study has been conducted to find out awareness and demand side gaps in mothers as well as implementation of HBNC in rural area of Western U.P

Aims and Objectives:

- To find out level of awareness of mothers as well as of ASHA regarding Home Based Newborn Care among recently delivered mothers.
- To assess the implementation of Home Based Newborn Care programme.

II. Materials and Methods

Study area: 30 cluster villages from Rural Meerut

Study population: Mothers of children aged 6 weeks to 14 weeks in a 30 CLUSTERS and ASHAs from these clusters.

Study design: Community -based cross sectional study.

Study period: April 2018 to August 2018.

Study sample: According to NFHS 4 (2015-16)³, the prevalence of exclusive breast feeding is found to be 43.1% and 55.9% in rural Uttar Pradesh and rural India respectively. Therefore, by taking the prevalence of

around 50% at 95% confidence limit with absolute precision of 10% and a design effect of 2 sample size came out to be 192. To make the uniformity in all clusters of 7 children from each of the 30 villages a total of 210 children were studied from the population.

Amongst all, available ASHA in 30 cluster were taken .

Methodology: 30x7 Cluster sampling

Inclusion criteria: Mothers of children between the age group of 6-14 weeks of age residing in the area for 6 months or more.

All available ASHAs of the selected villages.

Exclusion criteria: Mother / caregivers not consented for the study.Mother/caregiver not available at the time of visit

Study tool: Pre-designed and Pre-tested questionnaires.

Statistical analysis: Epi – info software, 3.7.2

Ethical Approval: From the ethical committee of the LLRM, Medical College, Meerut

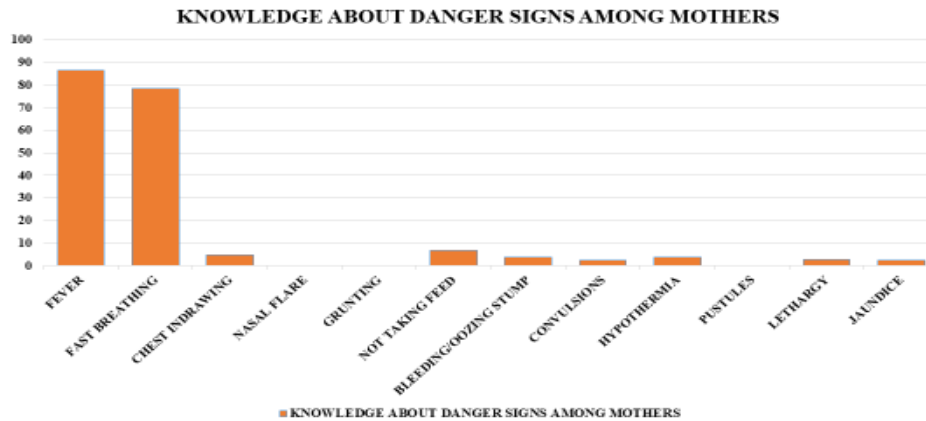
1) SELECTION OF CLUSTERS:

1. Block wise and village wise population was obtained for rural population of Meerut from census 2011.
2. All the villages were listed along with their population and cumulative population was calculated for each village.
3. Sampling interval was calculated by dividing total cumulative population by 30.
$$S.I = \frac{\text{Total cumulative population}}{30}$$
4. First random number less than sampling interval was chosen using a currency note which gave the name of first cluster village by looking at the cumulative population.
5. Similarly, all the 30 cluster villages were found out by adding sampling interval to the first random number and so on.
$$C_2 = \text{random number} + \text{sampling interval}$$
$$C_3 = C_2 + \text{sampling interval}$$
 and so on.
6. As MCTS recent and updated data was not available , so I went to centre of each village and sharpened pencil was thrown in air and tip facing direction was chosen and then I went to the farthest corner of village in that direction and while coming back two children between 6-14 weeks of age were studied and similar exercise was done in all directions of village. All available ASHAs from the village area were interviewed with the help of pre designed pretested questionnaire.

III. Results

The present community based cross sectional study was conducted in rural areas of Meerut among mothers of children between the age group of 6-14 weeks of age residing in the area for 6 months or more and all available ASHAs of the selected villages with the objective to find out level of awareness of mothers as well as of ASHA regarding Home Based Newborn Care among recently delivered mothers and to assess the implementation of Home Based Newborn Care programme. Out of 210 mothers , religion wise, majority (65.2%) of mothers were Hindu followed by Muslim (34.3%) and only one mother was related to other religion, while caste wise it was found that 30% of mothers belonged to general category , 42.9% belonged to other backward class (OBC) and 27.1% belonged to schedule caste/schedule tribes. In 63.8% belonged to nuclear family and about 36.2% belonged to joint family. Maximum no. of the mothers belonged to the socioeconomic class IV (lower middle) (41.4%) and class V(lower) (34.8%) followed by class III (middle) (21.9%), II (upper middle) (1.4%) and I (upper) (0.50%). The proportion of newborn was 46.7% in 6 weeks – 10 weeks of age and 53.3% in 10 weeks – 14 weeks of age. The Proportion of male newborn was 55.7% and the female newborns were being 44.3%. Regarding birth order , 33.8% of the newborns were first born followed by second order (30.00%), third order (19.1%) and 17.1% were fourth order and above.

Fig-1 Awareness of Mothers Regarding Danger



Signs

Fig-1 shows majority of the mothers had knowledge about the danger signs of fever (86.7%) and fast breathing (78.6%) followed by not taking feed (6.7%), chest indrawing (4.8%), hypothermia (3.8%), bleeding/oozing stump (3.8%), convulsion and jaundice (2.4%). None of the mothers have knowledge about pustules , grunting and flaring of nostrils.

Fig-2 Awareness of ASHAs Regarding Danger Signs

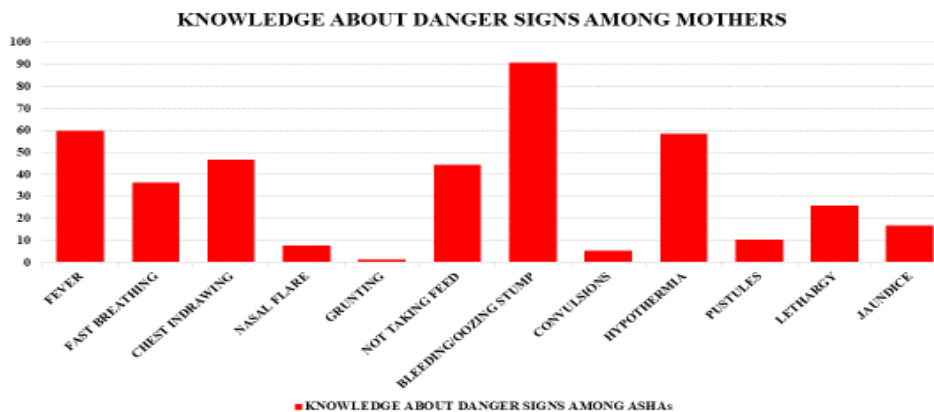


Fig – 2 shows that majority of the ASHAs had knowledge about the danger signs of bleeding/oozing stump (90.9%) and fever (59.7%) followed by chest indrawing (58.4%), not taking feed (44.2%), fast breathing (36.4%), lethargy/unconsciousness (26.0%), jaundice (16.9%), pustules (10.4%), flaring of nostrils (7.8%) and grunting (1.3%).

AWARENESS OF ASHA REGARDING COMPONENTS OF HBNC

During the home visits , 61.9% of the mothers and 65.2% of the newborns were examined. In 85.2% of newborns , temperature and weight was measured but only 79.2% had knowledge about the normal temp. of a newborn, (53.3%) knew that in fever the temp is above 97.7°F and 45.5% had knowledge that in hypothermia the temp goes below 97.7°F. All ASHAs had knowledge about the cut off weight for LBW. 67.5% of ASHAs know correctly about no. of visits in case of low birth weight baby.

Table 1: Status of logistics availability with ASHA for HBNC visit

Characteristic	Number (n=77)	Percentage (%)
HBNC home visit form		
Yes	76	98.7
No	1	1.3
HBNC kit (complete)		
Yes	0	0
No	77	100
Functional and balanced weighing scale with sling		
Yes	72	93.5
No	5	6.5
Digital thermometer		
Yes	71	92.2
No	6	7.8
Blanket		
Yes	72	93.5
No	5	6.5
Drug kit		
Yes	9	11.7
No	68	88.3
Gentian violet paint		
Yes	0	0
No	77	100
Syrup Paracetamol		
Yes	11	14.3
No	66	85.7
Syrup Amoxicillin		
Yes	1	1.3
No	76	98.7
Consumables		
Yes	46	59.7
No	31	40.3
Soap with case		
57.1	44	
42.9	33	
Total	77	100.0

Majority of ASHA (98.7%) had HBNC home visit form, 93.5% have functional and balanced weighing scale with sling, 92.2% have digital thermometer and 93.5% have blankets. All ASHAs were not found with complete drug kit. Only 11.3% of ASHAs have syrup paracetamol and 1.3% have syrup amoxicillin in their drug kit. 59.7% of ASHAs have consumables and 57.1% have soap with case as shown in table no.1.

IMPLEMENTATION OF HBNC

Fig – 3 Type Of Delivery
TYPE OF DELIVERY

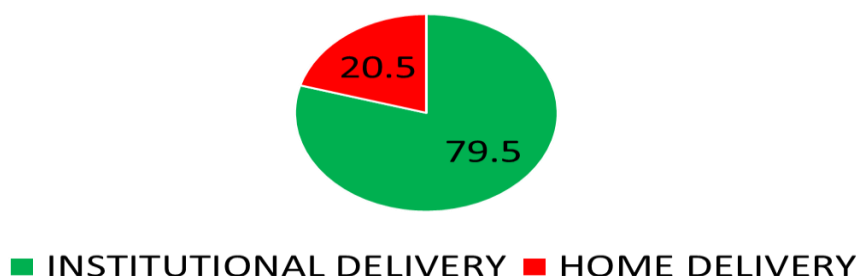


Table 2: Distribution according to home visits by ASHA in the post natal period under HBNC

Characteristics	Number (n=210)	Percentage (%)
Home visit to the newborn		
Complete	185	88.1
Incomplete	25	11.9
Mother's awareness about HBNC programme		
No	210	100
Complete examination of mother		
Yes	130	61.9
No	80	38.1
Complete Examination of newborn		
Yes	137	65.2
No	73	34.8
Weighing of newborn		
Yes	179	85.2
No	31	14.8
Temperature measurement of newborn		
Yes	179	85.2
No	31	14.8
ASHA washed her hands with soap and water before examining the baby		
Yes	202	96.2
No	8	3.8
Total	210	100.0

As shown in fig- 3 though there are 79.5% institutional deliveries still none of the mothers were aware about the HBNC provision for home visits and majority (88.1%) of the newborns got appropriate home visits while 11.9% had received inappropriate or lesser number of home visits. None of the mothers were aware about the HBNC provision for home visits. During the home visits , 61.9% of the mothers and 65.2% of the newborns were examined. In 85.2% of newborns , temperature and weight was measured. Almost all the ASHA washed her hands with soap and water before examining the baby as shown in above table 2.

IV. Discussion

In the present study, 86.7% of the mothers had knowledge about the danger signs of fever and fast breathing (78.6%) followed by not taking feed (6.7%), chest indrawing (4.8%), hypothermia (3.8%), bleeding/oozing stump (3.8%), convulsion and jaundice (2.4%). None of the mothers have knowledge about pustules , grunting and flaring of nostrils. Out of the total (15.2%) had a history of serious illness. During the illness the person consulted were Doctor (53.1%), ASHA (25%) and Others (21.9%). The place of treatment

was private health facility (37.5%), government health facility (25%) quack (21.9%) and home (15.6%). Most of them used private vehicle (85.2%) and remaining (14.8%) used ambulance service as their means of transportation to the health facility while **Misgna H G et al (2016)**⁴ in their study showed that 50% of the study participants have knowledge of only 3 or less danger signs which is less compared to present study. **Saaka M et al (2014)**⁵ in their study showed that 77.2% of respondents were aware of one of the three danger signs but 20.3% repressing less than a quarter of the women were aware of at least four danger signs while only 2.5% of the mother were not aware of the danger signs in the newborn. **Rama R et al (2014)**⁶ in their study stated that fever, respiratory illness and diarrhoeal diseases were the commonly occurring newborn illness. Nearly 91% of the participants perceived that fever was an important illness of the newborn followed by respiratory and diarrhoeal diseases. Only 33% of the participants had average knowledge regarding important newborn illness. **Samina A et al (2013)**⁷ in their study noted knowledge of danger was seen in 62.16% mothers. **Gupta et al (2017)**⁸ also reported that the ,most common danger sign /symptoms was fever followed by fast breathing and chest indrawing which is similar to the present study.

In the present study, all the ASHAs were aware about the schedule of home visit similar to **Gupta et al (2017)**⁸, 97.4% ASHAs know correctly about number of home visit in case home delivery and 98.7% about institutional delivery. Regarding breast feeding, (83.1%) were aware that breast feeding should be initiated within one hour of delivery which is higher than finding of **Gupta et al (2017)**⁸(60.4%). All ASHAs knew that colostrums should be given to the newborn and also that exclusive breast feeding should be done for 6 months similar to findings of **Gupta et al (2017)**⁸. (39.0%) said that breastfeeding should be done on demand. Out of the total ,(79.2%) had knowledge about the normal temperature of a newborn, (53.3%) knew that in fever the temperature is above 97.7°F and (45.5%) had knowledge that in hypothermia the temperature goes below 97.7°F. The present study has findings comparable to **Gupta et al (2017)**⁸ who reported that 72.9% ASHAs reported about proper information about normal temperature and only 64.6% know about hypothermia (<97.7°F). All of them knew about normal and low birth weight. All ASHAs had knowledge about the cut off weight for low birth weight. 67.5% of ASHAs know correctly about no. of visits in case of low birth weight baby. Majority of the ASHAs had knowledge about the danger signs of bleeding/oozing stump (90.9%) and fever (59.7%) followed by chest indrawing (58.4%), not taking feed (44.2%), fast breathing (36.4%), lethargy/unconsciousness (26.0%), jaundice (16.9%), pustules (10.4%), flaring of nostrils (7.8%) and grunting (1.3%). 98.7% of ASHAs refer the newborn to government health facility in case of presence of danger signs. **Grover et al (2017)**⁹ in their study showed that ASHAs assessed temperature, color and breath rate of baby correctly in nearly 73% of babies, whereas the signs of local illness and activity of baby was assessed correctly in 45% and 43% of babies respectively. Nearly, 72%, 91% and 61% mothers were asked about initiation of breast feeding, immunization and passage of urine and stools respectively. More than 90% mothers were counselled regarding exclusive breast feeding and keeping the baby warm and more than 70% mothers were counselled regarding hand washing and immunization. Regarding care of cord and danger signs in newborn only half (50%) of the mothers were counselled, whereas, only 48% mothers were counselled regarding care of eyes. **Bansal S C et al (2016)**¹⁰ in their study found that the skills were satisfactory in 52%,31%,43%,and 68% of ASHA workers for temperature measurement, hand washing, weight measurement and skin to skin care ,respectively. Large variability was observed in self- reported and field performance of ASHA workers. **Prakash B et al (2015)**¹¹ in their study showed that 94.9% had a knowledge about diarrhoea, few 38.8% had knowledge on neonatal care, 176 (81.5%) had a good knowledge on their roles and responsibilities as an ASHA worker. **Deka M et al (2014)**¹² in their study showed that only 40% of ASHAs had good practice regarding hypothermia and procedure of warmth the baby after delivery. Only 40% and 54.3% provide good knowledge towards interval of breast feeding respectively. Only 34.3% had good knowledge and practices on newborn that had birth weight of <2.5kg. only 46.4% had good knowledge about pneumonia as a danger sign. Only 25.7% and 32.9% of the ASHAs provide good eye and fever care respectively. **Sinha L N et al (2013)**¹³ in their study showed that although 90 % of the ASHAs interviewed knew the importance of most of the safe practices, the lessor known and advocated safe practices were delayed bathing by 52(85.2%) ASHAs, kangaroo care method by 44(72%), hand washing with soap and water before handling newborn by 41(67%) and safe eye care by 24 (39%) of the ASHAs. Only 30 % of the mothers reported ASHAs visits on day one of the birth among (home deliveries) and 15 % of the mothers recalled all seven visits by an ASHA. On direct observation of 19 ASHAs , only 32% washed their hands before handling the baby, 37% mentioned danger signs. There was a significant increasing trend of unsafe newborn care practices with regards to early breastfeeding and kangaroo care

In the present study, 98.7% of ASHA had HBNC home visit form, 93.5% have functional and balanced weighing scale with sling which is similar to compare to **Grover et al (2017)**⁹(96.7%). 92.2% have digital thermometer and 93.5% have blankets. All ASHAs did not have complete drug kit. Only 11.3% of ASHAs have syrup paracetamol and 1.3% have syrup amoxicillin in their drug kit. 59.7% of ASHAs have consumables and 57.2% have soap with case. **Grover et al (2017)**⁹ in their study showed that two third (63.3%) of ASHA workers were carrying thermometer and one fourth of ASHA workers were carrying flip chart. weight was

assessed correctly in more than 85% of babies.

V. Conclusion and Recommendation

The present cross sectional study entitled — Evaluation of Home Based Newborn Care in Rural Area of Meerut, UP to study the status of home based newborn care and knowledge and skills of Accredited Social Health Activist (ASHA) and mothers regarding Home Based Newborn Care. The following recommendations are forwarded based on the findings of the study:

- As far as danger signs in neonatal period are concerned the awareness amongst mother were very low so there is a absolutely greater need to emphasize and reemphasize the importance of danger signs in the neonatal period and mothers should be counselled and must be made aware of these signs in antenatal and postnatal period so that the timely referral be made and neonatal mortality can be averted.
- Despite recommendation of duration of stay after normal delivery as well as caesarean section of more than 48 hours and 5 days respectively but the stay in hospital was not as followed, so there is a greater need to sensitize paramedical and doctors working in health facilities regarding Home Based Newborn Care and its recommendations.
- The complete home visits were done by 88% ASHA but neither complete examination of mother nor newborn care was done. This problem can be solved only by doing random supportive supervision at household level so overall system should be strengthen right from the level of Medical Officer to Additional Director level and this should be reviewed in the annual review meeting of HBNC programme at Lucknow.
- Since none of the ASHA have complete HBNC kit necessary action and efforts should be taken regarding availability of all logistics provided to ASHAs for HBNC care this should be reviewed at monthly meeting at district as well as comissionary level.
- As awareness regarding HBNC was very low in mothers so there is a greater need to provide more budget for the use of mass media and other methods of IEC regarding home based newborn care as any programme which is based on felt need of community is bound to be successful and HBNC is no exception.
- This will help in creation of demand which is very poor at present, so the demand gap must be fulfilled and this point must be brought into the attention of top brass of National Health Mission of U.P and subsequently at National level.
- The appraisal of ASHA's performance by scoring system and her evaluation by supportive supervision followed by random assessment at household level should be done from time to time to make this as strong impact on the work of ASHA , the incentives should be released according to their performance

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