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"Effect of Structured Teaching Programme on Knowledge Regarding Kitchen Gardening among Housewives in Selected Rural Area"

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KEYWORDS

Structured Teaching Programme, Housewives, Kitchen gardening, Green leafy vegetables, High yielding varieties.

ABSTRACT:

Background of study: The objective of this study is to assess the knowledge of rural housewives regarding kitchen gardening before and after a structured teaching programme, and to determine its association with selected demographic variables. Kitchen gardening is a simple, sustainable practice that supports nutrition and food security in rural households. However, many women lack proper guidance and awareness to implement it effectively. A structured teaching programme can help strengthen their understanding and promote better adoption of kitchen gardening practices.

The Punjab government launched a kitchen gardening initiative in 2010–2011 to reduce food costs and improve community health by distributing affordable seed kits and educational materials. Over three years, about 400,000 seed kits containing commonly used vegetables were provided to households. This programme aimed to promote self-sufficiency and healthier dietary practices among the public.

Methodology: For this study, a pre-experimental design was adopted, and 100 Housewives of selected rural area were chosen using a Non probability purposive sample strategy. The knowledge was assessed using a structured knowledge questionnaire. The data was analyzed using descriptive and inferential statistics.

Result: The study revealed that prior to the structured teaching programme, the majority of rural housewives (61%) had average knowledge regarding kitchen gardening, while 25% had poor knowledge, and only 14% demonstrated good knowledge. Following the intervention, post-test results indicated a marked improvement, with 57% of participants achieving good knowledge and 43% demonstrating average knowledge; none remained in the poor knowledge category.

Conclusion: The study showed that the structured teaching programme significantly improved the knowledge of housewives regarding kitchen gardening. While most participants had only average knowledge before the intervention, the majority achieved good scores afterward, with the paired t-test ($t = 13.13$, $p = 0.000$) confirming a highly significant difference. These findings highlight the effectiveness of educational programmes in promoting sustainable practices and improving household nutrition in rural communities.

1. Introduction:

Kitchen gardening is a technology that uses clay flower pots, old utensils, and empty tins to grow fresh vegetables at home. In addition to saving money and time, this family-friendly pastime is practical, nutritious, and environmentally beneficial. For rural households in developing nations with limited resources, kitchen gardens are essential to enhancing food security. Because they purchase food in smaller quantities and travel farther to less expensive locations, the poor frequently pay greater prices for it.

With a score of 30.3 in 2019, India has a severe degree of hunger and is ranked 102nd out of 117 nations in the global hunger index. In fact, the nation still faces a high prevalence of undernutrition, and controlling it remains extremely difficult. According to the National Family Health Survey, 38.4 percent of people are stunted, and 35.8 percent are underweight.[1]

A healthy diet must include vegetables since they are a great source of nutrients for numerous bodily processes. These veggies also improve our digestion, taste, and palatability while stimulating our hunger. Since vegetables are often short-duration crops, they are a good fit for kitchen gardens. These kitchen gardens provide year-round food for a family. The kitchen

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garden, also known as the nutritious home garden, is often situated near the house and is used to cultivate fruits, vegetables, and other food crops for the household. In addition to saving us money and time, it may provide the whole family a fun, practical, and eco-friendly pastime. Recycling domestic garbage may be facilitated by home gardening, particularly if a compost pit is established. Growing a variety of crops in the home garden is one of the simplest methods to guarantee access to a nutritious diet that includes enough macro- and micronutrients.[2]

One of the most basic needs of humans is food. The quality of a meal is equally as important as its amount in determining its utility. Humans have long placed a great priority on eating a balanced diet. Unfortunately, the answer in the Indian context is an emphatic "no." Every day, millions of Indians go hungry, and millions more—possibly over a billion—struggle with malnutrition. A sizable database on the nutrition and diet of the rural populace in several Indian states has been amassed over the past 25 years. Food and nutritional security are directly provided by kitchen gardening, which gives family members access to food that can be picked quickly, cooked, and consumed every day or as needed. The innovative way to boost vegetable output and give people access to affordable veggies is through kitchen gardening. Throughout the year, a family may harvest veggies from these kitchen gardens. In rural regions, where people have limited purchasing power and marketplaces are far away, this is particularly crucial. One of the best sources of vitamins, minerals, and fiber is vegetables. They are an essential component of our diet since they provide a variety of nutrients needed for several bodily processes. Additionally, vegetables improve our digestion, taste, and palatability while also boosting our hunger.[3]

A kitchen garden, often referred to as a home garden, vegetable garden, nutrition garden, or kitchen garden, is an area where vegetables and herbs are grown for domestic consumption. It contains regional types including radish, broadleaf mustard, chile, beans, pumpkins, and tomatoes and has been utilized since ancient times. Eating vegetables is crucial for happiness and good health, and gardening is no different. Elders have stressed the importance of cooking in the kitchen for a healthy diet and for adding flavor to life. Vegetables produced without pesticides are becoming popular hobbies owing to their price and minimum space. In the kitchen, food may even be grown on balcony or window sills. All things considered, gardening is a fun and healthful approach to keep up a balanced diet.[4]

Families must have kitchen gardens in order to cultivate fruits, vegetables, and other food crops. This makes gardening a fun, practical, and environmentally responsible pastime. When a compost pit is created, these gardens may assist recycle household trash and save time and money. Access to a nutritious diet with sufficient macro and micronutrients is ensured by growing a variety of crops in the home garden. While indirect revenue comes from improved commerce with neighbors and savings from not purchasing the same goods from the market, direct money comes from selling excess output. Additionally, gardening relieves stress and offers therapeutic and aesthetic exercise. Good health is viewed as encompassing the entire person and goes beyond diet. Because they like it, the impoverished labor on their gardens by hand, encouraging sustainability in the kitchen garden sector.[5]

Enhancing food security in the home and empowering women can be achieved via kitchen gardening. It entails concentrating on women and raising their income, which will enhance care behaviors and resource use. The reduction of poverty and socioeconomic benefits, including decreased health and welfare expenses, fertility, and rates of maternal and infant mortality, are also addressed by this empowerment. Programs for home gardening empower women and encourage their full involvement in household duties, which benefits the growth of the community.[6]

2. Need of the study:

There is a growing need to promote kitchen gardening as it enhances household nutrition, reduces food expenses, and encourages the use of fresh, chemical-free vegetables. Many rural housewives lack proper knowledge and skills to practice it effectively, creating a gap that structured teaching programmes can fill. Such educational interventions empower women, support sustainable living, and contribute to improved food security in rural communities.

According to global health data, the top causes of mortality in 2019 were diabetes mellitus (1.9%), hypertensive heart disease (1.7%), cancer (3.7%), chronic obstructive pulmonary disease (5.1%), ischemic

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heart disease (12.2%), and cerebrovascular disease (9.7%). By 2030, this tendency is anticipated to steadily accelerate. According to a nationwide nutrition assessment, eating fruits and vegetables every day can boost cognition, lower blood sugar, and reduce the risk of heart disease, stroke, and cancer. By eliminating the need to purchase fruits and vegetables from the market, growing a kitchen garden can result in financial savings. Because it simply takes up a little amount of their home, this is very advantageous for elderly and household members. Crops may be planted in pots and other recyclable containers in even the smallest areas.[7]

India produces far less vegetables per person than dieticians advise, as a healthy diet should include at least 300 g of vegetables. The consumption habits of rural households and those living below the poverty line, whose daily vegetable intake is considerably less than 40 g, are not adequately reflected by this low supply. It is advised that vegetables and greens be added to the existing food grains in order to improve the diet of the typical Indian. The easiest way for rural households to receive the veggies they need in their daily meals is to implement kitchen gardens.[8]

3. Materials and Methodology:

3.1 Research Approach:

An evaluative research approach was adopted to determine the effectiveness of a structured teaching programme on improving knowledge regarding kitchen gardening among rural housewives in Sadatpur village.

3.2 Research Design:

The study employed a pre-experimental one-group pre-test post-test design, which facilitated the comparison of knowledge levels before and after the intervention.

3.3 Setting of the Study:

The study was conducted in a Sadatpur village where housewives constituted the primary participants.

3.4 Population:

The target population comprised rural housewives residing in Sadatpur village.

3.5 Sample and Sampling Technique:

A total of 100 housewives were selected through a non-probability purposive sampling technique. This method was chosen to ensure the inclusion of participants who met the specific criteria relevant to the study objectives.

3.6 Development of Data Collection Tool:

A structured knowledge questionnaire was developed following an extensive review of relevant literature. The tool was validated by subject experts to ensure content accuracy and relevance, and a pilot study was conducted to assess its clarity, feasibility, and reliability.

3.7 Data Collection Procedure:

Data collection was carried out in three phases. In Phase I, a pre-test was administered using the structured questionnaire to assess baseline knowledge. Phase II involved the implementation of the structured teaching programme on kitchen gardening. In Phase III, a post-test was conducted using the same questionnaire to evaluate changes in knowledge following the intervention.

3.8 Data Analysis:

Both descriptive and inferential statistics were employed for data analysis. Descriptive statistics such as mean, standard deviation, frequency, and percentage were used to summarize demographic characteristics and knowledge scores. A paired t-test was conducted to determine the effectiveness of the structured teaching programme. Additionally, associations between pre-test knowledge scores and selected demographic variables were evaluated using appropriate inferential statistical tests.

Describing the frequency and percentage distribution of socio demographic variables of housewives.

Table No:1 Frequency and percentage distribution of socio demographic variables of housewives.

Sr.No	Demographic Variables	Category	Frequency	Percentage
1	Age in years	25 to 30 years	26	26.00
		31 to 35 years	41	41.00
		36 to 40 years	11	11.00
		41 years and above	22	22.00
		Nuclear	47	47.00

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2	Type of family	Joint	46	46.00
		Extended	7	7.00
3	Monthly family income	Below Rs.10000	17	17.00
		Rs. 10001/- to 20000/-	21	21.00
		Rs. 20001/- to 30000/-	45	45.00
		Above Rs. 30000/-	17	17.00
4	Education status	Primary school	22	22.00
		Secondary education	32	32.00
		Graduate	25	25.00
		Post graduate	5	5.00
		Illiterate	16	16.00
5	Religion	Hindu	75	75.00
		Muslim	12	12.00
		Christian	13	13.00
		Other	0	0.00
6	Marital status	Married	88	88.00
		Divorced	5	5.00
		Widow	7	7.00
7	Previous source of knowledge regarding kitchen gardening	Mass media	47	47.00
		Friends	12	12.00
		Relatives	41	41.00

The majority of participants in the study were between 31 to 35 years of age (41%). Most of them belonged to nuclear families (47%). Regarding monthly family income, the majority earned between Rs. 20,001 to Rs. 30,000 (45%). In terms of educational status, most participants had secondary education (32%). The majority of respondents were Hindus (75%) and married (88%). Concerning the previous source of knowledge about kitchen gardening, the main source reported by most mass media (47%).

To assess level of knowledge regarding kitchen gardening among housewives.

Table No: 2 Assess pretest level of knowledge regarding kitchen gardening among housewives.

Sr. No	Criterion	Range of score	No. of respondent	percentage
1	Poor Knowledge	0 to 5	25	25.00
2	Average Knowledge	6 to 10	61	61.00
3	Good Knowledge	11 to 15	14	14.00

The table shows that most respondents (61) had average knowledge of kitchen gardening in the pre-test, followed by 25 with poor knowledge and 14 with good knowledge.

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Table No 3: Assess post test level of knowledge regarding kitchen gardening among housewives.

Sr. No	Criterion	Range of score	No. of respondent	percentage
1	Poor Knowledge	0 to 8	0	0.00
2	Average Knowledge	9 to 17	43	43
3	Good Knowledge	18 to 26	57	57

The table shows that most respondents (57) had good knowledge of kitchen gardening in the post-test, followed by 43 with average knowledge, and none with poor knowledge.

To evaluate effectiveness of structured teaching programme on knowledge regarding kitchen gardening among housewives

Table No 4: Evaluate effectiveness of structured teaching programme on knowledge regarding kitchen gardening among housewives.

Sr. No	Group	Mean	Standard deviation	Mean %	paired t test	Table value
1	Pre test	7.46	2.54	49.73	13.130	0.000
2	Post test	11.38	2.22	75.87		

The findings show that the mean pre-test score was 7.46 ± 2.54 (49.73%), while the mean post-test score increased to 11.38 ± 2.22 (75.87%). The calculated paired t-test value was 13.130 with a p-value of 0.000, which is highly significant. This indicates that the teaching program was effective in improving the participants' knowledge.

To find out association between pretest level of knowledge regarding kitchen gardening with their selected demographic variables of housewives

Table No.6 Find out association between pre test level of knowledge regarding kitchen gardening with socio demographic variables of housewives

Sr. No	Socio demographic variables	Category	Pretest levels of knowledge						Total	Chi square value	p value
			Poor		Average		Good				
			f	%	F	%	F	%			
1	Age in years	25 to 30 years	8	30.77	15	57.69	3	11.54	26	6.780	0.342
		31 to 35 years	10	24.39	25	60.98	6	14.63	41		
		36 to 40 years	5	45.45	4	36.36	2	18.18	11		
		41 years and above	2	9.09	17	77.27	3	13.64	22		
2	Type of family	Nuclear	14	29.79	25	53.19	8	17.02	47	2.479	0.648
		Joint	10	21.74	31	67.39	5	10.87	46		

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		Extended	1	14.29	5	71.43	1	14.29	7		
3	Monthly family income	Below Rs.10000	4	23.53	13	76.47	0	0.00	17	10.364	0.110
		Rs. 10001/- to 20000/-	2	9.52	13	61.90	6	28.57	21		
		Rs. 20001/- to 30000/-	13	28.89	25	55.56	7	15.56	45		
		Above Rs. 30000/-	6	35.29	10	58.82	1	5.88	17		
4	Education status	Primary school	3	13.64	15	68.18	4	18.18	22	7.295	0.505
		Secondary education	8	25.00	21	65.63	3	9.38	32		
		Graduate	10	40.00	13	52.00	2	8.00	25		
		Post graduate	1	20.00	3	60.00	1	20.00	5		
		Illiterate	3	18.75	9	56.25	4	25.00	16		
5	Religion	Hindu	21	28.00	46	61.33	8	10.67	75	3.498	0.478
		Muslim	2	16.67	7	58.33	3	25.00	12		
		Christian	2	15.38	8	61.54	3	23.08	13		
		Other	0	0	0	0	0	0	0		
6	Marital status	Married	24	27.27	51	57.95	13	14.77	88	4.030	0.402
		Divorced	0	0.00	4	80.00	1	20.00	5		
		Widow	1	14.29	6	85.71	0	0.00	7		
7	Previous source of knowledge regarding kitchen gardening	Mass media	11	23.40	28	59.57	8	17.02	47	3.400	0.493
		Friends	2	16.67	7	58.33	3	25.00	12		
		Relatives	12	29.27	26	63.41	3	7.32	41		

The study revealed that most participants had an average level of knowledge in the pre-test. The majority were aged 31–35 years (60.98%), belonged to joint families (67.39%), and had a monthly income of Rs. 20,001–30,000 (55.56%). Participants with secondary education (65.63%), Hindu religion (61.33%), and married status (57.95%) also showed average knowledge. Most respondents who gained information through mass media (59.57%) had average knowledge. There was no

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significant association between knowledge levels and demographic variables ($p > 0.05$).

4. Discussion:

The findings show that the structured teaching programme was effective in improving the knowledge of rural housewives regarding kitchen gardening.

Assess pretest level of knowledge regarding kitchen gardening among housewives.

Before the intervention, most participants (61%) had average knowledge, 25% had poor knowledge, and only 14% had good knowledge

In similar study by Halyal and Tamgale (2021), more than half (53.33%) of urban women showed medium knowledge regarding kitchen gardening practices.[10]

Assess postt est level of knowledge regarding kitchen gardening among housewives.

After the programme, knowledge levels increased notably—57% achieved good knowledge and 43% had average knowledge, with none remaining poor. This improvement highlights the effectiveness of structured teaching in enhancing awareness and promoting practical understanding of kitchen gardening among rural housewives.

In similar study Patil SS, Deshmukh PR (2018) found that knowledge scores of rural women increased significantly after participation in kitchen gardening training program.[11]

In another intervention study entitled Evaluation of kitchen gardens nutrition program (Pakistan) the women in the kitchen garden programme showed increased awareness, knowledge and improved attitudes and behaviours towards nutrition and health following the training.[12] Kumari et al. (2020) also found no significant relationship between socio-demographic characteristics and pre-test knowledge scores, emphasizing that awareness of kitchen gardening practices was low across different strata of society.[13]

5. Conflict of interest:

The author declares that there are no conflicts of interest related to this study. No financial, professional, or personal relationships have influenced the design, conduct, analysis, or reporting of this research.

6. Implication:

The findings of the study can be discussed in four areas, mainly, nursing practice, nursing education and nursing research. Several implications can be drawn from the present study for nursing practice.

Nursing education: Housewives should be made aware kitchen gardening.

1) Nurse educator should educate to Housewives how to utilize domestic waste water for kitchen gardening.
2) Nurse educator should adapt different teaching methodology to educate the Housewives about kitchen gardening.

Nursing administration:

1) The nurse administrator should take interest in providing information on kitchen gardening.
2) Organization of such programmes requires efficient team work, planning for man power, money, material, methods and minutes to conduct successful education program regarding kitchen gardening within available recourses both the urban and rural community.

Nursing research:

1) There is a need of extensive and intensive research in this area, so that a strategy for developing kitchen garden.
2) In service education and continuing education should be organized to update the knowledge on kitchen gardening.

7. Funding:

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9. Conclusion:

The study clearly demonstrated that the structured teaching programme was effective in improving the

knowledge of housewives regarding kitchen gardening in the selected rural area. Before the intervention, most participants had only an average level of knowledge, but after the programme, a significant improvement was observed, with the majority achieving good knowledge scores. The statistical analysis using the paired t-test ($t = 13.13$, $p = 0.000$) confirmed that the difference between pre-test and post-test scores was highly significant. This shows that educational interventions can play a vital role in enhancing awareness and understanding of sustainable practices like kitchen gardening. Promoting such programmes can empower housewives, improve household nutrition, and contribute to food security and environmental sustainability in rural communities.

References:

1. GK Rana, N. S. (n.d.). Kitchen garden: An ideal approach to enhance household nutritional security in rural areas of Seoni district (M.P.). The Pharma Innovation Journal 2021; SP-10(5): 254-258.
2. Neerja Sharma*, V. G. (n.d.). Kitchen Gardening: A Promising Approach towards the Nutritional Security. Int.J.Curr.Microbiol.App.Sci (2020) Special Issue-11: 3091-3098.
3. Singh v.*, y. k. (n.d.). kitchen gardening: a promising approach towards improving nutritional security in rural. nternational journal of microbiology research
4. Chauhan, D. D. (n.d.). Impact assessment of kitchen garden in food and nutritional security of rural families. The Pharma Innovation Journal 2023; 12(3): 652-656.
5. Ms. Harsha S. Kumbhalkar,et, al,(2024) "A Complete Guide: Kitchen Gardening" International Journal of Environment, Agriculture and Biotechnology Vol-9, Issue-4; Jul-Aug, 2024
6. Mahaveer Prasad Ola, Aditya nimbark, et,al, (2024) "seed to plant a sustainable kitchen gardening" UGC Care Group I Listed Journal Vol-14, Issue-5, No.03, May: 2024
7. Savita Arya, Satya Prakash, et.al(2018) "Household Food Security through Kitchen Gardening in Rural Areas of Western Uttar Pradesh, India" Int.J.Curr.Microbiol.App.Sci (2018) 7(2): 468-474
8. Mrs. Joanna Grace Rajakumari, Dr. P. Pandiammal ,IDC International Journal August – October 2020 Volume: 7 Issue: 4 ISSN: 2395 3365 (ONLINE)
9. S. Sethy , S. Sarkar, et, al,(2010) " Constraints in Adoption of Improved Techniques of Kitchen Gardening" Indian Res. J. Ext. Edu. 10 (2), May, 2010
10. Halyal P, Tamgale G. Opinion about kitchen garden and nutritional knowledge of vegetables in the diet among the gardeners in Dharwad district of Karnataka. Int J Curr Microbiol Appl Sci. 2021;10(2):2260-2268. doi:10.20546/ijcmas.2021.1002.269
11. Patil SS, Deshmukh PR. Impact of training programme on knowledge and adoption of improved kitchen gardening practices. J Agric Sci Educ Res. 2018;30(1):45-50.
12. hah N, et al. Evaluation of kitchen gardens nutrition program. PLoS ONE. 2023; (E-publication)
13. Kumari N, Kamini K, et al. Knowledge and attitude of rural women towards kitchen gardening. 2020;