

Applicability of Online Advisories on Adoption of Nutritional Garden in Kannauj during Lockdown due to Global Epidemic Covid-19

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Abstract

The present study was conducted by Krishi Vigyan Kendra in two villages i.e. Pachpukhra and Pachaipurva of Jalalabad block under district Kannauj during March- June 2020 i.e. Zaid season with 60 farm women selected for FLD on nutritional garden. On the occasion of international women's day i.e. 8th March, HYV vegetable seeds and seedlings from vegetable farm, Kalyanpur of C. S. A. University of Agric. & Tech., Kanpur were distributed to farm women for front line demonstration on Zaid nutritional garden and field visits were conducted to provide proper technology for layout of kitchen garden. Along with this during lockdown period, on the basis of availability of smart phone 30 farm women (50.00 percent) were purposively selected for telephonic interview about the impact of lockdown on them and accordingly advisories were sent to them through WhatsApp groups about the importance of consumption of fruits and vegetable for health and immunity of children, pregnant ladies and old age people in families, processing of fruits and vegetables, and maintenance of cleanliness while consuming these fruits and vegetables either in raw, processed or cooked form etc. Again after 60 days telephonic experiences sharing was done with selected 30 farm women regarding impact of advisories on applicability of nutritional garden, its cost-benefit ratio and challenges faced by them in establishment of nutritional garden. Farm women reported that nutritional garden proved very fruitful to them during this period of global epidemic as they don't have much money in hand to purchase other food items. Fear of going out and none availability of public transport to reach market also turned them towards nutritional garden. They understood the importance of nutrients for healthy living and showed their interest in establishing round the year planned kitchen garden either in backyard or on terrace to enhance availability of vegetables to every family member. They also started washing vegetables with warm salted water before cooking to prevent infection and prepared tomato soup at home to boost immunity. They preserved excess tomatoes in the nutritional garden in the form of puree and sauce. Cost benefit ratio of establishment of round the nutritional garden was higher. Farm families want to establish or extend their nutritional garden ut availability of quality planting material, HYV seeds, irrigation facility and threat of loss due to attack of animal was major challenge in establishment of kitchen garden. It can be concluded that during this period of crisis farm families become extra conscious about nutrition and health. They developed positive attitude towards nutritional garden as a source of nutritional security due to availability of fresh, healthy and organic fruits and vegetables at door step.

Key words: Nutritional garden, Farm families, Applicability, Challenges, Fruits & vegetables

Introduction

Nutrition is vital for strong immune system but they must come from food as body cannot make them or can't make in sufficient quantity. They are required

by the body in minute amounts to fight diseases, to support metabolic activities and protect against infections. Malnutrition in India has become a situation

that haunts the lives of millions of children. It is not an issue that is new rather it has been a major cause of concern for Indians for decades. Malnutrition in every form presents, significant threat to human health. Today India is facing double burden of health risk due to existing malnutrition and outbreak of Covid-19 a global epidemic. If people do not have right balance of nutrients in their diet, their risk of developing certain health conditions increases. Vegetables and fruits are important part of a healthy diet, and its variety is as important as quantity to provide all nutrients needed for a healthy body. No single fruits and vegetables provide all nutrients needed for good health. Fruits and vegetables are considered in dietary guidance because of their high concentrations of dietary fiber, vitamins, minerals, especially electrolytes; and more recently photochemical, especially antioxidants (Slavin and Lloyd 2012). Sufficient intake of fruit and vegetables has been related epidemiologically with reduced risk of many non-communicable diseases. Currently, much interest is focused on the vital role of antioxidants which impart bright colour to fruit and vegetables, and act as scavengers cleaning up free radicals before they cause detrimental health effects (Kaur and Kapoor 2001). Despite an increasing focus on the health benefits of fruits and vegetables, their consumption is below the recommended intake among adults (Schneider 2007) and (Morbidity and Mortality Weekly Report 2010). The daily requirement of vegetable is around 300 gm as per ICMR but the availability is very low. Fresh and organic fruits and vegetables from nutritional garden can help boost immunity and prevent infection in rural families by increasing its availability for consumption per person per day. Nutritional garden can be very useful to reduce the malnutrition levels as well as make sure that families' food security is ensured. During the time of pandemic when many people are staying at home, growing a vegetable garden can be a family-inclusive activity and from a mental aspect it is a way for adults and children to cope with boredom and help families gain a sense of security.

Research Methodology

The present study was conducted by Krishi Vigyan Kendra in two villages i.e. Pachpukhra and Pachaipurva of Jalalabad block under district Kannauj during March- June 2020 i.e. Zaid season with 60 farm women selected for FLD on nutritional garden. On the occasion of international women's day i.e. 8th

March, HYV vegetable seeds and seedlings from vegetable farm, Kalyanpur of C. S. A. University of Agric. & Tech., Kanpur were distributed to farm women for front line demonstration on zaid nutritional garden and field visits were conducted to provide proper technology for layout of kitchen garden. Along with this during lockdown period, on the basis of availability of smart phone 30 farm women (50.00 percent) were purposively selected for telephonic interview about the impact of lockdown on them and accordingly advisories were sent to them through WhatsApp groups about the importance of consumption of fruits and vegetable for health and immunity of children, pregnant ladies and old age people in families, processing of fruits and vegetables, and maintenance of cleanliness while consuming these fruits and vegetables either in raw, processed or cooked form etc. Again after 60 days telephonic experiences sharing was done with selected 30 farm women regarding impact of advisories on applicability of nutritional garden, its cost-benefit ratio and challenges faced by them in establishment of nutritional garden.

Results and Discussion

Demographic Profile of the Respondents:

Demographic profile is nothing more than characteristics of a population. It allows us to better understand certain background characteristic of respondent. It helps in gaining meaningful and actionable insight about the population under study. To know the socio-demographic status of respondent's data on age, education, caste, occupation of head of the family, monthly family income, landholding, family type and size of family were collected.

Analysis of data in Table 1 regarding family profile of farm women reveals that monthly family income of maximum 53.33 percent farm women ranges between Rs. 2251-4000 followed by for 16.66 percent families it was below Rs. 2250 and for another 16.66 percent families it was between Rs. 4001 -6000. Monthly family income of only 13.33 percent families was between Rs. 6001-10,000 and none of the families were having monthly income above Rs.10, 000. Majority 76.66 percent families were having marginal land holding i.e. 1 hectare or less and only 23.33 percent families were holding land between 2-4 hectare i.e. small landholding. Majority i.e. 86.66 percent families selected under study were nuclear type and out of which 60.00 percent were having 5-7 members in their family and 20.00 percent were having

Table 1: Personal Profile of Respondent

N=30

S. No.	Particulars	Frequency	Percentage
1	Family Income/month		
a.	Below 2250	5	16.66
b.	2251-4000	16	53.33
c.	4001-6000	5	16.66
d.	6001-10000	4	13.33
e.	Above 10000	-	-
2	Land Holding		
a.	Marginal (1 hectare or less)	22	76.66
b.	Small (2-4 hectare)	8	23.33
c.	Medium (4-10 hectare)	-	-
d.	Large (Above 10 hectare)	-	-
3	Type of family		
a.	Nuclear family	26	86.66
b.	Joint Family	4	13.33
4	Size of Family		
a.	3-4 members	6	20.00
b.	5-7 members	18	60.00
c.	8-10 members	2	6.66
d.	Above 10 members	4	13.33

3-4 family members. Only 13.33 percent families were joint having above 10 members in their family.

Applicability of Online Advisories on Adoption of Nutritional Garden during Lockdown:

Over the last few months there has been a dramatic transformation in our access to and the availability of food items. It seems that lockdown has encouraged many people to rediscover the joys of home gardening and cooking. Applicability of nutritional garden during lockdown was assessed by asking some utility of related questions in Yes and No and analysis was done in frequency and percentage.

Fig 1 depict that about 75 percent farm women were having sufficient vegetables in their nutritional garden during lockdown. Out of them 70 percent families were regularly consuming green vegetables and 60 percent were consuming it in sufficient amount. Only 30 percent families were purchasing some vegetables from vendor, rest 70 percent were getting all vegetables from Nutritional garden. Fifty percent families used vegetables for variety of purposes other than curry. Only 30 percent families distributed extra tomatoes from nutritional garden, rest of 70 percent preserved it as puree or sauce. About 70 percent feel

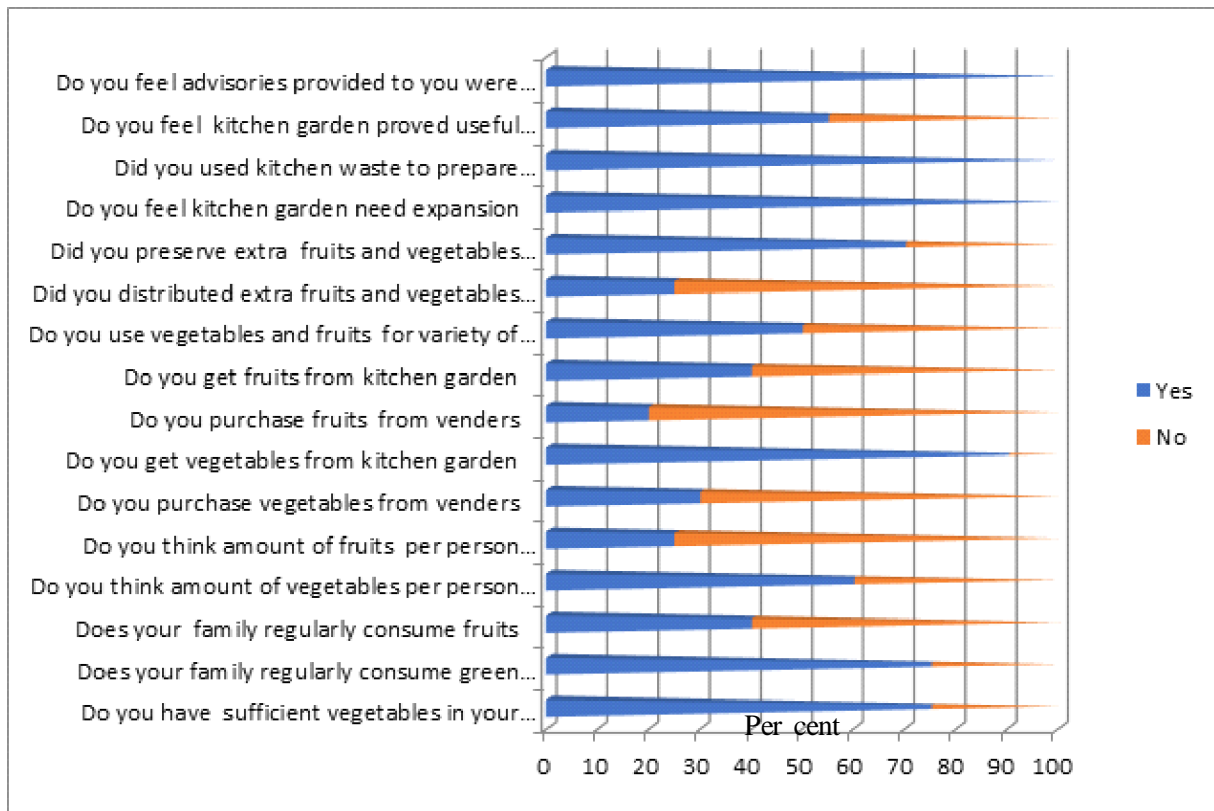


Fig. 1: Applicability of Online Advisories on adoption of Nutritional Garden during Lockdown

nutritional garden proved useful to them during lockdown and consumption of sufficient amount of vegetables from garden improved their immunity. Cent percent farm women reported that they need to expand their home garden, preparing compost from waste of kitchen and home garden and all advisories provided to them during lockdown were fruitful. Similar study by Singh et al. (2018) also reported that per capita availability of nutrients increased significantly after intervention of nutritional garden. Findings of Chayal

et al. (2013) and Yusuf et al. (2008) also supported the study.

Economics of Nutritional Garden:

Nutritional gardens are often promoted as a way to cut household cost by providing low- cost access to fruits and vegetables. Gardeners feed their families first and then sell, barter or give away surplus vegetables from their garden. Garden gives dual benefit of food and income generation. The gross cost, gross return, net return and cost-benefit ratio of 100



Plate 1: Distribution of HYV vegetable seeds



Plate 2: Harvesting of tomato during lockdown

m² nutritional gardens were calculated for the analysis of its economic benefit over nutritional benefit.

Table 2: Cost-benefit ratio of nutritional garden (100 m²)
N=30

S. No	Parameters	Check	Demonstration	% Change
1	Gross Cost (Rs.)	318	435	26.89
2	Gross Return (Rs.)	1950	3389.5	42.46
3	Net Income (Rs.)	1632	3071.5	46.86
4	BC ratio	1:6.13	1:7.79	21.30

Gross Cost: It is total cost of production per unit area. (Cost of seeds, FYM, Labor, Irrigation etc.),

Gross Return: It is the total return on investment before deduction of any expenses.

Net Income: It is gross income - gross cost per unit area.

Gross Return-Gross Cost,

B: C ratio: It is the ratio of the gross return to the total cost used. Gross Return/Gross Cost

On perusal of data in table 2 it is clear that the mean gross cost of establishment of 100 sq.m. nutritional garden for demonstration plot was Rs. 435 over the check plot which is Rs. 318. It clarifies that cost of establishment of 100 sq.m. demonstration plot of nutritional garden is 26.89 percent higher than the check plot but gross return from demonstration plot is Rs.3389.50 as compare to check plot i.e. Rs. 1950.00, which is 42.46 percent higher from check plot. Here we can see that difference in net income of demonstration plot over check plot is 46.86 percent and B: C ratio is 21.30 percent higher.

Challenges in Establishment of Nutritional Garden:

Growing vegetables for consumption can be a

valuable tool in increasing self-sufficiency, whether it is at the scale of family or a small community. It is one of the way through which family or community may provide themselves with a steady supply of fresh vegetables throughout the year. Not only has this food source reduced dependency on society at large but also increase personal health, because fresher vegetables have a great nutritional value. Here, effort was made to discover major challenges faced by farm families in establishment of nutritional garden and it has been seen that families are facing some threats that can be minimized by increasing their technological awareness.

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Table 3: Major Challenges faced in Establishment of Kitchen Garden

N=30

S. No.	Parameters	Frequency	Percentage
1	Low nutritional awareness of family	30	100.00
2	Unavailability of quality planting materials and HY variety seed	30	100.00
3	Poor availability of irrigation facility	23	76.66
4	Lack of technical knowledge related to layout of kitchen garden	25	83.33
5	Lack of knowledge about preservation and processing of surplus produce	20	66.66
6	Lack of interest in kitchen garden than other crops	15	50.00
7	Difficulty in pest/disease control	18	60.00
8	Fear of loss due to attack of wild animal	22	73.33
9	Fear of Theft	12	40.00

vegetables have a great nutritional value. Here, effort was made to discover major challenges faced by farm families in establishment of nutritional garden and it has been seen that families are facing some threats that can be minimized by increasing their technological awareness.

Analysis of data in Table 3 depicts that 100 percent farm women face challenges in establishment of nutritional garden due to low nutritional awareness of family and unavailability of quality planting material and HYV seeds. Lack of technical knowledge about layout of kitchen garden was challenge for 83.33 percent farm families followed by poor irrigation facility for 76.66 percent, fear of loss due to attack of wild animal for 73.33, lack of knowledge about processing of surplus product for 66.66 percent, difficulty in pest/disease control for 60.00 percent, lack of interest in kitchen garden than other crop for 50.00 percent and fear of theft for 40.00 percent. In a similar study conducted by Sethy et al. (2010) at Burdwan district of West Bengal, it was found that input constraints were most important constraint as it was ranked 1st over other constraints. Another study by Sharma et al. (2011) also reported the unavailability of quality planting material and seeds of HYVs of vegetables, less availability of water for irrigation, lack of knowledge about improved varieties, seed rate and sowing time, lack of knowledge about seed treatment, high soil pH, lack of knowledge about insect pest management and lack of interest among rural youth as major bottleneck in successful adoption of nutritional gardening. Similar results were also reported by Biswas and Jamir (2015).

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