

Relationship between Normal Blood Pressure and Body Weight

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Abstract

The objective of the present study was to compare any relationship between normal blood pressure and body weight. Normal blood pressure is very crucial for our life. Blood pressure is important because it provides oxygen and nutrients to our tissues and organs, this pressure cause the blood to flow throughout the body via arteries. Blood pressure is developed when our heart pumps the blood on contraction with heart beats. Body weight of human is measured in kilograms. Body weight fluctuation occurs due to the water amount in our body. There are many methods to access the body weight like dual-energy X-ray absorptiometry and the percentage of muscles, fats and bones in a human body. We used an instrument known as Sphygmomanometer. We measured weight of individuals, made individual stand on the machine and kept aside all the things and accessories like mobile phone, heavy jackets and shoes. We used a spring scale to measure and weight of a body. In this project, a questionnaire was prepared and asked the subjects about their blood pressure and measured the weight.

Keywords: Blood Pressure, Body Weight, Sphygmomanometer, Spring Balance

Introduction

Normal blood pressure is very crucial for our life. Blood pressure is important because it provides oxygen and nutrients to our tissues and organs, this pressure cause the blood to flow throughout the body via arteries. There are two conditions of blood pressure like blood pressure may become very high or it may become very low. Blood pressure is important as this pressure or force brings white blood cells and antibodies for our immunity. Transportation of hormones like insulin is also done through blood pressure. Toxic waste products of metabolic reactions like CO₂ is exhaled by human at every breath, and other toxins are refined by kidneys and the liver. All the toxic waste material is taken up by the fresh blood. Blood pressure is developed when our heart pumps the blood on contraction with heart beats. Motion of blood in our body is due to the difference of blood pressure. The highest blood pressure is observed when blood starts its journey from heart. In aorta, blood pressure is very high and this pressure slows down when reaches at the end of arteries. This process takes place progressively and reaches at the destination at the end.

Body weight of human is measured in kilograms. Body weight fluctuation occurs due to the water amount in our body. There are many methods to access the body weight like dual-energy X-ray absorptiometry and the percentage of muscles, fats and bones in a

human body. There are many strategies to gain or loss the weight of a body. To reduce the weight of a body, we must use foods like that are in less calories and fat contents. People who are vegetarian have less body weight. On the other hand, food that is plenty of cholesterol use to gain weight. Potatoes and dried fruits provide us a lot of energy and help to gain body weight. There are many problems regarding heavy weight, obesity, is a prerequisite of many health problems like cardio vascular diseases and heart attack [1-6].

The objective of the present study was to compare any relationship between normal blood pressure and body weight.

Material and Methods

In this project, there were 200 participants. We used an instrument known as Sphygmomanometer. It mainly constitutes armband cuff that is used to squeeze the pulse and the armband is flattened by hand. A reading is noted manually. We took a stethoscope and place it above the elbow. As blood pressure has two values, the first is the systolic pressure and the second is diastolic. We released the valve to hear the gurgle sound produced by the stethoscope. The systolic pressure is represented by the higher figure and at this point the heart contracts. The diastolic pressure is represented by the lowest figure and this indicates the resting phase of the heart. The values of the normal blood pressure are 120 mmHg is systolic and 80 mmHg is the diastolic [7-11].

We measured weight of individuals, made individual stand on the

machine and kept aside all the things and accessories like mobile phone, heavy jackets and shoes. We used a spring scale to measure and weight of a body.

Statistical analysis

Statistical explanation was done by using M-Stat software. T-Test was performed to analyze these results.

Results and Discussion

In this project, a questionnaire was prepared and asked the subjects about their blood pressure and measured the weight. The main purpose of this study was to correlate blood pressure with weight. As there are two readings, one was the systolic that represented the upper value of blood pressure and the second one was the diastolic that shown the lower value of blood pressure. We calculated the results that shown us that systolic pressure of male individuals was not significant because the mean blood pressure with standard deviation 134.60 ± 23.34 had the p-value are 00.23 that was not significant. Similarly, when we observed the results for female candidates, there was the significant relationship observed with Mean \pm SD 119.35 ± 00.00 .

Diastolic pressure had relationship with weight in male individuals as there Mean \pm SD 84.00 ± 08.77 as p value was 00.00 that was less than the value 0.05. Diastolic pressure had relationship with weight in male individuals as there Mean \pm SD 81.05 ± 11.20 as p value was 00.00 that was less than the value 0.05. Overall discussion showed us that there was a relationship between the blood pressure of an individual and weight.

Table 1: Relation of normal blood pressure, SYSTOLIC, (Mean \pm SD) with weight

Subjects (Male)	Mean \pm SD	p-value
40-50 (kg)	134.60 ± 23.34	00.23
50-60 (kg)	128.00 ± 11.20	00.68
60-70 (kg)	129.70 ± 15.21	00.36
70-80 (kg)	120.00 ± 14.42	00.31

Results were non-significant ($p < 0.05$)

Table 2: Relation of normal blood pressure, SYSTOLIC, (Mean \pm SD) with weight

Subjects (Female)	Mean \pm SD	p-value
40-50 (kg)	118.17 ± 16.39	00.90
50-60 (kg)	117.85 ± 13.63	00.61
60-70 (kg)	119.35 ± 09.06	00.00*
70-80 (kg)	120.00 ± 00.00	0.00*

* $p < 0.05$

Table 3: Relation of normal blood pressure, SYSTOLIC, (Mean \pm SD) with weight

SSubjects	Mean \pm SD	p-value
40-50 (kg)	119.31 ± 17.26	00.23
50-60 (kg)	122.28 ± 13.54	00.41
60-70 (kg)	124.52 ± 13.40	00.51
70-80 (kg)	120.00 ± 11.77	00.91

Results were non-significant ($p < 0.05$)

Table 4: Relation of normal blood pressure, DIASTOLIC, (Mean \pm SD) with weight

Subjects (Female)	Mean \pm SD	p-value
40-50 (kg)	118.17 ± 16.39	00.90
50-60 (kg)	117.85 ± 13.63	00.61
60-70 (kg)	119.35 ± 09.06	00.00*
70-80 (kg)	120.00 ± 00.00	0.00*

Table 5: Relation of normal blood pressure, DIASTOLIC, (Mean \pm SD) with weight

Subjects (Female)	Mean \pm SD	p-value
40-50 (kg)	73.18 ± 12.15	00.95
50-60 (kg)	73.30 ± 10.95	00.01
60-70 (kg)	81.05 ± 11.20	00.00*
70-80 (kg)	80.00 ± 00.00	00.00*

* $p < 0.05$

Table 6: Relation of normal blood pressure, DIASTOLIC, (Mean \pm SD) with weight

Subjects	Mean \pm SD	p-value
40-50 (kg)	73.89 ± 12.21	00.43
50-60 (kg)	72.50 ± 10.63	00.04
60-70 (kg)	77.50 ± 12.96	00.09
70-80 (kg)	67.25 ± 08.77	00.22

Results were non-significant ($p < 0.05$)

Conclusion

It was concluded that there was a relationship between normal blood pressure and body weight.

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