

Kitchen garden: Perceived role and utilization among rural households in Mandya, Southern Karnataka



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ABSTRACT

Background: Diversified diet is the key to combat micronutrient deficiency in India. Kitchen garden is a sustainable approach to provide diversified diet in rural area. **Aims and Objectives:** The objectives of this study were to assess the utilization and perception of kitchen garden use among the households in rural area. **Materials and Methods:** A community-based cross-sectional study carried out among women in the age group 18–65 years in Nagamangala was asked about the details on awareness and utilization of kitchen garden. **Results:** One-third of the study subjects were in the age group 30–40 years. About 18.2% of them were involved in some form of agriculture related work. Around 64% of the households had space available for kitchen garden. About 54% households had kitchen garden and 95% of the subjects used their kitchen garden products for self-use. **Conclusion:** Having kitchen garden contributes to household food security by providing direct access to food that can be easily harvested, prepared, and consumed.

Key words: Kitchen garden; Rural area; Micronutrient deficiency

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INTRODUCTION

India is a land of villages with around 65% of the population residing in rural area.¹ Agriculture being the primary source of income in rural areas, India continues to be the largest producer of milk, pulses and second largest producer of rice, wheat, sugarcane, groundnut, vegetables, and fruits.²

However, India ranked 101 among 116 developing countries according to the Global Hunger Index in 2021.³ India has further declined to 120th rank (2021) from 117th rank in 2020, according to Sustainable development report in 2021.⁴ Furthermore, around 60% of the under-five and pregnant women are anemic which indicates the burden of micronutrient deficiency.⁵

Unequal distribution of food is one of the main reasons for this disparity despite the improvement in food production. Furthermore, the consumption of energy dense and low-cost staples due to lack of diversity in their diet has led to rise of hidden hunger or micronutrient deficiency among the vulnerable age group. Hence, we need a sustainable solution, where essential micronutrients are available in their daily diet, which is feasible through the concept of kitchen garden.

Particularly in rural areas, where the space constraint is still not a major concern, kitchen garden is a promising approach to provide diversified diet in a cost effective and sustainable way. Hence, this study was conducted to assess the utilization and perception of kitchen garden use among the households in rural area.

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Aims and objectives

To assess the utilization and perception of kitchen garden use among the households in rural area.

MATERIALS AND METHODS

A community-based cross-sectional study was conducted for 3 months from May 2022 to July 2022 at Nagamangala taluk, Mandya district in Karnataka. Out of 14 Primary Health Centres (PHC) in Nagamangala taluk, 8 PHCs were randomly selected by lottery method. From each of the selected PHC area, one village was included for the study. Women aged 18–65 years from each house were included for the present study after obtaining their informed consent. Those who were not available during consecutive three visits were excluded from the present study. A prior approval from the Institutional Ethics Committee was taken. A pre-tested and structured questionnaire was utilized to obtain the information on sociodemographic profile, awareness on kitchen garden, and its utilization. An interview schedule was used to obtain the data from the respondents. Field health investigators and interns were involved in data collection after training. Focus group discussion was done to collect qualitative data.

Data were entered into Excel sheet and were analyzed by Epi Info software. Results were expressed in terms of percentage and proportions and relevant inferential statistical tests were used for better interpretation.

RESULTS

A total of 819 adult females from eight different villages were included for the present study. Mean age of the participants being 38 ± 4.56 years ranging from 20 to 66 years.

One-third of the study subjects were in the age group 30–40 years. Nearly third-fourth (71.8%) of the subjects belonged to nuclear family and more than 90% had around 3–5 members in their family (Table 1).

Three-fourth of the subjects were housewives. One-fifth (18.2%) of them were involved in some form of agriculture-related work. More than half of the subjects had an income <10,000 Rs. per month. Around 31% of them had an income of 10,000–20,000 Rs. per month (Table 2).

Around 64% of the households had space available for kitchen garden. More than half of the (443, 54%) households had kitchen garden. All of them opined that every house should have kitchen garden.

Table 1: Distribution of study subjects based on their age group

Age group (in years)	Frequency	Percent
20–30	114	13.9
31–40	284	34.7
41–50	244	29.8
>50	177	21.6
Total	819	100

Table 2: Distribution of study subjects based on occupation

Occupation	Frequency	Percent
ASHA/AWW/health worker	5	0.6
Housewife	615	75.1
Working-agriculture	149	18.2
Salaried job	50	6.1
Total	819	100.0

*ASHA: Accredited social health activist, AWW: Anganwadi workers

Subjects in the age group of 30–40 years had higher odds ($aOR=1.205$, CI 0.778–1.865) of having a kitchen garden compared to those in the age group of 20–30 years age group. And also, those having agricultural land were at a high odds ($aOR 5.361$, CI 3.805–7.554) of maintaining kitchen garden compared to those without agricultural land (Table 3).

About 95% of the subjects used their kitchen garden products for self-use. Only 5% of them were growing the products for commercial purpose. Majority of the subjects (63%) procured vegetables once in 3–4 days. About 10% of them told that kitchen garden products were enough and they won't procure the vegetables from outside (Table 4).

Nearly half of them opined informed that space constraint as the major reason for not having kitchen garden (Figure 1).

Majority of them felt that products of kitchen garden are healthy and comparatively lower cost (Table 5).

There was no significant difference in the amount spent on vegetables. However, there was significant difference in the amount spent on fruits (Table 6).

DISCUSSION

Consumption of adequate fruits and vegetables is vital for prevention of micronutrient deficiencies. Kitchen garden can be a source of micro/macronutrients throughout the year especially vegetables as they are short duration crops and can be grown easily. Having kitchen garden not only fulfills requirement of nutrition but also saves time and money plus acts as a food and nutritional security.⁶

Table 3: Kitchen garden and agricultural land holding of study subjects

Space for kitchen garden	Frequency	Percent
No	294	35.9
Yes	525	64.1
Kitchen garden		
No	376	45.9
Yes	443	54.1
Agricultural land		
No	226	27.6
Yes	593	72.4

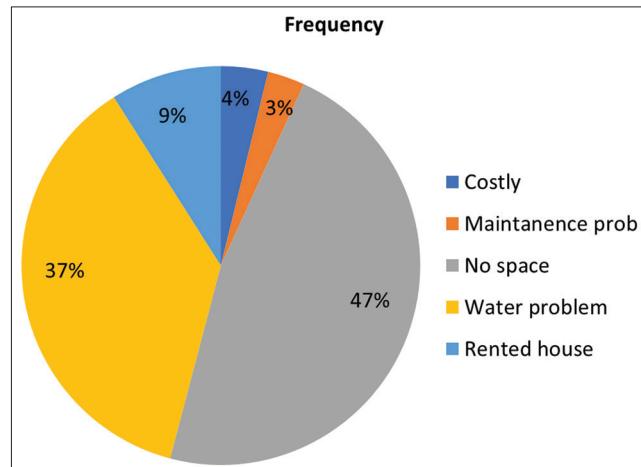
Table 4: Distribution based on products of kitchen garden harvested by study subjects

Kitchen garden products	Frequency	Percent
Fruits	30	3.7
Green leafy vegetables	317	38.7
Vitamin A rich fruits and veg	60	7.3
Other veg	52	6.3
Not applicable	360	44.0
Total	819	100.0

Table 5: Advantages of kitchen garden

Advantages	Frequency	Percentage
Happiness to grow their own food	106	12.94
No insecticide/pesticide	204	24.91
Fresh food	357	43.59
Low cost	441	53.85
Healthy	529	64.59
Others	17	02.07

*Includes multiple responses

**Figure 1: Reasons for not having kitchen garden (n=376)**

79% of them practiced growing vegetables and fruits for self-use mostly to reduce the expense of buying them from outside and 21% didn't practice kitchen gardening due to lack of land or water. Almost all the study subjects had space for kitchen gardening which ranged from 50 m² to 100 m². Among participants who practiced kitchen garden grew mostly vegetables which include mainly fenugreek, spinach, brinjal, coriander, raddish, pumpkin, and beans. The vegetable that is grown mostly depends on the season. Study subject who did not utilize space for KG used it mostly for livestock.⁸

In our study, more than half of study subjects had space for KG and it was utilized to grow fruits and vegetables for self-use. Finding of our study showed that 1/10th of study subjects were not buying any fruits or vegetables from outside as they were practicing kitchen gardening indicating KG can suffice daily requirement of a family benefiting nutritionally and economically.

Existence of public distribution system in India is having a major role in fulfilling the caloric needs of community but hidden hunger (micronutrient deficiency) can be combated by consuming diverse fruits and veggies in adequate quantity which can be done in economical way by practicing kitchen gardening.⁹

Various interventional studies done to assess effectiveness of kitchen garden like Mohsin et al., have proved that adequate utilization of space for kitchen garden with training and demonstration can play a major role in encouraging individuals to grow fruits and vegetables to combat micronutrients deficiency. In this study, during initial part of the survey before intervention less than half were utilizing space adequately but after training and demonstration more than 805 of the households practiced growing veggies for self-use and believed kitchen garden veggies was an uninterrupted source of supply which was not just fresh but safe as well.¹⁰

In a study done by Rana et al., in Mandya Pradesh on kitchen garden found that 40 female study subjects were engaged mainly in agricultural activities. All the study participants had available space that could be utilized for kitchen gardening. During initial part of survey, only 7 (17%) were practicing kitchen gardening. In our study, we had women engaged in different occupations like ASHA/AWW/salaried jobs and only 18% (149) of them were engaged in agriculture. In our study, majority were engaged in non-agricultural activities which could be the reason for not practicing kitchen garden other than non-availability of space.⁷

Birdi and Shimoni conducted a study in Melghat on kitchen gardening. Initial survey of the study revealed that, about

Proportion of individuals who will be benefitted from kitchen garden may improve with training and demonstration on growing fruits/veggies in available space with minimum expenditure at their comfort. In study by Singh et al., in rural Kerala before intervention (demonstration on kitchen garden), only one or two veggies were grown and only half of the households practiced kitchen gardening which improved drastically after intervention, that is, all the study subjects practiced growing vegetable/fruits for self-use with appropriate use of available land. None of the study subjects purchased them from outside. Intervention was having impact not only on practice of kitchen gardening but also on diversification in type of veggies grown and consumed plus reduced economic burden.¹¹

Limitations of the study

Majority of study subjects in our study were housewife and there was lesser representation of study subjects who were having salaried jobs and other occupations (Even after our three consecutive visits to include study subjects).

CONCLUSION

Home gardening/kitchen garden is an age-old concept which has much more importance now considering the growing hidden hunger. Having kitchen garden contributes to household food security by providing direct access to food that can be easily harvested, prepared, and consumed. They can also be important sources of food, fuel, and medicines, spices and also household income.

Health education emphasizing the importance of kitchen gardening with training and demonstration at community level must be carried out at regular intervals.

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Authors Contribution:

SMP- Concept and design of the study, prepared first draft of manuscript; **SSK**- Design of the study, statistical analysis and interpretation, manuscript preparation; **NPN**- Statistical analysis and interpretation, literature review; **S**- Preparation of manuscript and revision of the manuscript.

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