



## **WAIST TO HIP RATIO AS A DETERMINANT OF HEALTH AMONG UNDERGRADUATE COLLEGE STUDENTS**

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### **ABSTRACT**

Study aims analyse the health status among under graduate students. Assessed 79 under graduate students of 2018 Batch from College of Agriculture, Vellayani. The subjects were within the age range of 18 - 21 years. Waist to hip ratio and BMI was used to analyze the health status of the students.

**Keywords:** Health parameters, Waist to hip ratio and BMI.

### **INTRODUCTION**

“Health is a state of complete physical, mental and social well-being and not merely the absence of disease and infirmity” (World Health Organization, 2008).

“Survival of the Fittest”, a phrase from Darwinian Evolutionary Theory has got a greater relevance in the current scenario. We have witnessed several deaths worldwide due to Covid 19 disease. Studies show that the mortality rate was higher in persons with underlying health issues. Here comes the relevance of being healthy (Ashwell et al. 2012).

According to World Health Organization obesity can be defined as “abnormal or excessive fat accumulation that may impair health”. “Obesity has reached epidemic proportions globally, with at least 2.8 million people dying each year as a result of being overweight or obese” (WHO). Death due to diseases associated with Obesity has more deaths which may tally up to the deaths associated to communicable diseases.

### **STATEMENT OF THE PROBLEM**

The purpose of the study was to analyse the health status among under graduate students.

### **OBJECTIVES OF THE STUDY**

- To assess the health status of undergraduate students using waist hip ratio.
- To find out the waist to hip ratio among under graduate students in Kerala.
- To identify the students belonging to different categories of standardized classification of health status.

### **HYPOTHESIS**

1. It was hypothesized that less than fifty percentage of male under graduate students will belong to the moderate category of waist to hip ratio.
2. It was hypothesized that less than fifty percentage of female under graduate

students will belong to the moderate category of waist to hip ratio.

(102 cm) in men, and of 35 inches or more (88 cm) in women, is associated with elevated cardiovascular risk.

**SIGNIFICANCE OF STUDY**

Adulthood obesity is associated with a higher probability of obesity as a middle aged, that can lead to variety of disfunction in the body. Hence the study is significant in assessing the health status and prevalent health condition of adolescents

**HIP CIRCUMFERENCE**

The subjects will be asked to stand erect with feet together. Clothing should be minimal. Measurement will be taken around the bulkiest region of your buttocks. The measurement is noted in centimeters.

**DELIMITATIONS**

- The study was delimited to seventy-nine (N = 79) under graduate students of 2018 Batch from College of Agriculture, Vellayani.
- Age group of the subjects was between 18 - 21 years.
- The study was delimited to the Height, Weight, BMI, Hip Circumference, Waist Circumference, Waist to Hip Ratio.

**WAIST-TO-HIP RATIO**

Waist-to-hip ratio (WHR) is one of several measurements your doctor can use to see if excess weight is putting your health at risk.

WHR estimates the proportion of your midsection to your hip circumference. It decides how much fat is put away on your waist region, hips, and gluteus. One 2021 review showed that individuals who carry a greater amount of their weight around their waist might be at a higher gamble of coronary illness and type 2 diabetes.

**METHODS USED IN THIS STUDY**

**WAIST CIRCUMFERENCE**

Waist circumference is the process of assessing your visceral fat. The measurement is taken using a sewing tape. Wrap the tape around body in line with the naval region. The measurement is taken in centimeters. Studies have shown that a waist circumference of 40 inches or more

According to the World Health Organization (WHO), a moderate WHR is:

- $\leq 0.9$  in men
- $\leq 0.85$  for women

For both Men and Women, a WHR of 1.0 or more, increases the threat of cardiac illness and other conditions that are linked to having overweight.

**TABLE SHOWING WHO NORMS OF WAIST TO HIP RATIO**

Health risk	Women	Men
Low	0.80 or lower	0.95 or lower
Moderate	0.81-0.85	0.96-1.0
High	0.86 or higher	1.0 or higher

**DATA ANALYSIS**

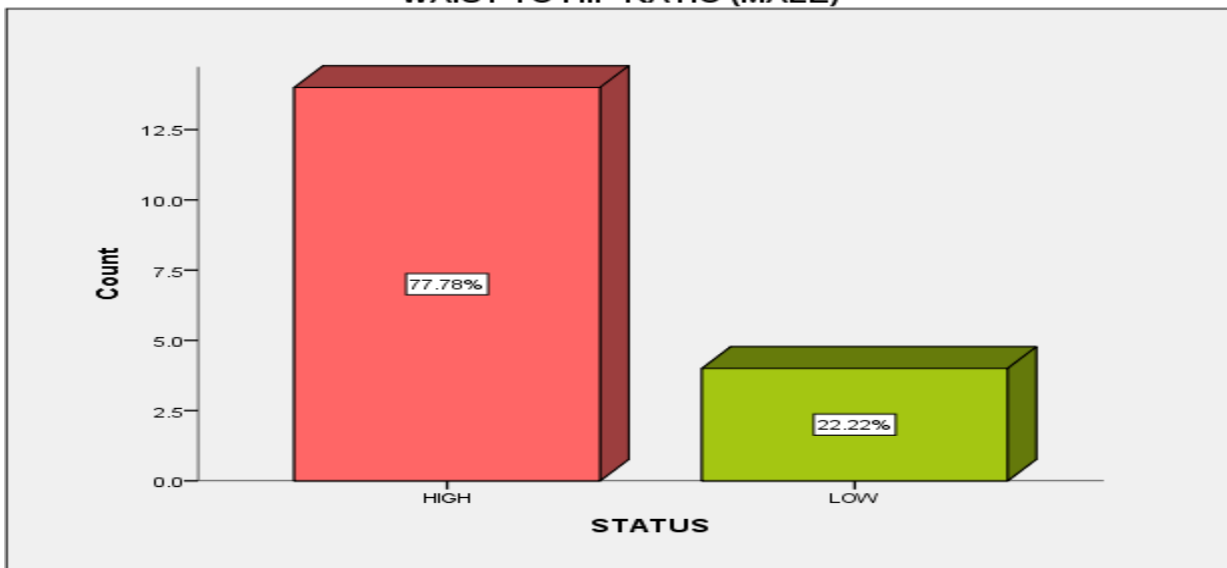
**WAIST TO HIP (MALE)**

**Table 4: Percentage distribution of Waist to Hip (Male)**

		SEX	Total
		Male	
<b>STATUS</b>	<b>HIGH</b>	<b>Count</b>	<b>14</b>
		<b>% within SEX</b>	<b>77.8%</b>
	<b>LOW</b>	<b>Count</b>	<b>4</b>
		<b>% within SEX</b>	<b>22.2%</b>
<b>Total</b>		<b>Count</b>	<b>18</b>
		<b>% within SEX</b>	<b>100.0%</b>

From Table 4 it is clear that 77.8% male students are with high ratio, 22.2% are with low ratio.

**WAIST TO HIP RATIO (MALE)**



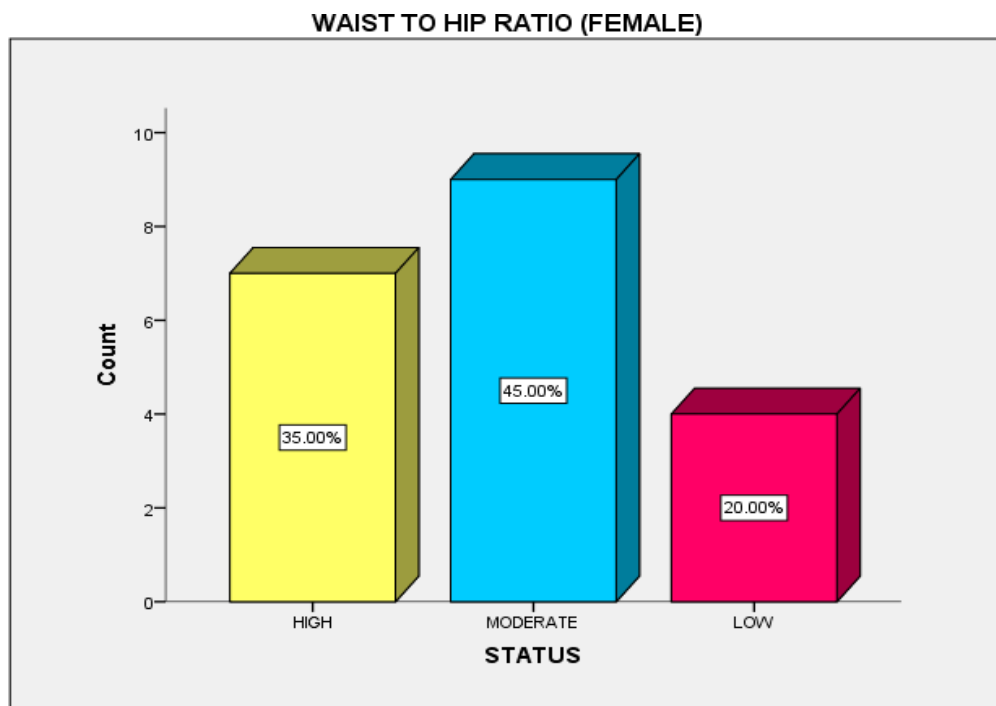
**Fig 4: Diagrammatic representation of Waist to Hip Ratio (Male)**

**WAIST TO HIP (FEMALE)**

**Table 5: Percentage distribution of Waist to Hip (Female)**

	SEX	Total
	FEMALE	
<b>HIGH</b>	<b>35.0%</b>	<b>35.0%</b>
<b>STATUS MODERATE</b>	<b>45.0%</b>	<b>45.0%</b>
<b>LOW</b>	<b>20.0%</b>	<b>20.0%</b>
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>

From Table 5, it is clear that 35% female graduate students are with high ratio, 45% are with moderate ratio and 20% students are with low ratio.



**Fig 5: Diagrammatic representation of Waist to Hip ratio (Female)**

**CONCLUSION**

- ❖ Since there are no moderate male students, which is less than 50%, we accept the hypothesis.
- ❖ Since the moderate ratio of female graduate students is 45% which is less than 50%, we accept the hypothesis.

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