Research Paper Home Science

Nutritional Status of Rural Young Women-A Profile

Dr Mrs G.Nagamani M.Sc, P.hD ,Lecturer, Dept of Home Science, S.P.W.Degree & P.G College, Tirupati, Chittoor, AP-517502.

ABSTRACT

Nutrition is one of the major environmental factor for responsible for the maintenance of health and physical fitness. The nutrition and health care among young women are influenced by several factors, the most important being the socioeconomic status. The present study clearly demonstrated that the majority of rural young women are not only undernourished but also short stature and emaciated. The result of the present study clearly indicates that the young rural women in pre-pregnancy state would not have optimum nutritional status. The findings of the study reveal that there is an urgent need to initiate nutrition supplementary intervention measures as well as nutrition education programmes to improve the health and nutritional status of women from deprived communities.

KEYWORDS Nutritional status, Rural young women, Anthropometry, Dietary Intakes, Status of Hemoglobin and Anemia.

Introduction:

Wide spread malnutrition in any community causes retarded physical and mental growth resulting in inefficient and less active manpower. Nutrition is one of the major environmental factor for responsible for the maintenance of health and physical fitness. In developing countries, women nature bearing obvious evidence of deprivation in childhood, namely stunning, late menarche, late attainment growth spurt and supportive development tin reproductive system. The importance of health care of young women is of vital importance as they have to hold the responsibility of motherhood in their coming life undernourished reproductive age group are ;not covered under any national nutrition/health programme. They represent poor pre-pregnancy status and constitute and important vulnerable group because of poor intake for food and heavy work at home and at farm. Rural women mostly suffer from chronic energy deficiency and their body weights always maintained at40-45 kgs.

According to the data reported by the NNMB (1980) 15 to 29 percent of adult Indian women in the reproductive period, in ten states of India have body weights less than 38kg and 2 to 12 percent have ;heights less than 145cm. These women, according to generally accepted criteria proposed by WHO fall into the high risk category i.e. they are likely to suffer obstetric complication and give birth to off spring of low birth weight, especially in situations where antenatal care and most obstetric services are below par, these observations broadly indicate the magnitude of unfinished task with respect to improvement of the health and nutritional status (Gopalan, 1989)

The nutrition and health care among young women are influenced by several factors, the most important being the socioeconomic status. Smaller scale studies conducted on Indian Women indicate heavy toll of micronutrient deficiencies and confirm the high prevalence of anemia among adolescent girls and young women. Because of poor nutrition, poor quality of food intake they suffer not only macronutrient deficiency but also micronutrient deficiency. (Kanani and poojara, 2000; Baby,2000). The consequences of anemia in women include increased risk of low birth weight or pre-maturity, prenatal and neonatal mortality, inadequate; iron stores for the new born, increased risk of maternal morbidity and mortality and lowered physical activity, mental concentration and productivity. Women with mild anemia may experience fatigue and have reduced work capacity.

Young women of child bearing age constitute a vulnerable segment of population because of their special needs in connection with the reproductive function. According to the 1991 censes, there are 177 million women in child bearing age constitute about 21% of the total population. Adolescent girls constitute about 7% of the population in India and 2.3% of them get married before the age of 18 years. An average woman in India is estimated to spend a greater part of her reproductive years in pregnancy and location. Chronic under nutrition and over work among the women of low- income group poses a serious threat to the welfare of mothers and infants.

Motherhood for the majority of poor Indian women has always been a period of fraught with difficulties, given the low nutritional and health status and harsh living conditions. Rather, the food intake of women in low income groups is substantially deficient in calories. During pregnancy, women from these group gain around half the weight gained by their counterparts in the better off segments.

Material and Methods

Keeping these factors in view, a group of (n=40) young rural women , aged 19- 21 years , 20 from rural forward caste and 20 from rural scheduled caste were included in the present investigation. The selected women were subjected to anthropometric assessment, dietary survey and hemoglobin estimations. The study was planned to assess the nutritional status of young women and to analyze the effect of socio economic and biological variables on food and nutrient intakes.

Results and Discussions:

1. Anthropometry

The anthropometric measurements indicate the body's responses to dietary intakes. Any faltering in the physical measurements reflects the deficiency in dietary intakes. While the height is affected by long term changes in diet, weight is one which dwindles due to the periodical dietary and environmental changes.

Table-1: showing the Mean heights, weights, BMI and MUAC of rural FC and SC women (19-21 years)-A comparison with ICMR standards.

S. No	Anthropometric measurements	ICMR standards (RI)	Rural FC young women (RFC-20)	Mean difference with RI	Rural SC young women (RSC-20)	Mean difference with RI
1	Height(cm)	156	153.5±2.06	2.5	149.75±2.09	6.25
2	Weight(Kg)	50	42.5±2.07	7.5	35.95±2.03	14.05
3	Body mass index	20.55	18.03±1.05	2.52	16.04±1.05	4.51
4	Mid-upper arm circumference	23.24	21.9±1.03	1.34	19.5±1.05	3.74

Mean anthropometric measurements of Rural FC (RFC) and Rural SC (RSC) young women are given in the table-1. The data showed that all the rural FC, SC young women below with the ICMR standards for heights, but somehow reached to the level of 95 to 98 percent. With regard to weights, the women were significantly below the ICMR standards and they reached to the level of 79.9 to 85 percent only. Similar trend of results is observed with BMI and MUAC measurements. The mean heights and weights of rural SC women was very low i.e.149.75 cm, 34.95kg than compared to rural FC women i.e.153.5cm, 42.5kg and significantly below as against standard value of 156cm (height), 50kg (weight) respectively. By body mass index scores calculated for rural SC women indicated severe chronic energy deficiency with BMI less than 18.5. The mean MUAC measurements of both the groups of women were also low as against standard values. From the results, it is obvious that the rural FC women was better in all the anthropometric measurements than compared to rural SC women but both were deficient with the ICMR standard reference values. The result of the present study clearly indicates that the young rural women in pre-pregnancy state would not have optimum nutritional status.

Similar results to present study were also reported by Busi and Sai Leela(1996) who studied the nutritional status and health care of women residing in urban, rural and slum areas of Vishakhapatnam. The mean heights of urban, rural and slum women were 152.2, 149.7, 149.5cms and for weights it is 54, 43.7, 44.4kgs respectively. The mean arm circumference of rural, slum women were 22.4cm as against 24.7cm for urban women (non-slum). The triceps skin fold measurements were 12mm for slum women and 11.1mm for rural women and 16.9mm in urban women. By BMI, 35 percent of slum and rural women and only 19 percent of urban women were observed to be under nourished.

An ICMR study (UNICEF, 1985-86) among rural women of 13-49 years of age showed that the mean height was 151.2cms and mean weight 43.8kg. The percentage of mothers with body weights less than 40kg was 33.4 percent and heights less than 145cms was 12.1 percent. The NNMB studies of 1975-79 had also shown that 12-25 percent of women 20-30years of age had heights less tan 145cms and 15 percent to 29 percent had weights less than 38kg. These are the women we who are most at risk during pregnancy of at delivery and likely to produce low birth weight babies.

Kamal Krishna Swamy(2000) also reported the mean body weights and heights of women in India vary between 42 and 46 kg and 151.5 and 152cms respectively. It is to be observed that there are no major changes in heights when measurements obtained in 1975 to 1979 are compared to those obtai9ned in 1996 to 1997. However with regard to weight there was an increase from 3 to 4 kg. The body mass index in women indicates that there are 48 percent women in chronic energy deficiency category. Women with body weights of less than 38kg and height measurement of less than 145cm are consider being at obstetric risk. Nearly 20 percent women were at risk when weight was considered and about 11 percent found to be at risk if height was considered.

The story of under nutrition in women starts right from birth. The birth weight of new born females is known to be less than the new born male. Several small scale studies point out that the velocity of growth in girls is slower compared to boys, though large scale studies like NNMB and NPI do not subscribe to this hypothesis. This story continues in adults and most importantly in women of reproductive age.

2. Dietary Intakes

The mean nutrition intakes of Rural FC and Rural SC young women of the present study as against RDA were presented in the table-2. It is observed that the nutrient intakes by rural young women for all the nutrients were far below the ICMR RDA.

Table-2: showing the Mean intakes of rural FC rural SC young women:-A comparison with recommended dietary allowance (ICMR).

S. No	Nutrients	ICMR RDA	Mean intakes by Rural FC women (RFC-20)	% deficit of RDA	Mean intakes by Rural SC women (RSC-20)	% deficit of RDA
1	Energy(K.cal)	2060	1471±38.70	28.60	1367±29.21	33.65
2	Protein(g)	60	36.7±2.40	38.84	32.7±2.91	45.50
3	Calcium(mg)	500	296.6±18.5	40.70	252.6±14.87	50.52
4	Iron(mg)	30	13.5±2.60	55.00	12.3±2.43	59.00
5	Vitamin A(mg)	600	200.8±22.6	66.54	197.4±28.1	67.17
6	Vitamin C(mg)	40	30.4±3.21	24.00	25.7±3.10	35.75

The diets of rural FC women is relatively better than the rural SC women but the intakes of both RFC and RSC women were poor when compared to RDA. Form the table-2, it is clear that both the groups of young women met only 40 to 50 percent of RDA. The percent deficits for each nutrient are presented in the table-2.

It is observed that the intakes of body building and protective foods by the women were very low and poor. They hardly consume 100 to 200ml of mil or 50gm pulse items and 100gm of any vegetables. Lower intake of cereals, pulses and iron foods such as green leafy vegetables, eggs etc., is of special concern. Even if they consume a very little quantities of these protective foods. This gross inadequacy of protein and iron rich foods in the diets of women is clearly seen in the form of poor nutrient intakes. This pattern of dietary intakes is observed in all the age groups of rural women and it is continuously prolonged throughout the reproductive period and is almost a regular feature of the diets of urban slum, rural scheduled caste women.

There are two significant factors which are operating here. In the case of rural SC women, the economic constraints make their diets deficient, while in the case of rural FC women. Even if they can afford to eat balanced diet, the poor dietary habits, lack of knowledge of the nutrient composition and value of foods, etc. are the causative factors for deficient quality and quantity of food intakes. There are also reports from Busi and Sai Leela(1996) who observed that the nutrient intakes of women are lower than the RDA, especially with respect to energy, iron and vitamins. This pattern of prolonged lower dietary intakes of essential nutrient results in chronic energy deficiency, anemia. Which are common features of slum and RSC women? The diets of non slum urban women are relatively better than the slum and rural women but poor as compared to RDA (ICMR).

On the whole it can be inferred that the differences seen in dietary intakes of women of different poor communities is reflected in their status of anthropometric measurements also. The present study clearly demonstrated that the majority of rural young women are not only undernourished but also short stature and emaciated.

3. Status of Hemoglobin and Anemia

Iron deficiency anemia is a significant cause of risk for girls, young women and more so far pregnant women and infants. Out of 5,00,000 material deaths ascribed to child birth and puerperium every year, essentially all which occur in the less developed countries, anemia is the major contributory cause in 20to 40 percent of such deaths. It is a common factor in nearly all maternal Deaths in rural Bangladesh (Alaudin, 1986) and also in Indian communities (Gopalan, 1999). It is estimated that at child birth, anemia may raise the risk of material death by 500 percent and infant by 600 percent. So there is a need to record hemoglobin levels, which indicates the status of anemia among rural young women of the study area.

Table-3: showing the Number and percent incidence of anemia observed among the rural young women.

Hb levels (gm/dl)	Degree of Anemia	Number of subjects	
		Rural FC(n=20)	Rural SC(n=20)
<7	Severe	1(5)	5(25)
8 to 9.00	Moderate	9(45)	10(50)
10 to 10.9	Mild	8(40)	2(40)
11 to 11.9	Marginal	2(10)	3(15)
12 or above	Non-anemic	------	-----

Figures in parenthesis indicate percentages,*WHO 1972

Based on Hemoglobin levels, as suggested by WHO (1972), the rural young RSC and RFC women were suffering different degree of anemia and the related data was tabulated in table-3. The mean hemoglobin level ranged from 6.46 to 11.9 gms/100ml of blood. The number and percent of women suffering from anemia was indicated. None of the rural SC and FC women came under normal non-anemic. Majority of rural SC women had severe anemia (Hb<7g/dl) followed by moderate anemia (Hb<8-9gm/dl). From the table it is observed that rural FC women had lower degree of anemia than compared to rural SC women. The lower hemoglobin levels of both in RSC and RFC women may be due to the poor iron intakes, poor absorption, assimilation and albescence of vitamin C and folate. This is the root cause for higher level of morbidity and infections among rural women. Besides this the major share of iron was contributed by cereals and pulses and the presence of phytic substances in cereals and pulses reduce the biological availability of iron. It was also associated with and retarded growth during the significant growth periods and provides evidence of greater degree of stunning among the rural groups of girls and women clearly pointing to poorer overall nutritional status among rural young women.

Kamala Krishna Swamy (2000) also reported that prevalence of anemia is quite extensive in women of reproductive age group. It is estimated that 60-80 percent of women suffer from anemia. In a resent ICMR task force study undertaken in eight states anemia in pregnant women varied from 61 percent in Himachal Pradesh to 97 percent in Jammu and Kashmir. The prevalence of severe anemia in these pregnant women (Hb<7g/dl) was also high at 38 percent in Rajasthan requiting immediate attention.

A startling finding in the task force study was the very high prevalence of anemia even in adolescent girls. 92 percent of adolescent girls were found to be anemia and 9 percent of them were severely anemic. Anemia was to the extent of 87 percent in the state of Maharashtra and 99 percent in Jammu and Kashmir.

The results obtained in the present study were closer to the reported results of studies of Bains and Mann (2000), Busi and Saileela,(1996) who observed a high incidence of anemia among women. There are reports from India and some other developing countries in which Indian women shoed highest incidence.

Conclusion:

The findings of the study reveal that there is an urgent need to initiate nutrition supplementary intervention measures as well as nutrition education programmes to improve the health and nutritional status of women from deprived communities. The situation calls for nutritional intervention and educational programmes immediately to educate rural young women on the consequences of early marriage followed by early maternity and provide them special nutritional inputs and better monitoring facilities especially before pregnancy and during pregnancy in rural areas. This would ensure the health and well being of mothers as well as their children and to strengthen the cycle of mothers to be, mothers and their children to grow in a healthy way.

REFERENCES

➢ Bains, K. and Mann, S.K., (2000) subclinical iron deficiency- a major factor in reducing physical fitness of young women. The Ind.J.Nutr, Dietet.37, 296. | ➢ Baby Depur, (2000) Nutritional status and physical work capacity of rural girls and young women-impact of education for better living. Report of UGC major research project submitted to UGC, New Delhi. | ➢ Alaudin M.,(1986) Maternal mortality in Bangladesh, The Tang ail district, Stud Fam plan.17,13-18. | ➢ Busi,B.R. and Saileela,M.,(1996) Comparison of nutritional status and health care of women residing in urban, rural and slum areas of Vishakhapatnam. The Ind.J.Nutr.Dietet. 33,293. | ➢ Gopalan,C.,(1989) "women and nutrition in India(ed.By C.Gopalan,NFI, Special publication series No.5,108-148) | ➢ Kanani,S.J. and R.H.Poojara(2000), supplementary with iron and folic acid enhance growth in adolescent Indian girls, Journal of Nutrition,Vol.30,pp 4525-4555. | ➢ Kamala Krishna Swamy (2000) health and nutrition status of women and adolescent girls in India, statistical data, articles and papers of the resource person on women's health for work shop on empower of women with special reference to women's health, S.V.U.,Tirupati. | ➢ NNMB (1975-80), national nutrition monitoring bureau, report for the year 1975-80.NIN, Hyderabad. | ➢ UNICEF, regional office for south central Asia, birth weight, a major determinant of child survival, future, 1985-86, winter17. | ➢ Mangal .S.K.(2010), Essential of Educational psychology, PHI learning private limited, New Delhi. | ➢ WHO (1972), Nutritional Anemia, world health organization, Geneva, Tech.Rep.Ser.No.503.21. |