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EVALUATION OF KNOWLEDGE, AWARENESS AND IMPLEMENTATION GAP OF HOMEBASED NEWBORN CARE AMONG ASHA WORKERS AND MOTHERS IN RURAL AREAS OF AMRITSAR, PUNJAB

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ABSTRACT **Background:** India contributes to 17.5% of the world's population, nearly 20% of the total live births, in spite of significant steps that have been taken to reduce child and neonatal mortality, yet accounts for 26% of global neonate deaths. India has witnessed a significant reduction in the number of neonatal deaths - from 1.35 million in 1990, to around 0.76 million in 2012. In an attempt to address the issue of high neonatal mortality, Government of India issued Home Based Newborn Care (HBNC) guidelines in 2011; and Accredited Social Health Activist (ASHA) workers were mobilized for providing maternal and immediate newborn care.

Methods: This cross-sectional study was conducted in the rural areas of Amritsar District. The duration of study was 1 year (January 2020 to December 2020) and data was collected using a predesigned pretested semi-structured questionnaire. Total 400 subjects were recruited in the study in which 200 ASHA workers and 200 mothers were included.20-30 ASHA workers who had completed their NRHM training were selected from each block randomly. 20-30 mothers from each block of Amritsar were selected randomly.

Results: In this cross-sectional study, 90% ASHA workers had knowledge on weighing, temperature measurement (78%), feeding frequency (63%), handwashing (2%) and Kangaroo Mother Care (KMC) positioning (12%) . Majority of ASHAs had knowledge about danger signs like bleeding stump (95%) ,distended abdomen (75%), fever (69.5%), chest indrawing (61.5%) and lethargy (35%).The study concluded that 54% of ASHA workers provided average quality and 46% ASHAs provided good quality care of newborn care. Out of 200 mothers, 74.5% mothers were aware of frequency of feeding, initiation of breastfeeding (32%), proper positioning of breastfeeding and attachment (21%), urine and stool frequency (44%), danger signs for which they should seek help (41%), temperature assessment (59%) and Kangaroo Mother Care positioning (2%).

Conclusion: Present study concluded that majority of newborns get all the age-appropriate home visits but very less mothers had knowledge and awareness about HBNC provision.

KEYWORDS : HBNC, ASHA worker

INTRODUCTION:

Over the last decade India has made considerable improvements in terms of health care.

India has witnessed a significant reduction in the number of neonatal deaths - from 1.35 million in 1990, to around 0.76 million in 2012. Over that period, from 1990-2012, while neonatal deaths reduced by 44%, child deaths (under 5 years) reduced by 59%. Unfortunately, the reduction in neonatal mortality rate is slower as compared to Infant Mortality Rate (IMR) and under 5 Mortality Rate.[1] Overall global NMR (per 1000 live births) declined from 48.2 in 1970 to 18 in 2019.[2]

Most of these deaths occur within the first seven days of life: 46.2 per cent occurring in the first two days of life and 73.3 per cent taking place within the first week of life. Neonatal mortality is one of the major contributors (2/3) to the Infant Mortality in India.

The major causes of newborn deaths in India are pre-maturity/preterm (35%); neonatal infections (33%); intra-partum related complications/ birth asphyxia (20%); and congenital malformations (9%).[3]

In an attempt to address the issue of high neonatal mortality, Government of India issued Home Based Newborn Care (HBNC) guidelines in 2011; and ASHA workers were mobilized for providing maternal and immediate newborn care. The guidelines were revised in 2014 to make timely institutional referrals during pregnancy and home visits to promote and provide essential newborn care, identify illness, and refer infants, if needed.[4]

Home Based Newborn Care (HBNC) is considered to be one of the important interventions to decrease Neonatal Mortality which is the part of Sustainable developmental Goals. The Government of India introduced HBNC package –to be delivered by ASHA workers – that include six or seven 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.

This study was conducted in order to assess knowledge and awareness of ASHA workers about HBNC at a provider level and mothers at recipient level and to find implementation gaps and use the gained knowledge to further strengthen the programme and increase knowledge and awareness of Health workers and mothers.

MATERIALS AND METHODS:

This cross-sectional study was conducted in rural areas of Amritsar after taking permission from Institutional Ethical Committee vide Letter No. 144450/D-26/2019 Batch . The duration of study was 1 year (January 2020 to December 2020) and data was collected using a predesigned pretested semi-structured questionnaire. Total 400 subjects were recruited in the study in which 200 ASHA workers and 200 mothers were included.20-30 ASHA workers who had completed their NRHM training were selected from each block randomly. 20-30 mothers from each block of Amritsar were selected randomly.

List of different blocks and concerned SMOs was obtained from Civil Surgeon Office, Amritsar. Details of various ASHA workers working in different blocks of Amritsar who have completed their training for HBNC and training under Modules 6 and 7 were obtained. Senior Medical Officers of each block were contacted, and meeting of ASHA workers of that block was arranged. Mothers of infants less than 3 months of age were approached during vaccination sessions (at 6,10 weeks) from each block.

A written informed consent was taken after explaining the purpose of

the study from ASHA workers and mothers. All ASHA workers were interviewed one by one, and questionnaire was filled by the investigator. Knowledge of ASHAs was assessed by computing knowledge score from the questionnaire which included 30 questions. Score 1 was given for every correct answer and score 0 for every wrong answer. Thus, an ASHA can score maximum of 30 and minimum of zero. Range of score was 0-30. Those ASHA workers who got a score between 0-10 were considered a poor-quality performance, score between 11-20 were given as average quality performance and score between 21-30 considered as good quality performance.

Similarly, mothers were interviewed one by one, and questionnaire was filled by investigator or mother herself. Total 18 questions were asked from the mother. A scoring scale was allotted to mothers based on knowledge and awareness of newborn care. Range of score was 0-18. Those mothers who got a score between 0-6 were considered to be having poor quality knowledge and awareness, score between 7-12 as average quality knowledge and score between 13-18 were considered to be having good quality knowledge and awareness of newborn care. Information thus collected was compiled and analyzed to draw valid conclusions using MS Excel and free SPSS 21,IBM,USA Software available online.

RESULTS:

Table 1: Distribution Of ASHA Workers According To Sociodemographic Profile

Demographic variables		Frequency (N=200)	Percentage
Age (years)	<30 years	18	9.0%
	31-40 years	65	32.5%
	41-50 years	97	48.5%
	>50 years	20	10.0%
Educational status	High school	183	91.5%
	Senior secondary school	13	6.50%
	Graduate	4	2.0%
Marital status	Married	192	96.0%
	Separated /widowed	8	4.0%
No of children ASHA	No child	21	10.5%
	1 child	25	12.5%
	2 children	109	54.5%
	>2 children	45	22.5%
Duration of last training attended	<6 months	49	24.5%
	1-5 years	131	65.5%
	>5 years	20	10.0%
Experience in years	<5 yrs	26	13.0%
	6-10 yrs	70	35.0%
	>10 yrs	104	52.0%
Total		200	100.0 %

Predominantly, ASHA belonged to 41-50 year age group (48.5%) and 10% of ASHA were >50 years. Among all ASHA workers in our study,91.5% were educated upto High School. 96% were married and 54.5% had 2 children. Majority of ASHA workers attended last HBNC training in past 1-5 years (65.5%), in last 6 months (24.50%) and >5 years ago (10%), 13% ASHA workers had experience of <5 years, experience of 6-10 years (35%) and >10 years (52%).

Table 2: Distribution Of ASHA Workers According To Knowledge And Awareness Of HBNC

Variables			Frequency (N=200)	Percentage
Number of home visits to newborn	Home delivery	Yes	196	98.0%
		No	4	2.0%
	Institutional delivery	Yes	192	96.0%
		No	8	4.0%
Skin examination of newborn	Correct response		143	71.50%
	Incorrect response		57	28.5%
Eye examination of newborn	Correct response		156	78.0%
	Incorrect response		44	22.0%
Umbilical examination of newborn	Correct response		170	85.0%
	Incorrect response		30	15.0%
Weighing of newborn	Correct response		180	90.0%
	Incorrect response		20	10.0%
Temperature measurement of newborn	Correct response		156	78.0%
	Incorrect response		44	22.0%
Feeding frequency	Correct response		126	63.0%
	Incorrect response		74	37.0%
Jaundice assessment	Correct response		180	90.0%
	Incorrect response		20	10.0%
Handwashing steps	Correct response		4	2.0%
	Incorrect response		196	98.0%
KMC positioning	Correct response		24	12.0%
	Incorrect response		176	88.0%
	Total		200	100.0%

Recapitulating the knowledge and awareness of ASHA about HBNC, all ASHA workers were aware about schedule of home visits in case of home delivery and institutional delivery. 71.5% ASHA workers were aware of skin examination, 78% and 85% ASHA workers were aware of eye and umbilical examination of newborn respectively. 90% ASHA workers were aware of weighing frequency. 78% ASHA had knowledge of temperature measurement. Majority of ASHA workers told that breastfeeding should be done on demand. Only 2% ASHA workers knew correct steps of hand washing and 12% ASHA knew about KMC positioning. Majority of ASHA workers were aware of danger signs like bleeding/oozing stump (95%),distended abdomen (75%),fever (69.5%),chest indrawing (61.5%) and lethargy (35.5%).

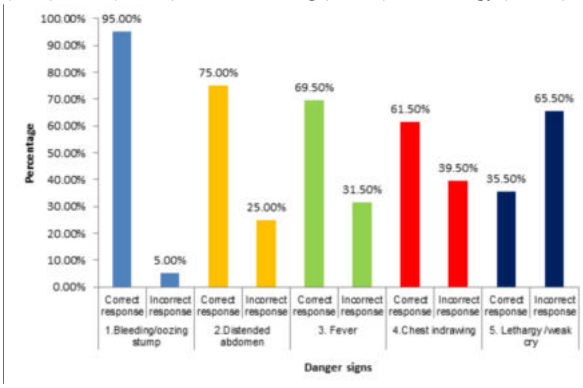

Table 3: Distribution Of Scores Of ASHA Workers According To Quality Of Newborn Care

Scores	Quality	Frequency	Percentage
0-10	Poor	0	0.0%
11-20	Average	108	54.0%
21-30	Good	92	46.0%
Total		200	100.0%

Table 3 shows that out of 200 ASHA workers, 54% ASHA workers provided average quality of newborn care and 46% ASHA workers provided good quality of newborn care. None of the ASHA worker provided poor quality of home-based newborn care.

Table 4: Association Of Knowledge And Awareness Of Newborn Care With Sociodemographic Variables Of Mother

Sociodemographic profile		Poor	Average	Good	Total	'p' value, Df
Age of mother	<20 years	0 (0.0%)	6 (100%)	0 (0.0%)	6	0.000,4
	21-30 years	38 (23.3%)	118 (72.4%)	7 (4.3%)	163	
	>30 years	3 (9.68%)	26 (83.9%)	2 (6.45%)	31	
Education of mother	Middle school	32 (26.4%)	89 (73.6%)	0 (0.0%)	121	0.000,6
	High school	9 (29.0%)	22 (70.1%)	0 (0.0%)	31	
	Senior secondary	0 (0.0%)	32 (100%)	0 (0.0%)	32	
	Graduate	0 (0.0%)	7 (43.8%)	9 (56.2%)	16	
Occupation of mother	Housewife	41 (24.5%)	125 (74.9%)	4 (2.4%)	167	0.000,2
	Unskilled Worker	6 (20%)	25 (75.8%)	8 (24.2%)	33	

All mothers of age <20 years had average knowledge and awareness. 72.4% of mothers (21-30 years age group) and 83.9% mothers (>30

years) had average knowledge and awareness.4.3% mothers (21-30 years age group) and 6.45% mothers (> 30 years) had good knowledge and awareness of newborn care. Out of 31 mothers (educated up to High School), 29% mothers had poor and 70.1% mothers had average knowledge and awareness. Mothers who were educated up to Senior Secondary School, all had average knowledge and awareness. Out of Graduated mothers, 56.3% mothers had good knowledge and awareness. Out of 167 mothers, who were housewives, 24.6% had poor knowledge and awareness, 74.9% mothers had average knowledge and awareness and 2.4% mothers had good knowledge and awareness.

Table 5: Biosocial Character Of Mother

Characteristics		Frequency (n=200)	Percentage
Age (years)	<20 years	6	3.0%
	21-30 years	163	81.5%
	>30 years	31	15.5%
Educational status of mother	Middle school	121	60.5%
	High school	31	15.5%
	Senior Secondary	32	16.0%
	Graduate	16	8.0%
Type of family	Joint	181	90.5%
	Nuclear	19	9.50%
Occupation of mothers	Unskilled worker	33	16.5%
	Housewife	167	83.5%
Income of mothers	<5000	14	7.0%
	>5000	18	9.0%
Parity of mothers	Primigravida	136	68.0%
	Multigravida	64	32.0%
Total		200	100.0 %

Predominantly mothers (81.5%) were in 21-30 year age group,60.5% educated upto middle school and 8% mothers graduate. 83.5% mothers were housewives,90.5% mothers belonged to joint family and 68% mothers were primigravida.

Table 6: Knowledge And Awareness Of Mothers Regarding HBNC

Characteristics		Frequency of mothers (N=200)	Percentage
Frequency of breastfeeding	Yes	149	74.5%
	No	51	25.5%
Initiation of breastfeeding	Yes	64	32.0%
	No	136	68.0%
Proper positioning and attachment	Yes	42	21.0%
	No	158	79.0%
Urine and stool frequency	Yes	88	44.0%
	No	112	56.0%
Immunisation	Yes	166	83.0%
	No	34	17.0%
Hygiene maintenance	Yes	108	54.0%
	No	92	46.0%
Danger signs	Yes	82	41.0%
	No	118	59.0%
Temperature assessment	Yes	118	59.0%
	No	82	41.0%
Total		200	100.0%

Out of 200 mothers, 74.5% mothers were aware of frequency of feeding, 32% mothers about initiation of breastfeeding after birth and 21% mothers were aware of proper positioning of breastfeeding and attachment.44% mothers knew about urine and stool frequency, Immunization (83%),danger signs (41%) and temperature assessment (59%).

Table 7: Distribution Of Mothers According To Scores Regarding Knowledge And Awareness Of HBNC

Scores	Quality	Frequency	Percentage
0-6	Poor	41	20.5%
7-12	Average	150	75.0%
13-18	Good	9	4.5%
Total		200	100.0%

Majority (75%) mothers had average knowledge and awareness, while (20.5%) mothers had poor and (4.5%) mothers had good knowledge and awareness of home-based newborn care.

DISCUSSION:

In this cross-sectional study, 48.5% ASHAs belonged to 41-50 year age group, 91.5% were educated up to High school, 96% were married and 54.5% had 2 children.

Our study findings were in contrast to study done by Pandit et al[5], only 10.8% ASHA workers were in age group of 41-50 years and 48.6% ASHA workers belonged to 31-40 year age group. Contrary to this study, Grover K et al[6], observed that 40% ASHA workers were between 36-40 years, 15% ASHA were between 41-45 year age group. Similar studies were conducted by Shrivastav et al[7] and Bhanderi et al[8].

Majority of ASHA workers attended last HBNC training in past 1-5 years (65.5%) and 52% ASHA had >10 years experience. Similar assessments were assessed by different studies like Grover et al and Shashank et al[9]. The present study revealed that 98% ASHAs were aware about schedule of home visits in home delivery and 96% ASHAs in institutional delivery. Similar results were seen in study by Pathak et al[10] 71.5% ASHA were aware of skin examination,78% and 85% ASHAs were aware of eye and umbilical examination respectively. Bhaisare K et al[11] observed that 48% mothers and 50% mothers were counselled regarding care of eyes and care of cord respectively.

90% ASHA had knowledge on weighing, temperature measurement (78%), feeding frequency (63%) handwashing (2%) and KMC positioning (12%).Majority of ASHAs had knowledge about danger signs like bleeding stump (95%),distended abdomen (75%), fever (69.5%),chest indrawing (61.5%) and lethargy (35%). The study concluded that 54% of ASHA workers provided average quality and 46% ASHA provided good quality care of newborn care. Study done by Deka M et al[12] reported that 54.3% ASHA workers had good knowledge of frequency of breast feeding. Results were in contrast to study done by Saxena et al[13] and Sinha et al[14].

Age of ASHA worker was significantly associated with knowledge whereas statistically significant association of quality of newborn care with education, experience, last training attended was not seen.

Good quality newborn care was provided by majority of ASHA workers belonging to age 41-50 years and the variation of knowledge about newborn care was statistically significant with age of ASHA worker. Good quality newborn care was provided by majority of ASHA workers who were graduated, ASHA workers who had experience of 5-10 years and ASHA workers who attended training recently in last 6 months but the difference was not statistically significant.

Predominantly mothers (81.5%) were in 21-30 year age group,60.5% educated up to middle school and 8% mothers graduate. 83.5% mothers were housewives,90.5% mothers belonged to joint family and 68% mothers were primigravida. Similar findings were seen in study conducted by Grover et al[6] and Pathak et al[10].

The present study revealed that out of 200 mothers, 74.5% mothers were aware of frequency of feeding, initiation of breastfeeding (32%),proper positioning of breastfeeding and attachment (21%), urine and stool frequency (44%),danger signs for which they should seek help (41%),temperature assessment (59%) and KMC positioning (2%). Study done by Pathak KG et al[10] in Lucknow observed that more than half the mothers were counselled about exclusive breastfeeding, 41% on proper positioning and attachment, and 60% on frequency of breastfeeding.

Majority of mothers having good knowledge were >30 years and were graduates. Working mothers had more knowledge and awareness than nonworking mothers. Variation of knowledge and awareness about Homebased Newborn care was significantly associated with age, education and occupation of mother.

CONCLUSION:

Proper training of health workers is the backbone for successful implementation of HBNC. Simpler, smaller modules, pictorial job aids highlighting the most important points in their vernacular language is the key to ensure that ASHA retains her skills. Periodical refresher training courses with constant supportive supervision needs to be done for all the recruited ASHAs. Monthly meetings can be used as a platform for reinforcement of various aspects of child health including

Homebased Newborn Care.

REFERENCES:

1. Ministry of Health and Family Welfare GOI.Indian Newborn Action Plan 2014 (Page No.24) [Last assessed on 2021 August 21]. Available From: https://nhm.gov.in.
2. Sankar MJ, Neogi SB, Sharma J, Chauhan M, Srivastava R, Prabhakar PK et al. State of newborn health in India. Journal of Perinatology. 2016;36 (s3):S3.
3. Liu L, Oza S, Hogan D, Chu Y, Perin J, Zhu J, et al. Global, regional, and national causes of under-5 mortality in 2000–15: an updated systematic analysis with implications for the Sustainable Development Goals. The Lancet. 2016; 388 (10063):3027-35.
4. India. National Rural Health Mission. 6 th Common review mission report 2012. New Delhi: National Rural Health Mission, Ministry of Health & Family Welfare, Government of India; 2012. pp. 36–8.
5. Pandit SB, Boricha BG, Mhaske A. To Assess the Knowledge & Practices Regarding Home Based Newborn Care among Accredited Social Health Activist (ASHA) in Rural Area. International Journal of Health Sciences & Research (www.ijhsr.org). 2016;6 (12):205-9
6. Grover K, Khanna P, Verma R, Chayal V. Assessment of Home Based Newborn Care provided by ASHA worker in a Rural Block of Haryana. Int J Res Dev Pharm L Sci. 2017;6 (7): 2850-4.
7. Shrivastava SR, Shrivastava PS. Evaluation of trained accredited social health activist (ASHA) workers regarding their knowledge, attitude and practices about child health. Rural Remote Health. 2012;12:2099.
8. Bhanderi DJ, Varun AR, Sharma DB. Evaluation of accredited social health activists in Anand District of Gujarat. Journal of Family Medicine and Primary Care. 2018 May;7 (3):571
9. Shashank KJ, Angadi MM, Masali KA, Wajantri P, Bhat S, Jose AP. Study to evaluate working profile of Accredited Social Health Activist (ASHA) and to assess their knowledge about infant health care. Int J Current Res Rev. 2013;05 (12):97-103.
10. Phatak AG, Nimbalkar SM, Prabhughate AS, Mahajani AA, Bansal SC. Comparison of knowledge and skills of Home-Based Newborn Care (HBNC) among Accredited Social Health Activists (ASHA) and health workers (SAKHI) of Ambuja Cement Foundation. Journal of Family Medicine and Primary Care. 2021;10 (8):2865.
11. Bhaisare K, Khakase G. Study of utilization of postnatal care services in tribal area, Maharashtra. Int J Med Sci Public Health. 2014;3 (12):1.
12. Deka M, Mathur BP. A study on evaluation of ASHAs for their knowledge, attitude and practice towards newborn care in RHTC area of district Jhansi in Uttar Pradesh. Int J Health Sci Res. 2014;4 (7):43-8.
13. Saxena S, Singh AK, Maheshwari S, Gupta SB. Appraisal of knowledge of ASHA regarding child health services provided under NHM in Bhojipura block, district Bareilly. Int J Community Med Public Health. 2017;4 (10):3705-11.
14. Sinha L, Kaur P, Gupta R, Dalpath S, Goyal V, Murhekar M. Newborn care practices and home-based postnatal newborn care programme in Mewat, Haryana, India, 2013. WPSR. 2014;5 (3):22-9.