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Original Research Article

A study to assess the knowledge and skills of accredited social health activists in home based newborn care

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ABSTRACT

Background: Home Based Newborn Care (HBNC) is a community-based approach adopted by the Government of India (GoI) to decrease the neonatal and maternal mortality rate through a series of home visits provided by Accredited Social Health Activists (ASHAs). Therefore, ASHAs adequate knowledge and skills regarding HBNC are crucial to bring positive health outcomes. The study aimed to assess the knowledge and skills of ASHAs in HBNC and the challenges faced during its implementation.
Methods: A study was conducted in CHC Mendhasala of Khordha District from October 2021 to March 2022. ASHAs trained for HBNC, having HBNC visits during the research period, and willing to participate in the study were included in the sampling frame. Consecutively 50 ASHAs were taken for conducting the study in CHC Mendhasala. Participants were assessed for knowledge regarding HBNC and the problems faced during its implementation. Skills were observed during the scheduled day of home visits.
Results: Eighty-two percent of ASHAs had an average level of knowledge regarding HBNC. Domain-wise ASHAs had good knowledge of the HBNC concept, breastfeeding, immunization, and family planning while less knowledge of high-risk newborns and referral services. The majority of ASHAs had performed newborn care and examined the mother during home visits. Personal, social, and administrative challenges affect the implementation of HBNC services.
Conclusions: The majority of ASHAs had good knowledge and skills regarding HBNC but need to strengthen more on high-risk newborn and referral services domains. Besides this ASHAs face several challenges while implementing HBNC services.

Keywords: ASHAs, Challenges, HBNC, Practices, Problems

INTRODUCTION

Children are not only forwarding the family lineage but also carry the country's future. The time during birth and the first few weeks of life are considered the most vulnerable period in the newborn's life. The parents and family play the most vital role in protecting and providing care, a crucial component of all children's survival, growth, and development. Despite this, several children lost their life.[1,2]

Globally neonatal mortality is declining with the rate decreasing from 37 deaths per 1,000 live births in 1990 to 17 deaths per 1,000 live births in 2020.[3] In 2020, the IMR of India was 30 per 1000 live births and the NMR was 23 per 1000 live births. The rates are lower in urban areas than the rural areas. There was a significant reduction in IMR by seven points in India and eight points in Odisha from 2015 to 2019. Odisha's high IMR and NMR compared to country data remain a substantial burden in its health system.[4]

Globally, most causes of death in neonatal are preterm birth, a complication related to intrapartum, infection, and congenital abnormalities. In India, prematurity and low birth weight, birth asphyxia and birth trauma, and neonatal pneumonia account for the primary cause of neonatal death.[5,6] The majority of these conditions can be prevented by the implementation of the cost-effective intervention, services that are easily accessible to all, and services that are of high quality. Based on this, a community-based approach, "Home Based New-Born Care (HBNC)", was adopted by the GoI in 2011(revised 2014) to decrease neonatal mortality and morbidity rate. The strategy was to provide the 'continuum of care' both to the newborn and post-natal mother under the RMNCH+A program and to reach the unreached.[7]

HBNC approach ensures that both the newborn and the mothers receive services at home for the first six weeks that are essential for the positive outcome of health through a series of home visits by the community health worker, i.e., ASHAs on 1st, 3rd, 7th, 14th, 21st, 28 and 42nd day.[8,9] ASHAs can provide HBNC services after obtaining training for one year from experts with the help of ASHAs training modules 6 and 7. The training is provided in four rounds with five days each.[10] While reviewing the literature, various studies show that most of the ASHAs had average knowledge and skills regarding HBNC.[7,11] Therefore, the present study was carried out to assess the knowledge and skills of ASHAs regarding Home Based-newborn Care and identify the problems that ASHAs are facing in the implementation of the program.

METHODS

A non-experimental cross-sectional study was conducted among 50 ASHAs in one of the community health centers (CHCs) i.e., Mendhasala of district Khordha. The study area was chosen by using the convenience sampling method since it is the field practice area under the Department of Community Medicine and Family Medicine, AIIMS Bhubaneswar. A total of 50 ASHA workers constituted the study population.

Ethical approval was taken from the institute ethics committee. The study was conducted from October 2021 to March 2022. All the ASHAs who were trained for HBNC, willing to participate, and had HBNC visits during the research period were included in the sampling frame using the total enumerative sampling technique. The ASHAs who were not having HBNC home visits and were outside the field practice area of RHTC, AIIMS Mendhasala were excluded from the study. On the scheduled day of the home visit, the aim of the study was explained and written informed consent was taken from the participants and verbal consent was also taken from the mother.

Validated and pretested tool used for data collection. The tools included the socio-demographic characteristics tool, knowledge assessment, skill assessment, and problem assessment tool. The socio-demographic tool consists of age, religion, education status, marital status, caste, village name, socio-economic status, working experience, population served, and sources of information. For the knowledge assessment tool, ASHA training module 6 and 7 was used, and tools of the previous study were referred to.[9,7,12] The knowledge assessment tool of ASHAs consists of 5 components of HBNC i.e., HBNC concept, breastfeeding, immunization, family planning, high-risk newborn, and referral services. It consists of a total of 25 multiple-choice questions(MCQs). Each question has one single correct option. For each correct response "one" mark was given and for the incorrect response "zero". The maximum total score is 25 and it is categorized as good (>75%), average (50-75%, and poor (<50%). HBNC checklist of Home Visit Form (Examination of mother and newborn) was used to assess the skills of ASHAs. For a skill that is performed, a tick (√) is placed in the box of the day of home visits, and a cross (X) in the box if not performed. According to performed skill a required action taken or not is assessed by using the Home Visit Checklist.[7] ASHAs interview and an extensive literature review was done to develop a problem assessment tool. It consists of 12 items under 3 domains and each item with the response "Yes" and "No". The domains are personal problems, social problems, and administrative problems that ASHAs face. Collected data were analyzed according to the objectives of the study using descriptive statistics using SPSS-20. Data were analyzed using descriptive statistics such as frequency, percentage, mean, and standard deviation.

RESULTS

The mean age of ASHAs was 37.68±5.69. The majority 96% of ASHAs belong to the Hindu religion. Most 74% of the ASHAs mentioned their education level between 8th to 10th class and 98% of the ASHAs were currently married. More than half belong to the general caste and belong to APL families. The mean working experience of ASHAs was 13±0.68 years and most of them 62% served a population of 1000 or more. All the ASHAs 100% had training as the main source of information (Table 1).

The mean and standard deviation of knowledge of ASHAs regarding HBNC was 17.18±2.25. Of most of the ASHAs 82% have an average level of knowledge and 18% have good knowledge regarding HBNC (Table 2).

Domain wise 90% of ASHAs had good knowledge regarding immunization followed by breastfeeding 84%, HBNC concept 82% and family planning 82%. Data on high-risk newborn and referral services revealed that the majority of ASHAs had a poor level of knowledge in these domains (Table 3).

Table 1: Frequency distribution of ASHAS on socio-demographic characteristics (n=50).

Variables		Frequency	Percentage
Age (years)*		37.68±5.69	
Religion	Hindu	48	96
	Muslim	2	4
Educational status	8th-10th class	37	74
	10th-12th class	11	22
	Above 12th class	2	4
Marital status	Married	49	98
	Widow	1	2
Category	General	27	54
	OBC	8	16
	ST	6	12
	SC	9	18
Economic status	APL	30	60
	BPL	20	40
Working experience (years)*		13±0.68	
Population served	<1000	19	38
	>1000	31	62
Source of informa-tion**	Meeting	43	86
	Training	50	100
	Training module	41	82

*Mean±SD, **Multiple response

Table 2: Knowledge score of ASHAs on HBNC (n=50).

Knowledge	Mean±SD	17.18±2.25
Level of knowledge	**Score range**	**N (%)**
Poor	<13	-
Average	13-19	41 (82)
Good	>19	9 (18)

(Maximum score = 25 & minimum score = 0)

In the present study, 30% of ASHA home visits were on the 7th day of HBNC followed by 20% on the 3rd day, 18% on the 14th day, 12% on the 28th day, and 10% on the 21st and 42nd day. All the ASHAs had mobilized mothers for ANC visits, whereas 49 ASHAs accompanied for delivery and 32 had prepared mothers for childbirth. Among 50 ASHAs, 39 ASHAs ensured warmth for the baby, 43 ASHAs checked signs of illness, and 46 ASHAs examined the skin, immunization status, and signs of jaundice for newborns. All the ASHAs assessed weight, temperature, and eye for pus discharge/swelling (Figure 1).

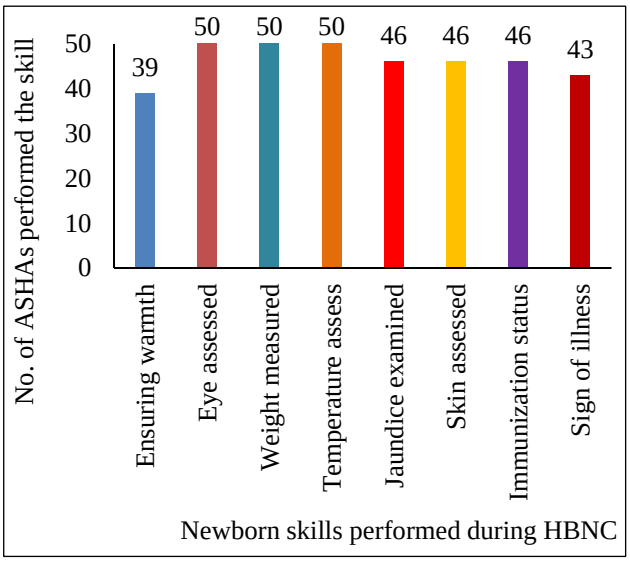

Figure 1: Distribution of ASHAs on providing newborn care during HBNC (n=50).

All the ASHAs measured the mother's temperature for signs of infection. More than half of ASHAs assessed mothers for foul smell discharge, fits or normal speech, feeding adequacy and ensuring, breast complication, nutritional status, and blood loss. The finding also shows that 25 ASHAs had assessed the mother for breastfeeding position and 10 ASHAs ensured proper breastfeeding attachment (Figure 2).

Table 3: Domain wise frequency and percentage distribution of ASHAs on level of knowledge regarding HBNC (n=50).

Knowledge domain	Mean±SD	Level of knowledge		
		Good N (%)	Average N (%)	Poor N (%)
HBNC concept	3.14±0.75	41 (82)	8 (16)	1 (2)
Breastfee-ding	3.94±0.58	42 (84)	7 (14)	1 (2)
Immuniz-ation	4.42±0.67	45 (90)	5 (10)	-
Family planning	1.82±0.38	41 (82)	9 (18)	-
High-risk newborn	2.56±1.21	10 (20)	16 (32)	24 (48)
Referral services	1.30±0.83	-	19 (38)	31 (62)

During observation a total of four cases required referral in the mother (foul smell discharge and fever (2), Breast engorgement (1), and High temperature (1) while in the newborn two cases required referral (fever and respiratory

rate >60 bpm (1) and Fever (temperature >99°F) (1)) and all cases were referred by ASHAs to higher authorities. The majority 80% of ASHAs had counseled mothers on exclusive breastfeeding and 100% of ASHAs had provided counseling services on unhealthy practices, hand washing and hygiene, and family planning. During the data collection period, it was also observed that a few steps were performed incorrectly by ASHAs like 42% ASHAs had not cleaned the tip of the thermometer before and after temperature measurement, 60% ASHAs had not cleaned the armpit and 30% ASHAs removed the thermometer from armpit before the recommended time. During weighing the baby 30% ASHAs had not adjusted the knob at the "0" level appropriately and 10% had placed the sling in a dirty place.

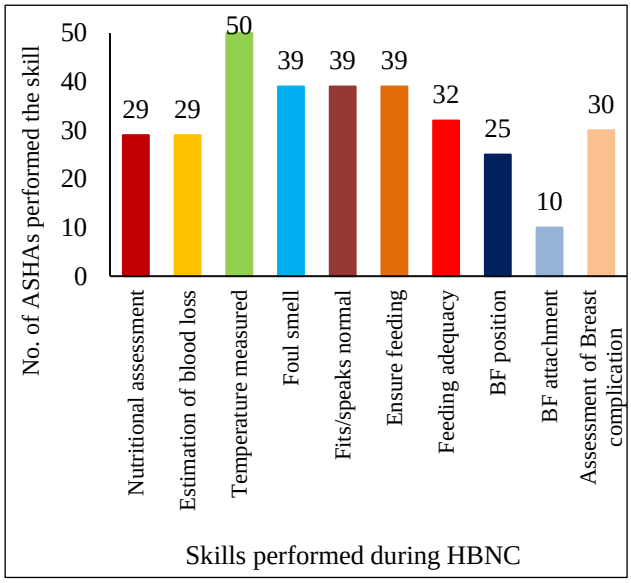

Figure 2: Distribution of ASHAs on examination of mother during HBNC (n=50).

Table 4: Frequency and percentage distribution of ASHAS on problems related to implementation of HBNC (n=50).

Problem faced	Yes, %	No, %
Personal		
Uneven population distribution	22	78
Lack of motivation	20	80
Poor competency		100
Overburden of work	46	54
Time management	34	66
Social		
Lack of trust	2	98
Lack of family cooperation	26	74
Denial HBNC	6	94
Administrative		
Delayed & inadequate incentive	60	40
Lack of transport	32	68
Authorities not helpful	44	56
Resources availability/functioning	80	20

The study also revealed the number of problems that ASHAs face while implementing HBNC services. 22% of ASHAs face the problem of uneven distribution of population, 20% feel less motivated, 46% work burden and 34% face the problem of time management. In context to social problems, the majority of ASHAs face no problem while providing HBNC services. Resource availability and delayed and inadequate incentives where major administrative problems that ASHAs faced (Table 4).

DISCUSSION

The socio-demographic variables used in the present are similar to the variables used in the study conducted in the Faridabad district.[7] This study had similar findings concerning age and religion as an earlier study of the Faridabad district in which the mean age and standard deviation was 39.38±7.55 and a majority 95.8% of ASHAs belonged to Hindu.[7] In the current study 98% of ASHAs were married and the majority 60% belong to APL families Similar findings were found in the study done in Jaipur.[13] Regarding population served the present study had similar findings to the study of Delhi.[14] But contrast this study conducted in Faridabad showed that only 39.6% of ASHAs served a population of 1000 or more.[7] In the present study the main source of information was training(100%) and meetings (86%) similar finding was found in the Faridabad study whereas the study done in Maharashtra showed that for 54.1% of ASHAs, the main source for information was meeting and for 10.8% ASHAs it was training.[7,11]

The mean overall knowledge score of ASHAs was 17.18±2.25 and the majority 82% ASHAs had an average level of knowledge regarding HBNC. This finding is concurrent with the previous study done in Maharashtra.[11] The periodic meeting of ASHA workers at CHC was found to be useful in improving knowledge as well as keeping it up-to-date. Regarding various domains of knowledge, the current study indicates that the majority of ASHAs had a good level of knowledge of the HBNC concept, breastfeeding, immunization, and family planning domain. This could be probably due to the active involvement of ASHAs in ANC, and VHND services which enhance their knowledge over due course of time. In high-risk newborn and referral services domains ASHAs lack knowledge, so periodical refresher training for recruited ASHAs and the monthly meeting should be used as a platform to emphasize more on these domains to improve knowledge.

In the present study, all the 50 ASHAs were aware of the schedule of home visits, and the majority 92% of ASHAs had HBNC home visit checklist forms with them during a home visit, similar finding was found in the Meerut study while in the Bahadurpur study ASHAs those who received checklist 16.7% had not used it.[15,16] The present study shows that the majority of ASHAs had assessed newborns while the study conducted in Bahadurpur

showed that more than half of ASHAs had assessed weight and temperature and the rest other signs were examined by less than half of the ASHASs only.[16] The difference might be because, in the previous study, only 65.8% of ASHAs had received the HBNC home visit form. The current study showed that post-natal care of the mother was overlooked concerning the care of the newborn and ASHAs should be motivated by supervisors to focus on both mother and newborn during HBNC to reduce NMR and MMR. Though findings show that knowledge of high-risk newborns and referral domains is low among ASHAs, they can identify the cases to be referred using the HBNC home visit form. 80% of ASHAs had counseled mothers on exclusive breastfeeding as breastfeeding is the most important factor that is essential for both mother and newborn baby, so ASHAs need to emphasize more on the importance of exclusive breastfeeding factor to prevent a child from early infection.

Regarding problems, nearly half of the ASHAs face the problem of work burden in the present study whereas in the study of Delhi 62.5% and in Jaipur 25.18% had faced the workload problem due to participation in various activities.[17,13] The majority of ASHAs faces no problem from a social perspective in the present study similar findings had been shown in the study conducted at Lucknow that the majority 85.4% of ASHAs had received good family and community support during home visit.[18] 68% ASHAs had faced the problem of delayed and inadequate incentives similarly in the Delhi study 100% of ASHAs had the same problem.[17] In the current study 44% of ASHAs got no support from the authorities in contrast to the study Delhi study 62.5% received no support.[17] The current study also shows that 80% face the problem related to resources at some point in time concurrently the Delhi study also showed that 50% face the problem of resource scarcity.[17]

CONCLUSION

ASHAs have satisfactory level of knowledge of HBNC. They need actions to improve knowledge on high-risk newborn and referral domains of HBNC to facilitate early identification and prompt referral of high risk newborn from the household level. The village-level and block-level meetings should be utilized for enhancing their knowledge and practice, taking feedback, and solving the problems faced by the ASHAs while implementing HBNC services.

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