

Knowledge of Farm Women on Nutritional Value of Farm Products in Bangladesh

Afrin Sultana¹, Md. Safiul Islam Afrad², Muhammad Ziaul Hoque³ and
Dipanwita Bhattacharjee⁴

1. PG. Student, 2. Prof. and Head, 3. Asstt. Prof., 4. Ph. D Scholar, Department of Agril. Extension and Rural
Development, Bangabandhu Sheikh Mujibur Rahman Agricultural University, Gazipur, Bangladesh- 1706

Corresponding author e-mail: ddipa21@rediffmail.com

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ABSTRACT

Farm women are the users of the major part of farm products and, therefore, it is imperative for them to have knowledge on nutritional value of farm products. Therefore, the present study undertook an initiative to determine the extent of nutritional knowledge of farm women. A sample of 100 respondents was selected from three selected villages under Sadar upazila of Tangail district following the proportionate random sampling technique. Data were collected using pretested interview schedule during November to December 2014. Simple statistics like number, mean, range, percentile and standard deviation were used. Pearson's coefficient of correlation was employed to explore relationships between nutritional knowledge of farm women and their selected characteristics. Knowledge level was measured considering nine selected criteria. Findings revealed that highest proportion of the respondent (89.0%) possessed poor knowledge on nutrition. Age, education and farming experience showed positive significant relationship with knowledge level of the farm women. The possible reasons identified by the respondents lied behind their poor nutritional knowledge were: poor experience regarding farming activities, lack of education, improper facilities of training from different government organizations, insufficient sources of information and lack of cosmopolitaness. Major suggestions mentioned by the respondent to improve existing nutritional knowledge of them were: increasing opportunity for functional technical training and improving facilities for available communication sources.

Key words: Knowledge; Nutrition; Farm products;

Bangladesh is one of the densely populated countries in the world. She is bearing 150 million of people in her 1, 47,570 sq. km of areas. Of them, about fifty percent (105:100) are female (Anonymous, 2015). Health of women is directly related to the well being of the entire family. The literature indicates that rural women face higher risks of morbidity and mortality because of strenuous physical work (Rawat, 1995). Women with poor health and nutrition are more likely to give birth to unhealthy babies. With poor health they are also less likely to be able to provide food and adequate care to their children. While malnutrition is prevalent among all segments of the population, poor nutrition among women is much more as it begins at infancy and continues throughout their life (Jethi and Chandra, 2013). Rural

women are key agents for achieving the transformational economic, environmental and social changes required for sustainable development (Farhood Golmohammadi et al. 2016). In Bangladesh, women are in general responsible for livestock and poultry rearing. Poultry rearing is a traditional activity performed by women for income generation (A.N. Tuli, 2015).

Women are the key operator of the house. They play an important role in domestic duties such as washing utensils, cleaning house compounds (Dipanwita Bhattacharjee, 2015). Rural women are responsible for half of the world's food production and produces between 60-80 per cent of the food in most developing countries (Sarju Narain, 2015).

The women affected by malnutrition suffer from

deficiencies of different nutrients. They also have poor physical as well as mental growth and development which cause various handicaps. Malnutrition is a major cause of the high maternal mortality rate in Bangladesh (UNICEF, 2011). Malnutrition among women is a serious problem in Bangladesh as in many developing countries resulting various consequences. Protein-energy malnutrition, iron deficiency anemia, iodine deficiency disorders and vitamin A deficiency are common (UNICEF, 2010). Undernourished women are often physically weak and unable to perform income-earning activities and household work to their full potential which create worse effects that extend through generations and lead to economic losses for families and countries. Malnutrition dis-empowers women by causing or aggravating infection, illness, lowering educational attainment and diminishing livelihood skills and drains family savings (Alam *et al.*, 2011).

Malnutrition has taken a serious and widespread form in Bangladesh. It is a complex condition that can be influenced by multiple causes. Over population and poverty are pervasive in Bangladesh and causing population hazards like the problem of malnutrition. Specially, women are particularly vulnerable; suffering from social, economic and nutritional deprivation to a far greater extent than men. There is evidence that women are more likely than men to suffer under nutrition because of burdens of reproduction and social conditions in general (Leslie, 1991). Women become malnourished because of inadequate nutritional knowledge due to lack of education which leads to nutritional deficiencies in health, households' food insecurity and illness.

Proper nutritional knowledge of farm women is a big concern for their daily livelihood. The diet of rural family is very low in energy and micronutrients due to lack of proper consciousness about nutritional value of foods. Their typical diet is predominantly rice and they are less interested to other nutritious foods such as pulses, vegetables, fruits and animal products. Consequently, women do not eat enough food to meet their energy and micronutrient needs, particularly during pregnancy when these needs are greatest (Rahman and Nasrin, 2008). As a result, maternal malnutrition is a chronic problem in rural Bangladesh. To reduce this problem nutritional knowledge is essential.

nutritional knowledge has great importance in proper

management of food, application of balance diet and specific requirements of different nutrients for people of different age groups. If women have optimum knowledge regarding that then they can fulfill nutrition of them and their family and only then food security of their family can be achieved. They can also save their family easily from malnutrition problem. Because woman can play an important role in selection, preparation and serving of food for their family members (Kumari and Srivastava, 2010). Their extent of knowledge has great importance for the social, economic and nutritional change of the country which in turn may contribute to improve the overall nutritional status of people in Bangladesh specially women. It is therefore, necessary to describe the selected socio-demographic characteristics of the farm women; to determine the extent of knowledge of the farm women on nutritional value of farm products; and to identify the relationship between the extent of knowledge of the farm women and their selected socio-demographic characteristics.

METHODOLOGY

Three villages situated in Tangail Sadar namely Kandila, Vashanda and Bainabari were selected as the locations of the study. Women involved with the farming activities of the selected three villages was the target population of the study. An updated list of 260 farm households was prepared with the help of villagers from three selected villages. From them 100 respondents were selected as a sample by using proportionate random sampling technique. Data were collected using interview schedule during November to December 2014 personally by the researchers through face to face interview. Simple statistics like frequency, percentage, range, mean, standard deviation and rank order were used in the interpretation of descriptive data. The SPSS/PC computer program was used to perform the data analysis. Coefficients of correlation were used to find out the relationship among the variables.

Selected characteristics of the respondent such as age, education, family size, farming experience, farm size, annual family income, training experience, contact with sources of information and organizational participation were considered as the independent variables of the study. Knowledge of farm women on nutrition and food security was the dependent variables of the study and was measured by asking eighteen

selected questions on different aspects of nutritional value of farm products. The null hypothesis is formulated in this specific research was: “There is no significant relationship between selected characteristics of farm women with their extent of knowledge on nutritional value of farm products”.

RESULTS AND DISCUSSION

Personal characteristics of the respondents : Results indicate that most of the respondents were young aged (65.0%), illiterate (61.0%), living in sized medium family

Table 1. Distribution of the respondents according to their personal characteristics

Characteristics	No.	%	Mean	SD
<i>Age</i>			33.39	6.45
Young (22 to 35 years)	65	65.0		
Middle (36 to 45 years)	32	32.0		
Old (>45 years)	3	3.0		
<i>Education</i>			1.57	2.35
Illiterate	61	61.0		
Primary education	32	32.0		
Secondary education	7	7.0		
<i>Family size</i>			4.82	1.49
Small (3 to 4 members)	13	13.0		
Medium (5 to 7 members)	52	52.0		
Large (above 7 members)	35	35.8		
<i>Farming experience</i>			15.62	5.23
Low (5 to 15 years)	55	55.0		
Medium (16 to 20 years)	28	28.0		
High (above 20 years)	17	17.0		
<i>Farm Size</i>			0.29	0.18
Landless (0.14 to 0.20 ha)	62	62.0		
Marginal (0.21 to 0.60 ha)	31	31.0		
Small (0.61 to 1.00 ha)	77	77.0		
<i>Annual family income</i>			147000	65120
Low (Tk. 40000 to 50000)	33	33.0		
Medium (Tk. 50001 to 150000)	53	53.0		
High (above Tk. 150000)	44	44.0		
<i>Training experience</i>			1.87	2.25
No training	55	55.0		
Received training	45	45.0		
<i>Information contact</i>			8.50	2.04
Low (2 to 6)	18	18.0		
Medium (7 to 10)	68	68.0		
High (above 10)	14	14.0		
<i>Org. participation</i>			1.55	2.28
Low (3 to 4)	89	89.0		
Medium (4 to 6)	55	55.0		
High (above 6)	66	66.0		

(52.0%) and with low farming experience (55.0%). Majority of the respondents (53.0%) led their life with medium annual income. More than half of the respondent (55.0%) had no training experience and more than three-fifth of the respondent (68.0%) fallen under medium contact group with low participation in different organizations (Table 1).

Knowledge: Knowledge of any individual increases his/her awareness, mental alertness makes him/her familiar or acquaint with facts, objects, concepts or practices. Knowledge about nutrition of a respondent was measured by some selected questions regarding different aspects of nutritional value of farm products.

Nutritional knowledge of farm women: Knowledge scores on nutritional value of farm products of the respondent in the present study ranged from 8 to 24, with a mean of 15.76 and standard deviation of 3.68. The respondents were classified into three categories based on their nutritional knowledge scores according to Islam (2005).

Results furnished in Table 2 show that highest proportion (89.0%) of the respondents fell in low knowledge category compared to 11.0 percent in medium knowledge category. Interestingly none of the respondents were under high knowledge category. This might be due to the fact that having poor education and low contact with extension agent, they might not be advanced in modern knowledge in agriculture and found to practice agriculture without having required formal knowledge. They were doing it for many years on their own effort. Few of them got training from various sources. Some of them had increased their knowledge through different TV programs, different agricultural fairs, newspaper etc.

Table 2. Distribution of the respondents according to their knowledge

Categories	No.	%	Mean	SD
Low (8 to 20)	89	89.0	15.76	3.68
Medium (21 to 30)	11	11.0		
Total	100	100.0		

Questions for measuring knowledge: The respondents were asked to answer 18 selected questions on nutrition for measuring their knowledge level (Table 3). The questions consisted of different aspects of nutritional value of farm products.

Table 3. Rank order of the knowledge of the respondents on nutritional value of farm products

Questions	Total marks	Marks obtained	Ranks
Name one for each of vitamin B enriched fruit and vegetables	200	27	12 th
Name two diseases which are caused by vitamin-A deficiency	200	58	8 th
What are the protein enriched farm products that we get from livestock and poultry?	200	117	5 th
Source of iodine in human health	200	7	16 th
How vegetables can be cooked without losing its food value?	200	37	10 th
Name one for each of vitamin C enriched fruit and vegetables	200	139	2 nd
Name two vegetables that prevent skin diseases	200	13	13 th
Name two carbohydrate enriched farm products which mostly come from cereals	200	132	3 rd
What is the disease that causes for iodine deficiency?	200	102	7 th
What are the diseases that cause due to vitamin-C deficiency?	200	12	14 th
How do you ensure good quality of farm products during harvesting?	200	131	4 th
How rickets can be reduced in children?	200	0	18 th
Mention two name of fruits that have high medicinal value	200	198	1 st
Mention the function of carbohydrate and protein in human health	200	10	15 th
Name one fruit and one vegetable essential for children night blindness	200	55	9 th
Which vitamin is responsible for skin diseases?	200	5	17 th
Why it is necessary to wash fruits and vegetables before cutting?	200	103	6 th
What are the nutrients that mostly come from fishes?	200	30	11 th

From Table 3 it is important to notice that the highest ranked answer questions were fruits having high medicinal value (1st), vitamin C enriched fruits and vegetables (2nd) and carbohydrate enriched farm products (3rd). Respondents involved in farming activities have practical knowledge about farm products. They are engaged in it for a long time. So, they know which types of fruits have high medicinal value, which fruit and vegetables enriched with vitamin C and from cereals which farm products are obtained that contain carbohydrate. On the other hand, lowest ranked questions were vitamin affecting skin diseases and reduction of rickets. In the study areas the respondents are not educated, they lack knowledge on nutrition. They have a low contact with SAAO and other agriculture related NGO worker. Their participation in different organizations is less. As a result they did not have a minimum idea about skin diseases and rickets.

Relationship between Selected Characteristics of the Respondents and Their Extent of Knowledge: To find out the Relationship between selected characteristics of the respondents and their extent of knowledge, coefficient of correlation was employed. Here the null hypothesis developed by the researcher was, "There is no significant relationship between selected

Table 4. Relationship between selected characteristics of the respondents and their extent of knowledge

Personal attributes	Correlation coefficient (r)
Age	0.484 ^(**)
Education	0.309 ^(**)
Family size	0.071 ^{NS}
Farming experience	0.440 ^(**)
Farm size	0.014 ^{NS}
Annual income	-0.023 ^{NS}
Training experience	0.030 ^{NS}
Training number	0.045 ^{NS}
Contact with sources of info.	0.039 ^{NS}
Organizational participation	0.178 ^{NS}

**Significant at 0.01 level of probability, NS=Non Significant

characteristics of the respondents with their extent of knowledge on nutritional value of farm products".

Results contained in Table 4 show that age, education and farming experience of the respondents had positive significant relationship with their knowledge level where the coefficient of correlations (r value) were 0.484^{**}, 0.309^{**} and 0.440^{**}, respectively at 1.0% level of significance. It indicates that if there is any increase in their age, education and farming experience there would be an increase in their extent of knowledge.

The reason behind this might be that woman whose age is higher, engaged with the farming practices longer time which makes her experience and knowledge more than others. Again an educated woman certainly has better nutritional knowledge than the illiterate one. Similarly, experience with the farming practices help woman more and more to upgrade her knowledge day by day.

Other variables viz. family size, farm size, annual income, training experience, contact with sources of information, organizational participation shows no significant relationship though family size, farm size, training experience, contact with sources of information, organizational participation show positive non-significant relationship and annual income shows negative non-significant relationship.

Factors affecting nutritional knowledge poor: Farm women identified some reasons lied behind their poor nutritional knowledge. Out of these, most important five reasons have been shown in Table 5.

Table 5. The possible reasons mentioned by the farm women lied behind poor nutritional knowledge

Problems	No.	%	Rank
Poor experience in farm activities	80	80.0	I
Lack of education	60	60.0	II
Insufficient sources of information	55	55.0	III
Improper facilities of training	45	45.0	IV
Low contact with SAAO and other agriculture agencies	41	41.0	V

In order to understand the comparative importance of different causes and to identify their severity, the five causes are arranged in rank order Table 5. The highest ranked causes mentioned by the farm women lied behind poor nutritional knowledge were poor experience regarding farming activities (1st), lack of education (2nd) and insufficient sources of information (3rd). It is seen that the farm women who are more experienced in farming activities have comparatively a better nutritional knowledge than others. The possible reason might be the respondents who practice farming activities for a long time become familiar with many things which make them more experienced. As a result, they are able to answer the questions regarding nutritional knowledge more correctly and confidently than others. In this regard, poor experience is identified by the farm women as the most vital factors lied behind

their poor nutritional knowledge. Again, farm women who are educated have certainly better knowledge on nutrition than the illiterate one. So lack of education is one of the factors affecting their poor nutritional knowledge. Similarly due to unavailable sources of information women cannot update themselves with the time being and any improvement in existing knowledge regarding nutrition is impossible for them. That's why insufficient sources of information identified by the farm women as the third important causes lied behind poor nutritional knowledge.

Suggestions Offered by the Respondents : To improve the existing nutritional knowledge of women following possible suggestions were collected from the respondents.

- Need functional technical training for further improvement in their farming activities and ultimately knowledge level.
- To ensure female education essential.
- Sharing of information is needed for development of knowledge.
- Mass media can play a vital role to telecast effective program related to nutrition especially for women.
- Availability of communication sources is essential for updating their knowledge.

CONCLUSION

From the findings and their logical interpretation, it can be concluded that socio-demographic features of the respondents reveal that most of the respondents were young aged, landless, mostly illiterate, had low farming experience, medium family size and medium family income. Majority of the respondents had low knowledge on nutrition, poor organizational participation with medium contact with sources of information. Age, education and farming experience showed positive significant relationships with knowledge level of the farm women. Major problems identified by the respondents behind poor nutritional knowledge were lack of farming experience and education, insufficient sources of information, inadequate training facilities and lack of cosmopolitaness. Possible suggestions offered by the respondents to improve existing nutritional knowledge of them were increasing opportunity for functional technical training, ensuring female education and facilitating available communication sources.

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