Nutritional Status of Selected Adult Women

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Abstract: *A study was conducted to assess the nutritional status of 300 women of Nanded district of Marathawada region of Maharashtra state. The study revealed that majority of women were joint families in (52.33 percent). More percent of families were vegetarian 64.33 percent. Maximum women were belonging to income group 10,000-15,000/- per month. The mean height and weight was ranged between 148.2 to 150.80 cm and 43.55 to 49.57 kg.Whereas women belonging to almost all group recorded normal BMI i. e. 19.02 to 21.10. The percent adequacy food intake of cereals, pulses, green leafy vegetables, root and tubers, other vegetables, fruits, milk and milk products, fats and oil and sugar and jaggary was ranged between 77.10 to80.73, 25.88 to 61.27, 25.54 to 35.75, 21.75 to 28.09, 39.44 to 66.59, 2.06 to 3.85, 31.90 to 63.03, 57.55 to 67.77 and 80.00 to 81.92. Fruits intake was very low than the other food groups. Whereas mean intake of different nutrients were energy (88.86 to 91.91), protein (82.25 to 85.14), fat (93.65 to 99.43), β-carotene (30.13 to 33.96), ascorbic acid (92.43 to 97.76), calcium (66.57 to 77.44) and iron (94.26 to 9.76) respectively.*

1. Introduction

The health of Indian women is intrinsically linked to their status in society. Women in poor health are more liked to give birth to improper weight infants and are also less likely to be able to provide food and adequate care for their children. A woman health affects the household economic wellbeing and when women become healthier better nourished, their status in society improves. (Kamalapue and Reddy, 2013). The multiple roles of household work, child rearing and paid work that women carry out has implications for their physical and mental health (Mishra 2006). The nutritional status of women is the great concerns in the contemporary world, because she plays multiple role for example, biological, reproduction and lactation, health and maintenance of the family, income generation and social roles played by women give rise to serious health and nutritional problem. Nutritional status is the maintenance of health with well-balanced diet and proportionate work. Many researchers has recommended that to assess the health status of adults use of parameters like anthropometric, which includes height, weight and other body measurements and also food and nutrient intake should measure and calculate. Hence an attempt was made to assess the nutritional status of selected adult women from Marathawada zone of Maharashtra state.

2. Materials and methods

The present investigation was designed to assess the nutritional status of randomly selected 300 females i.e. 150 each from urban and rural area of Nanded district of Marathwada region of Maharashtra state. A combination of socio-economic status, anthropometry, food and nutrient intake (percent adequacy) was used to assess the nutritional status. The body measurement of the all 300 selected subject recorded during the experimental period were weight (Kg), height (cm), arm circumference (cm) and waist circumference (cm) and body mass index was calculated by using height and weight values of using the standard formula (Shrilaxmi, 2005).Diet survey was carried out for all selected 300 households. The 24-hour recall method was used to assess the food and nutrient intake of the selected subjects. The intake of the food in cooked form was converted into raw food ingredients and the nutrient value of the raw foods was determined intake of the subject per day following the nutritive value of Indian foods. The mean nutrient intake of subjects was compared with Recommended Dietary Allowances of ICMR (2000) to the percent adequacy of food and nutrient also.

3. Result and Discussion

The collected data on socio-economic background of the selected women is given in Table1.Total 300 women were selected by purposively random sampling method, out of the total sample they were divided into two groups 150 women in each group i.e. rural and urban. The result showed that 163 (54.33%) women were in-between age group of 40 to 60 years, however 137 (45.66%) were from age group of 20 to 40 years. 157 (52.33%) of the selected women belonging to the joint family whereas 143 (47.66%) were belonging to nuclear family. Further it was noticed that 193 (64.33%) were vegetarian while 107 (35.66%) were non-vegetarian. It was found that around 60 percent (179), 59.66% of women were college educated and 121 (40.31%) were school educated. A relatively very high percent 34.66 of women were belonging to monthly family income of Rs. 10,000 - 15,000/- and the remaining 32.66 percent each belonging to monthly family income of 5000-10,000/- and Rs.>15,000/-.

Table 1: Socio-economic background of selected household women (n=300)

Sr. No.		Particulars	Number	Percentage
1.		Age (Years)		
	I	20-40	137	45.66
	II	40 & above	163	54.33
2.		Area		
	I	Urban	150	50.00
	II	Rural	150	50.00
3.		Type of family		
	I	Nuclear	143	47.66
	II	Joint & Extended	157	52.33
4.		Food habit		
	I	Vegetarian	193	64.33
	II	Non-vegetarian	107	35.66
5.		Literacy level of selectedsubject		
	I	School	121	40.33
	II	College education	179	59.66
6.		Family income (Monthly)		
	I	Rs. 5000-10,000	98	32.66
	II	Rs. 10,000-15,000	104	34.66
	III	Rs. >15,000	98	32.66

Table 2: Anthropometric measurement of selected women (n=300)

Sr. No.	Particulars	Height (cm)	Weight (Kg)	Arm circumference (cm)	Waist circumference (cm)	BMI
1.	Area					
I	Rural	150.8±1.74	45.50±3.73	23.66±2.64	75.25±3.75	19.81±1.48
II	Urban	150.64±1.96	47.61±4.48	25.22±3.70	74.00±3.18	20.85±1.81
2.	Age (Years)					
I	20-40	150.7±1.88	46.4±4.14	24.39±3.24	74.64±3.49	20.25
II	40< above	150.69±1.85	49.47±5.92	37.34±2.42	74.65±3.44	20.40±2.42
3.	Food habit					
I	Vegetarian	148.42±14.58	47.80±4.31	25.45±6.27	73.86±5.92	21.10±5.23
II	Non-vegetarian	148.44±14.47	47.81±3.50	25.3±5.65	74.62±5.86	20.78±5.10
4.	Income (monthly)					
I	5000-10,000/-	150.51±1.81	43.55±3.79	22.62±3.18	72.62±3.10	19.02±1.40
II	10,000-15,000/-	148.44±2.27	47.18±3.23	25.3±5.65	75.39±5.86	20.67±1.34
III	15,000 and above	148.12±2.32	48.38±3.81	25.61±2.88	75.48±5.98	21.06±3.00

The data on anthropometric measurements of selected women for study is revealed in Table 2. The height of the women in rural and urban area was almost same i.e. 150.8±174 and 150.64±1.96 cm. whereas as per age and food habits also the height was found to be equal. However, income of the family shows slight difference among three group. In case of weight when noted area wise urban women were having better weight (47.61±4.48kg) than rural women (45.50±3.73kg). Similarly, it was found that the women in age group of 40 and above, non-vegetarian and high income group women had better weight than their counter part. The women belonging to age group 40 and above recorded highest vales for weight (69.47kg) whereas women belonging to low income group recorded lowest value for weight i.e. 43.55kg. similar trend was noted even in arm and waist circumferences. High income group and non-vegetarian women recorded high values of arm circumference and waist circumference. Further table revealed that the calculated values of BMI was ranging from 19.02 to 21.70, but among the group marginal difference was noted.

Table 3: Percent adequacy of food intake of selected women (n=300)

Particulars	Cereals (gm)	Pulses (gm)	Gr. Leafy veg. (gm)	Roots & tubers (gm)	Other veg. (gm)	Fruits (gm)	Milk (gm)	Fats & oil (gm)	Sugar & jaggery (gm)
Rural	80.73	52.25	28.15	21.75	39.72	3.10	52.90	57.55	80.00
Urban	77.10	25.88	29.33	22.32	40.04	2.46	63.03	67.77	81.92
20-40	80.40	61.27	35.75	25.73	66.59	3.85	31.90	62.37	80.66
40 and above	78.98	51.98	28.74	22.14	39.78	3.07	57.63	62.91	80.98
Vegetarian	79.07	52.27	29.43	21.99	39.56	2.48	59.58	62.50	80.89
Non-Vegetarian	78.61	53.23	27.40	22.15	40.38	3.27	54.34	63 .34	81.07
5000-10,000/-	78.40	52.51	29.51	21.89	41.01	2.06	50.13	62.70	80.85
10,000-15,000/-	79.65	54.86	27.33	22.41	39.44	3.05	60.95	61.14	81.06
15,000 above	78.83	53.27	25.54	28.09	40.10	3.11	46.52	63.41	80.67

Table 3. revealed the data regarding percent adequacy of food intake of selected women as per different socio-economic categories. Percent adequacy for mean food intake was better in rural and non-vegetarian women than urban women and vegetarian except fat and oil and sugar and jaggary. When comparison was made between different categorized it was seen that maximum percent adequacy was found for consumption of sugar and jaggary (80.00 to 81.92 percent), followed by cereals (77.10 to 80.73 percent), pulses (25.88 to 61.27 percent), fat and oil (57.55 to 67.77 percent), milk and milk products (31.90 to 63.03 percent).

Table 4: Percent adequacy of nutrient intake of selected women (n=300)

Particulars	Energy (Kcal.)	Protein (g/100 g)	Fat (g/100 g)	β-Carotene (mg/100gm)	Ascorbic Acid (mg/100g)	Calcium (mg/100 g)	Iron (mg/100 g)
Rural	89.87	82.25	95.94	31.85	92.43	66.58	96.47
Urban	91.91	85.14	99.43	30.13	97.76	71.96	99.76
20-40	90.57	83.92	96.23	31.42	96.16	72.70	94.26
40 above	91.18	83.54	99.39	30.80	94.16	66.57	96.04
Vegetarian	91.35	82.97	93.65	31.46	94.11	67.97	97.60
Non-Vegetarian	89.83	85.05	95.13	30.66	95.10	71.71	99.02
5000-10000/-	88.86	82.79	97.06	30.04	94.83	67.11	94.31
10,000-15,000/-	90.66	84.48	97.95	29.62	93.80	68.80	94.59
15,000 and above	91.60	83.18	98.05	33.96	96.73	77.94	97.53

Table 4. revealed the data regarding percent adequacy of nutrient intake of selected women as per different socio-economic categorized. Percent adequacy for energy, protein, fat, β-carotene, ascorbic acid, calcium and iron was ranged between 88.86 to 91.91 percent, 82.25 to 85.14, 93.65 to 99.43 percent, 29.62 to 33.96 percent, 92.43 to 97.76 percent, 66.58 to 77.94 and 94.26 to 97.60 percent.

4. Conclusion

The study concluded that majority of women were joint families in (52.33 percent). More percent of families were vegetarian 64.33 percent. Maximum women were belonging to income group 10,000-15,000/- per month. The mean height and weight ranged between 148.2 to 150.80 cm and 43.55 to 49.57 kg. The whereas women belonging to almost all group recorded normal BMI i. e. 19.02 to 21.10. The percent adequacy food intake of cereals, pulses, green leafy vegetables, root and tubers, other vegetables, fruits, milk and milk products, fats and oil and sugar and jaggary was ranged between 77.10 to 80.73, 25.88 to 61.27, 25.54 to 35.75, 21.75 to 28.09, 39.44 to 66.59, 2.06 to 3.85, 31.90 to 63.03, 57.55 to 67.77 and 80.00 to 81.92. Fruits intake was very low than the other food groups. Whereas mean intake of different nutrients were energy (88.86 to 91.91), protein (82.25 to 85.14), fat (93.65 to 99.43), β-carotene (30.13 to 33.96), ascorbic acid (92.43 to 97.76), calcium (66.57 to 77.44) and iron (94.26 to 9.76) respectively.

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