

Dietary Pattern of Farm Women : A Study in Tumakuru District of Karnataka State

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ABSTRACT

The present study focuses on the dietary pattern of the farm women which will have impact on their nutritional status. The investigation was conducted at Sira taluk of Tumakuru district. The mean per cent adequacy of the farm women for cereal was 117 per cent. Whereas, the adequacy for pulses, milk and milk products, roots and tubers, GLV, other vegetable, fruits, sugar and fat were found to be below the Recommended Dietary Allowance (RDA). The mean per cent adequacy of the farm women for calcium was 141 per cent. Whereas, the adequacy for energy, protein, fat, iron, carotene and vitamin C was 86, 71, 78, 69, 40 and 62, respectively, which were found to be below the RDA.

Keywords: Farm women, nutritional status, adequacy, RDA, dietary pattern

INDIA is a country of traditions and is known for its unity in diversity. Dietary practices vary from place to place because of different geographic, climatic, cultural, educational and socio economic backgrounds. Food is one of the basic necessity of life, after air, water and nutrition. Diet is a vital determinant of health and nutritional status of people. An understanding of nutrient gap or excess in the dietaries would help in planning diets to overcome diet related morbidities and thus promote health of the individuals.

The past century has witnessed an unprecedented change in lifestyle of people affecting the demography, food supplies, eating pattern and health of population. The dietary and nutrition transition is characterized by improved agricultural practices, food supplies and advances in food processing techniques. People are consuming different types of diets resulting in changes in body composition and occurrence of chronic diseases at an unprecedented rate not seen before. Unhealthy diets and physical activity are the risk factors for increasing blood pressure and two blood glucose, abnormal blood lipids and overweight obesity and for other major chronic diseases such as cardiovascular disorders, cancer and diabetes. Low fruit and vegetable intakes and sedentary life's have been postulated as definite risk factors for lowering life spans (Prakruthi and Prakash 2013).

Food habits reflect the way a culture standardizes the behavior of an individual in a group in relation to food, so that the group comes to have a common pattern of eating. It is true that the food habits of groups are the product of groups present environment and past history. Thus, those food habits and customs which have become meaningful to the groups are carefully held and transferred from one generation to the next. Food habits and beliefs are among the oldest and most entrenched aspects of any culture, which are influenced by beliefs, customs traditions, prejudices and practices. Though each society has its own concept of food, the type of food varies with the environment.

Regional disparities attributable to wide variation in culture and dietary habits are the contributing factors for the health of an individual.

Farm women participate in the agriculture and activities such as farm labour, working in the family, dairying and other related activities either directly or indirectly. A normal balanced diet must include daily foods from the various food groups in sufficient amount to meet the needs of an individual and to increase the immunity. Hence, the present study is aimed to determine the dietary pattern of the farm women which will have an impact on their nutritional status.

MATERIAL AND METHODS

The study was conducted in Sira taluk of Tumakuru district in Karnataka state. The investigation was conducted on 300 farm women selected randomly in the age group of 20-60 years, who were willing to participate. The farm women were interviewed to collect information on nutritional and health status of farm women. A detailed schedule was formulated and used to elicit the information on various aspects related to the factors such as age, education, marital status, size of family, type of family, family occupation, food consumption and nutritional factors.

The meal pattern and the foods actually consumed by the farm women were recorded by the investigator during the period of study by 24 hours recall method.

Standardized cups, vessels, paper discs and rubber balls were used to gather the information about the quantity of food consumption by farm women. Sample subjects were asked to recall the type of preparation made for breakfast, lunch, evening tea and dinner etc. for the previous day (other than feasting and fasting day). Information on amount of raw ingredients used for each preparation was recorded in terms of standardized tools. The average raw ingredients in all the meals consumed by each subject per day were calculated.

Data on intake of foods like cereals, pulses, vegetables etc. were collected. Using the quantity of foods consumed per day nutrient intake for calories, protein, fat, calcium, iron, carotene and vitamin C per day, was calculated (Gopalan *et al.*, 2007). These figures were compared against the Recommended Dietary Allowances to provide a measure of adequacy or inadequacy of food and nutrient consumption.

$$\text{Per cent adequacy} = \frac{\text{Intake of each nutrient}}{\text{Recommended allowances}} \times 100$$

The data was quantified, classified and tabulated and expressed in frequencies, percentages and per cent adequacy.

RESULTS AND DISCUSSION

Profile of farm women

For this study a total 300 subjects were selected. In this investigation efforts were made to gather the general information of the farm women such as age, education, marital status, family size, family type, family occupation and the data has been presented in Table I.

TABLE I
Profile of farm women

Characters	No.	%
<i>(n=300)</i>		
Age (years)		
<30	75	25.00
31 to 50	141	47.00
>51	84	28.00
Education		
Degree	09	3.00
PUC	25	8.33
High school	29	9.67
Middle school	57	19.00
Primary	79	26.33
Illiterate	101	33.67
Marital status		
Married	211	70.33
Unmarried	89	29.67
Type of family		
Joint	93	11.00
Nuclear	207	89.00
Family size		
Small 1-4	74	24.67
Medium 5-8	183	61.00
Large >8	43	14.33
Family occupation		
Agriculture	208	69.33
Poultry	11	3.67
Sericulture	32	10.67
Animal husbandry	49	16.33

Age

Age wise distribution of the subjects revealed that more number of the farm women (47%) were in the age group of middle age, 25 per cent of farm women

comes under the age group of young and 28 per cent were aged more than 51 years of age group (old). The present results were in concurrent with the results of Tewari (2011).

Education

Regarding education level of farm women, 33.67 per cent were illiterates (Cannot read and write), followed by 26.33 per cent of them had primary school (1 to 4th standard) education, 19 per cent of the respondents had middle school (5 to 7th standard) education, 9.67 per cent of them had studied up to high school (8 to 10th standard), 8.33 per cent had studied pre-university course (11th to 12th standard) and only 3 per cent of farm women were graduates (Above 12th standard). Similar findings were observed in Mugadur *et al.* (2014) study.

Marital status

Majority of the subjects (70%) were married, whereas, 30 per cent of farm women were unmarried respectively, same results were also found in Saghir *et al.* (2005).

Type of family

Majority of the farm women were living in nuclear family (69%) followed by joint family type (31%), similar findings were observed in Srivastava *et al.* (2014).

Family size

About 24.67 per cent of the farm women had 1-4 members in their family and this family size considered as small family. 61 per cent possessed medium size family as they had 5-8 members in family, and it is clearly observed that 14.33 per cent of the farm women families having large family size (*i.e.*, eight) and above members, results are in the line of Rangi *et al.* (2002).

Family occupation

Most of the selected subjects were engaged in agriculture since long. The data revealed that 69.33 per cent of the farm women were involved in agriculture, 16.33 per cent farm women were engaged in animal husbandry, 10.67 per cent of farm women were affianced in silk worm rearing activities, Whereas, only 3.67 per cent of farm women had bird

rearing work, these results are in similar line of Devaki *et al.* (2015).

Dietary pattern of farm women

Dietary pattern of the selected farm women are shown in Table II, It was observed that, 14 per cent of the farm women were vegetarians and 86 per cent farm women were non-vegetarians by habit, food from animal source were being consumed twice in a week by 22.67 per cent of the farm women. As much as 75.67 per cent of farm women consumed non-vegetarian once a week and only 1.67 per cent farm women consumed non-vegetarian foods thrice a week. It was also observed that almost all the farm women consumed three meals per day.

TABLE II
Dietary pattern of the farm women
(*n=90*)

Food pattern	Category	No.	%
Food habits	Vegetarian	63	21.0
	Non-Vegetarian	237	79.0
Frequency of non-veg consumption	Weekly thrice	5	1.67
	Weekly twice	68	22.67
	Weekly once	227	75.67
Meals consumption pattern	Twice	13	4.33
	Thrice	269	89.67
	Four times	18	6.00

Mean food intake of the farm women

The mean food intake of selected farm women in comparison with recommended dietary allowance is presented in Table III. The mean food intake of farm women indicates that intake of pulses was 59.27g, milk and milk products 226.17g, roots and tubers 121.73g, GLV 52.67g, other vegetables 83.13g, fruits 24.3g, sugar 19.33g, and fat 18.67g. Even these intake was below the RDA except cereals 386.76g. These results are in similar lines with that of Radhaisri *et al.* (2000) who observed that majority of the rural families were non-vegetarians and consumption of all commodities was lower than the RDA.

The percentage adequacy of food intake of farm women are also depicted in the same Table III. With

TABLE III

*Mean food intake (g/day) of the farm women
(n=300)*

Food groups	RDA*	Actual intake	% adequacy	
Cereals	330	386.76 ±	71.46	117
Pulses	75	59.27 ±	16.46	79
Milk and Milk Products	300	226.17 ±	68.33	75
Roots and Tubers	200	121.73 ±	34.18	60
GLV	100	52.67 ±	23.18	52
Other vegetables	200	83.13 ±	50.16	41
Fruits	100	24.3 ±	16.96	24
Sugar	30	19.33 ±	9.06	64
Fat	25	18.67 ±	8.20	74

*Anon. 2010

respect to food intake, adequacy of cereals was found to be higher than recommended in the subjects, whereas, remaining all other nutrients consumption was found inadequate. The mean per cent adequacy of the farm women for cereal was 117 per cent. Whereas, the adequacy for pulses, milk and milk products, roots and tubers, GLV, other vegetable, fruits, sugar and fat was 79, 75, 60, 52, 41, 24, 64 and 74, respectively, which were found to be below the RDA.

The probable reason for this inadequate intake of quantity and quality of pulses, milk and milk products, roots and is due to tubers, fruits and vegetables, sugar, fats and oil was lack of nutrition knowledge, low purchasing power and non-availability of required food items at the living place.

Mean nutrient intake of farm women

The mean intake of nutrients by farm women viz., energy, protein, fat, calcium, iron, vitamin C and β - carotene are presented in Table IV. The mean nutrient intake of energy (1929Kcal), protein (39.55g), fat (19.56g), iron (14.50), β -carotene (1954 μ g) and vitamin C (24.93mg) were below the RDA except calcium (849.67mg) among the farm women. The above results are in line with findings of Kaveri *et al.*

TABLE IV

*Mean nutrient intake of farm women in
comparison with RDA*

Nutrients	RDA*	Mean \pm SD	% adequacy	
Protein (g)	55	39.55 \pm 6.12	71	
Fat (g)	25	19.56 \pm 3.87	78	
Energy (Kcal)	2230	1928.94 \pm 301.37	86	
Calcium (mg)	600	849.67 \pm 725.85	141	
Iron (mg)	21	14.50 \pm 3.50	69	
β -Carotene (μ g)	4800	1954.18 \pm 2326.42	40	
Vitamin C (mg)	40	24.93 \pm 9.64	62	

*Anon. 2010

(2013) and Revanna (2006), who studied on the nutrient intake of farm women and reported that the intake of calcium (539.01mg) was higher than the RDA.

Agricultural activities are energy demanding process creating a sort of psycho-physiological stress on the body, while working in agriculture field for six to eight hours, increases the rate of basal metabolism enhancing the body's energy requirements. Also keep body in positive energy status which is essential for farm women to maintain their working status. This creates a heavy energy demand. According to Table IV. Average intake of calorie in farm women was 1929 Kcal.

On the other hand the farm women met 141 per cent adequacy of calcium intake. This may be due to the consumption of finger millet which is a staple food liked by majority of the respondents rich in calcium.

Fat is concentrated source of energy and it spares protein for body building and repairing. It creates a sort of cushion in the form of adipose tissue to preserve body's vital organs. Average fat Intake in farm women was 20 g which was 5 per cent less than the RDA.

Average iron intake in farm women was 14.50 mg, which is the lowest iron intake was observed in farm women. This may be due to the less consumption of green leafy vegetables.

Average vitamin C intake in farm women was 24.93 mg indication a deficit in the intake of vitamin C

was found in the study group. This may be due to the less consumption of fruits especially citrus fruits.

Average β - Carotene intake in farm women was 1954 μg , which is also a low intake of β - Carotene was found in farm women. This may be due to the less consumption of yellow and orange fruits and vegetables and milk/milk products.

The percentage adequacy of nutrients of farm women is also depicted in Table IV. With respect to nutrition adequacy, calcium was found to be higher than recommended in the subjects, whereas, the remaining nutrients consumption was found inadequate. The mean per cent adequacy of the farm women for calcium was 141 per cent. Whereas, the adequacy for energy, protein, fat, iron, carotene and vitamin C was 86, 71, 78, 69, 40 and 62, respectively, which were found to be below the RDA.

The diet of the farm women was repetitive, missing variety and they were more concerned about the quantity than the quality of food. The common meal pattern of the farm women was cereal and millet based breakfast and rice with vegetable or dhal for lunch and finger millet dumpling for both lunch and dinner. The diet was lacking in milk and milk products, fruits and vegetables.

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