

Performances of the Selected Rural Women Nutrition Volunteers in Nutrition Education Programme

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Introduction

Wide spread malnutrition in any community causes retarded physical and mental growth resulting in inefficient and less active manpower. High prevalence of malnutrition in Bangladesh with a progressive deterioration over time has now been well established by a number of studies^{1,2,3}. Children and mothers particularly in rural areas were found to be the most vulnerable. More than 73 percent of children and women suffer from iron deficiency anemia³, while about 30,000 children go blind every year due to vitamin 'A' deficiency⁴. Children as well as pregnant and lactating women are often neglected and deprived in respect to food intake due to existing cultural barrier--taboos and misconceptions^{5,6}.

The causes of malnutrition are multiple. It is the result of various overlapping and interrelated social, economic, ecological factors coupled with food crisis, lack of nutritional knowledge and infectious diseases. Malnourished children suffer more from diarrhoeal diseases⁷. Many causes of malnutrition can be prevented if the people of all walks of life specially the mothers know how to make the best use of their available resources. Therefore, importance of nonformal nutrition education among the population has been emphasized^{8,9}. Institute of Nutrition and Food Science (INFS), University of Dhaka, has been trying to disseminate the nutritional information among the common mass for a long time through

different training programmes. The efforts were found to be encouraging in increasing the nutritional knowledge among the people including the illiterate mass¹⁰.

In January, 1987 INFS had undertaken another training programme on nutrition education and supplementary food, in twenty upazilas of greater Dhaka district in co-operation with Bangladesh Rural Development Board (BRDB) with financial assistance from UNICEF. The aim of this programme was to create awareness among the mothers through women nutrition volunteers on the existing nutritional problems particularly affecting them and their children, and to address the problems by utilizing cheap and locally available food stuff.

This study presents the findings of the nutrition training programme in terms of the performances of the participants from four randomly selected upazilas.

Materials and Methods

Back ground of the trainees and training activities

The trainees were selected from 45 villages in each of 20 upazilas on the basis of the following criteria:-

- The trainee must be married
- She must be between 20-50 years of age
- She is permanently settled in the village
- She can read and write

- She is either a member or willing to be a member of 'Mohila Bittahin Samity' (Landless women cooperative society)

The training syllabus consisted of all the basic aspects of nutrition such as functions of food, different food groups, nutritional deficiency diseases including protein energy malnutrition and their prevention, balanced diet for different physiological groups, low-cost, and high-cost diets, breast feeding and weaning food practices. Related topics such as primary health care, environmental sanitation, personal hygiene, immunization, oral rehydration therapy, food production and preservation at home level, weaning food preparation and demonstration and practice of growth monitoring of children were also included in the syllabus. Training was conducted by well trained female nutrition educators. Training and retraining were for eight and six days duration respectively with an interval of nine months conducted from January 1987 to June 1988.

Development of Questionnaires for Evaluation

Two sets of questionnaires were designed to evaluate the nutritional knowledge of the trainees before and after each training and retraining. These were then carefully pretested in the rural areas and modified as needed to ensure that the messages would properly be conveyed to the target population.

Different training aids such as posters, flip charts, training manual including visual aids were also developed and pretested, and later modified as needed.

Evaluation of Nutritional Knowledge

Nutritional knowledge of the trainees were evaluated before and after each training and retraining through the questionnaires. The Instructors filled in the questionnaires through interview. As the trainees were almost homogenous in nature having almost

same educational background, the level of their existing nutritional knowledge was assumed to be similar and the effect of nutrition training on them was also expected to be similar. For this reason, a cross-section of the trainees from each batch in each upazila were purposively selected for interview. The same trainees were again interviewed after training to see the improvement in their nutritional knowledge.

During each retraining, another cross-section of the trainees from the respective batches were interviewed with a view to assess the retention of knowledge gained during the initial training as well as to see the effect of retraining. Among these interviewees, most of the trainees were previously interviewed during basic training.

Analysis of Questionnaires

The questionnaires filled in during the training and retraining in 20 upazilas were a few hundred. Out of 20 upazilas a sample size was worked out so that the results came out of the sampled upazilas would resemble to that of the remaining upazilas. The upazilas were arranged alphabetically and numbered serially. Then using a random table, serial number 3, 16, 12 and 18 were selected. The selected upazilas were Dohar, Singair, Satura and Sreenagar.

Each question for both pre and post nutrition training was graded in terms of its significance in Nutrition, and an arbitrary scoring system was developed. Total score for each of both sets of pre and post training questionnaires were fixed as 100. The total scores obtained by individual trainee before and after training were used to assess the initial level of her knowledge in nutrition and the improvement respectively. Since pre and post education mean scores obtained were a pair of observations in the same group of rural women Nutrition Volunteers, a paired 't' test was applied to test the statistical significance of the knowledge

gained as a result of the nutrition education programme.

Results

A total of 262 and 334 trainees were interviewed in four upazilas during basic training and retraining respectively. Table I shows the distribution of trainees interviewed during basic training and retraining by upazila.

Table II presents the frequency distribution of the trainees obtaining different ranges of scores in basic training and retraining. It appears that pre-education scores of basic training obtained by most trainees (87.41%) was upto 60 and 11.83 percent obtained scores ranging from 61-80, while in post-education it was found that 92.37 percent trainees obtained more than 80 scores. At the beginning of retraining none of the trainees obtained less than 60 scores. In this case, before retraining, 84.13 percent of trainees while after retraining 99.10 percent of trainees obtained more than 80 scores.

In table III, it shows that in basic training mean scores obtained by the trainees of 4 selected upazilas were 45.24 percent and 90.78 percent respectively before and after training with an overall improvement of the score by 45.54 percent. The improvement was found to be statistically significant ($P < 0.01$). The retention of gained knowledge among the trainees was found to be 41.28 percent on average as evaluated during pre-education test of retraining where the trainees could not retain the knowledge by 4.26 percent over a period of 9 months. But post-education test of retraining again showed significant improvement ($P < 0.01$) where the mean score obtained by them was 94.08 percent. The table also shows that the trainees could improve their knowledge on nutrition after completion of basic training and retraining by about 49 percent. This overall improvement was also found to be statistically significant ($t=149$) ($P < 0.01$).

Based on this improvement of knowledge, inference can be drawn that nutrition education and training is a useful intervention in improving the nutritional knowledge among the rural women nutrition volunteers.

Upazila-wise (Table IV), the trainees of Singair could do better compared to other upazilas both in basic training as well as in retraining, although they had the lowest level of knowledge before the basic training compared to the trainees of the remaining upazilas. In this upazila, the overall improvement was found to be 58.16 percent. The improvement achieved in each of the 4 selected upazilas was found to be significant at one percent level of significance.

Discussion

The people particularly the women in the rural areas of Bangladesh are unaware of proper knowledge on nutrition. But when they are exposed to any nutrition education through training programmes, they exhibit good performances. This was positively reflected in this study, which showed that after completion of training and retraining they were able to increase their knowledge by about 49 percent on average, and the improvement was found to be statistically significant (Table III). This proved the usefulness of nutrition education.

Kabirullah, et al¹¹ reported similar improvement of nutritional knowledge through a non-formal applied nutrition education programme on a group of students attending a vocational rehabilitation centre.

The results of this study, therefore, emphasize the need for non-formal nutrition education to the rural women in order to address the nutritional problems prevailing amongst them. It also justifies the need for retraining to make the nutritional knowledge more perfect and lasting.

Summary

People need proper nutritional knowledge to maintain their health and nutritional status, but the general people particularly the women in the rural areas are ignorant to this. With a view to increase their knowledge, INFS, Dhaka University in cooperation with Bangladesh Rural Development Board (BRDB) had undertaken a massive programme on training and retraining in nutrition for the rural women volunteers in 20 upazilas of greater Dhaka district with financial assistance from UNICEF. Their knowledge on nutrition was evaluated before and after each training and retraining through appropriate sets of questionnaires. It was found that the trainees significantly

improved ($t=149$) ($P<0.01$) their knowledge due to training and after a period of 9 months they showed a slight decrease in the gained knowledge which improved further significantly after retraining. The results revealed that training and retraining on nutrition are very encouraging and useful.

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Table 1. *Distribution of trainees interviewed during basic training and retraining by upazilas*

Upazila	Basic Training No.	Retraining No.
Dohar	68	90
Singair	70	89
Saturia	56	72
Sreenagar	68	83
Total	262	334

Table 2. *Percent frequency distribution of the trainees obtaining different ranges of scores in basic training and retraining*

Range of scores obtained	Types of training			
	Basic training		Re-training	
	Pre-edu.	Post-edu.	Pre-edu.	Post-edu.
upto 40	39.70	0.0	0.0	0.0
41-60	47.71	0.76	0.0	0.0
61-80	11.83	6.87	15.87	0.90
81-100	0.76	92.37	84.13	99.10
Total	100.00	100.00	100.00	100.00

Edu=Education

Table-3. *Distribution of the Average Scores obtained by the Trainees in Pre-and Post Evaluation of Basic Training and Re-Training*

	Basic Training		Retraining	
	Pre-edu.	Post-edu.	Pre-edu.	Post-edu.
Mean	45.24	90.78	86.52	94.08
Standard error	± 7.002	± 3.60	± 3.47	± 1.69
	t=226	p< 0.01	t=60.82	p< 0.01

Table 4. *Distribution of the Mean scores obtained by the trainees in four upazilas*

Place	Basic Training		Re-Training	
	Pre-edu. Mean score ± (S. D.)	Post-edu. Mean score ± (S. D.)	Pre-edu. Mean score ± (S. D.)	Post-edu. Mean score ± (S. D.)
Dohar	42.04 ± 6.36	88.82 ± 4.65	85.32 ± 3.18	93.94 ± 2.48
Saturia	43.68 ± 5.78	90.90 ± 4.52	86.76 ± 3.26	95.70 ± 1.35
Singair	38.74 ± 5.17	93.28 ± 3.32	88.74 ± 3.09	96.86 ± 1.41
Sreenagar	52.02 ± 7.52	94.26 ± 2.24	89.32 ± 2.46	96.26 ± 1.54

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