



ISSN (E): 2277-7695
ISSN (P): 2349-8242
NAAS Rating: 5.23
TPI 2022; SP-11(5): 1244-1247
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www.thepharmajournal.com
Received: 10-02-2022
Accepted: 20-04-2022

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Analyze the extent of adoption regarding selected home science technologies of training Programmes in agro climatic zone IB of Rajasthan

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Abstract

Women are the main part not only for the family but also an important part of the society and nation. Farm women play an active role in meeting all the needs of the family, they must be equipped with the latest knowledge and expertise, which is possible through education and training. The Krishi Vigyan Kendras Srtiganganagar and Hanumangarh-I are playing a great role in transferring the latest technology with the objective to provide need-based training to farm women. A systematic evaluation of training impact is very important to assess achievement of results desired, to find out hindering and helping factors and to make measures to improve the programme as a whole and assist participants in increased use of learnings. The study was conducted in Sriganganagar and Hanumangarh districts of Rajasthan. Eight villages of four panchayat samities namely; Padampur, Sriganganagar, Tibbi and Sangaria were selected purposely. A sample comprising of 320 farm women (160 beneficiaries and 160 non-beneficiaries) were selected for the study purpose. Beneficiaries were selected randomly through probability proportional allocation technique and non-beneficiaries were selected randomly from the same villages. The data were collected from selected respondents by using of personal interview technique. Data were analyzed, tabulated and results were the salient findings of the study.

Keywords: Adoption, Training, Home Science, Technology

Introduction

The country's human resource is very important and its development is essential for the nation's progress and prosperity. Women represent half of the world population, about two thirds of their working time, represent one tenth of world affairs and less than one hundredth of world wealth. Various training courses have been conducted by various governmental, non-governmental and other organizations, such as the Social Welfare Society, Home Science Institutes, and state agricultural universities for women's education. Through these training courses, different agencies sensitize, educate and motivate rural women to adopt new ways and technologies in the fields and homes recommended by authorized agencies to become self-reliant. Krishi Vigyan Kendra is a grassroots institution and working on the principles of "Learning by doing" and "Trying to believe" to serve the rural community by providing need-based and skill-oriented training. These courses are organized for farmers, agricultural women, rural youth, grassroots extension workers and service sector level officials in general in agricultural production to make them economically self-sufficient through self-employment. Under the mandate of the Indian Council of Agricultural Research (ICAR), to bridge the gap between production and productivity for the experimentation and transfer of agricultural technologies to agricultural science centre and to expand self-employment opportunities among farmers, agricultural women and farmers. A systematic assessment of the impact of the training is very important to assess the achievement of the desired outcomes, to discover the obstacles and help factors and to take measures to improve the program as a whole and assist participants in making greater use of learning. Systematic assessment of progress against a training program helps ensure that the work is done correctly and that the means employed to carry it out are adequate and appropriate.

Methodology

The study was conducted in Sriganganagar and Hanumangarh districts of Rajasthan. Eight villages of these panchayat samities were selected purposely.

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Eight villages of four panchayat samities namely Sriganganagar, Padampur, Sangaria and Tibbi were selected purposely as training programmes were conducted in these villages during the year 2012-13 to 2016-17. A sample comprising of 320 farm women (160 beneficiaries and 160 non-beneficiaries) was drawn by using random probability proportional allocation techniques. Out of eight technologies, four technologies namely Value addition, Income generating activities, Kitchen gardening and Contribution of women in agriculture and animal husbandry were selected because these technologies were directly or indirectly affected the overall economic status of the farm women. The independent variables covering differential characteristics of respondents viz., age, caste, education, family type, social participation, information seeking behaviour, mass media exposure, extension personnel contact, family occupation, land holding, annual income, scientific orientation, decision making pattern, innovativeness and risk orientation were selected and two dependent variables such as knowledge level and extent of adoption of respondents. An interview schedule was developed to record the responses of respondents.

Data for study purpose was collected through a well designed interview schedule which was developed touch in view of the objectives of the study. The collected data were well coded, classified and tabulated also. The statistical tests like Frequency, Percentage, Rank, Arithmetic Mean, Standard Deviation, Mean Percent Score, Coefficient of Correlation, 't' Test (Student 't' test), 'Z'-test, Spearman's Rank Correlation and Multiple Linear Regression were used for meaningful explanation of results and for drawing conclusions.

Result and Discussion

Table 1: Distribution of respondents according to extent of adoption

S. N.	Extent of adoption	Beneficiaries (n ₁ = 160)		Non-beneficiaries (n ₂ = 160)		Total respondents (N = 320)	
		F	%	F	%	F	%
1.	Low (Below 20.32)	3	1.88	58	36.25	61	19.06
2.	Medium (20.32 to 37.88)	108	67.50	95	59.38	203	63.44
3.	High (Above 37.88)	49	30.63	7	4.38	56	17.50

Mean= 29.10 SD=8.78

Above results clearly shows that the beneficiaries had higher extent of adoption of home science technologies as compare to non-beneficiary respondents. It was due the fact that training programmes organized by both KVKs helped in rapid transfer of technology in acceptable manner to the respondents which might have resulted in increased extent of adoption by beneficiary respondents. The beneficiaries were also in direct contact of both KVKs personnel whereas, the non-beneficiary respondents were getting technological information from other sources. This might have been the reason of difference between beneficiary and non-beneficiary farm women in case of adoption level. The results are in conformity with Sharma and Sharma (2003) ^[10].

The similar results found in study of Vashishtha *et al.* (2011) ^[12], Kumar (2013) ^[6] and Ghaswa (2018) ^[2].

2 Technology wise extent of adoption of beneficiary and non-beneficiary respondents about home science technologies

The extent of adoption of different home science technologies were analyzed separately. An effort was made to assess the technology-wise extent of adoption among beneficiary and non-beneficiary respondents. The adoption level of the

Adoption is defined as the decision to make full use of an innovation as a best course of action available. In other words, it is referred to the extent to which a particular technology related to home science is being actually practiced by the farmwomen.

It was necessary to find out existing extent of adoption, about home science technologies. To assess the adoption level of the respondents about home science technologies, the adoption schedule was developed by the investigator. Based on scores obtained, the respondents were categorized in three categories viz: low, medium and high on the basis of mean and standard deviation.

1 Distribution of the respondents according to extent of adoption about home science technologies

To study the extent of adoption level, respondents were classified into three categories as presented in table 1 Table 1 clearly depicted that 67.50, 30.63 and 01.88 per cent beneficiaries belonged to medium, high and low extent of adoption categories respectively. In the case of non-beneficiaries 59.38 per cent and 36.25 per cent respondents belonged to medium and low categories, respectively about adoption of home science technologies. Only few (04.38%) non-beneficiaries were found to be as high adopters.

Similarly in case of pooled respondents 63.44, 19.06 and 17.50 per cent farmwomen comes under medium, low and high extent of adoption categories respectively about home science technologies.

Hence, above findings clearly shows that approximately all beneficiaries respondents were found to be medium to high adopters whereas, about more than 95 per cent of the non-beneficiaries were found to be low to medium adopters.

selected four technologies were presented by ranking method based on Mean Percent Score (MPS). The data were recorded and depicted in table 2

The data presented in table 2 indicates that beneficiary respondents had good extent of adoption (above 50.00 MPS) in technologies like, "Contribution of women in agriculture and animal husbandry" with 69.01 MPS (agriculture 59.38 and animal husbandry 82.77 MPS), "Value addition" with 55.40 MPS (pickle 56.69, jam, jelly, and ketchup 56.04 and preservatives 52.19 MPS), "Kitchen gardening" with 52.93 MPS and occupied first, second and third ranks, respectively. The table further shows that beneficiary respondents had poor extent of adoption in technology like "Income generating activities" with 45.00 MPS (tailoring and stitching 52.29, beauty parlour 46.56 and embroidery and painting 32.50 MPS) and occupied fourth rank.

The non-beneficiary respondents had poor extent of adoption in all four technologies like, "Contribution of women in agriculture and animal husbandry" with 48.05 MPS (agriculture 37.15 and animal husbandry 63.13 MPS) and occupied first rank. After those technologies like "Value addition" with 38.86 MPS (pickle 41.34, jam, jelly, and ketchup 38.02 and preservatives 35.78 MPS), "Kitchen

gardening” with 34.95 MPS and “Income generating activities” with 32.68 MPS (tailoring and stitching 37.08, beauty parlour 33.75 and embroidery and painting 25.00 MPS) and occupied second, third and fourth ranks, respectively.

Table 2 further shows that beneficiaries and non-beneficiaries pooled data had allowing technologies like, “Contribution of women in agriculture and animal husbandry” ranked first as the mean per cent score (MPS) of total respondents was 58.53, followed by “Value addition” (47.13 MPS), “Kitchen gardening” (43.94 MPS) and “Income generating activities” (38.84 MPS) awarded with second, third and fourth ranks, respectively.

Based on the above discussion, it can be concluded that most of the beneficiary farm women adopted technologies more in comparison to non-beneficiaries in all aspects of selected home science technologies. The table further revealed that the

range of adoption by beneficiaries varied from 32.50 to 82.77 MPS, while in case of non-beneficiaries, it ranged 25.00 to 63.13 MPS in all aspects of selected home science technologies. The reason may be that majority of the respondents were home makers. It can be concluded that women in rural areas are overloaded with the work responsibilities, so they are unable to go outside the home to work. As they were bounded by four walls of the home and they had very less exposure to the market and world outside the home. So, they had low confidence in selling and buying products from the market. Income of the family was also restricted them in adoption of these technologies. It was very difficult for the family to spend money on sewing machine, embroidery machine and beauty parlour material and facilities at individual level without government support, hence they cannot afford to adopt such expensive technologies.

Table 2: Technology wise extent of adoption of beneficiary and non-beneficiary respondents about home science technologies

S. N.	Technologies	Extent of adoption					
		Beneficiaries (n ₁ = 160)		Non- beneficiaries (n ₂ = 160)		Total respondents (N = 320)	
		MPS	Rank	MPS	Rank	MPS	Rank
1.	Value addition						
A.	Pickle	56.69		41.34		49.12	
B.	Jam, Jelly and Ketchup	56.04		38.02		47.03	
C.	Preservatives	52.19		35.78		43.98	
	Total	55.40	II	38.86	II	47.13	II
2.	Income generating activities						
A.	Tailoring and Stitching	52.29		37.08		44.69	
B.	Beauty Parlour	46.56		33.75		40.16	
C.	Embroidery and Painting	32.50		25.00		28.75	
	Total	45.00	IV	32.68	IV	38.84	IV
3.	Kitchen gardening	52.93	III	34.95	III	43.94	III
4.	Contribution of agriculture and animal husbandry						
A.	Agriculture	59.38		37.15		48.44	
B.	Animal husbandry	82.77		63.13		72.95	
	Total	69.01	I	48.05	I	58.53	I

To improve the adoption level in both (beneficiaries and non-beneficiaries) categories of farmwomen, we have to create more awareness about farm and home related technologies and marketing approach must be location specific. Therefore, trainees and government agencies should be linked up and krishi vigyan kendras should provide assistance to their trainee so that they can generate some income by starting some productive work at home only after completion of their training at krishi vigyan kendras.

3 Comparison between beneficiary and non- beneficiary respondents about extent of adoption of home science technologies

The extent of adoption was also considered as an important predictor of the impact of KVK training programmes. It was presumed that the adoption level of beneficiary farm women would be high as compared to non-beneficiary farm women, but it must be proved statistically. For this purpose, standard

normal deviate test ('Z' test) was applied to see the significant difference between the adoption level of beneficiaries and non- beneficiaries. The aspect wise data presented in table 3. The data presented in table 3 shows extent of adoption for both beneficiary and non-beneficiary respondents, the table further shows that calculated 'Z' value was higher from tabulated value at 0.01 per cent level of probability for all selected home science technologies, namely “Value addition” (“pickle”, “jam, jelly, and ketchup” and “preservatives”), “Income generating activities” (“tailoring and stitching”, “beauty parlour” and “embroidery and painting”), “Kitchen gardening” and “Contribution of agriculture and animal husbandry” (“agriculture” and “animal husbandry”). It means, beneficiary respondents had more extent of adoption as compared to non- beneficiary respondents. The 'Z' test was found highly significant in adoption level among all the technologies.

Table 3: Comparison of extent of adoption of home science technologies between beneficiary and non- beneficiary respondents

S. N.	Technologies	Extent of adoption				'Z' Value
		Beneficiaries (n ₁ = 160)		Non- beneficiaries (n ₂ = 160)		
		Mean±	S.D.	Mean±	S.D.	
1.	Value addition					
A.	Pickle	3.97	1.43	2.89	1.17	7.36**
B.	Jam, Jelly and Ketchup	3.36	1.54	2.28	1.26	6.87**
C.	Preservatives	2.09	1.01	1.43	1.03	5.78**

2.	Income generating activities					
A.	Tailoring and Stitching	3.14	1.04	2.23	1.24	7.15**
B.	Beauty Parlor	1.86	1.42	1.35	1.16	3.54**
C.	Embroidery and Painting	1.30	0.97	1.00	1.19	2.89**
3.	Kitchen gardening	6.88	2.32	4.54	1.75	10.17**
4.	Contribution of agriculture and animal husbandry					
A.	Agriculture	5.94	1.77	3.75	1.72	11.23**
B.	Animal husbandry	5.79	0.90	4.42	1.29	11.06**
	Pooled	34.33	8.13	23.89	5.80	13.22

S.D. = Standard Deviation

**Significant at 0.01% level of probability

The mean value also indicated that beneficiary respondents had higher extent of adoption comparative to non-beneficiary respondents about home science technologies. There was a considerable gap between these two categories of respondents. This gap may be due to both KVKs training programmes conducted by both KVKs. In other words the significant difference between beneficiary and non-beneficiary respondents about extent of adoption of technologies clearly indicated that there was a positive effect of KVKs training programmes on beneficiary respondents with regard to enhanced adoption of all selected technologies in the study area.

The results are in conformity with that of Singh (1996) [11], Meghwal (1989) [7] and Asiwal (2006) [1] who in their studies reported a significant difference in adoption between beneficiary and non-beneficiary farmers.

Conclusion

The study shows that 30.63 per cent beneficiaries and 4.38 per cent non-beneficiaries had high extent of adoption about home science technologies. Whereas, 67.50 per cent beneficiaries and 59.38 per cent non-beneficiaries possessed medium extent of adoption of home science technologies. On the other hand, 01.88 per cent beneficiaries and 36.25 per cent non-beneficiaries were categorized in low extent of adoption category and respondents were had poor adoption of home science technologies. Among all respondents 63.44, 19.06 and 17.50 per cent had medium, low and high extent of adoption of home science technologies, respectively. It was found that both beneficiary and non-beneficiary respondents had adopted "Contribution of women in agriculture and animal husbandry" to the higher extent with MPS 69.01 and 48.05, respectively followed by "Value addition" (55.40 and 38.86 MPS), respectively. "Income generating activities" technology was found to be least adopted by both type of respondents with MPS 45.00 and 32.68, respectively. Research findings clearly indicated that there was a significant difference between beneficiary and non-beneficiary respondents regarding extent of adoption of home science technologies. The beneficiaries had more adoption than non-beneficiary respondents about home science technologies. Thus, KVK's trainings played a significant role in enhancement of adoption among beneficiary respondents.

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