DOI prefix: 10.33170, 2024, Vol (17), Issue (3): 1142-1149

Sciences Journal Of Physical Education

P-ISSN: 1992-0695, O-ISSN: 2312-3619
https://joupess.uobabylon.edu.iq/

The relationship of some physical variables to heart health

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Received: 14-04-2024 Publication: 28-06-2024

Abstract

The research aims to identify the impact of some physical variables and their relationship to heart health, as an unhealthy lifestyle affects physical changes, which in turn indirectly affect heart health, as not exercising, especially strength exercises, can negatively affect heart health. While aerobic exercises such as walking and running are essential for improving cardiovascular function, strength exercises (such as weightlifting or resistance exercises) play an important role in supporting heart health. Therefore, following a good healthy lifestyle gives the individual a healthy and positive life away from diseases and enables him to perform his daily duties with vitality and activity. In general, regular exercise, whether strength or endurance exercises, helps prevent heart disease and promote heart health by improving cardiovascular function and reducing the risks associated with chronic diseases .

Keywords: Physical, heart and health.

https://doi.org/10.33170/jocope.v17i3.1142-1149

1- Definition of the research:

1-1 Introduction to the research and its importance:

1-1 Introduction

The health aspect plays an important role in people's lives to live normally away from annoying diseases. As a result of the development in all areas of life and the emergence of modern scientific inventions, tremendous changes have occurred in all our modern lives.

Heart health refers to the condition of the heart and blood vessels and their functions. Maintaining heart health is vital to preventing cardiovascular diseases such as heart attacks and strokes. The main factors that affect heart health are a healthy diet: eating foods rich in fiber and vitamins, such as fruits and vegetables, and avoiding foods rich in saturated fats, sugar and salt, as well as practicing physical activity: exercising regularly strengthens the heart muscle and improves blood circulation. It is recommended to practice physical activity such as walking or running for 30 minutes daily, and to control cholesterol levels, as increased harmful cholesterol can clog the arteries and lead to heart disease.

There are some physical variables that play a fundamental role in determining heart health, as they directly affect the functions of the heart and blood vessels. The most important physical variables associated with heart health are muscle strength, as increasing muscle strength, as in resistance exercises, contributes to strengthening the heart muscle, making it more efficient in pumping blood and reducing daily stress. Strength and endurance exercises have significant positive effects on heart health, as strength exercises: improve heart efficiency, and practicing strength exercises, such as weightlifting or resistance exercises, helps strengthen skeletal muscles, which reduces the burden on the heart and increases its efficiency in pumping blood. Over time, blood vessel resistance decreases, which reduces blood pressure.[1]

Increasing muscle mass: This leads to increased calorie burning, thus improving the balance between muscle fat and body fat, which reduces the risk of obesity and stress on the heart. As well as strength endurance exercises (aerobic exercises such as running and swimming), they enhance cardiorespiratory fitness, as endurance exercises increase the ability of the heart and lungs to supply the muscles with oxygen during

exercise, which enhances the efficiency of the heart in working and reduces the risk of coronary heart disease.[2]

Body mass index (BMI): Excess weight or obesity increases the risk of heart disease. Ideal weight helps reduce stress on the heart and arteries, which reduces the risk of high blood pressure and high cholesterol. Physical fitness is the high physical ability associated with better heart health, as regular exercise helps improve heart strength, improve blood pumping, and reduce levels of harmful fats, as well as body fat, as the accumulation of fat around the abdominal area in particular indicates an increased risk of heart disease. Visceral fat affects metabolism and is associated with high blood pressure and cholesterol.

1-2 Research problem:

The lack of movement resulting from the technological development of devices and equipment used in daily life, as well as the lack of regular physical activity with an imbalance in the quantity and quality of food consumed, which causes many diseases, including heart disease, and with age will negatively affect the individual's condition, and regular exercises, whether strength or endurance exercises, help prevent heart disease and promote heart health by improving cardiovascular functions, and reducing the risks associated with chronic diseases such as high blood pressure, cholesterol and obesity, and through the researcher's experience as a trainer in fitness halls, he noticed a significant impact of physical variables on heart health, so the researcher decided to study this problem, as strength exercises help improve general physical fitness and increase muscle mass, which contributes to enhancing the ability to perform aerobic exercises better and contributes to heart health. Strength training helps lower blood pressure when done regularly, which reduces stress on the heart and improves blood circulation. It also increases fat burning and improves metabolism, which helps prevent obesity-related diseases such as diabetes, which is a major risk factor for heart disease.

1-3 Research objectives

1. Identify the physical fitness indicators necessary for heart health.
2. Identify the necessary indicators for heart health.
3. Identify the relationship between physical fitness and heart health.

2- Research methodology and field procedures:

2-1 Research methodology

The descriptive method was used for its suitability to the research procedures.

2-2 Research sample

The research sample included (50) individuals who suffer from heart problems and others who do not suffer from heart problems, and those who practice sports and those who do not practice sports.

2-3 Devices, tools and methods used in research

- Resources.
- Smart watch to measure heart rate
- Medical tests and reports.
- Medical scale.
- Measuring tape.

2-4 Measurements used in the research

- **Height measurement:** Height was measured using a measuring tape designed for this purpose and to the nearest centimeter.
- **Body mass measurement:** Body mass was measured using a medical scale designed for this purpose and to the nearest gram.
- **Body mass index measurement:** An equation designed for this purpose was used by dividing body weight by the square of height in meters.
- **Measurement of heart problems:** The diagnosis of the specialist doctor was relied upon, and each infected person was coded with the number one, and the non-infected person with the number zero. [3]
- **Measurement of exercise and non-exercise:** The measurement was done through a form prepared for this purpose, and the patient's statement was relied upon if he was an exerciser or not, and the number one was relied upon for those who exercise and the number zero for those who do not exercise.

3- Results and discussions

Table 1. Shows the descriptive correlation between the research variables.

BMI is highly overall correlated with Heart and 3 other fields	**High correlation**
Heart is highly overall correlated with BMI and 2 other fields	**High correlation**
length is highly overall correlated with BMI and 1 other fields	**High correlation**

sport or not is highly overall correlated with BMI and 1 other fields	High correlation
weight is highly overall correlated with BMI	High correlation
BMI has unique values	Unique

Table (1) shows the descriptive relationship between the variables under study, which was built on the basis of Table (2), which shows the extent of the relationship between the variables under study, and in light of which the extent of the correlation between the study variables was determined. [4]

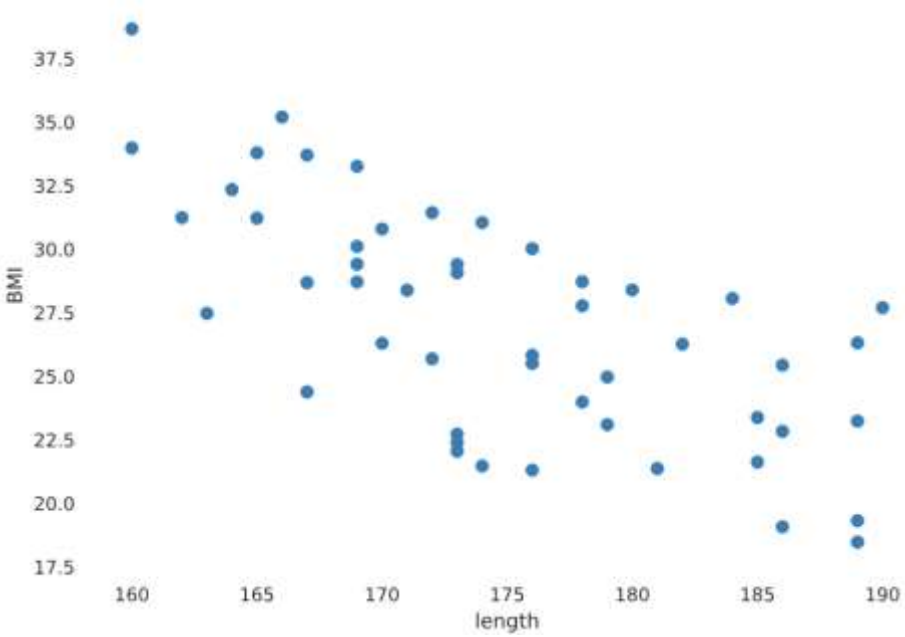

Figure 1. Shows the relationship between BMI and length.

Figure (2) shows that the shorter the height and the higher the body mass index, the more the heart is exposed to a heart attack. This is due to the increase in the heart rate, which requires an increase in the amount of oxygen and food the body needs to reach all parts of the body to continue performing the requirements of daily life.[5]

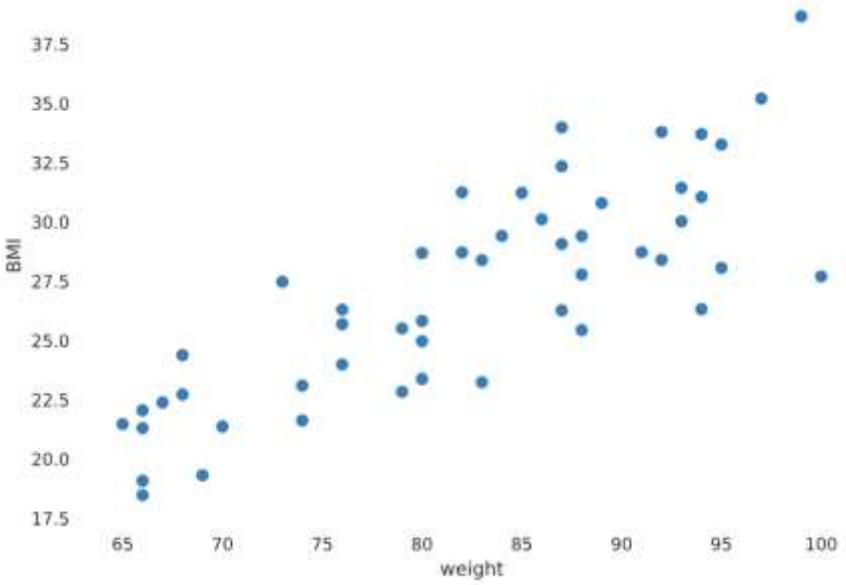

Figure 2. Shows the relationship between BMI and Weight.

Figure (2) shows that the higher the body weight, the higher the body mass index, which means an increased risk of heart problems, due to the disproportion between the amount of heart function and the body's requirements to secure the energy necessary to sustain life.

Table 2. Shows the correlation between the research variables

Correlation(r)	BMI	Heart	Length	Sport or not	Weight
BMI	1.000	0.577	-0.686	0.704	0.805

Table (2) shows that there is a strong relationship between the body mass index and the variables under study. This indicates the need to follow a healthy lifestyle to protect the heart from any health problems.

Body mass index (BMI) is an important tool for estimating body fat and weight distribution, and thus helps determine individual health needs and assess the risk of heart disease. If the BMI is higher than normal, the risk of heart disease and stroke may increase. Therefore, understanding the relationship between BMI and heart disease contributes to making appropriate health decisions for prevention and treatment.[6]

Scientific studies indicate a direct relationship between body mass index and heart disease, as researchers confirm that an increase in body mass index increases the likelihood of developing heart disease and its negative impact on heart health.[7] Therefore, the risk of heart disease can be reduced by maintaining a healthy weight and body mass index by regulating diet and exercising regularly, which highlights the importance

of early intervention and following healthy lifestyles in preventing heart disease.[8]

Body mass index (BMI) is an important factor in heart health, with studies showing that adults with a higher BMI are at greater risk of cardiovascular disease.[9] Therefore, maintaining a healthy weight should be linked to reducing the risk of heart problems. It is also important to focus on preventive methods to maintain a healthy weight, including lifestyle changes, diet, and regular exercise.[10]

Conclusions

There is a direct relationship between BMI and heart health, so individuals should be careful to maintain a healthy weight by following appropriate preventive methods. In addition, it is necessary to have accurate clinical guidelines for using BMI in medical diagnosis and making the right clinical decisions for heart patients.

Recommendations

1. The necessity of following a healthy lifestyle to protect the heart from the risk of chronic diseases.
2. The necessity of exercising because it plays a role in reducing the incidence of chronic heart diseases.

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