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Knowledge and Knowledge on Practice Regarding Home Based Newborn Care (HBNC) among ASHA Workers in Selected Health Centres of Kamrup(M),Assam

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Abstract: ***Background:The newborn period, spanning from birth to 28 days, is a critical window for interventions that can impact long-term health and well-being. Despite of advances in medical care, newborns remain vulnerable to a range of threats, including infection, malnutrition, hypothermia and hyperthermia.***
Methodology:A quantitative survey approach with descriptive research design and Multistage simple random sampling technique was adopted to select 135 ASHA workers from the selected health centres of Kamrup (M), Assam. Data was collected by using questionnaire and a checklist.
Result: Result revealed that, the majority i.e. 102(75.6%) of ASHA workers had moderate knowledge followed by 19(14.1%) had adequate knowledge and 14(10.3%) had inadequate knowledge. Similarly, majority i.e. 116(85.9%) of ASHA workers had moderate knowledge on practice followed by 17(12.6%) had adequate knowledge on practice and 2(1.5%) had inadequate knowledge on practice. There was weak positive correlationbetween Knowledge and knowledge on Practice (r=0.286, p=0.001) regarding Home Based Newborn Care (HBNC) among ASHA workers and found to be statistically significant at p<0.05 level of significance. Overallstatisticalsignificant association was found in regard to age of the ASHA workers with knowledge (χ^2=18.88, p value=12.49) and age of the ASHA workers with knowledge on practice (χ^2=15.45, p value=0.016), and the rest of the demographic variables with both knowledge and knowledge on practice found to be statistically non-significant.
Conclusion: Keeping in view the findings of the study, the investigator recommends that there is need to strengthen the ASHA's knowledge and knowledge on practice regarding Home Based Newborn care (HBNC) through refresh training and hands on training.
Keywords: Assess, Knowledge, Knowledge on Practice,Home Based Newborn Care (HBNC), ASHA worker, Health centres.

I. INTRODUCTION

Home-based newborn care (HBNC) is a strategy implemented by the Indian government under the National Rural Health Mission to address the high rates of newborn deaths during the first week of life. It provides continuous care for newborns and postnatal mothers. Launched in 2011, HBNC focuses on the role of Accredited Social Health Activists (ASHA) and is now the primary community-based approach to newborn health.The guidelines were updated in 2014. Under this program, ASHAs are required to visit all newborns according to a specified schedule for the first 42 days of life. This includes six visits for babies born in institutions on the 3rd, 7th, 14th, 21st, 28th and 42nd days after birth, plus an additional visit within 24 hours for home deliveries. Extra visits are made for preterm, low birth weight, or ill infants, as well as those discharged from Special Newborn Care Units (SNCUs). ASHAs receive an incentive of ₹250 per newborn after completing the scheduled home visits, subject to certain conditions:

- Record newborn weight in MCP card.
- Ensure BCG, first dose of OPV and DPT vaccinations.
- Both mother and newborn are secure for 42 days after delivery.
- Birth registration is completed and confirmed through MCP cards and ASHA visit forms. ASHA is receiving special training on modules 6 and 7, as well as a kit containing the necessary equipment and medicine.

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Except for Goa and Lakshwadweep, ASHAs are currently providing home-based newborn care across the country. During the fiscal year 2018-19, more than 9 lakh people provided home visits to 1.3 crore babies.

Assam is the most populated state in India's North Eastern region, accounting for over 70% of the total population of the seven states known as the Seven Sisters. According to census 2011 data, the state contains over 3 crore people, almost 86% of whom live in rural areas and only around 14% in urban areas. According to the Government of Assam's Health and Family Welfare Department, the current Infant Mortality Rate (IMR) for 2022 is 48 per 1000 live births.

A. Statement of the problem

A study to assess the Knowledge and Knowledge on Practice regarding Home Based Newborn Care (HBNC) among ASHA Workers in selected Health Centres of Kamrup (M), Assam.

B. Objectives of the study

1) To assess the Knowledge regarding Home Based Newborn Care (HBNC) among ASHA Workers in selected Health Centres of Kamrup (M), Assam.
2) To assess the Knowledge on Practice regarding Home Based Newborn Care (HBNC) among ASHA Workers in selected Health Centres of Kamrup (M), Assam.
3) To find out the co-relation between Knowledge and Knowledge on Practice regarding Home Based Newborn Care (HBNC) among ASHA Workers in selected Health Centres of Kamrup (M), Assam.
4) To find out the association between Knowledge regarding Home Based Newborn Care (HBNC) and selected socio-demographic variables among ASHA Workers in selected Health Centres of Kamrup (M), Assam.
5) To find out the association between Knowledge on Practice regarding Home Based Newborn Care (HBNC) and selected socio-demographic variables among ASHA Workers in selected Health Centres of Kamrup (M), Assam.

C. Hypotheses

H_1: There is significant co-relation between the Knowledge and Knowledge on Practice regarding Home BasedNewborn Care (HBNC) among ASHA Workers in selected Health Centres of Kamrup (M), Assam.

H_2: There is significant association between the Knowledge regarding Home Based NewbornCare (HBNC) with selected socio-demographic variables among ASHA Workers in selected Health Centres of Kamrup (M), Assam.

H_3: There is significant association between the Knowledge on Practice regarding Home Based Newborn Care(HBNC)with selected socio-demographic variables among ASHA Workers in selected Health Centres of Kamrup (M), Assam.

II. RESEARCH METHODOLOGY

Quantitative survey approach anddescriptive research design was adopted for the research study. The study was conducted in randomly selected one sub-district i.e. Sonapur, under which it include total 6 Health facilities (Sectoral PHCs) namely Sonapur BPHC, Nortap MPHC, Maloi Bari MPCH, Khetri SD, Panikhaiti MPHC, Hahara MPHC.135 ASHA workers were selected by using multistage simple random sampling technique which was determined using raosoft sample size calculator with 95 percent confidence level, 5 percent margin of error and population proportion of 50 percent. Data collection was done through Structured self-administered Questionnaire and structured checklist. The collected data were analysed using descriptive and inferential statistics.

III. RESULTS

A. Findings related to socio-demographic variables.

TABLE 1:Frequency and percentage distribution of socio-demographic variables of ASHA Workers.

TABLE 1.1

Frequency and percentage distribution of ASHA Workers according to their age.

n=135

Age in years	Frequency (f)	Percentage (%)
25-30	28	20.7
31-35	51	37.8

36-40	31	23
41-45	25	18.5
Total	135	100

The data presented in table 1.1 shows that the majority i.e. 51 (37.8%) of ASHA Workers were between the age group of 31-35 years followed by 31 (23%) were between the age group of 36-40 years, 28(20.7%) were between the age group of 25-30 years and 25 (18.5%) were between the age group of 41-45 years.

TABLE 1.2

Frequency and percentage distribution of ASHA Workers according to their Education.

n=135

Education	Frequency (f)	Percentage (%)
8^{th} – 10^{th} passed	94	69.6
11^{th} – 12^{th} passed	39	28.9
Graduate and above	2	1.5
Total	135	100

The data presented in table 1.2 shows that the majority i.e. 94 (69.6%) of ASHA Workers were between 8^{th} -10^{th} Passed followed by 39 (28.9%) were between 11^{th} -12^{th} Passed and 2 (1.5%) were between Graduate and above.

TABLE 1.3

Frequency and percentage distribution of ASHA Workers according to their Marital status.

n=135

Marital Status	Frequency (f)	Percentage (%)
Married	115	85.2
Unmarried	10	7.4
Divorced	0	0
Widow	10	7.4
Total	135	100

The data presented in table 1.3 shows that the majority i.e. 115 (85.2%) of ASHA Workers were married followed by 10 (7.4%) were unmarried, 10 (7.4%) were widow and None of the subjects were Divorcee.

TABLE 1.4

Frequency and percentage distribution of ASHA Workers according to their Religion.

n=135

Religion	Frequency (f)	Percentage (%)
Hindu	107	79.3
Islam	28	20.7
Christian	0	0
Others	0	0
Total	135	100

The data presented in table 1.4 shows that the majority i.e. 107 (79.3%) of ASHA Workers were belongs to Hindu religion and 28 (20.7%) were Islam. None of the subjects belong to Christian and other religion.

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TABLE 1.5
Frequency and percentage distribution of ASHA Workers according to their working experience.

n=135

Working Experience	Frequency (f)	Percentage (%)
< 1 year	6	4.4
1-10 years	106	78.6
10-15 years	15	11.1
> 15 years	8	5.9
Total	135	100

The data presented in table 1.5 shows that the majority i.e. 106 (78.6%) of ASHA Workers were having 1-10 years of working experience followed by 15 (11.1%) were having 10-15 years of working experience, 8(5.9%) were having >15 years of experience and 6(4.4%) were having <1 year of experience.

B. Findings related to Knowledge regarding Home Based Newborn Care (HBNC) among ASHA Workers.

TABLE 2
Frequency and percentage distribution of knowledge of ASHA Workers.

n=135

Knowledge	Frequency (f)	Percentage (%)	Score range	Median	Mean	SD
Inadequate (≤11)	14	10.3				
Moderate (12-19)	102	75.6	8-26	15	15.63	3.37
Adequate (≥20)	19	14.1				
Total	135	100				

The data depicted in table 2 shows that among 135 subject, majority 102(75.6%) of participants had moderate knowledge followed by 19(14.1%) had adequate knowledge and 14(10.3%) of participants had inadequate knowledge with obtained minimum score of 8 and maximum score of 26 and score range 18 with median score of 15, mean score 15.63 and SD was 3.37.

C. Findings related to Knowledge on Practice regarding Home Based Newborn Care (HBNC) among ASHA Workers.

TABLE 3.1
Frequency and percentage distribution of Knowledge on Practice of ASHA Workers.

n=135

Knowledge on Practice	Frequency (f)	Percentage (%)	Score range	Median	Mean	SD
Inadequate (≤9)	2	1.5				
Moderate (10-13)	116	85.9	9-14	12	11.65	1.33
Adequate (≥14)	17	12.6				
Total	135	100				

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The data depicted in table 3.1 shows that among 135 subject, majority i.e. 116(85.9%) of participants had moderate Knowledge on Practice followed by 17(12.6%) had adequate Knowledge on Practice and 2(1.5%) had inadequate Knowledge on Practice with obtained minimum score of 9 and maximum score of 14 and score range 5 with median score of 12, mean score 11.65 and SD was 1.33.

TABLE 3.2

Frequency and rank distribution of Knowledge on Practice regarding Home Based Newborn Care (HBNC) in terms of items among ASHA Workers in selected Health Centres of Kamrup (M), Assam.

Sl No.	Questions/Items	Yes	
		Frequency (f)	Rank
1.	Do you go for home visits after an institutional delivery?	129	1
2.	Do you go for an extra visit in case of home delivery?	98	12
3.	Do you show the techniques of breastfeeding to the mothers?	116	7
4.	Do you encourage the mother for exclusive breastfeeding?	80	13
5.	Do you explain the mother about sign and symptoms of inappropriate breastfeeding?	124	2
6.	Do you explain the mother regarding importance of colostrum?	119	5
7.	Do you check the baby's weight according to the colour code of the weighing machine?	122	3
8.	Do you check the newborn's umbilical cord for any infection?	122	3
9.	Do you advice the mother to keep the baby warm and dry every time?	121	4
10.	Do you encourage the mother for newborn's eyecare?	115	8
11.	Do you advice the mother for skin to skin contact incase of a low birth weight baby?	114	9
12.	Do you give health education regarding hypothermia and hyperthermia?	106	10
13.	Do you encourage the mother for baby's immunization?	118	6
14.	Do you advice the mother to maintain baby's personal hygiene?	103	11

The data presented in Table 3.2 shows the frequency and rank distribution of the items on Knowledge on Practice regarding Home Based Newborn Care (HBNC) among ASHA Workers. The majority of the ASHA Workers score maximum in item no. 1 (Do you go for home visits after an institutional delivery?) with frequency 129, And also the minimum in item no. 11 (Do you advice the mother to maintain baby's personal hygiene?).

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D. Findings related to Correlation between Knowledge and Knowledge on Practice regarding Home Based Newborn Care (HBNC) among ASHA Workers.

TABLE 4
Correlation between Knowledge and Knowledge on practice of ASHA Workers.

n=135

Variables	Mean	SD	r value	p value	Inference
Knowledge	15.63	3.37			
Knowledge on Practice	11.65	1.33	0.286	0.001*	Significant*

*p<0.05 level of significance

The data presented in Table 4depicts the correlation between Knowledge and Knowledge on Practice regarding Home Based Newborn Care (HBNC) among ASHA Workers which was tested by using karl pearson correlation with obtained (r=0.286, p=0.001) indicates weak positive correlation between knowledge and knowledge on Practice regarding Home Based Newborn Care (HBNC) among ASHA Workers and found to be statistically significant at p<0.05 level of significance.

Thus, Null hypothesis H_{01} is rejected and Research hypothesisH_1: There is significant co-relation between the Knowledge and Knowledge on Practice regarding Home Based Newborn Care (HBNC) among ASHA Workers in selected Health Centres of Kamrup (M), Assam, is accepted. The finding inferred that as the knowledge increase practice also enhance.

E. Findings related to association between Knowledge regarding Home Based Newborn Care (HBNC) among ASHA Workers and selected socio demographic variables.

In the present study, overall statistical significant association was found in regard to age (χ^2=18.88,p value=12.49) with Knowledge regarding Home Based Newborn care (HBNC) among ASHA Workers which was tested by using chi-square test. The rest of the demographic variables i.e. education, marital status, religion and working experience were found to be non-significant with knowledge regarding Home Based Newborn Care (HBNC) among ASHA Workers. Thus null hypothesis H_{02} is rejected and research hypothesis H_2: There is significant association between the Knowledge regarding Home Based Newborn Care (HBNC) with selected socio-demographic variables among ASHA Workers in selected Health Centres of Kamrup (M), Assam, is accepted only in terms of age.

F. Findings related to association between Knowledge on Practice regarding Home Based Newborn Care (HBNC) among ASHA Workers and selected socio demographic variables.

In the present study, overall statistical significant association was found in regard to age of ASHA workers (χ^2=15.45, p value=0.016) Knowledge on practice regarding Home Based Newborn Care (HBNC) among ASHA Workers which was tested by using chi-square test. The rest of the demographic variables i.e. education, marital status, religion and working experience were found to be non-significant with Knowledge on practice regarding Home Based Newborn Care (HBNC) among ASHA Workers. Thus the null hypothesis H_{03} is rejected and research hypothesis H_3: There is significant association between the Knowledge on Practice regarding Home Based Newborn Care (HBNC) with selected socio-demographic variables among ASHA Workers in selected Health Centres of Kamrup (M), Assam, is accepted in terms of age of ASHA Workers.

IV. DISCUSSION

Knowledge regarding Home Based Newborn Care (HBNC) among ASHA Workers in selected Health Centres of Kamrup (M), Assam.

The findings of the present study, majority i.e. 102(75.6%) of ASHA workers had moderate knowledge followed by 19(14.1%) had adequate knowledge and 14(10.3%) of participants had inadequate knowledge.

The study findings were supported by a study conducted by Choudhary LM, Joshi P, Murry L, Malhotra S, Shankar J (2020) on Knowledge and skills of Accredited social health activists in home-based new-born care in a rural community of Northern India.

A community based observational survey was conducted in one of the selected primary health centre (PHC) located in the Ballabgarh block in Faridabad district of the Northern state of India. A total of 48 ASHA workers working under the primary health centre (PHC), trained for module 6 and 7 of HBNC, willing to participate and available during the survey were enrolled using a total enumeration sampling technique. A self-developed, pre tested and validated tool based on home based new-born care was used for data collection included socio-demographic profile, structured knowledge questionnaire and observation checklist. The study revealed that almost half of the ASHA workers i.e. 47.9% had average knowledge and domain wise half of the ASHA workers exhibited good knowledge in identification of high risk newborn (50%), followed by breastfeeding (41.7%), thermal care (35.5%), cord and eye care (35.4%).The study concluded that most of the ASHA workers had exhibited good skills but were lacking scientific knowledge related to HBNC, there is need for having periodic re-orientation training for facilitating application of scientific knowledge to HBNC.

Knowledge on Practice regarding Home Based Newborn Care (HBNC) among ASHA Workers in selected Health Centres of Kamrup (M), Assam.

In the present study, majority i.e. 116(85.9%) of ASHA workers had moderate knowledge on practice followed by 17(12.6%) had adequate knowledge on practice and 2(1.5%) had inadequate knowledge on practice.

The study findings were supported by a study of Pandit BS, Boricha GB, Mhaske A (2016) conducted on assessment of the knowledge and practices regarding home based newborn care (HBNC) among Accredited Social Health Activist (ASHA) in Rural area of Maharashtra. The cross- sectional exploratory research design with survey approach was used, Where 37 ASHA from rural area of Maharashtra were assessed. The data was collected using knowledge questionnaire & practices checklist regarding Home based newborn care. After permission data collection had done with consent. Total 37 ASHA were assessed for knowledge & practices regarding home based newborn care. The study revealed that majority i.e. 72.97% ASHA workers had average level of Practice followed by 16.22% had poor practice and 10.81% had good level of practice score respectively. The study shows that the most of the ASHA's had average knowledge and Practices regarding home based newborn care and recommends that there is need for the competency-based training to improve their skills.

Correlation between Knowledge and Knowledge on Practice regarding Home Based Newborn Care (HBNC) among ASHA Workers in selected Health Centres of Kamrup (M), Assam.

The present study shows that the obtained ($r=0.286$, $p=0.001$) which indicates weak positive correlation between Knowledge and knowledge on Practice regarding Home Based Newborn Care (HBNC) among ASHA workers and found to be statistically significant at $p<0.05$ level of significance. Thus, null hypothesis H_{01} is rejected and research hypothesis H_1 is accepted i.e there is significant correlation between Knowledge and knowledge on Practice regarding Home Based Newborn Care (HBNC) among ASHA workers is accepted.

The study findings were supported by a study conducted by Choudhary LM, Joshi P, Murry L, Malhotra S, Shankar J (2020) on Knowledge and skills of Accredited social health activists in home-based new-born care in a rural community of Northern India. The result showed that Mean knowledge and skill scores of ASHA workers were 16.4±4.2 and 27.7±4.3 respectively, nearly half of the ASHA workers had average knowledge, while two thirds had good skills toward HBNC, most of the ASHA workers had shown good skills in measuring the temperature of newborns, handwashing and count the respiration correctly, while less than 40% of ASHA workers performed weight recording correctly. Knowledge and overall skill scores of ASHA workers were positively correlated ($r=0.58$, $p<0.001$) and found to be statistically significant. The study concluded that most of the ASHA workers had exhibited good skills but were lacking scientific knowledge related to HBNC, there is need for having periodic re-orientation training for facilitating application of scientific knowledge to HBNC.

V. CONCLUSION

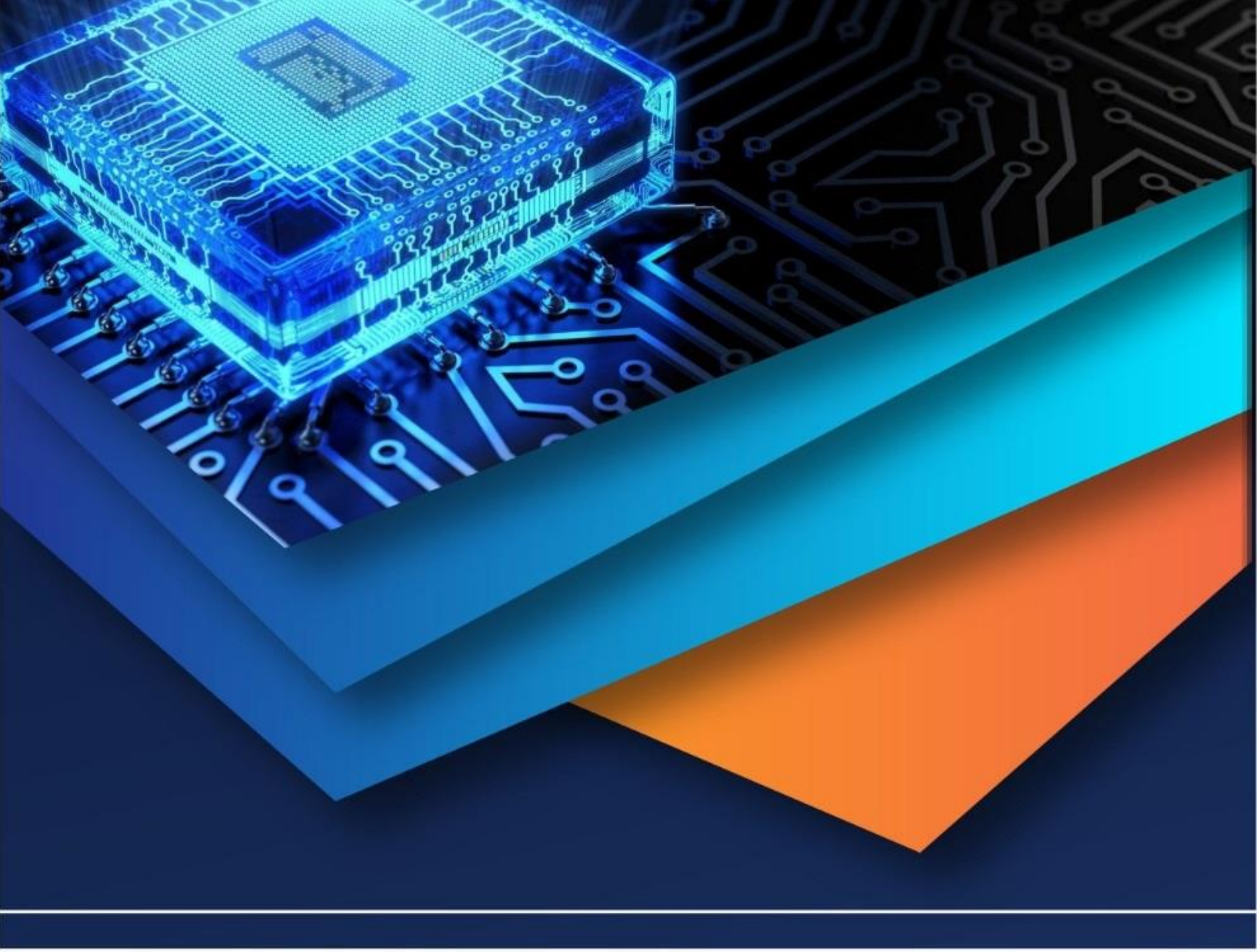
Home-based newborn care (HBNC) is a strategy adopted by government of India to overwhelm the burden of new born deaths in the first week of life, it provides continuum of care for newborn and post-natal mothers. The aim of the study was to assess the Knowledge and Knowledge on Practice regarding Home Based Newborn Care (HBNC) among ASHA Workers in selected Health Centres of Kamrup (M), Assam. The result revealed that the majority i.e. 102(75.6%) of ASHA workers had moderate knowledge. Similarly, majority i.e. 116(85.9%) of ASHA workers had moderate knowledge on practice. There was weak positive correlation between Knowledge and knowledge on Practice ($r=0.286$, $p=0.001$) regarding HBNC among ASHA workers and found to be statistically significant at $p<0.05$ level of significance, as Knowledge on Practice is assess through checklist and not by Practice thus correlation between Knowledge and Knowledge on Practice is weak.

Overall statistical significant association was found in regard to age of the ASHA workers with knowledge (χ^2=18.88, p value=12.49) and age of the ASHA workers with knowledge on practice (χ^2=15.45, p value=0.016), and the rest of the demographic variables with both knowledge and knowledge on practice found to be statistically non-significant. Therefore, the study concludes that there is need to strengthen the ASHA's knowledge and knowledge on practice regarding Home Based Newborn care through refresh training and hands on training.

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