

A Case Study on Anthropometric Measurements of Rural - Urban Adolescents Girls in Varanasi D

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Introduction

Socio-economic status is one of the fundamental factors to responsible for health status of any age group, sex, race or communities in world. Nutritional status, obesity, and anthropometric status are also affected by socio-economic or cultural status of the persons. Adolescents is a very sensitive age- cohort for both boys and girls. But it is more critical period for girls, because the inferior position in society.

Statement of Problems

The problems related to adolescent girls in our society are

- A. Gender Discriminations in food and nutrition due to lower status of girls in society
- B. Poor health status of adolescent girls in our country specially the problem of under nutrition and malnutrition.
- C. Poor health status of adolescence girls are directly linked to higher maternal mortality, chronic health disease, higher neo-natal and antenatal mortality rate in future.

Significance of the study

It is a comprehensive socio-economic study associated with physical health status of adolescent girls on certain basic parameters Height, Weight, BMI, Waist Hip Ratio, of adolescent girls in Rural and Urban area of Varanasi district.

Hypothesis of the study

A direct relation among socio-economic status and nutritional status of adolescent girls in study area.

Inclusion Criteria

Only age group 16 to 19 adolescent girls was included.

Exclusion criteria

The subject which is disabled and suffered from serious illness was excluded.

Methodology and procedure

Selection of the subjects, Selection of variables, collection of data and statistical procedure was adopted.

Selection of Subject

Multi stage sample technique was used to select the area. First Varanasi District was further dividing in rural and Urban Areas. 2nd stage some rural blocks and urban blocks were selected randomly. 3rd stage in next 5 institutes (Educational and Others) was selected by lottery method. Cluster Sampling method was used for the study.

Selection of variable Anthropometric Measurements

Basic Parameters

Height

Weight

BMI

Waist Hip Ratio

Socio-Demographic Data

Study Area

Varanasi district is the study area. Varanasi city is district headquarter of the district. It is divided in 8 blocks as administrative Unit Kashi Vidyapeeth, Arjilina, Sewapuri, Baragaon, Pindra, Cholapur, Chiraigaon, Harahua.

According to 2011 Census the population of the district are 3,676,841. The total area is-1535 square k.m². Sex Ratio 913, Child Sex Ratio 885, average literacy-75.6%, Male literacy is 83.7%, female literacy is 66.6%.

DATA COLLECTION AND ANALYSIS

Data are collected by cross sectional methods from two blocks of Varanasi District –

- **Weighing Machine**
- **B. Super Quality Measuring Tape (Strait And Steel Made)**
- **C. Measuring Tape**
- Total no subject are 200 (100 from urban area and 100 from rural area).

Height- Height Is a major indicator of general body size and skeletal length.

Weight -Weight is the measurements of total body mass.

BMI -Body mass index provides a ratio between body weight and height and is quickly becoming the standard way of defining obesity for the public (Garrow and Webster).

Percentile < 5:	Underweight
Percentile ≥ 5 and < 85	Healthy weight

Percentile ≥ 85 and < 95 :	Overweight
Percentile ≥ 95 :	Obesity

Formula

$$\text{BMI} = \text{Weight} / (\text{Height}/100)^2$$

$$\text{ZScore} = ((\text{BMI}/M)^L - 1) / (L * S)$$

Collection of data- Data was collected by the certain questionnaire and by using certain proforma.

Consent form- Consent was taken by the volunteers to participate in this research work and then volunteer's investigation.

Results of the study

Height- 144.86cm of Urban girls and mean height of rural girls are 149.29 cm. The mean standard deviation is 4.026 and the standard deviation of the rural area is 5.73.

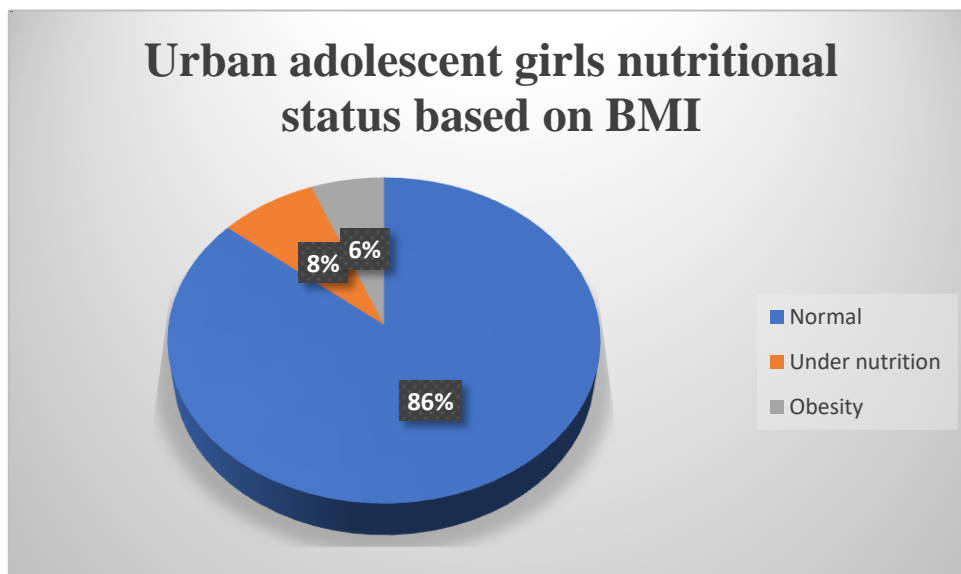
Weight - The mean weight of urban girls are 44.67 kg and standard deviation is 6.52 and rural girls mean weight are 43.16 and standard deviation 4.905.

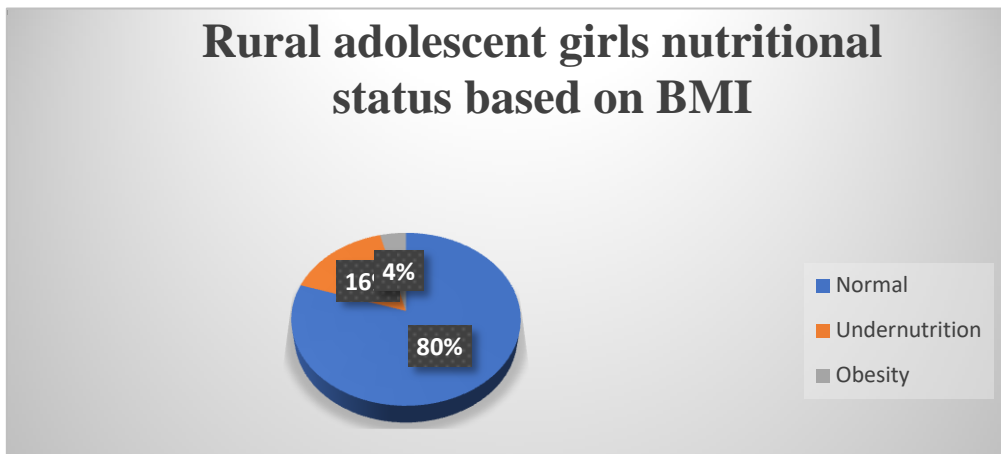
BMI- The mean BMI of urban adolescent girls are 21.2939 and standard deviation is 2.99 and the mean BMI of rural adolescent girls are 19.3394 and S.D 2.083.

Result showing in the study are 86% adolescent girls are under come in normal BMI, 8% are in under nutrition and 6% in obesity in urban adolescent girls. As

follow in rural adolescent girls 80% having normal BMI 16% faces the problem of undernutrition and only 4% have obesity.

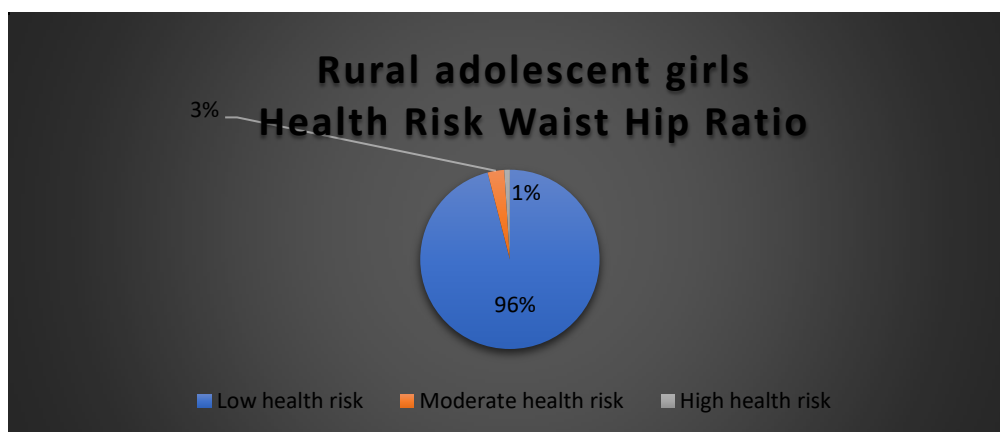
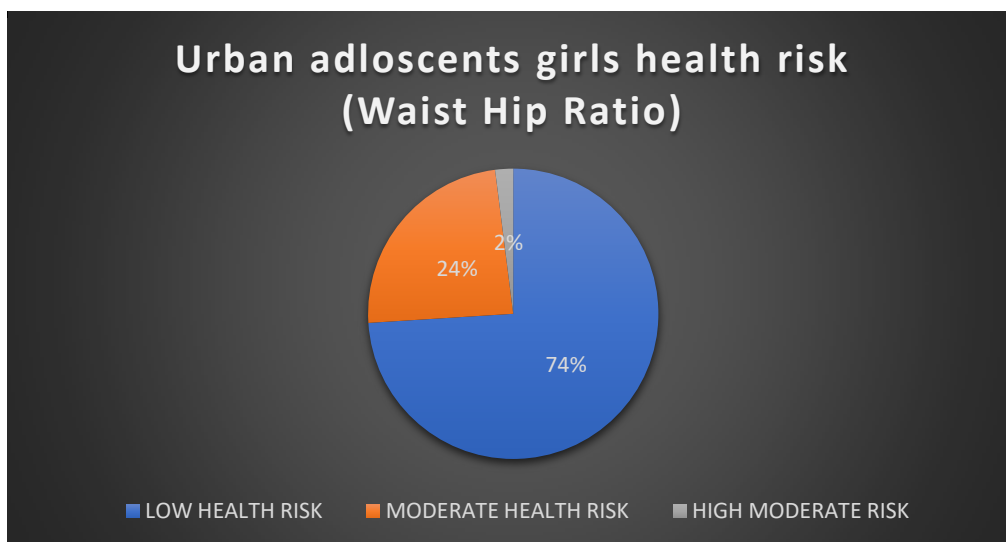
Area	Healthy Weight(%)	Under Nutrition (%)	Obesity(%)
Urban	86	8	6
Rural	80	16	4





Waist Hip Ratio-The mean waist hip ratio of urban adolescent girls are .77,SD-0.50 and for rural adolescent girls mean WHR are .65.35,SD 0.10.

Area	Low health risk	Moderate health risk	High health risk
Urban	74	24	2
Rural	96	3	1



Socio-Economic Status -This includes question on basic socio-economic characteristics of the households including information about number of members in the family. It also collects the data of participants characteristics like age, educational status of the father and mother, occupational structure. family income, type of dwelling. Assessment of socio -economic status by the proforma of Kupuswamy scalerevised scale 2017.Kupuswamy modified scale for socio-economic condition is widely used for the assessment of the economical as well as social condition of rural and urban area.3 basic parameters available on Kupuswamy scale. Education, Occupation and Income. It was collected from questionnaire prepared by Kupuswamy Scale. Kupuswamy assessment is based on three basic parameters education of father and mother, occupation of parents,income of parents. further these three are

divided in different part education in 7 parts professional or honor containing the point 7,graduate or post graduate -6 intermediate or post high school-5 high school -4 middle -3 primary school-2 and illiterate-1. Then occupation are also divided in 7 and income also divided in 7. Total score-is 1 to29.

Upper class score-26-29,Upper middle Class-16-25,lower middle class 11-15,Upper Lower Class-5-10, Lower Class <5 etc.

Result of the study was total 15% in upper lower class, lower middle class 60%, upper middle class 20%,and 5% from upper class in Urban adolescent girls.Total 25% of population was under come in upper lower class,70% in lower middle class, and 5% from upper middle class in rural area of adolescent girls.

Conclusion-

whole study describes that a wide gap in the physical composition of rural adolescent girls of urban rural comparison. We can see in the result average BMI of rural girls is lesser than urban girls by approx. 2 point. The mean height of rural girls was comparatively high than urban adolescent girls. But weight is lower than urban adolescentgirls. As well as we can see the Waist Hip ratio Health risk assessment there is higher risk in urban adolescent girls in comparative to rural adolescent girls. In last it is also direct associated to socio-economic condition with the nutritional status and physical composition of adolescent girls.

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