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### Original Article

# Assessment of Home Based Newborn Care provided by ASHA worker in a Rural Block of Haryana

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**ABSTRACT: Objective:** The first month of life, the post-natal period, for the mother and the newborn is the most critical time in the life. Based on these facts Government of India took an initiative, Home Based Post Natal Care (HBPNPNC), to follow up post-natal mothers and newborns for first six weeks. The present study assessed the quality of home based newborn care (a component of home based post-natal care) provided by ASHA workers and various factors associated with it.

**Methods:** This cross-sectional study was conducted under Community Health Center, Dubaldhan in block Beri of Haryana. A total of 60 ASHA workers were visited and all the newborn under the supervision of each ASHA worker were included in the study. In this way 259 newborns were contacted. A scoring system was used to assess the quality of Home based newborn care given by ASHA worker

**Results:** Majority of ASHA workers were not able to record temperature and weight of the baby correctly. 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. Statistically significant association of quality of newborn care with education and training attended by ASHA Workers was seen.

**Conclusion:** Our study confirmed that most of the new born babies were not getting good quality of home based newborn care. Recent training attended by ASHA worker is highly associated with providing good quality newborn care to babies by ASHA workers.

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### INTRODUCTION

Over the last decade India has made considerable improvements in terms of health care. Significant steps have been taken to reduce maternal and child mortality but still India accounted for 19% (45,000 in numbers) of all global maternal deaths in 2015 [1]. Also, India contributed 1.2 million under-5 child deaths, a stunning 20% of the global burden [2].

Available data shows that among those who died before reaching 5 years of age, 75% died within their first year of birth [3] and of those who died within their first year, a majority lost their lives within the first one month of their life. The first month of life, the post-natal period, for the mother and the newborn is the most critical time in the life.

Based on these facts Government of India took an initiative, Home Based Post Natal Care (HBPNPNC), to follow up post-natal mothers and newborns for first six weeks.

All peripheral health care service providers (which include the Anganwari, the Auxiliary Nursing Midwife and the medical officers) are responsible for providing Home based Post Natal care. However, the main vehicle to provide this is Accredited Social Health Activist (ASHA) workers under National Health Mission (NHM) [4]. The key activities in HBPNPNC constitute birth planning and birth preparedness, care for post-natal mother and newborn through a series of home visits, counsel the couple to choose an appropriate family planning method, early identification of postpartum complications and danger signs in newborn and refer appropriately.

So, the present study was planned to assess the quality of home based newborn (a component of home based post-natal care) care provided by ASHA workers and various factors associated with it.

**MATERIAL AND METHODS**

This descriptive study was conducted in Community Health Center Dubaldhan in block Beri, District Jhajjar, Haryana, a rural field practice area attached to Department of Community Medicine, Pt. B. D. Sharma PGIMS, Rohtak. The duration of study was 1 year (September 2014 to August 2015) and data was collected using a predesigned, pretested semi-structured questionnaire as prescribed for supervisors under HBPNC guidelines. There were 120 ASHA workers posted under CHC Dubaldhan and every alternate ASHA worker was included in the study. A total of 60 ASHA workers were contacted and all the new born under the supervision of each ASHA worker were included in the study. So, 259 study subjects (newborn) were recruited in the study. A written informed consent was taken after explaining the purpose of the study from ASHA and then she was accompanied with investigator to contact the recruited subjects by home visit.

A written informed consent was also obtained from mothers and purpose of the study was explained. Those mothers who refused to give the consent were excluded from the study. After taking the consent, ASHA worker was asked to check new born baby as per her scheduled visit. The investigator himself observed her activities while she was assessing the subject and recorded the observations into the study tool.

For evaluating the quality of home based new born care, 20 activities by ASHA workers were considered. Each activity was given score 1 if done by ASHA and if not then it was given score 0. An average score was allotted to the respective ASHA worker based on evaluation of the quality of all new born care under her supervision. The range of score was 0-20. Those ASHA workers who got a score between 0-10 were given as poor-quality care;

score between 11-15 were given as average quality care and score between 15-20 considered as good quality of home based new born care.

Collected data were entered in the MS Excel spreadsheet, coded appropriately and analyzed using SPSS (Statistical Package for Social Studies) for Windows version 20.0.

**RESULTS**

**Socio demographic characteristics of ASHA Workers**

Table 1 shows that out of 60 ASHA workers, majority (40%) were in age group 36-40 years. Only 1.67% ASHA workers were in age group >46 years. Mean age of ASHA workers was 35.26± 5.99 years. Nearly, 55% of ASHA workers belonged to general caste and more than 95% ASHA workers were educated up to high school or above. 38 out of 60 (63.3%) of ASHA workers had not attended any training on HBPNC in the last one year.

The study also recorded the logistic carried by ASHA workers in working condition for home visit. Majority (96.7%) of ASHA workers were carrying weighing scale. Nearly, two third (63.3%) of ASHA workers were carrying thermometer and one fourth of ASHA workers were carrying flip chart.

**NEWBORN CARE**

Table 2 depicts that weight was assessed correctly in more than 85% of babies. Temperature, color and breath rate of baby was assessed 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.

**Table 1: Socio Demographic Profile of ASHA Workers (N=60)**

| Characteristics                        |                        | Frequency | Percentage (%) |
|--|------------------------|-----------|----------------|
| Age group                              | < 30                   | 21        | 35.0           |
|  | 31-35                  | 5         | 8.3            |
|  | 36-40                  | 24        | 40.0           |
|  | 41-45                  | 9         | 15.0           |
|  | > 46                   | 1         | 1.67           |
| Caste                                  | General caste          | 33        | 55.0           |
|  | Backward Caste         | 10        | 16.7           |
|  | Schedule caste/ tribes | 17        | 28.3           |
| Education                              | Middle School          | 3         | 5.0            |
|  | High School            | 39        | 65.0           |
|  | Senior secondary       | 17        | 28.3           |
|  | Graduate               | 1         | 1.67           |
|  | 6 months to 1 year     | 14        | 23.3           |
|  | >1 year                | 38        | 63.3           |
| Experience as ASHA worker              | <1 year                | 1         | 1.7            |
|  | 1 to 5 years           | 20        | 33.3           |
|  | > 5 years              | 39        | 65             |
| Last training attended                 | < 6 months             | 8         | 13.3           |
|  | 6 months to 1 year     | 14        | 23.3           |
|  | >1 year                | 38        | 63.3           |
| Logistics carried in working condition | Weighing scale         | 58        | 96.7           |
|  | Thermometer            | 38        | 63.3           |
|  | Flip chart             | 16        | 26.7           |

**Table 2: Home based New Born Care provided by ASHA workers. (n=259)**

| Assessment of baby by ASHA during visits              | Frequency | Percent |
|---|-----------|---------|
| Temperature of baby                                   | 189       | 73.0    |
| Activity of baby                                      | 112       | 43.2    |
| Color of baby   | 191       | 73.7    |
| Breath rate of baby                                   | 190       | 73.3    |
| Whether baby is well covered                          | 154       | 59.4    |
| Weight of baby  | 225       | 86.8    |
| Signs of local illness                                | 117       | 45.1    |
| <b>Asking mother about following</b>                  |           |         |
| Initiation of breast feeding within one hour of birth | 187       | 72.2    |
| Passage of urine and stools by the baby               | 160       | 61.7    |
| Baby's immunization with BCG & OPV?                   | 237       | 91.5    |
| Exclusive breastfeeding of the baby?                  | 210       | 81.1    |
| Any other problem?                                    | 42        | 16.2    |
| <b>Counselling mothers about following</b>            |           |         |
| Keeping the baby warm                                 | 235       | 90.7    |
| Exclusive breast feeding                              | 239       | 92.2    |
| Hand washing and hygiene                              | 189       | 72.9    |
| Care of cord  | 136       | 52.5    |
| Care of eyes  | 126       | 48.6    |
| Immunization  | 193       | 74.5    |
| Prevention of infection                               | 168       | 64.8    |
| Danger signs  | 137       | 52.8    |

**QUALITY OF NEWBORN CARE**

For assessing the quality of new born care given by ASHA worker, a scoring was adopted. Out of 60 ASHA workers, only

47% gave good quality of new born care, whereas, 22% and 30% were given poor quality and average quality of home based new born care respectively (Table 3).

**Table 3: Quality of Home based New Born Care given by ASHA workers**

| Score       | Quality of new born care | Frequency | PERCENTAGE |
|-------------|--------------------------|-----------|------------|
| Score 0-10  | Poor                     | 22        | 36.7       |
| Score 11-15 | Average                  | 21        | 35         |
| Score 16-20 | Good                     | 17        | 28.3       |

**ASSOCIATION BETWEEN QUALITY OF NEWBORN CARE AND SOCIODEMOGRAPHIC DETERMINANTS OF ASHA WORKERS**

Based on scoring, 29% of ASHA worker provided good quality of newborn care and only 22% provided good quality of newborn care in the age group of 41-45 years and 36-40 years respectively. But the association between age of ASHA worker with quality of new born care was found to be statistically insignificant. The study also revealed the association between the caste of ASHA worker with quality of newborn care was found insignificant.

A statistically significant association of quality of newborn care with education and training attended by ASHA Workers was seen. ASHA workers who were educated up to high school only 20% ASHA workers provided good quality newborn care, whereas, one of those who were educated up to senior secondary, 47% of them provided good quality newborn care.

Regarding the association between the training of ASHA worker in last 1 year and quality of newborn care came out to be highly significant (Table 4).

**DISCUSSION**

Under NHM, every ASHA worker should know correct assessment of body weight and temperature of newborn during her home visit because neonates are prone to hypothermia which is one of the important causes of neonate mortality. In the present study, mean age of ASHA workers was 35.26± 5.99 years and 63.3% of ASHA workers did not attend any training on HBPNC in the last one year. Majority (96.7%) of ASHA workers were carrying weighing scale. Only two third (63.3%) of ASHA workers were carrying thermometer and nearly one fourth of ASHA workers were carrying flip chart because flip chart is used for mother understanding about neonatal care. Sinha et al [6] reported that two third (74%) and 58% weighing machine and thermometer and none of them carried flip chart.

**Table 4: Association of quality of new born care with socio demographic variables of ASHA Workers (n=60)**

| Socio demographic variables   |                       | Poor     | Average  | Good     | Total   | p-value & $\chi^2$       |
|-------------------------------|-----------------------|----------|----------|----------|---------|--------------------------|
| <b>Age of ASHA</b>            | <30 years             | 8(38.1)  | 8(38.1)  | 5(23.8)  | 21(100) | 0.882<br>$\chi^2=3.709$  |
|                               | 31-35 years           | 1(20)    | 2(40)    | 2(40)    | 5(100)  |                          |
|                               | 36-40 years           | 9(37.5)  | 8(33.3)  | 7(29.2)  | 24(100) |                          |
|                               | 41-45 years           | 4(44.4)  | 3(33.3)  | 2(22.2)  | 9(100)  |                          |
|                               | >46 years             | 0(0)     | 0(0)     | 1(100)   | 1(100)  |                          |
| <b>Caste</b>                  | General               | 10(30.3) | 12(36.4) | 11(33.3) | 33(100) | 0.195<br>$\chi^2=6.057$  |
|                               | Backward caste        | 2(20)    | 4(40)    | 4(40)    | 10(100) |                          |
|                               | Schedule caste/tribes | 10(58.9) | 5(29.4)  | 2(11.7)  | 17(100) |                          |
| <b>Education</b>              | Middle School         | 2(66.7)  | 1(33.3)  | 0(0)     | 3(100)  | 0.007<br>$\chi^2=17.647$ |
|                               | High School           | 20(51.3) | 11(32.4) | 8(20.5)  | 39(100) |                          |
|                               | Senior secondary      | 0(0)     | 9(53.0)  | 8(47.0)  | 17(100) |                          |
|                               | Graduate              | 0(0)     | 0(0)     | 1(100)   | 1(100)  |                          |
| <b>Last training attended</b> | <6 months             | 0(0)     | 1(12.5)  | 7(87.5)  | 8(100)  | 0.001<br>$\chi^2=17.806$ |
|                               | 6 months to 1 year    | 4(28.6)  | 6(42.8)  | 4(28.6)  | 14(100) |                          |
|                               | >1 year               | 18(47.4) | 14(36.9) | 6(15.8)  | 38(100) |                          |

The weighing machine and thermometer are two most important equipment for early detection of morbidity thereby to prevent the neonatal mortality. The present study assessed that weight and temperature of the baby was recorded correctly by ASHA workers in more than 85% and 73% of babies respectively. Similar assessments were assessed by different studies in our country [5, 6, 7].

The study also assessed that 75% mothers and 92% mothers were counseled regarding immunization and exclusive breast feeding respectively by ASHA workers. Fathima *et al.*, [10] and Sinha *et al.*, [6] assessed that the 84% mothers and 95% mothers respectively were advised on immunization by ASHA workers, whereas, Bhaisare *et al.*, [5] revealed only 35% mothers and 37% mothers received advice regarding immunization and initiation of breastfeeding respectively from ASHA workers which was very low as compared to present study. This difference might be because Bhaisare *et al.*, [5] conducted the study in a tribal area of Maharashtra It is seen that if health functionaries imparts better knowledge of immunization to mothers that improve immunization coverage [8, 9].

In our study, ASHA worker gave advice regarding danger signs in newborn among 52% mothers, whereas, only 48% mothers and 50% mothers were counselled regarding care of eyes and care of cord respectively. Sinha *et al.*, [6] assessed that only 37% and 16% ASHAs gave advice on danger signs and care of eyes respectively to mothers. While 84% ASHAs advised about cord care to mothers. The ASHAs should advice to every mother during her first visit that how to take care of eye and cord of baby as these can be a cause of life threatening infection in newborn.

Based on scoring, 29% of ASHA worker provided good quality of newborn care and only 22% provided good quality of newborn care in the age group of 41-45 years and 36-40 years respectively.

But the association between age of ASHA worker with quality of new born care was found to be statistically insignificant. The study also revealed the association between the caste of ASHA worker with quality of newborn care was found insignificant. The ASHA worker plays a vital role in new born care, acting as the bridge between the community and the health facility. Although in India, caste based discrimination is seen in relation to health care services but in present study this factor was found insignificant. The reason for this could be that all the ASHA workers were local resident and selected by local government.

A statistically significant association of quality of newborn care with education and training attended by ASHA Workers was seen. ASHA workers who were educated up to high school only 20% ASHA workers provided good quality newborn care, whereas, one of those who were educated up to senior secondary, 47% of them provided good quality newborn care. Regarding the association between the training of ASHA worker in last 1 year and quality of newborn care came out to be highly significant. The success of HBPNC strategies in reducing neonatal mortality basically depends on quality of training of ASHAs received and depends upon making timely home visits and proper identification of danger sign and referring sick new born to higher institution. Hence, during training of ASHAs, they should develop the skill to assess correctly, classify the newborn illnesses and referred timely.

## CONCLUSION AND RECOMMENDATIONS

The present study concluded that most of the new born babies are not getting good quality of home based new born care as majority of ASHA workers were not able to record temperature, weight of the baby correctly and nearly one third of ASHAs did not counselled about hand washing and immunization of new born.



The study suggests following recommendations: Delivery of quality new born care can be ensured by giving proper and quality training to ASHA workers regarding home based new born care. Also, refresher trainings should be planned regularly for updating skills. This would decrease the knowledge gaps between the learning and doing process.

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#### DECLARATIONS

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