Peer Reviewed International Research Journal of Geography
Maharashtra Bhugolshastra Sanshodhan Patrika
ISSN : 0971-6785 {Impact Factor 3.687 (IIFS)} Vol. 33,No.2, Jul-Dec. 2016.pp 48-51

NUTRITIONAL STATUS OF ADOLESENT GIRLS IN RURAL AREA: A CASE STUDY OF KOPARGAON TEHSIL, AHMEDNAGAR (MAHARASHTRA).

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Abstract

Anthropometric survey was done in order to assess nutritional status of college girls of Kopargaon Taluka. For this study 100 college girls in age group of 17 to 20 were assessed. Nutritional status indicators like anthropometric and biochemical information were used to evaluate degree of malnutrition In this study Height, Weight and BMI of subjects were notably low to national standards. Haemoglobin contains of girls were significantly low than required level. This paper highlight the socio economic system of mainly responsible for poor nutritional status and high scale of anemia were found in college girls.

Keywords: *Nutritional, Status, rural area, adolescent etc.*

Introduction:

Health is key aspect for human being, health is a state of complete physical, psychological wellbeing not mere absent of diseases. Nutritional status of adolescent girls is vital point because this is transition stage between childhoods to adulthood. This period is characterized by high growth of physical growth. Especially in adolescent girls fear, shyness and responsibility of work keep them away from right diet which resulted in to inadequate nutritional status among them. However, recent studies have shown that the prevalence of malnutrition and anemia is high in these age groups. Malnutrition is a major health problem in Pakistan, as it lowers the resistance to infectious diseases and this Undernutrition resulted in poor health fitness and efficiency. (Tuxwarth, 1986)

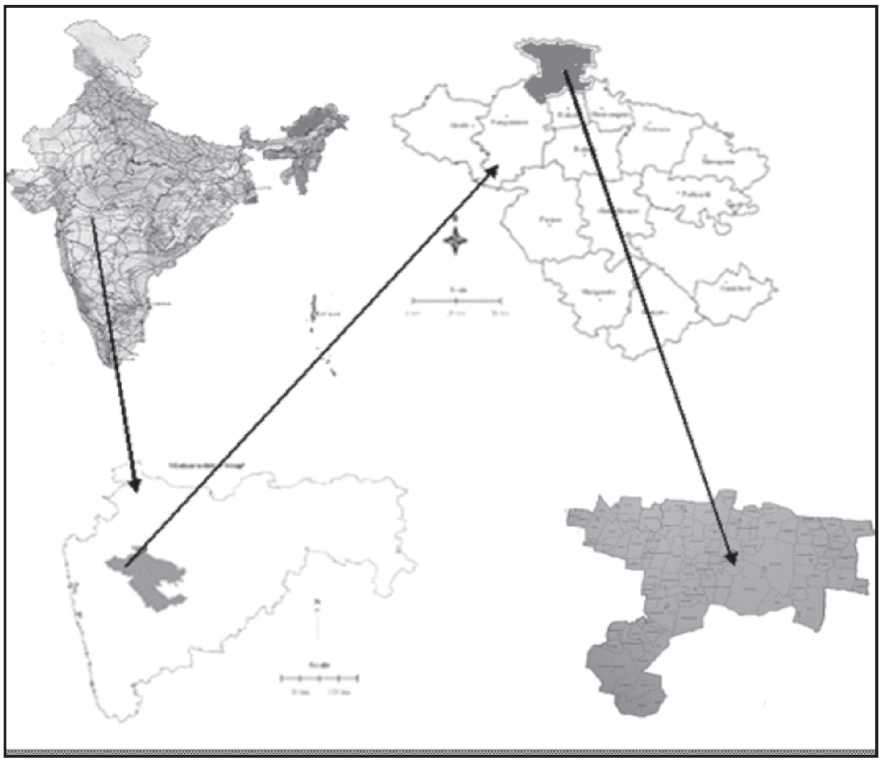
The nutritional assessment of college girls were done with the help of Anthropometric measurement (Body weight, height and BMI) Biochemical investigation (Hemoglobin status).Body Mass Index is a sensitive measure which captures the nutritional intake and her overall health. Low body weight can be used as a proxy to measure anemia if other testing methods are inaccessible.(Ramaroo 2001) A focus on the health and nutrition of the adolescent girls warrants particular notices, since these young people are the future generation of the country. As health and wellbeing are also important to person's capacity to perform work and resist disease the present study was undertaken to analyze degree of malnutrition and nutritional status of the college going adolescent girls. In review it is observed that several factors are associated with malnutrition of girls and women which includes Socio-economic (Occupations, Educational attainment, Standard of Living), Cultural (Caste and Religion) Demographic (Age and Marital status)and dietary habits of family.

Study Area:

Kopargaon is a town and a municipal council in Ahmednagar district in the Indian, state of Maharashtra. Kopargaon is located 18 km from the holy town of Shirdi. Kopargaon is situated at 19.88°N 74.48°E. It has an average elevation of 493 meters (1617 feet) and lies at the banks of the Godavari River, here are around 79 villages in Kopargaon tehsil of Ahmednagar district.

Objective:

Present paper attempts to study socio economic and dietary habits and nutritional status of college girls in rural Kopargaon tehsil. It also attempts to study determinant of girl's nutrition in regarding socio economic characteristics of family.



Database And Methodology:

The paper is based on primary data collected from college girls during Nov.2014.Special health check up camp were organized to assess nutritional status of 100 college girls in age group of 17 to 20 years. Nutritional status of girls were assessed with the help of Anthropometric measures(Weight, Height and Body Mass Index) and biochemical indicators like hemoglobin level. For Calculating BMI Following formulae were used

$$BMI = \frac{\text{Weight (In kg)}}{\text{Height (in mt)}2}$$

BMI was categorized in five classes 1.Severe Thin: BMI less than16.5 kg per meter square 2.Moderate Thin: BMI 16.5 to 18.5 kg per meter square 3.Normal Development: BMI 18.5 to 25.0 kg per meter square 4.Overweight: BMI 25.0 to 30.0 kg per meter square 5.Obese: BMI: More than 30 kg per meter square. Rajeshwari (2012). In this way spatial, social, economic and dietary aspect were considered in this study.

Result And Discussion:

1) Anthropometric Information:

According to anthropometric information shown in table height, weight and Body Mass Index of college girls in age group of 17-20 years were collected. Rajpramukh, (2002) has stated that Nutritional Status can be measured by two ways, One is based on input indicators such as nutrients and food intake and second based on output indicators like as anthropometry (Height, Weight, BMI etc)

and biochemical signs. Anthropometrical measurement is one of the best methods to find out malnutrition among teen agers.

Table -1 Anthropometric Information of College Girls

Age Group	Number	Mean Observed Weight (In Kg)	Standard Weight (In Kg)	Mean Observed Height (In cm)	Standard Height	Mean BMI	Standard BMI
17	14	42.08	54	153.71	162.5	17.89	21
18	40	45.35	54.4	155.08	162.9	18.87	21.3
19	29	44.55	54.6	154.93	163.1	18.59	21.4
20	17	46.47	55	153.07	163.2	18.89	21.7

Source: Field Survey2014

Mean Weight:

Body weight is the simplest measurement of growth, nutritional status and development of human body. Low body weight shows wasted girls. It is observed that mean weight girls for the age group 17, 18, and 19 is recorded 42.08, 45.35, 44.55, 46.47 in respectively. The findings shows that mean height of girls is significantly low than standard height.

Mean Height:

According to next anthropometric index that is height. It is simple, sensitive and cost effective measurement for assessment of malnutrition. The mean height girls for the age group 17, 18, 19 and 20 are recorded 153.71, 155.08, 154.93 and 153.07 respectively. Findings of this study shows the average height of girls is significantly low compared to standard weight values. So these girls are categorized in stunted girls.

The report on regional WHO Consultation on nutritional status of adolescent girls reported 45%. In this study prevalence of stunting girls were observed than normal girls.

Mean BMI:

According to Body Mass Index The body mass index (BMI), is a measure of relative weight based on an individual's mass and height.BMI is defined as the individual's body mass divided by the square of their height with the value universally being given in unit of kg /m2. The BMI is used in a wide variety of contexts as a simple method to assess how much an individual's body weight departs from what is normal or desirable for a person of his or her height. WHO (2006).

The mean BMI of girls in age group 17, 18, 19 and 20 are recorded 17.89, 18.87, 18.59 and 18.89 respectively. Findings of this study shows the average BMI of girls is significantly low compared to standard BMI values.

1) Bio chemical Information:

After anthropometric measurement biochemical investigation results were shown in Table No.2.This table shows proportion of hemoglobin in 100 girls. It was observed that The mean haemoglobin concentration of girls in age group 17, 18, 19 and 20 are recorded 9.10, 9.76, 9.93 and 9.84gms/100ml respectively.

Table -2 Biochemical Information of College Girls

Sr.No.	Age Group	Mean Observed HB	Standard HB (Gms/100ml)
1	17	9.10	12
2	18	9.76	12
3	19	9.93	12
4	20	9.84	12

Source: Field Survey2014

This picture shows that there is significant difference between mean heamoglobin concentrations in all age group compared to international standard.

Conclusion:

It is concluded from above analysis that anthropometric indicators like height, weight and BMI of girls in age group 17 to 20 of Kopargaon tehsil. On the basis of all anthropometric assessment girls in this age group the mean height, weight and average BMI are significantly low than required level if we compared this observed data with World Health Organizations standard growth charts. Same circumstances were observed in biochemical analysis. The heamoglobin concentration in girls of all age group was found significantly low than international standard.

Genetic composition of individual is definitely different than other but average anthropometric values are constant and they are indicator of nutritional status. Which is result of food habits and environmental and socio economic factors. In same way biochemical test also proved that degree of heamoglobin is very low than required level. Therefore it is concluded that due to different socio economic backgrounds all the girls shows poor anthropometric indicators and they having high prevalence of anemia among college girls of Kopargaon tehsil.

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