

Impact of Fruits and Vegetable Preservation Training on Women

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ABSTRACT

All living creatures, including humans, depend on nature for their sustainment. Humans are no longer depending upon hunting and gathering only, but they evolved and developed commercial farming. Now hunting, fishing, agriculture and animal husbandry are major commercial activities. Most of our food consists of agricultural products, which are usually seasonal as well as quickly perishable. To make food available throughout the year, humans have developed methods to prolong the storage life of products: to preserve them. Adding preservatives, optimizing storage conditions, or applying modern techniques, can postpone the rotting process. Fruits and vegetables are rich source of energy, bodybuilding nutrients, vitamins and minerals. Their easy availability and inexpensive way of producing made them reliable food option. Their nutritional value is highest when they are fresh, but it is not always possible to consume them immediately. During the harvest season, fresh produce is available in abundance, but at other times, it is scarce. Moreover, most fruits and vegetables are only edible for a very short time, unless they are promptly and properly preserved. Krishi Vigyan Kendra, Navsari Agricultural University, Surat conducted various different types of training programmes through which we try to empower women from home science discipline. In that, four days vocational training programme was conducted in Dumas village to 32 women on preservation of seasonal fruits and vegetables. During the training, pre evaluation was made to know the level of knowledge of the participants regarding nutrition and preservation of fruits and vegetables. After completion of training post evaluation was made to assess the amount of knowledge gain by the participants to know the effectiveness of training. The pre and post evaluation was made using questionnaire method. The result of pre and post evaluation indicated that the level of knowledge regarding nutritional value and preservation of fruits and vegetables was increased significantly from 47.87 per cent to 95.12 per cent in post evaluation as indicated by 't' test.

Keywords: Nutrition, Preservation, Knowledge, Evaluation

INTRODUCTION

OBJECTIVES

METHODOLOGY

Krishi Vigyan Kendra, Navsari Agricultural University, Surat has organized four days vocational training on preservation of Fruits and Vegetables to 32 women in Dumas village of Surat district during 2013-14. During the training, the study was conducted to test the level of knowledge of participants regarding nutritional aspects of fruits and vegetables as well as their preservation before training. After the completion of training, post evaluation was made to assess the amount of knowledge gain by the trainees to know the effectiveness of the training. To test the knowledge

of women, a set of 25 questions related to nutritional facts of fruits and vegetables, method of preservation, different products prepared from fruits and vegetables and type of preservatives, etc. were used.

Questionnaire method was used for data collection. To study the knowledge gain in particular question by the participant, frequency of correct answer (out of 32 participants before and after training) was calculated and converted into percentage. The data was analyzed with percentage, mean, SD and 't' test.

RESULTS AND DISCUSSION

The present study was conducted on 32 women participants of Dumas village of Surat district to evaluate

the knowledge gain by them as a result of four days training regarding fruits and vegetable preservation.

Socio-demographic characteristics

The range of age of participants was 20 to 45 years with an average of 30.72 ± 6.80 years. About half (53.13 per cent) women were in the age group of 20 to 30 where as 34.38 per cent were in age group of 31 to 40 years. Only 12.50 per cent participants were above 40 years of age.

Table 1 : Socio-demographic characteristics of trainees

n=32

Sr. No.	Particulars	Per cent (frequency)
1	Age group	
	Up to 30 years	53.13 (17)
	31-40 years	34.37 (11)
	> 40 years	12.50 (4)
2	Educational status	
	8-10 standard	59.38(19)
	11-12 standard	15.62(5)
	Graduate	25.00(8)

Note: Figure in parenthesis indicates frequencies in number of participants

Assessment of the women with respect to education indicated that all the 32 participants were literate having education more than standard eight. Majority of the participants were having education between standard 8 to 10 (59.38 per cent) while 15.63 per cent participants were having education of 11 and 12th standard. About one-fourth participants were having graduate degree. The reason for high level of education of participants is mainly due to their residence is in rural area *i.e.* near to Surat city.

Table 3 : Level of knowledge increased after training with respect to different questions under study

n=32

Sr. No.	Statement	Pre evaluation (%)	Post Evaluation (%)	Gain in knowledge
1	Amount of post harvest losses	12.5 (4)	93.75(30)	81.25
2	Reasons for spoilage of fruits and vegetables	28.12 (9)	87.50(28)	59.375
3	Methods of preservations	6.25 (2)	87.50(28)	81.25
4	Vitamin present in Lemon	84.37(27)	100(32)	15.625
5	Vitamin present in Papaya	34.37(11)	100(32)	65.625
6	Vitamin present in Tomato	18.75(6)	93.75(30)	75.00
7	Vitamin present in Amla	25.00(8)	93.75(30)	68.75
8	Vitamin present in Carrot	28.12(9)	100(32)	71.875
9	Products prepared from Lemon	84.37(27)	100(32)	15.625
10	Products prepared from Raw Papaya	62.5(20)	100(32)	37.50

Knowledge about nutritional facts and preservation of fruits and vegetables

To assess the knowledge about nutritional facts of fruits and vegetables and their preservation, the pre and post training evaluation test was conducted to assess the knowledge gained and effectiveness of training. In that, 25 questions were asked which includes nutritional facts of fruits and vegetables, method of preservation, different products prepared from fruits and vegetables and type of preservatives, *etc.*

Table 2 :Evaluation of trainees with respect to their knowledge regarding fruits and vegetables preservation

n=32

Evaluation	Minimum marks (%)	Maximum marks (%)	Mean±SD
Pre	12	80	47.875±20.256
Post	80	100	95.125±6.150
't' value 12.63**			

Note: ** indicates highly significant

In pre evaluation test, the knowledge range of different participants was 12 per cent to 72 per cent with an average of 47.875 ± 20.256 per cent. In post evaluation the knowledge level reported from 80 per cent to 100 per cent with an average of 95.125 ± 6.158 per cent in different participants. The statistical analysis of data using student t test indicated that there were significant increase in knowledge regarding nutritional facts, method of preservations, different products prepared from fruits and vegetables and types of preservatives.

Sr. No.	Statement	Pre evaluation (%)	Post Evaluation (%)	Gain in knowledge
11	Products prepared from Ripe Papaya	59.37(19)	100(32)	40.625
12	Products prepared from Tomato	81.25(26)	100(32)	18.75
13	Products prepared from Amla	65.62(21)	100(32)	34.375
14	Products prepared from Carrot	78.12(25)	100(32)	21.875
15	Fruits used for preparing Jam	93.75(30)	100(32)	6.25
16	Fruits used for preparing Squash	78.12(25)	100(32)	21.875
17	Taste of Jam	84.37(27)	100(32)	15.625
18	Storage period of Jam	43.75(14)	100(32)	56.25
19	Use of Truity fruity	78.12(25)	100(32)	21.875
20	Disease prevented by vitamin present in Amla	9.375(3)	75.00(24)	65.625
21	Disease prevented by vitamin present in Carrot	9.375(3)	81.25(26)	71.875
22	Dehydration of Fruits	62.5(20)	100(32)	37.50
23	Dehydration of Vegetables	37.50(12)	100(32)	62.50
24	Name household preservatives	9.375(3)	96.875(31)	87.50
25	Name commercial preservatives available in market	12.50(4)	78.125(25)	65.625
Mean ± S.D.		47.50±30.257	95.5±7.60	48±25.545

Note: Figure in parenthesis indicates frequency of participants that had given correct answer.

With respect to individual questions, in pre evaluation test, the knowledge level was in the range of 6.25 per cent to 93.75 per cent in different questions with an average of 47.50 ± 30.257 . There were minimum knowledge in participants with respect to method of preservation (6.25 %), name of house hold preservatives, disease prevented by vitamins present in amla and disease prevented by vitamins in carrot (9.375%); amount of post harvest losses and name of commercial preservatives (12.5%); and vitamins available in tomato (18.75%). The participants had maximum knowledge regarding fruits used for preparing jam (93.75%), kind of vitamin present in lemon, products prepared from lemon and taste of Jam (84.375%); and products prepared from tomato (81.25%).The higher level of knowledge in some aspect is mainly due to their level of education and their residence near to city.

In post evaluation, the knowledge level was 75.00 per cent to 100 per cent with an average of 95.5 ± 7.60 per cent in different questions. All the participants were able to answer 16 questions (with 32 frequencies) out of 25 questions indicating cent per cent gain in knowledge in these questions. In rest of the question the range was 75.00 per cent to 96.875 per cent.

Gain in knowledge after training

As far as gain in knowledge after training was

concerned, it was in the range of 6.25 to 87.50 with an average of 48 ± 25.545 . The maximum gain in knowledge was regarding kind of house hold preservatives (87.50%) and minimum gain in fruits used in preparation of jam (6.25%). The reason for minimum gain is due to high level of knowledge regarding types of fruits used in preparing jam in pre evaluation test.

CONCLUSION

It can be concluded that nearly half (53.13 %) of the women participants were belonged age group of 20 to 30. Assessment of participants with respect to their education revealed that all the participants were literate with education level higher than standard eight. More than half (59.38 %) participants were having education between standard eight and ten. To assess the impact of training with respect to gain in knowledge in participants the analysis of data revealed that in pre evaluation test, the knowledge range of different participants was 12 per cent to 72 per cent with an average of 47.875 ± 20.256 per cent. In post evaluation the knowledge level reported from 80 per cent to 100 per cent with an average of 95.125 ± 6.158 per cent in different participants. With respect to individual questions, in pre evaluation test, the knowledge level was in the range of 6.25 per cent to 93.75 per cent in different questions with an average of 47.50 ± 30.257 which increased to 75.00 per cent to 100 per cent with

an average of 95.5 ± 7.60 per cent in different questions in post evaluation test.

The result clearly indicate the significant impact of training programme in gain in knowledge regarding nutritional facts, method of preservations, different products prepared from fruits and vegetables and types of preservatives. Therefore, it could be employed that more and more such training programme in food and vegetable preservation may be organized which would be benefited to farm women to empower themselves.

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