



IMPACT OF TRAINING ON KNOWLEDGE OF RURAL WOMEN REGARDING UTILIZATION OF SOYBEAN IN SAGAR DISTRICT (MADHYA PRADESH), INDIA

Vinita Singh* and Y. R. Khare¹

Subject Matter Specialist, JNKVV, Krishi Vigyan Kendra, Sagar - 470 002 (Madhya Pradesh), India.

¹Subject Matter Specialist, JNKVV, Krishi Vigyan Kendra, Narsinghpur (Madhya Pradesh), India.

Abstract

Soybean is known for its high nutritional and therapeutic value. Though, soybean is one of the major crops of Madhya Pradesh, its consumption is very low in the households. A total of sixteen one day trainings were conducted on soybean processing and its utilization during the year 2007-2011 at Krishi Vigyan Kendra, Sagar as (M.P.), India; a mandatory activity or in participation to allied departments with participation of 369 farm women. Demonstration method was chosen to impart the training. For collection of data on knowledge of farm women, a pre tested interview schedule was used. Increase in knowledge was assessed by percent difference in pre and post knowledge score. Five Soy products were also demonstrated to the participants. The acceptability of these products was assessed using nine point hedonic scales. The results of the study revealed that 66.6% of the participants were not aware of soybean consumption in diet. Due to training, their knowledge increased significantly about processing and utilization. Among five products, soy namkeen was liked by 92.68 percent of the subjects.

Key words : Soybean, processing, trypsin inhibitor, hedonic scale.

Introduction

Soybean (*Glycine max*) production is increasing every year and has successfully established itself as an integral part of the cropping system of Madhya Pradesh, Maharashtra and Rajasthan. The present soybean production in our country is around 6.6 million tonnes. It may be an alternative protein source to the families and can be utilized at home in various forms. Soybean has always been known for its unique chemical composition, good nutritional value, functional health benefits and versatile end uses. It is considered as one of the richest and cheapest source of protein containing about 40 per cent, which is almost twice from any other pulse crop. Soybean also contains 19.5 gm fat, 4.6 g minerals, 3.7 g crude fibre, 240 mg calcium, 690 mg phosphorus, 10.4 mg iron and many more vitamins. It also provides 432 kcal energy /100 gm (Gopalan *et al.*, 1989). Soyabeans are highly digestible, high in unsaturated fatty acids and contain no cholesterol (Singh *et al.*, 1987). It has been observed that intake of 30 gm properly processed soybean may prevent the problem of cardio vascular diseases, diabetes, osteoporosis etc. and helps in maintaining good

health. Despite of having numerous benefits, only a small portion of annual production is being used for food consumption. Out of its total production, around 85 per cent is processed for oil extraction, 10 per cent is used for seed purpose and only about 5 per cent is used for direct conversion to food products. Besides its high nutritive value, the consumption of processed soybean in Indian diet is very low. Reason may be that the people are generally reluctant to change their food habits though aware about soya products.

The present study was undertaken to know the knowledge of rural women regarding nutritive and health related aspects of soybean and impact of training programmes on it. The second purpose was the promotion of food uses of soybean at kitchen level for nutritional security.

Methodology

The present study was conducted in Sagar district of Bundelkhand region in Madhya Pradesh, India. A total of sixteen one day trainings were conducted on soybean processing and its utilization during the year 2007-2011 at Krishi Vigyan Kendra, Sagar as a mandatory activity

*Author for correspondence: E-mail-aakritisingh00@rediffmail.com

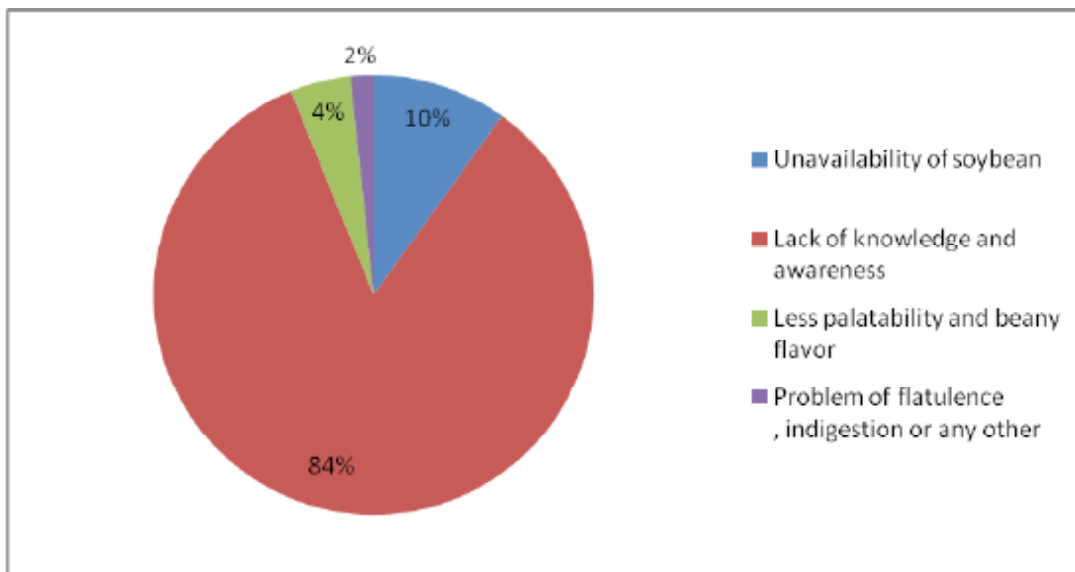


Fig. 1 : Factors affecting the consumption of soybean.

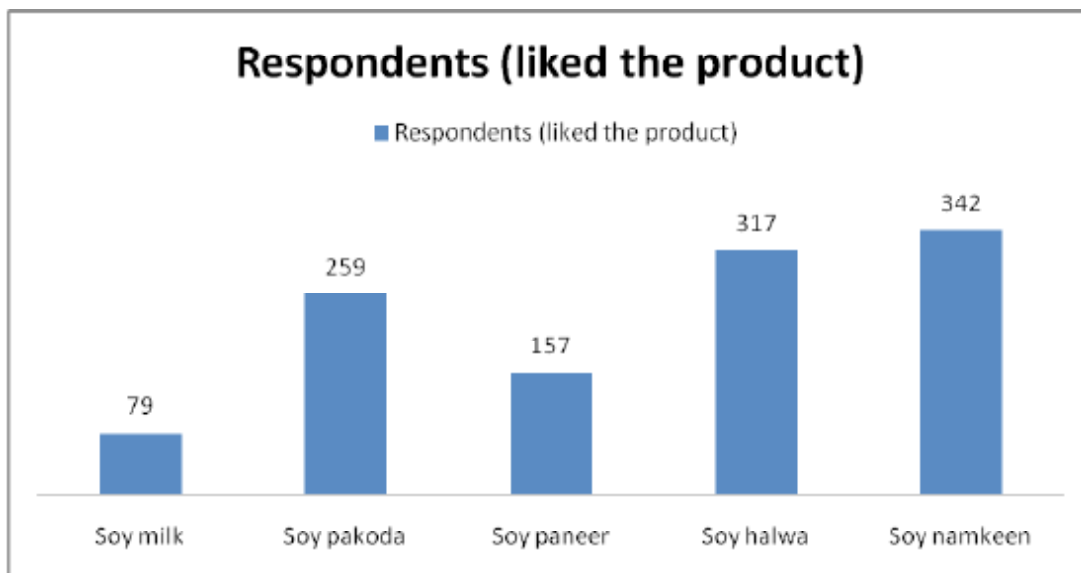


Fig. 2 : Overall acceptability of soy products.

or with participation to allied departments. These trainings were provided to a total of 369 farm women with the help of demonstration method. Before the start and after the end of training, the knowledge level of participants was assessed using the interview schedule. It was explored to know whether the farm women have any exposure of using soybean for food purpose before attending the training programme. Preparation of five Soy products namely Soy milk, Soy pakoda, Soy paneer, Soy halwa and Soy namkeen were also demonstrated to the participants. The acceptability of these products was assessed using nine point hedonic scales. The data obtained were analyzed for percentage, mean and standard deviation.

Results and Discussion

Background information of the subjects revealed that a total 34.41 per cent subjects were illiterate whereas 29.81 per cent had education up to primary level. Their age ranged between 17-48 years with a mean of 28.26±11.32 years. Most of the subjects (89.70%) were married at the time of training.

The data from table 1 revealed that the consumption of soybean was very low at household level because most of (66.6 per cent) respondents were not aware of its role as food for humans. A total of 7.85 per cent subjects reported that they have no availability of soybean for dietary intake whereas 1.35 per cent women reported

Table 1 : Factors affecting the consumption of soybean.

S. no.	Factors responsible for non consumption	Respondents (N=369)	
		n	%
1.	Unavailability of soybean	29	7.85
2.	Lack of knowledge and awareness	246	66.6
3.	Less palatability and beany flavor	13	3.52
4.	Problem of flatulence , indigestion or any other	05	1.35

Table 2 : Knowledge of farm women about nutritional and therapeutic values of soybean before and after training programme.

S. no.	Particulars	Before training		After training	
		n	%	N	%
1.	Soybean contains protein of high quality in huge quantity	17	4.60	364	98.64
2.	Cheapest source of protein when compared to other sources	3	0.81	327	88.61
3.	Useful in the prevention of several diseases like CVD, diabetes, cancer, osteoporosis, anaemia etc.	26	7.04	346	93.76
4.	Used in variety of food preparations	94	25.47	369	100.0
5.	Regarding removal of anti nutritional factor before consumption of soybean	00	0.00	360	97.56

Table 3 : Overall acceptability of soy products among farm women.

S. no.	Soy products	Respondents (liked the product)		Average points gained through 9-point hedonic scale
		n	%	
1.	Soy milk	79	21.40	4.8
2.	Soy pakoda	259	70.18	7.2
3.	Soy paneer	157	42.54	5.8
4.	Soy halwa	317	85.90	7.6
5.	Soy namkeen	342	92.68	8.2

gastro- intestinal problems due to consumption of soybean.

It can be observed from table 2 that very few rural women were found to be aware of nutritional as well as therapeutic quality of soybean and its utilization. Only 4.60 per cent had previous knowledge about its high protein content before training, which reached upto 98.64 per cent after training. None of the respondents had any knowledge regarding the presence of anti nutritional factor "Trypsin inhibitor" and the procedure of its removal before consumption. The knowledge level increased upto 97.56 per cent after training. After training, all of them were agreed that soybean can be utilized for the preparation of variety of food preparations. Although, before training some of the respondents were practising soy processing at their households in the form of Soy badi, Soy flour mixed papad and Soy curry, but they all used to use soybean without processing.

Out of five products prepared namely Soy milk, Soy pakoda, Soy paneer, Soy halwa and Soy namkeen, Soy namkeen was the product liked by majority of the respondents with a percentage of 92.68 followed by Soy halwa (85.90 per cent) and Soy pakoda (70.18 per cent) (table 3). The reason underlying may be its easier preparation and good taste. Moreover, it can be kept for a longer period of time before getting spoiled. Similar finding was reported by Ambitsi and Oucho (2007). They found fried soybean as the most popular and consumed product. Only 21.4 per cent women liked Soy milk, may be due to its beany flavor. Same pattern was observed in case of the points gained by the products through nine point hedonic scale. Out of nine points Soy namkeen gained 8.2 points followed by Soy halwa (7.6) and Soy pakoda (7.2). Soy milk showed minimum acceptability as it had only 4.8 points out of nine.

Conclusion

It can be concluded from the above study that the consumption of Soybean is very low in Sagar district. Most of the rural women not had any awareness about role of soybean in their diets, its nutritional as well as the therapeutic properties. They even had no idea of appropriate techniques of its processing before consumption. Training along with demonstration of soybean processing and its utilization may considerably increase the knowledge of rural women and utilization of Soybean in the daily diets of farm families.

References

- Ambitsi, N. E., Onyango and P. Oucho (2007). Assessment of adoption of Soybean processing and utilization technologies in Navakholo and Mumias divisions of Western Kenya. 1434-1438.
- Gopalan, C., B. V. Ramashashtri and S. C. Balasubramanian (1989). Nutritive value of Indian foods. Revised by: B.S. Narsingha Rao, Deosthale, Y.G. and Pant, K.C. NIN, ICMR, Hyderabad. pp:161.
- Singh, S. R., K. O. Rachie and K. E. Dashiell (1987). Soybeans for the Tropics. Research, production and utilization. John Wiley and Sons Ltd., New York.