

Change in Height and Weight after the onset of Menarche in Adolescent Girls

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Abstract: Adolescent is a transitional stage of physical and psychological human development that generally during puberty young people attain an adult – sized body and become capable of producing offspring. Menarche is the beginning sign of puberty in girls, but underarm, breast & public hair growth are completed, and underarm hair appears some factors, exert great influence on change in height and weight after the onset of menarche.

The present paper attempts, change in height and weight after the onset of menarche according to various factors. The methodology including a sample of 400 adolescent girls. A self-structured Performa schedule and anthropometric measurement was used to obtain relevant information regarding change in height and weight after the onset of menarche according to various factors. The data were analyzed mean, percentages, standard deviation chi-square and level of significance. It was found that changes according to various factors with the following objectives:

- To assess the effect of menarche on height of adolescent girls according to various factors.
- To assess the effect of menstrual on weight of adolescent girls according to various factors

Key Words: Adolescent, Puberty, Menarche, Growth spurt, Anthropometric measurement.

1. INTRODUCTION

Adolescent is a phase of rapid growth and development during which physical, physiological and behavioral changes occurs. It is the period of development that begins at puberty the most noticeable changes signs of sexual maturation and increase in height & weight. Girls may begin to develop breast buds as early as 8 years old. Breast developed fully between ages 12- 18. Pubic hair, armpit and leg hair usually begin to grow at about age 9-10, and which adult patterns at about 13-14 years. Menarche (the beginning of menstrual periods) typically occurs about 2 years after early breast and pubic hair appear. Girl's growth part peaks around age 11.5 & so around age 16. Old and fully develop between pubic and auxiliary hair usually. Body size factors, including height, weight, body mass index (BMI), and body fat percentage, have long been found to be strongly associated with the onset of menarche. The relationship of the growth spurt in height and weight to menarche he long been studied weight gain for the onset of menarche based on longitudinal growth data of 181 girls, while they never actually measured body fat in their subjects. Several studies support the height hypothesis that the growth velocity of height hypothesis that the growth velocity of eight reaches a peak 1 year before menarche, show down thereafter, and stop within 1 year after menarche. Stanton et al found that the relationship between expected weight gain and the onset of menarche was not as: strong as expected.

2. METHODS AND MATERIAL –

Exploratory Research Design was used to assess the change in height and weight after the onset of menarche of adolescent girls. Judgment sampling design was used to locate the student in the particular age. A sample of 400 students of various private schools were comparing of girls between the age 12-16 years were taken. Self-structured Questionnaire was used for the collecting of data. The sample was collected from the various co-educational private schools of District Ghaziabad (UP). The data compiled was tabulated & put to statistical analysis for mean, standard deviation, chi-square and level of significance.

3. RESULT AND DISCUSSION

Table 1: Distribution of adolescent girls according to their height.

Height in cm	Number	Percentage (%)
140 – 150	39	9.75
150 – 160	264	66.00
160 and above	97	24.25
Total	400	100.00
Mean	155.78	
SD	4.78	

Shows the distribution of adolescent girls according to their height. Out of the total adolescent girls, majority of them (66.00%) were found in

the height group of 150 – 160 cm followed by 24.25% in the height group of 160 cm and above and only 9.75% were in the height group of 140 – 150 cm. Further, analysis of data reveals that the average height of the adolescent girls were 155.78 cm.

Table 2: Distribution of adolescent girls according to their weight.

Weight in kg	Number	Percentage (%)
30 – 40	137	34.25
40 – 50	222	55.50
50 and above	41	10.25
Total	400	100.00
Mean	41.71	
SD	4.72	

Indicates the distribution of adolescent girls according to their weigh. Out of the total adolescent girls, majority of them (55.50%) were found in the weight group of 40-50 kg, followed by 34.25% in the weight group of 30-40 kg and only 10.25% were in the weight group of 50 kg and above. Further, analysis of data reveals that the weight of the adolescent girls were 41.71 kg.

Table 3: Distribution of adolescent girls according to change in height at the beginning of menstrual cycle.

Change in Height	Number	Percentage (%)
Sudden Increased	144	36.00
Did not Noticed	151	37.75
Constant	105	26.25
Total	400	100.00

Above table reveals the distribution of adolescent girls according to change in height at the beginning of menstrual cycle, 37.75% of the adolescent girls did not noticed any change in height at the beginning of menstrual cycle and 36.00% of the adolescent girls observed sudden increased in height at the beginning of menstrual cycle while 26.25% observed constant height at the beginning of menstrual cycle.

Table 4: Distribution of adolescent girls according to change in weight at the beginning of menstrual cycle.

Change in Weight	Number	Percentage (%)
Sudden Increased	130	32.50
Did not Noticed	104	26.00
No Change	166	41.50
Total	400	100.00

Above table shows the distribution of adolescent girls according to change in weight at the beginning of menstrual cycle, 41.50% of the adolescent girls observed no change in height at the beginning of menstrual cycle and 32.50% of the adolescent girls observed sudden increased in weight at the beginning of menstrual cycle while 26.00% did not noticed any change in weight beginning of menstrual cycle.

Conclusion:

37.75% of the adolescent girls did not noticed any change in height at the beginning of menstrual cycle and 36.00% of the adolescent girls observed sudden increased in height at the beginning of menstrual cycle while 26.25% observed constant height at the beginning of menstrual cycle.

41.50% of the adolescent girls observed no change in weight at the beginning of menstrual cycle and 32.50% of the adolescent girls observed sudden increased in weight at the beginning of menstrual cycle while 26.00% did not noticed any change in weight at the beginning of menstrual cycle.

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