

## COMPETENCY OF ASHA WORKERS AND THEIR WORK EFFECTIVENESS: AN EMPIRICAL STUDY OF ASSAM

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Accredited Social Health Activist (ASHA) workers were created under the National Rural Health Mission (NRHM) of the Government of India. They have been identified as an effective link between the community and health system irrespective of the economic status of community members. They provide health related services at community level and are working as grassroots level health workers. The success of NRHM depends a lot on the role played by ASHAs. Therefore, ASHA workers have to be competent to bring about desirable changes in the health scenario of rural areas. The competency of ASHAs is reflected in their attitude, knowledge and skills in promoting and providing health services in the community. This article presents a descriptive cross-sectional study conducted using survey method to collect relevant information from ASHAs in three districts of Assam, namely Sonitpur, Nagaon, and Sivsagar districts. Data was collected using a pretested structured questionnaire and was entered into MS-Excel and analyzed using SPSS software version 17. The study reveals that ASHA workers have medium level of knowledge regarding their work. The majority of ASHAs have a positive attitude but they do not have complete mastery over their work and the institutional training provided to them is insufficient. Scores of knowledge, attitude, skills and training imparted to them reveal that there is a gap in the competency of ASHA workers.

*Keywords: NRHM, ASHA, Knowledge, Skill, Attitude, and Training*

### Introduction

The majority of India's population live in rural areas, therefore improving the living standard of the population residing in rural areas is important for the development of the nation. As stated by Hota and Dobe (2005), in a nation like India improvement in rural health is the first key step towards development. Gill and Ghuman (2000) identified the need for prioritizing rural healthcare, particularly preventive healthcare. According to their study, which takes Punjab as its case study, state policy must allocate additional investments for sanitary infrastructure and medical personnel in rural areas, as this is essential for redressing the growing disparity in healthcare facilities between rural and urban areas. The study concludes that, amongst other steps necessary to improve health

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services in rural areas, the village community through its panchayati raj institutions needs to be involved.

To provide basic healthcare facilities to the rural population, the Government of India implemented the National Rural Health Mission (NRHM) in 2005. The mission aims to provide accessible and effective primary healthcare by strengthening the healthcare delivery system. The position of Accredited Social Health Activist (ASHA) was created as an important component of NRHM to form a link between community and healthcare system (Hota, 2006). The main responsibilities of ASHAs are creating awareness and providing information to the community about health, nutrition, sanitation and hygiene. They counsel women on birth preparedness, institutional delivery, importance of safe delivery and breastfeeding. They accompany pregnant women to health centres for antenatal check up, delivery and postnatal check-up. They mobilize the community and facilitate them in accessing health related services such as medical care for minor ailments, new born care, maintenance of birth and death statistics. The ASHA is also expected to work with the Anganwadi Workers (AWW) to conduct various health activities within the village. They must also coordinate with gram panchayat functionaries to form Village Health Sanitation Committees and motivate people to construct toilets and develop comprehensive village health plans; besides which they provide help for any health related issues to the deprived section of the population who find it difficult to access health services.

To perform the various assigned activities successfully ASHA workers should be competent. Bajpai and Dholakia (2011) report that some ASHAs have no clear idea about their roles and responsibilities; and due to this lack of knowledge and insufficient training are unable to perform their work to the necessary standard. Thus, ASHAs' knowledge, skill and attitude are crucial aspects of healthcare for effective outcomes (Vathanophas & Thai-ngam, 2007), and for the success of NRHM. Therefore it is very important to determine the level of competency of ASHAs, because competency assessment can help to identify those health workers who are proficient enough to provide healthcare services as well as those who need support to improve their knowledge and skills in specific areas. Competence assessment can also determine the efficacy of training interventions in closing knowledge and skills gaps. Low scores in a competence assessment after training may indicate that the training was ineffective, poorly designed, poorly presented or inappropriate.

Competent and motivated individuals who are able to play an effective role can contribute positively to developing the healthcare scenario in rural areas, while incompetent persons are unlikely to help achieving good results. Therefore, this study was undertaken firstly, to determine the competency of ASHAs in order to find out their work effectiveness. To this end ASHAs' competency, as detailed below, is studied in terms of their knowledge, skills and attitude. Secondly, this study seeks to assess the trainings imparted to ASHA workers, and thirdly, to determine the relationship between duration of training received and knowledge, skills and attitudes gained. Finally, the study assesses how well health targets are being met in Assam.

### **Materials and methods**

This study was conducted in three districts of Assam, namely Sonitpur, Sivasagar and Nagaon districts. Survey method was used to collect relevant information from ASHAs of the selected districts. After referring to evaluation reports published by the district programme office of the respective three districts, 30 percent of the health development blocks from each district were selected on the basis of their performance as good, medium and low performing blocks. Hence three health development blocks from Sonitpur, four blocks from Nagaon and three blocks from Sivasagar district were selected. 10 percent of villages from each health development block were selected by using a random number generator table. From each selected village one ASHA was considered. As a result, a total of 144 ASHAs from 144 villages were selected for this study. Data was collected by using a pretested structured questionnaire. The data was entered in MS-Excel and analyzed using SPSS software version 17. Data analysis was done with the help of frequency distribution tables, measure of central tendency and one way ANOVA. A reliability test of the questionnaire containing questions in interval scales was carried out by applying Cronbach's alpha method, for which the reliability coefficient was calculated to be 0.70.

### **Analysis and findings**

This section is divided into three parts, corresponding with the study's three objectives, namely to determine the competency of ASHAs by studying their knowledge, skills and attitude; to assess the trainings imparted to ASHA workers; and to determine the relationship between duration of training received and knowledge, skills and attitudes gained.

### ***Competency of ASHAs: Their knowledge, skills and attitude***

The knowledge level of ASHAs was measured in the aspects of maternal health, child health, knowledge about their community, sanitation and hygiene, food and nutrition. For this, a knowledge test was administered against a checklist that was prepared based on the training module for ASHAs, and against health department officials' feedback that ASHAs must have adequate knowledge of the components mentioned. Responses were measured in a 3 point scale as 'know thoroughly', 'know somewhat', and 'least known', where 'know thoroughly' indicates high level of knowledge, 'know somewhat' indicates medium level of knowledge, and 'least known' indicates a low level of knowledge. These are marked as 3, 2, and 1 respectively.

Every correct answer is awarded a score of 3; every incomplete response is awarded a score of 2 and for a wrong or no answer a score of 1 is awarded. Twenty statements are structured under the above mentioned areas. Thus a total of 60 marks are given for the knowledge test. To interpret the level of knowledge of ASHA workers, the scores are distributed as follows: Maximum score that can be obtained in knowledge test = 60 (with an average mean score of 3); High level knowledge = if respondent obtained > 40 marks (With average mean score > 2.4); Medium level of knowledge = if respondent obtained 40 to 20 marks (Average mean score = 1.5 to 2.4); Low level of knowledge = if respondent obtained < 20 marks. (With an average mean score <1.5).

**Table-1. Mean scores of ASHAs' knowledge regarding different aspects of health issues**

<b>Aspects</b>	<b>Category</b>	<b>Mean score</b>
Knowledge about their community	High level of knowledge	2.85
Maternal health	High level of knowledge	2.65
Child health	Medium level of knowledge	2.44
Hygiene and sanitation	Medium level of knowledge	2.35
Food and nutrition	Medium level of knowledge	1.94

The findings presented in Table 1 show that ASHA workers have a high level of knowledge about their community and in the area of maternal health with a mean score of 2.85 and 2.65 respectively. The ASHAs motivate their clients for institutional delivery and accompany them to hospital for antenatal and postnatal check-ups and for institutional delivery, they properly handle their record books, and they register their clients' names and help them to get *Janani Surksha* cards. Similar findings were in the line of Mahayavanshi et.al 2001. However, ASHAs have a lack of knowledge

about the reasons mosquitoes' breed and about the symptoms of malaria. Their involvement in motivating the community for construction of low cost sanitary latrines and cleanliness of surroundings is very less. Similar findings were reported by Khan, Naseem, Saeed, Baseer, & Sayed (2006). ASHAs have a lack of knowledge about soak pits which are used to avoid pools of water, particularly in streets and common pathways. They were also found to have no idea regarding the benefits of condiments, consumption of fruits, vegetables and the importance of sprouts' fibre.

Skill is another important factor for ASHAs. One may have no skill, little skill, some skill or complete mastery in any given field. Communication skill, interpersonal skill, organizational skill, advocacy skill, coordination skill, and teaching skill were studied because these are all needed by ASHAs if they are to perform their task effectively.

To find out the skills of ASHAs a systematic observation method was undertaken with the help of a structured schedule. A 4-point Likert scale was used to measure their skills, namely 'to large extent', 'to some extent', 'to little extent' and 'not at all', and they were given scores of 4, 3, 2, and 1 respectively. Here, 'to large extent' indicates complete mastery in skills, 'to some extent' indicates some skill, 'to little extent' indicates very little skill, and 'not at all' means no skill. Health Day, Vaccination Day, Village Health and Sanitation Day, group discussions and meetings organized by ASHAs were attended to observe their performance and on the basis of the researcher's observations, ASHAs were awarded scores for their skills.

24 statements were structured under the above mentioned six skills in order to observe ASHAs' skills. Thus a total of 96 marks were given by the researcher on the basis of observation. To interpret the quality of skills the scores were distributed as follows:

Maximum scores for skills = 96 (with average mean score 4);  
Mastery in skill = if respondent scored in between 72-96 marks (with average mean score > 3.4);  
Some skill = if respondent scored in between 48-71 marks (with average mean score 2.5 to 3.4);  
Little skill = if respondent scored in between 24-47marks (with average mean score 1.5 to 2.4);  
No skill = if respondent scored less than 24 marks (with average mean score < 1.5).

The mean scores of the analyzed data regarding skills of ASHA workers reveal that they had mastery in communication skill

(3.50), interpersonal skill (3.44) and coordination skill (3.56). However, they had 'some skill' regarding organizational skill (3.02), and teaching skill (2.85). ASHA workers had 'little skill' (2.01) in advocacy in their community (Table 2).

**Table-2. Mean scores of skills of ASHA workers in different aspects**

Sl. No.	Skills	Category of skill	Mean score
1	Communication	Mastery	3.50
2	Interpersonal	Mastery	3.44
3	Organisational	Some skill	3.02
4	Coordination	Mastery	3.56
5	Advocacy	Little skill	2.01
6	Teaching	Some skill	2.85

The findings show that none of the ASHAs are masters in performing their work. The level of mastery can only be gained by ASHAs after getting induction training and also additional training and hands on experience, as this can help them reach a level that can be certified as competent.

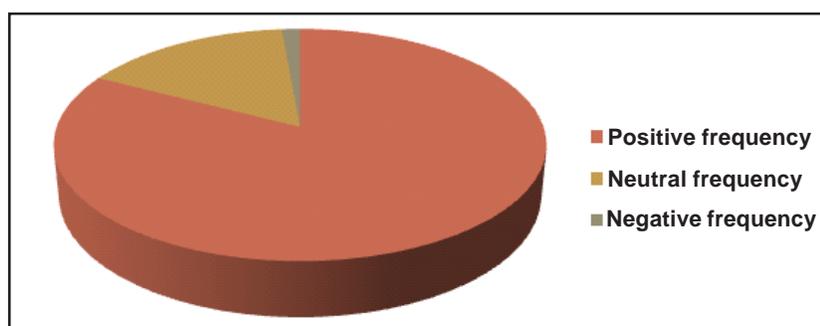
Attitude refers to the way ASHAs think or feel about their work. Attitude is a tendency to respond positively or negatively towards a certain idea, object, person or situation. So it is important to study attitude because positive attitude is very crucial to bringing about effective outcomes. To study the attitude of ASHA workers a structured attitude scale was used.

To interpret the quality of attitude, 11 statements are framed in the schedule and are given a score of 5 for 'strongly agree', 4 for 'agree', 3 for 'neutral', 2 for 'disagree' and 1 for 'strongly disagree'. The scores are distributed as follows (a similar scale was followed by Usha, 2012). The maximum score for attitude test = 55; Positive attitude = if respondent scored >33 marks (with average mean score >3.4); Neutral = if respondent scored 23-33 marks (with average mean score 2.5-3.4); Negative attitude = if respondent scored <22 marks (average mean score <2.5).

Table 3 shows that the majority of the respondents (78.6%) have a positive attitude towards their work and only two of the 144 interviewed respondents have a negative attitude towards their work. The mean score of attitude, 4.01, depicts that the majority of ASHA workers had a positive attitude. See also figure 1.

**Table - 3. Attitude of ASHA workers towards their work**

Variable	Positive		Neutral		Negative		Mean of attitude
	No.	%	No.	%	No.	%	
Attitude	119	78.6	23	20.0	2	1.4	4.01

**Figure - 1. Summary of attitude of ASHA workers (n=144) towards their work**

### ***Training imparted to ASHA workers: Duration and content of training***

Capacity building of ASHA workers is very important to enhance their work effectiveness. It has been envisaged that training helps ASHAs by equipping them with necessary knowledge, skills and confidence. The training curriculum specially developed for ASHAs in Assam is based on the Government of India's NRHM modules. ASHAs are provided a 5-level module training over a total of 23 days per year in four rounds: 10 days for modules 1 and 2; four days for module 3, four days for module 4, and five days for module 5. Following induction training, periodic training is held for two days once in every alternate month, to refresh and upgrade ASHAs' knowledge and skills and also to keep up their motivation and interest. ASHAs are also provided on the job training to support them during their work. The *ASHA Guide* produced by the NRHM recommends the following tasks for ASHAs:

- i) Preventive health and record keeping
- ii) Maternal health (accompany for three prenatal check-ups and care during pregnancy and postnatal period)
- iii) Child health (promotion of breast feeding to new born baby and home-based care and immunization)
- iv) Adolescence health and awareness
- v) Referral and first aid
- vi) Food and nutrition
- vii) Sanitation and hygiene

The duration and content of trainings were investigated to find out the quality of training imparted to ASHA workers. Table 4 depicts that one half of ASHA workers, i.e. 51 percent, have undergone 10 days of training whereas only one third, i.e. 33 percent, have received the prescribed 23 days of training. This shows that the majority of ASHAs have received less than the required amount of training. Hence it is difficult to expect their performance to be optimal.

**Table - 4. Distribution of ASHA workers according to the duration of receiving training**

Training duration	Frequency (f)	Percentage (%)
10 days training (modules 1-2)	74	51.4
10+4 (14) days training (modules 1-3)	3	2.1
10+4+4 (18) days training (modules 1-4)	20	15.3
10+4+4+5 (23) days training (modules 1-5)	47	32.6

Regarding the content of training, 100 percent of ASHA workers have received training on tasks under maternal health and child health whereas two-fifths (39 percent) have received training under the area of hygiene and sanitation, and record keeping (Table 5). Less than a third, i.e. 31 percent have had training in food and nutrition, and in the area of adolescence health, whereas just one-fifth of ASHAs have had training in referral and first aid. This implies that all ASHAs have received inappropriate/incomplete training. Refresher training is rarely organised. Thus ASHAs are given incomplete training.

**Table -5. Distribution of ASHA workers according to the area of receiving training**

Sl. No.	Content of training	Frequency (f)	Percentage (%)
1	Maternal health	144	100
2	Child health	144	100
3	Adolescence health	42	29.2
4	Hygiene and sanitation	56	38.9
5	Food and nutrition	45	31.2
6	Referral and first aid	31	21.5
7	Record keeping	56	38.9

***Cross-comparison of competence indicators with duration of training***

One-way ANOVA tests were undertaken to find out whether knowledge, skills and attitudes of ASHAs in different health issues are significantly different in accordance with the duration of training they have received. The following hypothesis is formulated.

Hypothesis 1: Average knowledge score of ASHAs do not vary by duration of training received.

$H_0: \mu_1 = \mu_2 = \mu_3 = \mu_4$  where

$\mu_1$  = average knowledge score for those who received 10 days training

$\mu_2$  = average knowledge score for those who received 14 days training

$\mu_3$  = average knowledge score for those who received 18 days training

$\mu_4$  = average knowledge score for those who received 23 days training

The results of the one-way ANOVA tests show that there is a significant difference in the knowledge of ASHAs with the duration of training received ( $p$  value less than  $\alpha = 0.05$ ) hence, null hypothesis is rejected (Table 6). This implies that training enhances the workers' knowledge. With the increase in duration of training the knowledge level of ASHAs also increased. Further post-hoc analysis was undertaken to find out the level of significance among the duration of training. The post-hoc analysis reveals that there is a significant difference between the 10 days training (modules 1 and 2) and 23 days training (modules 1-5), and again between 14 days (modules 1-3) training and 23 days training (modules 1-5).

**Table - 6. ANOVA test for knowledge of ASHAs across duration of training**

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.760	3	.587	5.998	.001
Within Groups	13.692	140	.098		
Total	15.452	143			

Hypothesis 2: Average overall skills score do not vary by duration of training received.

Symbolically,  $H_0: \mu_1 = \mu_2 = \mu_3 = \mu_4$  where

$\mu_1$  = average overall skills score for those who received 10 days training

$\mu_2$  = average overall skills score for those who received 14 days training

$\mu_3$  = average overall skills score for those who received 18 days training

$\mu_4$  = average overall skills score for those who received 23 days training

The duration of training has no significant difference in respondents' skills ( $p = 0.167$ , more than  $\alpha = 0.05$ ) hence, null hypothesis cannot be rejected (Table 7). It might be that the additional days of training do not focus on enhancing their job intended skills to a larger extent.

**Table - 7. ANOVA test for skills and duration of training received**

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	68.983	3	22.994	1.714	.167
Within Groups	1877.843	140	13.413		
Total	1946.826	143			

Hypothesis 3: Mean scores of attitude do not vary across duration of training received.

Symbolically,  $H_0: \mu_1 = \mu_2 = \mu_3 = \mu_4$  where

$\mu_1 =$  Average scores of attitude of ASHAs for those who received 10 days training

$\mu_2 =$  Average scores of attitude of ASHAs for those who received 14 days training

$\mu_3 =$  Average scores of attitude of ASHAs for those who received 18 days training

$\mu_4 =$  Average scores of attitude of ASHAs for those who received 23 days training

Table 8 shows that there is a significant difference between the attitudes of ASHAs with the duration of training received (p value less than  $\alpha = 0.05$ ) and so null hypothesis is rejected. This implies that with an increase in the training modules, the attitude of ASHAs towards their work also improves. Hence training enhances the attitude of ASHAs. This is supplemented by post-hoc analysis, where pair wise significant differences are established at  $\alpha = 0.05$ . The post hoc result reveals that there is a significant difference between the 10 days training (modules 1 and 2) and 23 days training (modules 1 to 5), and again there is a significant difference among 18 days training (modules 1-4) and 23 days training (modules 1-5). The effectiveness of ASHAs' performance largely depends on training and support from both the health system and the community. Therefore, reorientation training should be conducted to understand the problems ASHAs are facing and to improve their efficacy.

**Table - 8. ANOVA test for attitude of ASHA workers across duration of training.**

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	5.303	3	1.768	3.589	.015
Within Groups	68.957	140	.493		
Total	74.260	143			

### Discussion and suggestions

The knowledge of Accredited Social Health Activists (ASHAs) was assessed based on five different aspects of health issues such as knowledge regarding their community, maternal health, children health, sanitation and hygiene, and food nutrition. As per NRHM guidelines, ASHAs must have a high level of knowledge in the above-

mentioned aspects. Findings indicated that ASHAs in Assam have a high level of knowledge regarding their community and maternal health but only a medium level of knowledge in the aspects of child health, sanitation and hygiene, and food and nutrition. Findings indicate that ASHAs' knowledge of different aspects of health is less than what is desirable for carrying out their work. With regards to skills, ASHA workers should have mastery in communication skill, interpersonal skill, organizational skill, coordination skill, advocacy skill and teaching skill. Yet the findings of the study reveal that the ASHA workers of Assam have complete mastery in communication, interpersonal and coordination skill but they lack mastery in advocacy, organizational and teaching skill. In advocacy they perform the worst, having little skill. Enhancement of these skills in ASHAs is necessary to improve their performance.

The lacuna in ASHAs' skills may be due to the inappropriate training provided to them. The research shows that only one third of ASHAs received the recommended 23 days training while the majority received less than the required amount of training. This implies that all ASHAs received incomplete training. Training is mainly provided in the area of maternal and child health while other areas remain overlooked. It is therefore difficult to expect that ASHAs' performance should be optimal: lack of training impacts the competency of ASHAs. The one-way ANOVA tests' results show that there is significant difference in the mean score of knowledge and attitude of ASHAs across duration of training. This implies that training enhances the knowledge and attitude of ASHAs. Yet training was found to be significantly unrelated to skills. This may be due to the inadequate and incomplete training provided to them.

ASHAs are very keen to perform some of their job responsibilities like registration of pregnant women, antenatal care/postnatal care, and immunization, because of the financial incentives they receive for this work under *Janani Suraksha Yojana* (Mother Security Scheme). But they give less priority to other tasks such as motivating people to construct toilets, to participate in the village health and sanitation committees constituted in each village, and to develop comprehensive village health plans, family planning, and adolescent health education, etc. Therefore, perhaps ASHAs should be provided additional financial incentives for every task. Moreover gaps were found in the knowledge and skills of ASHAs. The training provided to them in the study area was insufficient and incomplete. Therefore adequate information and the stipulated 23 days of training as prescribed by NRHM should be provided to ASHAs. Reorientation training and on the job training should be provided by experts in order to ensure that no gaps in training remain.

## Conclusion

This study shows that ASHA workers in Assam have a lack in knowledge regarding sanitation and hygiene, food and nutrition. They are not having mastery over the skills required to carry out their work, though the majority of ASHAs have a positive attitude and are self motivated. Two-thirds of interviewed ASHAs have not undergone the prescribed annual 23 days of training, and besides this, several gaps were identified in the training programme. The study shows how training improves knowledge and attitude, and therefore recommends that ASHAs should be provided adequate training, including reorientation training.

Competency assessment is important to determine effectiveness of ASHA workers in facilitating rural folk, women and children especially, to avail healthcare services. It can help healthcare organizations to identify both competent health workers to link villagers with healthcare services, and incompetent workers who need improvements related to gaps in specific areas of their knowledge and skills. Based on this need, the required training can be designed to enhance ASHA workers' knowledge and skills to make them confident in the field and to empower them to improve the coverage of community health programmes.

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