



A MIXED METHOD STUDY TO ASSESS KNOWLEDGE AND SKILL OF ACCREDITED SOCIAL HEALTH ACTIVIST AND THE PROBLEMS FACED BY THEM WHILE PROVIDING HOME BASED NEW-BORN CARE

Community Medicine

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ABSTRACT

Introduction: Accredited Social Health Activists (ASHAs) play a crucial role in the delivery of Home-Based Newborn Care (HBNC) in rural India. There is limited research on their knowledge, skills, and the challenges they face. This study aims to assess these aspects among ASHA workers in the rural area of North India. **Methods:** A mixed-method study was conducted among 194 ASHA workers. Data collection involved a combination of semi-structured questionnaires to evaluate knowledge, skill assessments across five critical areas, and in-depth interviews to explore the challenges faced by ASHAs. **Results:** The results revealed that ASHAs generally possess average knowledge and skills in HBNC. The overall average knowledge score was 23.55 out of 34, with 57.22% of ASHAs demonstrating average knowledge levels. The skill assessment yielded an average score of 32.50 out of 50, with handwashing being the most proficiently performed skill (71.3% showing satisfactory skills) and bag and mask ventilation being the least (10.1% demonstrating satisfactory skills). Higher education was associated with better knowledge, while age and experience correlated with improved skills. In-depth interviews highlighted several challenges, including tough work schedules, delayed payments, inadequate transportation, and difficult working conditions, exacerbated by social issues such as caste or religious discrimination and lack of recognition. **Conclusion:** This study underscores the importance of strengthening the capacity of ASHA workers through enhanced training, improved working conditions, and systemic support. Addressing the challenges faced by ASHAs is essential for ensuring the effective delivery of HBNC services in rural India.

KEYWORDS

HBNC, ASHA, Newborn, Knowledge, Skills.

INTRODUCTION

Every year, about 130 - 140 million children are born globally, with more than half in Asia. India alone has 25 million births annually.[1] Tragically, 2.3 million children died within the first month of life in 2022. The first 28 days post-birth are the most critical for survival, with a global rate of 17 deaths per 1000 live births in 2022, a 53% decrease from 1990. After the first month but before age 1, the estimated death rate is 11 per 1000 live births, while after age 1 but before age 5, it is 9 per 1000 live births in 2022.[2] India has also made a considerable progress in reducing newborn mortality, thereby reducing its share of the global newborn mortality burden from 1/3rd of newborn deaths in 1990 to below 1/5th of total newborn deaths today. [3] Despite significant advancements in Maternal & Child healthcare, particularly in the past decade, the Infant Mortality Rate (IMR) in India stood at 35.2 deaths per 1000 live births and Neonatal Mortality Rate (NMR) at 24.9 deaths per 1000 live births according to NFHS-5 data, which was considerably higher than global averages.[4] This highlights the importance for critical need of expert continuum care for both mother and child during this period to ensure improvement in neonatal and infant health outcomes.

In the year 2011, Govt. of India introduced Home Based New-born Care (HBNC) as the predominant community-based strategy for enhancing the overall well-being of newborns. This holistic approach revolves around the central role of Accredited Social Health Activists (ASHA) which ensures a seamless continuum of care for both newborns and post-natal mothers by facilitating a series of scheduled home visits conducted by ASHAs within the crucial first 6 weeks of a new-born's life. [5]

This study has a clear objective of uncovering the gaps in knowledge and skills among Accredited Social Health Activists (ASHAs) regarding Home Based Newborn Care (HBNC) and the problems faced by them while providing care, so that proper measures could be taken to improve the situation.

MATERIAL AND METHODS

This is a Community based study carried out in the rural area of Barai near Gwalior, M.P. A list of all ASHA was obtained from the Chief Block Medical Officer (CBMO) office after taking permission from Chief Medical and Health Officer (CMHO); showed 201 active ASHA members under PHC, Barai. After multiple visits and contacting via telephone, 194 ASHAs could be contacted and data was collected from the same number of ASHAs. Among 194 ASHAs, 129 ASHAs could be contacted physically and thus their skill could also be tested; remaining 65 ASHAs could not be contacted physically but data about their knowledge was collected online via Google form.

A semi-structured questionnaire was developed to assess the knowledge of ASHA about HBNC and the problems faced by them. If they had ever faced problem, then in-depth interview cum discussion was done to collect relevant qualitative information. For skill assessment, another tool was developed using the training modules of ASHA and Five most basic and important skill was selected for assessment that they should know during the HBNC visits. These skills were: (i). Weight measurement (ii). Temperature recording (iii). Hand Washing (iv). Explanation of Kangaroo mother care (KMC) (v). Bag and Mask ventilation. [5,6]

Ethical approval was obtained from the IEC (Letter No: 1017/IEC-GRMC/2022) for the study and participants were interviewed only after informed consent.

STATISTICAL ANALYSIS

The collected data was arranged and entered in Microsoft Office Excel 16 and exported to IBM SPSS Statistics 25 trial version for statistical analysis. After checking normality of data by applying Kolmogorov Smirnov test and Shapiro Wilk test of normality, appropriate tests were applied. The Confidence interval was fixed at 95.0% and p-value of <0.05 was considered significant finding.

The key qualitative data were recorded at the time of interview itself.

so that further detailed analysis could be done afterwards to find out the actual prevailing problems.

RESULTS

Table 1 presents the socio-demographic characteristics of 194 ASHA workers. The mean age is approximately 36.48 years, with the majority (46.9%) aged between 31-40 years. Most workers (93.8%) are Hindu, with a smaller percentage being Muslim (5.2%) or from other religions (1.0%). In terms of caste, 39.2% belong to the OBC category, followed by 25.8% from the General category. The majority (96.4%) are married. Regarding education, 38.1% have studied up to the 8th grade, while 23.2% have a graduate degree or higher. Their work experience averages 6.78 years, with 41.8% having up to 5 years of experience.

Table 1: Socio Demographic details of ASHA

S No	Socio Demographic characteristics (N=194)		Frequency	Percentage (%)
1	Age (Mean±SD= 36.48±7.71)	≤30 years	45	23.2
		31-40 years	91	46.9
		41-50 years	46	23.7
		>50 years	12	6.2
2	Religion	Hindu	182	93.8
		Muslim	10	5.2
		Others	2	1.0
3	Category	General	50	25.8
		OBC	76	39.2
		SC	38	19.6
		ST	30	15.4
4	Marital Status	Married	187	96.4
		Separated/ Widow/ Divorced	7	3.6
5	Education level	Upto 8th	74	38.1
		10th Pass	31	16.0
		12th Pass	44	22.7
		Graduate or above	45	23.2
6	Experience (Mean±SD= 6.78 ± 4.09)	≤5 years	81	41.8
		6-10 years	69	35.6
		>10 years	44	22.7

Table 2 assesses the knowledge and skills of ASHA workers in various domains. The overall knowledge score (out of 34) averages 23.55, with most workers having average knowledge (57.22%). Their skills are evaluated across five areas, with an overall skill score averaging 32.50 out of 50. Most workers (65.89%) demonstrate average skill levels, with the highest competency observed in handwashing practices (71.3% showing satisfactory skills) and the lowest in bag and mask ventilation (only 10.1% showing satisfactory skills).

Table 3 examines the relationship between socio-demographic variables and the overall knowledge scores of ASHA workers regarding HBNC (Home-Based Newborn Care). Education is the only significant factor, with higher education levels corresponding to higher knowledge scores (p=0.001). Other variables, such as age, religion, category, experience, and marital status, do not show significant associations with knowledge scores.

Table 4 explores the relationship between socio-demographic variables and the overall skill scores of ASHA workers. Age and experience are significantly associated with skill levels (p<0.001 for both), with older and more experienced workers demonstrating higher skill scores. Educational status, religion, caste, and marital status do not show significant correlations with skill scores.

Table 2: Knowledge and Skill of ASHA

S. No.		Mean ± SD	Poor knowledge / Skill N (%)	Average knowledge / Skill N (%)	Satisfactory knowledge/ Skill N (%)

Knowledge (N=194)					
1	Prenatal and perinatal practices (0-10)	7.94 ± 1.48	11 (5.67%)	119 (61.34%)	64 (32.99%)
2	Breastfeeding practices (0-7)	4.72 ± 1.11	29 (14.95%)	108 (55.67%)	57 (29.38%)
3	Danger signs and High-risk neonates (0-6)	4.06 ± 1.15	60 (30.93%)	102 (52.58%)	32 (16.49%)
4	Knowledge related to HBNC (0-11)	6.82 ± 1.20	41 (21.13%)	118 (60.82%)	35 (18.04%)
	Overall Knowledge (0-34)	23.55 ± 3.40	36 (18.56%)	111 (57.22%)	47 (24.22%)
Skills (N=129)					
1	Weight measurement (0-10)	6.24 ± 1.69	23 (17.8%)	77 (59.7%)	29 (22.5%)
2	Temperature measurement (0-10)	6.53 ± 1.76	20 (15.5%)	64 (49.6%)	45 (34.9%)
3	Kangaroo Mother care (0-10)	7.13 ± 1.78	19 (14.7%)	25 (19.4%)	85 (65.9%)
4	Handwashing (0-10)	7.52 ± 1.95	17 (13.2%)	20 (15.5%)	92 (71.3%)
5	Bag and Mask ventilation (0-10)	5.08 ± 1.91	46 (35.7%)	70 (54.3%)	13 (10.1%)
	Total Skill score (0-50)	32.50 ± 4.62	8 (6.20%)	85 (65.89%)	36 (27.91%)
Poor Knowledge/skill = <50% Average Knowledge/skill = 50%-70% Satisfactory Knowledge/skill = >70%					

Table 3: Association between socio-demographic variables and overall knowledge scores of ASHA workers on HBNC (n= 194).

Variables		N	Median	Q3-Q1	P value
Age (years)	≤30 years	45	24	30-19	0.218
	31-40 years	91	24	28-20	
	41-50 years	46	24	29-20	
	>50 years	12	23	28-19	
Educational status	VIII	74	24	27-16	0.001*
	IX-X	31	24	28-20	
	XI-XII	44	23	27-19	
	Graduate or above	45	26	32-22	
Religion	Hindu	182	24	28-19	0.738
	Muslim	10	24	29-20	
	Others	2	25.5	-	
Category	General	50	24	28-20	0.995
	OBC	76	24	29-20	
	SC	38	23.5	28-19	
	ST	30	24	29-19	
Experience (years)	≤5	81	24	27-20	0.137
	6-10	69	24	29-19	
	>10	44	25	29-21	
Marital status	Married	187	24	31-20	0.861
	Separated/Widow	7	24	28-20	
	/Divorced				
(* represents significant finding)					

Table 4: Association between socio-demographic variables and overall skill scores of ASHA workers on HBNC (n= 129).

Variables		N	Median	Q3-Q1	P value
Age (years)	≤30 years	30	30.5	34-27	<0.001*
	31-40 years	63	33	36-30	
	41-50 years	26	33	37-31	
	>50 years	10	35.5	38-31	

Educational status	VIII	50	33	35-29	0.536
	IX-X	23	33	36-29	
	XI-XII	29	32	36-30	
	Graduate or above	27	34	37-32	
Religion	Hindu	120	33	37-30	0.973
	Muslim	7	34	36-32	
	Others	2	33	-	
Category	General	34	33	37-30	0.813
	OBC	55	33	36-30	
	SC	21	34	36-28	
	ST	19	33	35-29	
Experience (years)	≤5	53	31	34-28	<0.001*
	6-10	47	34	36-31	
	>10	29	34	37-31	
Marital status	Married	126	33	37-30	0.693
	Separated/Widow / Divorced	3	29	-	

Table 5: Problems reported by ASHA in providing HBNC

S.No.	Problems in providing HBNC	Frequency	Percentage (%)
1	Inadequate or irregular training	74	38.14
2	Local Social/ Cultural beliefs	69	35.56
3	Tough work schedule	141	72.68
4	Delayed/ insufficient payments	137	70.61
5	Workplace violence (abuse/ assault)	68	35.05
6	Harsh weather/ Difficult terrain	94	48.45
7	Lack of Transportation facilities	140	72.16
8	Inadequate supply of drugs	102	52.57
9	Lack of recognition for their efforts	92	47.42

Table 5 lists the challenges ASHA workers face in delivering HBNC services. The most frequently reported problems include a tough work schedule (72.68%), delayed or insufficient payments (70.61%), and a lack of transportation facilities (72.16%). Other significant issues include inadequate or irregular training (38.14%), harsh weather or difficult terrain (48.45%), and inadequate drug supply (52.57%). Additionally, some workers report facing workplace violence (35.05%) and a lack of recognition for their efforts (47.42%).

After analyzing in-depth interview of ASHA, it could be understood easily that they were really concerned about the tough work schedule they have to face with no extra payment for the hard work as incentives are fixed and more often they are not paid proportionately to the amount of work. They often face issues of delayed payments and difficulty in transportation; as one of them said “... I also have a 15 months old child and because of the job I cannot take care of her properly as husband is also working. On normal days its bearable but during various campaigns it becomes very hectic as on field it is not possible to take own child...”

Other ASHA stated that “...my husband is working and, in the morning, he helps me to leave at work place and in evening he comes to pick me up and during different abhiyans he helps me and all these transportations are at our own cost which sometimes exceeds the amount of incentive we get...”

One of the ASHA stated that “...during rainy season the roads of the villages are filled with dirty water and mud which makes it very difficult to reach and provide home visits...” Few ASHA also reported that they had to face verbal abuse and disrespect from few specific houses of villages because of their caste or religion.

DISCUSSION

Home-based newborn care (HBNC) programs are crucial for newborn health in rural areas with limited healthcare access. The neonatal period is a delicate time for infants, demanding swift interventions for better health. Accredited Social Health Activists (ASHAs) are key players in delivering healthcare in India's rural communities. Armed with training and community ties, ASHAs provide vital maternal and newborn health services like antenatal care, postnatal care, immunizations and timely referral in case of emergency. They enhance healthcare access while equipping families with the knowledge to ensure newborn well-being. Though they are incentivized for their

services they face various problems while providing care of newborns in comfort of their home place. [6,7,8]

In the present study the mean age of ASHA was 36.48 years with standard deviation of 7.709 and maximum number of participants (46.9%) in the age group of 31 to 40 years. In a study of Meena S. et al in rural area of Jaipur, Rajasthan in 2020 also found majority of ASHA (67%) were in the age group of 25-35 yrs of age. [9] In study of Anuradha et al in rural area of North India conducted in 2022, the age of ASHA workers ranged from 21 to 65 years and maximum of ASHAs, 36.96% belonged to age group of 31-40 years with mean age of 33.1 years. [10] While in study of Bullappa A. et al in Mangalore and Udupi Taluk, Karnataka in 2017, the ASHAs participating in study were relatively older with maximum ASHAs in age groups of 45-50 years. [11] This might have been due to the level of education and awareness being higher in the southern India compared to northern India.

The findings of Dr. Rohith M et al on ASHA of Vijayapura district, Karnataka in 2019, 58.4 % were having experience of greater than 5 years while 41.6% working as ASHA for 5 years of work experience which is very similar to the current study. [12]

This findings about education level of ASHAs were similar to the study of Sharma S. et al (2022) where more than half (51.4%) were educated up to high school in rural area. [13] The findings of the study of Waskel B. et al (2014) and Pattanayak U. et al (2019) where 41.74% and 45.71% of ASHA workers had completed 8th std. [14,15]

The results for knowledge about HBNC among ASHAs was similar to the findings of the study of Baghel A. et al (2017) and Mitra S. et al (2022) where 78% and 80% ASHA had average or higher knowledge about the HBNC. [16,17] The dissimilar findings are found in the following studies: Sharma S. et al (2022) found that 98.6% ASHA from rural area and 100% ASHA from urban area had adequate knowledge regarding home based post-natal care (HBNC) visits. [13] Singh Y. et al (2022) found 69.1 % ASHA had proper knowledge of HBNC care delivery and 30.9% were lacking in knowledge of HBNC.[18] The gaps in knowledge of ASHA can be filled by proper supportive training and mentorship while providing educational incentives without the worry of job discontinuation so that they can achieve higher education as education is significantly associated positively to the knowledge scores.

The findings for the skill of ASHA were similar to the study of Bansal S.C et al (2016) [19] and Pattanayak U. et al (2019) [15] while dissimilar to the findings of the study of Goswami V.P et al (2016) [20] and Phatak A.G et al (2021) [21] in more than 2 skills score at a time. These skills can be further improved with continuous training and supervision so that seamless and quality care is provided to the beneficiaries.

In this study majority of ASHA reported that their work schedule is tough (72.68%), lack of transportation facilities (72.16%) and delayed payments or insufficient payment for the amount of hard work they put in (70.61%) as major problems faced by them. Few of them also reported workplace violence like abuse and assault while providing HBNC (35.05%). These problems were also reported as major problem in the study of Pandey N. et al (2023) [22] and Rohith M et al (2020) [12] while in the study of Biyyala R. et al (2019) [23] the major problems reported by ASHA are lack of timely availability of medicines and lack of literacy in community and in the study of Meena S. et al (2020) ASHAs reported transport as one of the major issues for work as it needs extensive travelling i.e. house to house visit, hospital visit with patient. [9] These issues should be addressed firmly and a comprehensive solution like strengthening community engagement, ensuring that ASHAs have access to necessary resources, such as medical supplies and equipment, transportation facilities, etc. to perform their duties effectively should be sought out.

CONCLUSION

The study underscores the crucial role of ASHAs in providing Home-Based Newborn Care (HBNC) in the study area. The majority of ASHAs are middle-aged, married women from diverse backgrounds. Most have secondary education and experience, boosting their effectiveness. Their experience and education correlate with superior knowledge and skills for quality HBNC. They have solid knowledge in maternal and neonatal care. Most of ASHAs understand prenatal, perinatal, breastfeeding, and HBNC well. Higher education correlates

with better scores, emphasizing the need for educational investment. Continuous training keeps ASHAs informed about best practices. While many perform well in basic skills, technical skills like bag ventilation need improvement. Younger, less experienced ASHAs show lower skills, suggesting targeted training could help. Enhancing their practical skills improves overall HBNC quality. The challenges faced by ASHA workers are multifaceted and deeply impact their ability to perform their duties effectively. The tough work schedule, coupled with fixed and often insufficient incentives, places a significant burden on these workers. Issues such as delayed payments, inadequate transportation, and difficult working conditions, especially during campaigns and in adverse weather, further exacerbate their struggles. Additionally, some ASHA workers experience verbal abuse and discrimination based on caste or religion, which adds to the emotional and psychological toll of their work. These insights underscore the need for systemic changes to better support ASHA workers, ensuring they are adequately compensated, respected, and equipped to fulfill their crucial role in healthcare delivery. These challenges often hinder performance and motivation and requires urgent attention.

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