

Impact of Training Programme on Knowledge and Adoption of Preservation Technologies among Farm women: A Comparative Study

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ABSTRACT

A study was conducted in Karnal district with the objective to find out the effectiveness of training programme of Krishi Vigyan Kendra, NDRI, Karnal on knowledge and adoption of fruit and vegetables preservation (FVP) technologies among trainee farmwomen. The sampled 400 respondents included 200 trainee farmwomen where Krishi Vigyan Kendra of NDRI, Karnal had organized training in the area of fruit and vegetables preservation (FVP) technologies and 200 non-trainees selected from villages which were not covered by it. The data revealed that majority, (i.e., 72.50 per cent) of Trainee Farm-Women (TFW) were having medium level of knowledge regarding FVP technology, followed by those (20.00 per cent and 7.50 per cent) having high and low level of knowledge, respectively. Whereas, in case of Non-trainee farmwomen, all of them had low level of knowledge regarding FVP technologies. The analysis of adoption scores of Trainee Farm-women revealed that (79.50 per cent) of TFW had medium level of adoption, followed by those having high level of adoption (20.50 per cent) and low level of adoption (18.50 per cent) of FVP technologies, while in case of Non-Trainee Farm-women, all of them were having low level adoption. This indicates that there has been significant difference between the trainees & non-trainees with regard to their Knowledge and Adoption of fruit and vegetables preservation.

Key words: Effectiveness; Knowledge; Adoption; Preservation;

In India, rural women are actively contributing in activities related to animal husbandry and home science. In fact, women constitute 57.7 per cent of India's total labour force engaged in agriculture and animal husbandry (*National Sample Survey, 1983*). The farmwomen have dominated in terms of contribution in the field of dairy farming (*Venkatachalan, 1983; Jyotsana, 1988; Nataraju and Lovely, 1993; Meena, 1994; Fulzele, 1995*) and home science activities (*Thombre et al., 1987; Sharma, 1994*). Rural women spend much of their time in unpaid activities like working in the family farm and other domestic work. They are the main responsible persons for domestic and household work, which include child care and nutrition, consumption and preservation of milk, processing of milk, processing and preservation of fruits and vegetables, and stitching. Krishi Vigyan Kendra of NDRI, Karnal conducts many training programmes exclusively for farmwomen with the aim to make them competent in performing various

activities related to dairy farming and home science. These programmes were started in the year 1979; and the syllabus was based on the needs of farmwomen in the areas of home science and dairying. Based on these training needs, KVK conducted training in FVP technologies for farm women in adopted villages.

METHODOLOGY

The study was conducted in Karnal district of Haryana state, this district comprises of six blocks. 200 trainee farmwomen (TFW) trained in fruit & vegetable preservation technologies were selected from three blocks namely Karnal, Nissing & Indri blocks, In order to have an exact assessment of the impact of the selected training programmes on TFW, an equal number, (i.e., 200) of non-trainee farm-women (NTFW) was also selected from remaining 3 blocks of Karnal district, namely Gharaunda, Assandh and Nilokheri, which had not been covered by KVK, NDRI, Karnal

apropos such training programmes. From each specified block, an equal number of villages were selected for the study. The data was collected through personal Interview method, the two groups, i.e., trainees and non-trainees of specified programmes were compared with respect to two dependent variables, selected for the study, viz. gain in knowledge and adoption.

$$\text{Type of category} = \frac{\text{Maximum score} - \text{Minimum score}}{\text{No of categories}}$$

The scores were categorized into low, medium, high

To test the significance of difference between mean knowledge and adoption score of trainees and non-trainees, correlation, unpaired t-test was applied.

RESULTS AND DISCUSSION

Impact of fruits and vegetables preservation (FVP) training on gain in knowledge (GK) by trainee farmwomen (TFW): The frequency distribution and mean knowledge score with respect to FVP training was worked out in Table 1. A perusal of figures in table indicated that the majority of TFW (72.50%) had medium level of knowledge of FVP; whereas high and low level of knowledge was reported by (20.00 and 7.50 per cent) of TFW, respectively, by TFW. In case of NTFW, all of them were having low level of knowledge regarding techniques of fruits and vegetables preservation. As evident from Table 1, the mean knowledge score of TFW and NTFW were found to be 28.61 and 3.87, respectively. That meant, the mean score of TFW was substantially higher (639.28%) than the score obtained by NTFW. To test the significance of difference between mean knowledge score of TFW and NTFW, unpaired (independent samples) t-test was applied. The calculated t-value (33.674) was found to be highly significant at 0.5 per cent level, thereby suggesting a significant gain in knowledge by TFW.

The mean knowledge score of TFW was 639.28 per cent higher than NTFW. In other words, scores of gain in knowledge for TFW were 6.4 times more as compared to NTFW. Such a highly difference could be because of the reason that the information imparted through FVP training programme might have been due to new and scientific (standardized technique), which was not available to NTFW through any other supplementary sources.

It may be readily inferred from the above results that as far as gain in knowledge regarding FVP was concerned training had a definite and visible impact on TFW when compared with NTFW

Table 1. Distribution of respondents on the basis of their level of knowledge related to fruits and vegetable preservation

Knowledge Level	Categories		Total (N=400) Trainees
	Trainees (n ₁ =200)	Non- (n ₂ =200)	
Low (< 20)	15 (7.50)	200 (100.00)	215 (53.75)
Medium (21-40)	145 (72.50)	0 (0.00)	145 (36.25)
High (> 40)	40 (20.00)	0 (0.00)	40 (10.00)
Total	200 (100.00)	200 (100.00)	400 (100.00)
Overall score	28.61	3.87	t-value = 33.674***

Note : Figures given in parentheses indicate percentages.
*** Significant at 0.5 per cent level.

Table 2. Distribution of respondents on the basis of their extent of adoption of techniques of preservation of fruits and vegetables

Adoption Level	Categories		Total (N=400) Trainees
	Trainees (n ₁ =200)	Non- (n ₂ =200)	
Low (< 9)	0 (0.00)	200 (100.00)	200 (50.00)
Medium (10-18)	159 (79.50)	0 (0.00)	159 (79.50)
High (> 18)	41 (20.50)	0 (0.00)	41 (20.50)
Total	200 (100.00)	200 (100.00)	400 (100.00)
Overall score	14.03	1.92	t-value= 42.593***

Note: Figures given in parentheses indicate per centages.
*** Significant at 0.5 per cent level

Impact of fruits and vegetables preservation (FVP) training on extent of adoption of trainee farmwomen (TFW) vis-à-vis the adoption-level among non-trainee farmwomen (NTFW): The frequency and mean scores regarding TFW and NTFW regarding adoption of FVP techniques were worked out, and have been presented in Table 2. Data revealed that majority of TFW (79.50%) had medium level of adoption regarding FVP techniques; whereas, 20.50 per cent of them had high level of adoption, which meant that no respondent was having low level of adoption of FVP techniques. In case of NTFW, all of them had low level of adoption of FVP techniques.

The mean adoption scores of TFW and NTFW, in terms of adoption of FVP techniques, were found to be 14.03 and 1.92, respectively, as indicated in Table 2. The calculated t- value (42.593) was found to be highly significant at 0.5 per cent level of significance. In other words, the adoption of FVP technologies by the trainees was 6.3 times higher than that in case of non-trainees. The higher level of adoption may be attributed due to the higher knowledge gain by the trainee as explained in the preceding sub-heading. Knowledge-gain and extent of adoption by the trainees were directly proportional, as the knowledge-gain increased the adoption of FVP technologies also increased with corresponding level. In other words, this phenomenon may be explained on the basis of very low (practically nil) adoption by non-trainees due to the lack of information on FVP technologies. Since information imparted through training programme was scientific (standardized technologies), it was not possible for non-trainees to adopt them without going through the FVP training programme.

Association between selected Traits of trainee farmwomen and impact of fruits and vegetables preservation training programme on TFW: The association was studied by using correlation analysis under following sub-heads :

1. Correlation of selected traits with gain in knowledge
2. Correlation of selected traits with the extent of adoption.

Correlation of selected traits with gain in knowledge: The correlation analysis of independent variables with gain in knowledge was worked out, and has been presented in Table 3. As indicated in the table, age, family size, family type, land-holding, herd-strength and social participation were found to have negative but significant correlation with gain in knowledge of trainee farmwomen as regard to FVP training.

Age was found to have a negative but significant association with gain in knowledge regarding FVP training. It indicated that with increase of age, there was decrease in gain in knowledge. Hence, younger farmwomen gained more knowledge through FVP training programme than older farmwomen. Thus, the fact, “younger people group” are more and more prone to change than older people is well justified here, also, as far as FVP training are concerned.

Education of trainee farmwomen (TFW) was

Table 3. Association between selected traits of farmwomen and gain in knowledge regarding FVP training

Traits	'r' value
Age	-0.17786**
Education	0.19113**
Family size	-0.20745***
Family type	-0.28816***
Land holding	-0.18938**
Herd strength	-0.23297***
Milk production	-0.08791
Social participation	-0.20809***
Extension contacts	0.07915
Mass media exposure	0.06173

* Significant at 5 per cent level;

** Significant at 1 per cent level;

*** Significant at 0.5 per cent level.

found to be positively and significantly related to their gain in knowledge. This indicated that with the increase in education level, the gain in knowledge regarding FVP training also increased.

The plausible explanation for this result may be that : education might have provided a platform to people to learn more and gain more information in a given learning situation. The course content and the information of FVP training programme had been such that it required basic education as a pre-requisite for understanding. Because of this reason also, education was found to be correlated significantly with knowledge gain from FVP training; whereas, this was not true for SDF and MPP trainings. The relationship with family size, family type and gain in knowledge about FVP was found to be negative and highly significant. This result meant that farmwomen from big families and joint family gained less knowledge through FVP training programme. In other words, higher the family size, lower shall be the knowledge gain as far as FVP training was concerned.

Land-holding and herd-strength was found to be negatively and significantly correlated with gain in knowledge. It meant that an increased land-holding and herd-strength (as independent variables) resulted in decreased gain in knowledge with regard to FVP technologies. This meant higher the land-holding and herd-strength, lesser would be the gain in knowledge.

Social participation was found to be negatively and significantly correlated with gain in knowledge with

regard to FVP technologies. It meant higher the social participation lesser would be the gain in knowledge. This may be due to the fact that only the older women are involved in social participation than the young ones. Moreover, the knowledge of FVP technologies required younger educated farmwomen.

Milk production, extension contact and mass media exposure showed non-significant relation with the gain in knowledge of farmwomen regarding FVP training programmes. It meant that the change in these traits would bring about the corresponding change in knowledge gain, however, that might not be significant, statistically.

Correlation of selected traits with the extent of adoption: The correlation coefficient value presented in Table 4 indicated that age, family size and family type showed a negative but significant relationship with the extent of adoption of FVP training programme. On the other hand, education, social participation and mass media exposure was found to have positive and significant correlation with the extent of adoption.

Table 4. Association between selected traits of farmwomen and extent of adoption regarding FVP training

Traits	'r' value
Age	-0.17669**
Education	0.13008*
Family size	-0.15023**
Family type	-0.17886**
Land holding	-0.03421
Herd strength	-0.09175
Milk production	0.00630
Social participation	0.14925*
Extension contacts	0.07326
Mass media exposure	0.15143**

* Significant at 5 per cent level;
 ** Significant at 1 per cent level;
 *** Significant at 0.5 per cent level.

Age and adoption was found to have negative correlation. It meant that higher the age, lower shall be the adoption. It can be inferred, here, that the younger farmwomen had a tendency to adopt methods learned through FVP programmes (FVPPs).

Education was found to be significantly and positively correlated with the extent of adoption. This meant that educated farmwomen had a better tendency

to adopt FVP methods. Higher the education better shall be the adoption could be a logical inference from this result. Family size and family type had negative and significant relationship with the extent of adoption regarding FVP. The trends were found to be same, as was the case apropos gain in knowledge, which has been already explained in the preceding sub-headings. It meant that family size as well as family type affected the extent of adoption, negatively but significantly. Social participation and mass media exposure were found to be positively and significantly related to the extent of adoption. It meant that more the social participation and exposure to mass media, higher shall be the adoption. These variables were providing opportunity to the farmwomen for gaining information, which in turn, strengthened their tendency to adopt FVP technologies.

Land-holding, herd-strength, milk production and extension contact were found to be non-significantly correlated with the extent of adoption. It meant that change in these traits would bring about the corresponding change in extent of adoption, although at statistically non-significant level.

CONCLUSION

The higher level of knowledge & adoption of FVP technologies may be attributed due to the higher knowledge gain by the trainee. Knowledge-gain and extent of adoption by the trainees were directly proportional, as the knowledge-gain increased, the adoption of FVP technologies also increased with corresponding level. In other words, this phenomenon may be explained on the basis of very low (practically nil) adoption by non-trainees due to the lack of information on FVP technologies. Since information imparted through training programme was scientific (standardized technologies), it was not possible for non-trainees to adopt them without going through the FVP training programme. It may be concluded from the above results that KVK's training on Fruit and vegetables preservation (FVP) was effective in enhancing the knowledge and adoption of MPP technologies; Therefore, it could be employed that more & more such training programme in FVP may be organized which would be benefited to farm women in particular & farming community in general.

Paper received on (after revision) : July 01, 2012

Accepted on : November 13, 2012

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