



P-ISSN: 2349-8528

E-ISSN: 2321-4902

www.chemijournal.com

IJCS 2022; SP-10(2): 101-104

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Received: 02-01-2022

Accepted: 05-02-2022

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ICT: An empowerment tool for farm women in agriculture and allied areas

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Abstract

Information and Communication Technology (ICT) act as an instrument for progress and development which has been widely recognized in this 'Global Information age' and it has been witnessed that people with all walks of life are being influenced by the IT sector directly or indirectly. Among other ICTs, mobile telephony has emerged as the technology of choice of the majority of the urban and rural masses. ICT enables vital information flows by linking rural agricultural communities to the internet, both in terms of accessing information and providing local content. Education and training on functioning of different ICT tools can play an important role in awakening masses about latest technical know-how so that they can get abundant information within required time to improve agriculture and allied sectors. Considering these facts, study was carried out with the objectives to impart training on selected ICT tools related to agriculture and allied areas and study the impact of intervention programme on empowerment of farm women. Results revealed that after exposed to training 55.00 percent of the respondents had attained complete knowledge about mobile functioning, social media (45.00%) and utility services of internet 40.00 percent. while at post intervention stage 45.00 percent of the respondents had attained high level knowledge about different aspects of selected ICT tool and mean knowledge score was observed significantly higher as the computed value of 't' 4.15 was significant at 5 percent probability level.

Keywords: Information and communication technology, intervention and knowledge

Introduction

The beginning of the twenty-first century has seen a number of technological developments which affect every aspect of our lives. At the basic of this is the ever - growing use of Information and Communication Technologies (ICT) in all realms of life, from the workplace to the sports fields, in school and on a personal or social level. ICTs act as an instrument for progress and development which has been widely recognized in this 'Global Information age' and it has been witnessed that people with all walks of life are being influenced by the IT sector directly or indirectly. Among other ICTs, mobile telephony has emerged as the technology of choice of the majority of the urban and rural masses. ICT also played a key role in agriculture. Ever since farmers have grown crops they have searched for ways to improve the crop production. Information plays a vital role in empowering these farmers to improve their livelihood. Important information such as sowing, improving soils, seeking the best price for their produce and ways to combat pests and diseases all empower the farmer and their decision making capabilities. Farmers have difficulty in searching the answers to such issues even if they are very experienced in the specific cropping regime. Seasonal variability in weather patterns, deterioration in soil conditions and sporadic climatic events such as drought, floods, pest and disease outbreaks complicate the decision making process of the farmers and influences their information requirements. Up-to-date information allows farmers to survive and even benefit from these changes. Providing such knowledge can be challenging as the information must be tailored specifically to distinct conditions. Given these challenges the arrival of Information and Communication Technology (ICT) is well timed (Armstrong and Gandhi, 2012) [2]. ICT enables vital information flows by linking rural agricultural communities to the internet, both in terms of accessing information and providing local content (Jayathilake *et al.*, 2008) [4]. ICT in the agriculture sector facilitates knowledge sharing within and among a variety of agriculture networks including researchers, exporters, extension services and farmers. ICT in the agriculture sector facilitates knowledge sharing within and among a variety of agriculture networks including researchers, exporters, extension services and farmers.

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Education and training on functioning of different ICT tools can play an important role in awakening masses about latest technical know-how so that they can get abundant information within required time to improve agriculture and allied sectors. Considering these facts, study was carried out with the objectives to impart training on selected ICT tools related to agriculture and allied areas and study the impact of intervention programme on empowerment of farm women. .

Methodology

Research work was carried out in Hisar district of Haryana state. Four villages namely- Ludas, Mangali, Kaimeri and Tokas were selected under AICRP Project. Out of these villages 4 farm women knowledge groups were formed, 2 groups each in Ludas and Mangali villages and 2 groups (1 each) in Kaimeri and Tokas villages. Total six farm women knowledge groups were formed, consisting of ten women in each group. Thus a total 60 farm women were selected purposively, who had access to mobile. One week intervention programmes were organized for each group, which was mainly related to functions of mobile phone, functions and utility services of internet, social media and applications related to agriculture and allied areas etc. The data were collected personally by a self-structured questionnaire, pre and post exposure knowledge about different aspects of selected ICT tools. Qualitative data were analyzed and interpreted to draw meaningful inferences

through percentage, 't' test to measure significance of post exposure knowledge of ICT. The correlation was studied between the selected personal and social characteristics of the respondents with their knowledge about ICT tools.

Results and Discussion

Socio-Personal profile of farm women knowledge groups members

As regards the age of farm women it is revealed from Table 1 that 71.70 percent of respondents were in young age group followed by middle age group (23.30%) and upper middle age group (5.00%). The results regarding education revealed that 28.30 percent of respondents were higher secondary passed followed by educated upto class tenth (21.70) and middle class (16.70%), respectively. Regarding marital status, 86.70 percent of respondents were married and 13.30 percent were unmarried. It is deduced from the table that 70.00 percent of respondents had nuclear type of family and 30.00 percent of the respondents had small and medium size of family (45.00%). The results regarding occupation of the family majority (61.70%) of respondents reported that farming was their main occupation where 48.30 percent respondents reported that daily wage earner was their subsidiary occupation. Majority of the respondents (45.00) possessed small land holding followed by marginal land holding (36.70). In terms of organizational participation only 5.00 percent of the respondents were general member of any organization.

Table 1: Socio-Personal profile of farm women knowledge groups members N-60

Sr. No.	Characteristics/Attributes	Category	Frequency	Percentage
1	Age	Young (18-35yrs.)	43	71.70
		Middle (36-50 yrs.)	14	23.30
		Upper middle (50 yrs. and above)	03	5.00
2.	Education	Illiterate	04	6.70
		Can read and write	03	5.00
		Primary	05	8.30
		Middle	10	16.70
		Up to class x	13	21.70
		Higher secondary passed	17	28.30
		Graduate	05	8.30
		Post Graduate	00	0.00
		3.	Marital status	Married
Unmarried	8			13.30
Widow	-			-
Divorcee	-			-
4	Family Size	Small	27	45.00
		Medium	27	45.00
		Large	06	10.00
5	Type of family	nuclear	42	70.00
		joint	18	30.00
6.	i) Main occupation	Occupation		
		Farming	37	61.70
		Service	17	28.30
		Farm allied	1	1.70
		Business	1	1.70
	ii) Subsidiary occupation	Daily wage earner	4	6.70
		Farming	20	33.30
		Service	2	3.30
		Farm allied	9	15.00
		Business	0	0.00
7.	Land Holding	Daily wage earner	29	48.30
		Landless	00	0.00
		Marginal (1-2.5 acre)	22	36.70
		Small (2.5-5.0 acre)	27	45.00
		Medium (5-7.5 acre)	08	13.30
8.	Membership status	Large (7.5-10 acre)	03	5.00
		General member	03	5.00
		Office bearer	01	1.70

Distribution of Respondent's according to knowledge about different aspects of ICT tools: Differential knowledge level of respondents at pre and post exposure stage regarding different aspects of selected ICT tools has been presented in Table 2. It can be observed from the table that regarding mobile functioning 70.00 percent of the respondents had partial knowledge at pre intervention stage followed by utility services of internet (68.33%), functioning of internet (58.33%) and social media and applications related to agriculture and allied activities was 46.66 percent. However, after exposed to intervention programmes 55.00 percent of the

respondents had attained complete knowledge about mobile functioning followed by social media (45.00%) and utility services of internet was 40.00 percent. Hence it is clear from the table respondents who had no knowledge to partial knowledge score at pre exposure level reached to partial to complete knowledge score after exposed to training. Similar results were obtained by Yadav *et al.* (2010) [10], Sindhu and Thakur (2011) [9], Yadav and Yarma (2014) [11], Sabharwal and Panwar (2015) [7], Kundu *et al.* (2018) [5] and Sabharwal *et al.* (2019) [8].

Table 2: Comparison of respondent's knowledge about different aspects of ICT tools N-60

Area	Pre-intervention Percentage of respondents			Post intervention Percentage of respondents		
	No knowledge	Partial knowledge	Complete knowledge	No knowledge	Partial knowledge	Complete knowledge
Mobile functioning	21.66	70.00	8.33	3.33	41.66	55.00
Functioning of internet	35.00	58.33	6.66	13.33	50.00	36.66
Utility services on internet	31.66	68.33	5.00	18.33	41.66	40.00
Social media	38.33	46.66	15.00	16.66	38.33	45.00
Applications (Agriculture and allied activities)	41.66	46.66	11.66	21.66	40.00	38.33

Distribution of respondents according to their level of knowledge about different aspects of ICT tool: It is revealed from the Table 3 that at pre intervention stage 48.33 percent of the respondents had medium level of knowledge about different aspects of selected ICT tool followed by low level (40.00%) and high level (11.67%) while at post intervention stage 45.00 percent of the respondents had attained high level of knowledge about different aspects of selected ICT tool followed by medium level (36.67%) and

low level (18.33%). It may be concluded that knowledge regarding use of mobile phone, functioning and utility services on internet and social media majority of respondents shifted from low or medium level knowledge at pre intervention stage to medium or high level knowledge at post intervention stage. Results are in consonance with those of Nagaraj *et al.* (2013) [6] and Archana and Balasubramaniam (2019) [1].

Table 3: Comparison of respondents according to their level of knowledge about different aspect of ICT tools N-60

Intervention	Pre-intervention knowledge Percentage of respondents		Post intervention Knowledge Percentage of respondents	
	Frequency	Percentage	Frequency	Percentage
Low knowledge (0-0.66)	24	40.00	11	18.33
Medium knowledge (0.67-1.33)	29	48.33	22	36.67
High (1.34-2.0)	07	11.67	27	45.00

Change in Respondent's Knowledge about different aspects of ICT tools: It could be seen from Table 4 that respondents mean knowledge score has increased by 0.527 after intervention on knowledge of ICT tools. The increase in mean knowledge score was observed significantly higher as

the computed value of 't' 4.15 was significant at 5 percent probability level. It indicates that majority of respondents have gained significant knowledge level on different aspects of ICT related to agriculture and allied areas.

Table 4: Change in Respondent's Knowledge about different aspects of ICT tools related to agriculture and allied areas N-60

Intervention	Pre-intervention mean score (0-2)	Post -intervention mean score(0-2)	Mean difference/Gain	't' Value
Knowledge of ICT	0.756	1.283	0.527	4.15

Relationship of personal and social characteristics of the members with their knowledge on different ICT tools related to agriculture and allied areas

It can be observed from the Table 5 that there was negatively significant relationship was found between respondent age with knowledge of selected ICT tools. It suggests that higher the age of the respondents have no impact on knowledge of selected ICT tools. Further it was found that there was positive and significant relationship between education and knowledge of ICT tools. It indicates that education was

important factor that enhance knowledge about ICT. Relationship between family size and land holding variables were found non-significant. It specifies that family size and land holding was not a factor to have effect on knowledge gain of respondent about ICT tools used for agriculture and allied areas. Similar results were reported by Jambhuvat (2017) [3] that variables like education was found to be positive and significant relationship with knowledge of farmers about crop insurance schemes.

Table 5: Relationship of personal and social characteristics of the members with their knowledge on different ICT tools N-60

Profile variable	Knowledge 'r' value
Age	-.468**
Education	.860**
Family size	-.164 NS
Landholding size	.098 NS

**Significant at the 0.01 level

*Significant at 0.05 level

NS= Non-significant

Conclusion

Study conclude that after exposed to training, majority of respondents reached partial to complete knowledge score about functioning of different ICT tools. Their knowledge level score was shifted from low/ medium level to high level at post intervention stage regarding use of mobile phone, functioning and utility services on internet and social media. It indicates that majority of respondents had significant gain in knowledge on different aspects of ICT tools related to agriculture and allied area. And there was positive and significant relationship found between education and knowledge of ICT tools. This will certainly lead to empower the farm women regarding day to day updation and knowledge about agricultural activities taking place in the fast changing scenario.

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