

Research Paper :

Knowledge and attitude of rural women about lemon products

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ABSTRACT

The study was conducted in two blocks of Hisar district namely, Hisar-I and Hansi-II and by selecting two villages from each of the selected block at random. A sample of 200 respondents *i.e.* 50 from each village was drawn at random to assess existing knowledge and attitude. At pre-exposure stage, respondents obtained maximum scores (19.5%) in ingredients and 21.6% in steps in sweet lemon pickle but at post-exposure stage, respondents obtained maximum scores (86.2%) in ingredients used in lemon squash and 93.0 per cent in steps taken in lemon pickle in oil and lemon rind pickle. Maximum knowledge gain in ingredients was observed in lemon squash (84.2%). About steps, maximum knowledge gain was observed in lemon squash (88.3%). At pre-exposure stage, majority of respondents (55.0%) had neutral attitude while at post-exposure stage, 63.0 per cent of respondents acquired favourable attitude towards lemon products.

Key words : Lemon, Processing, Knowledge, Attitude.

Citrus fruits have a prominent place among popular and exclusively grown tropical and sub-tropical fruits. In citrus fruits mainly- lemon or lime, grape, orange etc. are included. Lemon originated in Asian countries such as India and Malaysia. The scientific name for lemon is *Citrus limonum*. In India, it is also known as nimbu, Bara nimbu, naranga etc. The fruit is juicy with few seeds and is very aromatic. Every part of the lemon is used in sweets or cooking delicious dishes. Lemons are good for oral diseases, throat disorders, fevers, beauty aid, stomach problems, cough reliever etc. They can be used for jellies, jam, lemon curd etc. IT works as a natural cleanser and nourishes skin and hair by providing vitamin C.

Haryana can certainly take advantage of its geographical situation, being in the vicinity of capital of India, which has very large market for consumption of fruits, vegetables and also processed products. The processing and storage of all foods is vital for the continuous supply of foods during seasons and off-seasons. One very important consideration that differentiates the agricultural process from most other industrial processes is their seasonal nature. The main reasons for processing foods are - to produce value-added products, to provide variation in diet.

Low cost food processing technologies can offer excellent opportunities for farm women in production of processed food. But the general attributes of farm women like illiteracy and ignorance can act as a barrier in dissemination of scientific information. This limitation can be avoided by imparting skill based training which can be helpful in transmission of knowledge and skill on need

based areas to farm women. Lemons can be stored and transported to long distance, as they do not damage easily. They can be stored at room temperature for weeks and for months under refrigeration. By preservation and proper storage of food, it can be saved for future use at the time of scarcity, natural drought, etc. In India citrus is processed into a number of products: acid lime - pickles, squash, cordials, sweet orange - juice, squash, marmalade, mandarin - juice, marmalade and squash. So, the study was conducted with the objective to assess pre and post exposure knowledge and attitude of farm women regarding lemon products.

METHODOLOGY

The study was conducted in Hisar district of Haryana state. For present study, two blocks of Hisar district namely Hisar-I and Hansi-I were selected randomly and by selecting two villages from each of the selected block at random. Thus, Ladwa and Mirka villages from Hisar-I, Dhanderi and Sultanpur from Hansi-II block were selected. A sample of 200 respondents *i.e.* 50 from each village was drawn at random to assess existing knowledge and attitude. 100 respondents were drawn from four villages for exposure. Intervention programme was designed for selected four lemon based preserved products for 100 rural women. The intervention programme consisted of demonstration on selected lemon based preserved products which were lemon pickles in oil, sweet lemon pickle, lemon squash and lemon rind pickle in present instance. Demonstration was accompanied by distribution of relevant literature in form

of a booklet to reinforce the information delivered. Various socio-economic, personal, psychological and communication variables constituted the independent variables and knowledge and attitude constituted the dependent variables for the study. Data were collected with the help of pre-tested structured interview schedule. The inferences were drawn on the basis of frequency and percentage and mean scores.

FINDINGS AND DISCUSSION

The data presented in the Table 1 showed the knowledge scores obtained for ingredients and steps in lemon products by the respondents at pre-exposure and post-exposure. At pre-exposure stage, respondents scored 10.8 per cent in ingredients required and 13.0 per cent in steps followed in lemon pickle in oil. At post-exposure stage, respondents obtained 79.1 per cent in ingredients and 93.0 per cent in steps. In sweet lemon pickle, at pre-exposure stage respondents scored 19.5 per cent in ingredients and 21.6 per cent in steps but at post-exposure stage, the respondents showed change their knowledge by obtaining 83.0 per cent in ingredients and 91.5 per cent in steps.

In lemon squash, at pre-exposure stage respondents

scored 2.0 per cent in ingredients and 1.8 per cent in steps. At post-exposure stage, the respondents obtained 86.2 per cent in ingredients and 90.2 per cent in steps. In lemon rind pickle, at pre-exposure stage respondents scored 16.3 per cent in ingredients and 18.1 per cent in steps. At post-exposure stage, the respondents obtained 82.0 per cent in ingredients and 93.0 per cent in steps (Table 1).

It may be concluded from Table 1 that after post-exposure the change in knowledge was observed. Many studies conducted by the researchers (Verma *et al.*, 1991; Mehta and Malaviya, 1994; Sharma and Gupta, 1994; Nimbale and Ansari, 1995 and Sharma, 1999) have been reported that all the respondents had insufficient knowledge level at pre-exposure stage but after training exposure all the respondents succeeded in gaining sufficient level of knowledge.

Table 2 indicates knowledge of respondents about precautions in preparing lemon products before and after exposure. At pre-exposure stage about 26.0 per cent respondents had knowledge about use of clean and dry spoon/spatula followed by use of good quality of spices and condiments (23.0%), use preferably glass jar (19.0%), store pickle in cool and dry place (12.0%), salt and sugar

Table 1: Pre and post exposure knowledge scores of respondents for ingredients and steps in lemon products

Sr. No.	Lemon products	Villages									
		Ladwa (n=25)		Mirka (n=25)		Dhanderi (n=25)		Sultanpur (n=25)		Total (n=100)	
		Pre-exposure	Post-exposure	Pre-exposure	Post-exposure	Pre-exposure	Post-exposure	Pre-exposure	Post-exposure	Pre-exposure	Post-exposure
1.	Lemon pickle in oil	18	213	16	202	57	188	17	188	108	791
	Ingredients (10)									(10.8)	(79.1)
	Max. score (250)										
	Steps (6)	12	136	12	139	42	144	12	138	78	557
	Max. score (150)									(13.0)	(93.0)
2.	Sweet lemon pickle	73	204	27	181	48	179	28	182	176	746
	Ingredients (9)									(19.5)	(83.0)
	Max. score (225)										
	Steps (8)	71	184	24	180	46	188	32	180	173	732
	Max. score (200)									(21.6)	(91.5)
3.	Lemon squash	4	86	-	85	4	89	-	85	8(2.0)	345
	Ingredients (4)										(86.2)
	Max. score (100)										
	Steps (8)	7	187	-	184	8	183	-	168	15(1.8)	722
	Max. score (200)										(90.2)
4.	Lemon rind pickle	46	171	33	166	24	163	27	154	130	654
	Ingredients (8)									(16.3)	(82.0)
	Max. score (200)										
	Steps (6)	36	142	27	139	23	142	23	133	109	556
	Max. score (150)									(18.1)	(93.0)

Figures in parentheses indicate percentage

Table 2 : Pre and post exposure knowledge of respondents about precautions in preparing lemon products

Sr. No.	Precautions	Villages									
		Ladwa (n=25)		Mirka (n=25)		Dhanderi (n=25)		Sultanpur (n=25)		Total (n=100)	
		Frequency (%)		Frequency (%)		Frequency (%)		Frequency (%)		Frequency (%)	
		Pre-exposure	Post-exposure	Pre-exposure	Post-exposure	Pre-exposure	Post-exposure	Pre-exposure	Post-exposure	Pre-exposure	Post-exposure
1.	Salt should not be less than 15%	1 (4.0)	22 (88.0)	2 (8.0)	21 (84.0)	1 (4.0)	24 (96.0)	2 (8.0)	23 (92.0)	6 (6.0)	90 (90.0)
2.	Use good quality of spices and condiments	7 (28.0)	25 (100.0)	3 (12.0)	20 (80.0)	8 (32.0)	20 (80.0)	5 (20.0)	18 (72.0)	23 (23.0)	83 (83.0)
3.	Use preferably glass jar	4 (16.0)	21 (84.0)	6 (24.0)	23 (92.0)	5 (20.0)	22 (88.0)	4 (16.0)	20 (80.0)	19 (19.0)	8 (86.0)
4.	Use clean and dry spoon/ spatula	6 (24.0)	20 (80.0)	4 (16.0)	24 (96.0)	7 (28.0)	25 (100.0)	9 (36.0)	24 (96.0)	26 (26.0)	93 (93.0)
5.	Store pickle in cool and dry place	3 (12.0)	22 (88.0)	2 (8.0)	23 (92.0)	3 (12.0)	23 (92.0)	4 (16.0)	23 (92.0)	12 (12.0)	91 (91.0)
6.	Sugar should not be less than 15%	2 (8.0)	20 (80.0)	1 (4.0)	22 (88.0)	1 (4.0)	23 (92.0)	2 (8.0)	22 (88.0)	6 (6.0)	87 (87.0)
7.	Mix citrus juices immediately after extraction	-	19 (76.0)	-	20 (80.0)	1 (4.0)	20 (80.0)	-	19 (76.0)	1 (1.0)	78 (78.0)
8.	Leave 2-3 cm space while bottling	2 (8.0)	22 (88.0)	-	24 (96.0)	3 (12.0)	23 (92.0)	-	23 (92.0)	5 (5.0)	92 (92.0)
9.	Mix fruit juice with cool sugar syrup	1 (4.0)	21 (84.0)	-	24 (96.0)	2 (8.0)	23 (92.0)	-	22 (88.0)	3 (3.0)	90 (90.0)

Figures in parentheses indicate percentage

should not be less than 15 per cent (6.0%), leave 2-3 cm space while bottling (5.0%), mix fruit juice with cool sugar syrup (3.0%) and mix citrus juices immediately after extraction (1.0%).

At post-exposure stage, 93.0 per cent respondents had knowledge about use of clean and dry spoon/spatula, leave 2-3 cm space while bottling (92.0%), store pickle in cool and dry place (91.0%), mix fruit juice with cool sugar syrup and salt should not be less than 15 per cent (90.0%), sugar should not be less than 15 per cent (87.0%), use preferably glass jar (86.0%), use good quality of spices and condiments (83.0%) and 78.0 per cent respondents about mix citrus juices immediately after extraction.

Only 3 per cent respondents had knowledge about function of potassium metabisulphite in juice at pre-exposure stage but at post-exposure stage, 57 per cent respondents were knowing the importance of potassium metabisulphite in juice. About functions of salt in pickle, 42 per cent respondents knew about it at pre-exposure stage but at post-exposure stage 89 per cent respondents were having knowledge about function of salt in the pickle.

The data shown in Table 3 are about knowledge gain in ingredients required in lemon products which revealed that maximum (84.2%) knowledge gain was observed in

Table 3 : Gain in knowledge of respondents about ingredients required in lemon products

Sr. No.	Lemon products	Pre exposure knowledge scores (% score)	Post exposure knowledge scores (% score)
1.	Lemon pickle in oil	108 (10.8%)	791 (79.1%)
		┌──────────────────┐ 683 (68.3%)	
2.	Sweet lemon pickle	176 (19.5%)	746 (83.0%)
		┌──────────────────┐ 570(63.3%)	
3.	Lemon squash	8 (2.0%)	345 (86.2%)
		┌──────────────────┐ 337(84.2%)	
4.	Lemon rind pickle	130 (16.3%)	654 (82.0%)
		┌──────────────────┐ 524(65.5%)	

lemon squash followed by lemon pickle in oil (68.3%), lemon rind pickle (65.5%) and sweet lemon pickle (63.3%). Maximum gain in knowledge was observed in lemon squash because it is easy to prepare and number of ingredients used in squash are less. Minimum knowledge gain was observed in sweet lemon pickle

because knowledge score of respondents for sweet lemon pickle at pre-exposure stage was already high among all the products *i.e.* majority of the respondents had knowledge about ingredients used in sweet lemon pickle at pre-exposure stage.

It is clear from Table 4 that maximum (88.3%) knowledge gain was observed in lemon squash followed by lemon pickle in oil (79.8%), lemon rind pickle (74.5%) and sweet lemon pickle (69.8%). Gain in knowledge regarding precautions was 76.5 per cent

Table 4 : Gain in knowledge of respondents about steps in preparation of lemon products

Sr. No.	Lemon products	Pre exposure knowledge scores (% score)	Post exposure knowledge scores (% score)
1.	Lemon pickle in oil	78 (13.0%)	557 (93.0%)
		┌──────────┐ 479(79.8%)	
2.	Sweet lemon pickle	173 (21.6%)	732 (91.5%)
		┌──────────┐ 559(69.8%)	
3.	Lemon squash	15 (1.8%)	722 (90.2%)
		┌──────────┐ 707(88.3%)	
4.	Lemon rind pickle	109 (18.1%)	556 (93.0%)
		┌──────────┐ 447(74.5%)	

It was evident from the Table 5 that majority of respondents (55.0%) had neutral attitude followed by 31.0 per cent respondents having favourable and only 14.0 per cent had unfavourable attitude towards lemon products at pre-exposure stage. However, it was observed that after imparting training on lemon products 63.0 per cent of respondents acquired favourable attitude followed by neutral (37.0%) attitude towards lemon products.

Table 5 : Pre and post exposure attitude of respondents towards lemon products

Attitude	Category	Pre-exposure		Post-exposure	
		Frequency	% age	Frequency	% age
20 – 60	Unfavourable (20-33)	14	14.0	-	-
	Neutral (34 – 47)	55	55.0	37	37.0
	Favourable (48 – 60)	31	31.0	63	63.0

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