

# Impact of Food Based Approach to Improve Frequency and Nutrient Consumption among Tribal Women

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**Abstract:** *Low dietary diversity is a particular problem in low and middle income countries where the diets are frequently based on starchy staples and only small quantities of fresh fruits and vegetables. While starch staples are important source of energy in the diet but many of the important vitamins and minerals essential for a healthy diet are found in fruits and vegetables. The recent dietary transitions and low cost grains steered to condensed intake of nutrients among poor and tribal women. A multi staged random sampling was adopted with a sample of 100 young adult married tribal women in the age group of 20-25 years for intervention. An intense nutrition education intervention programme was planned using multiple channels. The scores were indicated using percentages, multiple scores were also tabulated. The improvements post intervention in consumption patterns was tabulated.*

**Keywords:** Tribal women, Diet transitions, Diversification, transitions, Staples, Multiple scores

## 1. Introduction

The term nutrition education applies to any communication system that teaches people to make better use of available food resources with ultimate goal of improving nutritional status and essentially involves communication for behavioural change of all the individuals with in a family or community. It reinforces knowledge and corrects faulty concepts about nutrition, commonly nutrition education acts as a conserving force maintaining the validity of the culture and as an innovative force facilitating adjustment to contemporary problems and conditions. Channels are the pathways to deliver the developed material for nutrition education a single channel of communication may lead to monotony and may not grab the attention of the target group; hence multiple channels were used to diffuse the information. Though mass media easily influence attitude and reinforce behaviour, but use of community or interpersonal interventions to teach and encourage adoption of behaviour are more influential where feedback is instantly available.

## 2. Literature Survey

As a part of nutrition education component in a community nutrition education intervention trial in south India, seeds of amaranth and saplings of drumstick and papaya were distributed in 12 intervention villages to mothers of Preschool children. The positive outcome was found to be an increase in the awareness of the significance of vitamin-A rich foods in the children's diet. Mothers reported the home gardening as the second most valued benefit among the services they received. (George.et.al.1994). A food based approach to nutrition improvement and household food security in Vietnam was studied with an emphasis on two components nutrition education of pregnant women and women with children under 5 years and promotion of home gardening. After two years of intervention the mothers knowledge score increased by 26 percent with an associated 32 percent of mothers who used vegetable weaning foods. The prevalence of xerophthalmia decreased from 1.01 -0.09

percent and bitots spots from 0.04- 0.09 percent (TuNgu et.al.1994).

## 3. Methodology

### 3.1 Objectives

1. To adopt food based approach to improve nutrient intake.
2. To study the impact of the approach.

### 3.2 Sample size and technique

A random sample of 100 young adult married tribal women in the age group of 20-25 years with at least one child was selected from Warangal district of A.P, India. A sample of 10 subjects from each village (10 villages, N=100) were selected for the intervention programme. The multichannel approaches used in the present study for nutrition education programme were;

1. Interpersonal channels
2. Community channels

#### 3.2.1 Interpersonal communication

Interpersonal communication reinforces every other channel and it takes primary importance wherever modern mass media fail to penetrate or are underused (NFSD 2002). Interpersonal communication remain indispensable, though there is great importance and obvious success of mass media, which can arouse interest, but personal consultation, concern and motivation shows the difference between simply knowing about something, having a positive attitude towards it and actually adopting the new behaviour.

#### 3.2.2 Community Channels

Community channels reach a number of people at once and thus once perceived as more cost effective than interpersonal communication. To promote and transmit messages in the community, cooking demonstrations and distribution of seeds in promoting home gardening were organized. The demonstrations not only involved the selected target group but the other audiences were also exposed.

**a. Cooking demonstrations**

Modifying people’s diets may involve imparting new knowledge and changing attitude and practices of individuals, essentially behaviour modification. It may be possible to modify local method of selecting processing and consuming foods within a given economy confines, to improve overall intake. Hence cooking demonstrations were designed to encourage the people to consume and prepare better food for their families by slightly modifying to common traditional recipes with value addition to improve the bioavailability of various nutrients.



**Figure 1:** Researcher with community during nutrition education and cooking demonstration

**3.2.3 Recipes**

1. Roti with green leaves (amaranth and multi grain flour)
2. Sprouted whole grain laddoos with jaggery.
3. Laddoos with nuts and oil seeds.
4. Kitchidi with dal and vegetables.

The heads of the family and other village heads were also involved intentionally who make the decisions of food purchase and choice to adopt new practices easily.

**4. Promotion of Home Gardening**



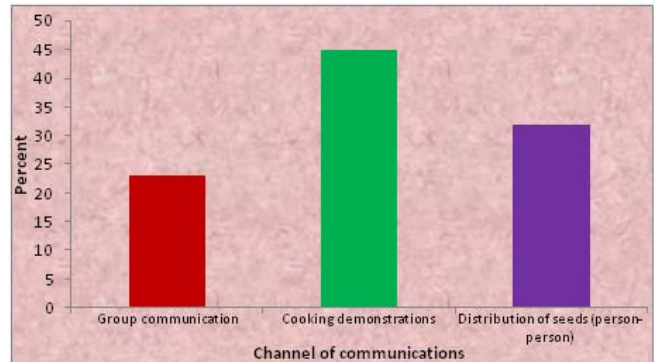
**Figure 2:** Researcher promoting Home gardening

The seeds of green leafy vegetables which are high in nutrient content as fenugreek, gogu, sour palak, amaranth tomato and papaya were distributed and their importance were explained. The value addition of these leaves in their daily diets was explained as they have enough space and resources to raise home gardens. The high consumption of animal protein and less consumption of green leafy vegetables and fruits were observed during the qualitative analysis, so promotion of plant foods was included in the community channel to overcome micro nutrient deficiencies.

**5. Results and Discussion**

**Table 1:** Per cent distribution of respondents according to their preference for the channels of communication (feedback)

S.No	Channels of communication	Number (N=100)	Percentage %
1.	Group communication	23	23
2.	Cooking demonstrations	45	45
3.	Distribution of seeds (person-person)	32	32
Total		100	100



**Figure 3:** Per cent distribution of respondents according to their preference for the channels of communication (feedback)

**Table 2:** Per cent distribution of respondents according to trial of demonstrated recipes (at home) (Multiple responses)

S.No.	Preparation of recipes demonstrated at home.	Number (N=100)	Percentage %
1.	Roti with greens	23	23
2.	Laddoo with sprouted grains	65	65
3.	Mixed vegetable Kitchidis	58	58
4.	Laddoos with ground nuts and gingelly seeds.	62	62

The data in the above tables-1 and 2 revealed that majority of the respondents preferred cooking demonstrations followed by person to person (seed distribution) and group discussions and more than half of the respondents tried the demonstrated recipes in their home. Among all the recipes mixed vegetable kitchidies and mixed nuts and oil seeds laddoos were prepared. Chapathis with greens were prepared by only 23 per cent of the respondents as they think it consumes more time for preparation. This shows that there is a change in knowledge and practices but the attitudes are still to be changed.

It is evident from the results that as cooking practices like food choice, eating habits and behaviors are culturally determined, hence a people oriented intervention by encouraging the people to prepare and consume better foods through slight modification of their own traditional recipes, with value addition by incorporating to increase bio availability was more accepted and adopted by the community, which also facilitated cost effective, sustained impact rather than introducing new value added recipes (Manjula, 2005).

**Table 3:** Per cent distribution of respondents according to their preference of growing vegetables at home (Multiple responses)

S.No	Vegetables Preferred	Number(N=100)	Percentage %
1.	Tomato	71	71
2.	Amaranth	62	62
3.	Gogu	46	46
4.	Papaya	31	31
5.	Fenugreek	75	75

**Table 4:** Per cent distribution of respondents according to their frequency of consumption of green leafy vegetables (GLV's) pre & post intervention

S.No.	Frequency consumption of GLVs	Pre intervention		Post intervention	
		Number (N=100)	%	Number (N=100)	%
1.	Monthly thrice	20	20	-	-
2.	Monthly once	54	54	-	-
3.	Never	26	26	-	-
4.	Weekly Thrice	-	-	24	24
5.	Weekly Twice	-	-	42	42
6.	Weekly once	-	-	34	34
Total		100	100	100	100

The table- 3 and 4 reveal the per cent distribution of respondents who were growing the distributed seeds by the investigator. Initially fenugreek seeds were never grown at home due to cultural inhibition but after explaining its biological importance they started growing these leaves and using in their routine cooking as it is produced within a week. The preferences of growing the vegetables were fenugreek, tomato followed by amaranth, gogu and papaya. Initially they started growing these green leaves at home later other vegetables were also promoted to grow at home as ridge gourd, bottle gourd and varieties in beans. The table no 4 shows the frequency of consumption of green leafy vegetables among the respondents, Initially during the pre-test, 20 per cent of the respondents were consuming GLVs once in a month, 54 per cent thrice in a month and 26 per cent never consumed GLVs, but after post intervention 24 per cent consumed thrice in a week 42 per cent consumed twice in a week and 34 per cent once in a week. The gain in knowledge and production, availability and accessibility at household level increased the respondent's consumption patterns.

## 6. Summary and Conclusions

These findings also suggested that understanding community conditions, resources and cultural perspectives related to food use are essential in developing culturally appropriate interventions for sustained impact.

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