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BSc Level 5 in Health and Social Care

Introduction to Physiology

(BMHP5003_LON.)

Term 2 Student Report.

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Poster Presentation, Cardiovascular disease

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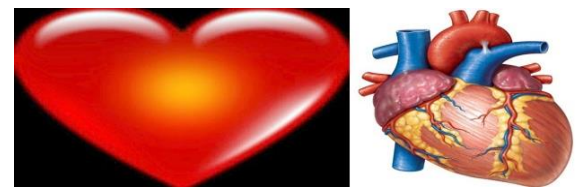
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Cardiovascular Disease



Cardiovascular disease is a broad term describing illness that affect the Heart or blood arteries, (Atherosclerosis), according to the NHS. It is frequently linked to Fatty deposits in the arteries, and an elevated risk of blood clots.

Main three risk factors are Hypertension, Atrial fibrillation, and dyslipidaemia.

Physiology

Cardiovascular illness is linked to negative emotions, psychosocial stress, and social variables. According to Public Health England, depression and depressed symptoms, history of depression, are linked to the risk of CVD. (PHE, 2018).

Cardiovascular disease is a major concern in the UK, accounting for roughly one -third of all fatalities and causing significant morbidity. (Stewart, 2016). Coronary heart disease occurs when the flow of oxygen-rich blood to the muscle is blocked

The cardiovascular system consists of three parts, the heart, blood arteries and blood. Plasma, red cells, white cells, and platelets are four primary components of blood. They serve a variety of activities, including carrying oxygen and nutrients to the lungs and tissues. Pulmonary and the systemic are the generators. NHS. The system is responsible for delivering oxygen and nutrition, hormones and other vital substance to the body's cells and organs.

Case Study.

Patient A is 48 years old, smokes 10-19 cigarettes a day, drinks alcohol between 3-6 units a day. She had a blood pressure of 180/95. She had never suffered a heart attack, stroke, or paralysis on one side before. The father at the age of 68 suffered a heart attack. Her sister had a problem with high cholesterol. Patient A, who weighs 86 kilograms and stands 165 centimetres tall, does not engage in any type of exercise. She eats fish and chips and adores chips and fries.

Patient A may be at risk of having heart attack or stroke. The lifestyle and habits of poor food, lack of exercise, 3- 6 units of alcohol per day, along with hereditary health concerns, excess weight, excess blood pressure 180/95 instead of 120/80.

According to the WHO, a healthy adult diet should consist of fruits, vegetables, legumes, nuts, and whole grains, with at least 5 servings of fruits and vegetables equating to 10% of total energy intake from free sugars, but preferably, 6% of total energy intake for added health benefits (Fernandes, 2019).

Risk Factors

According to Web Med, heart attack, heart failure, heart muscle illness, blood vessel disease, rheumatic, stroke, and pericardial disease, Pneumonia and deep vein thrombosis are all examples of cardiovascular disease. Poverty/ inequalities. (Timmis, 2019). Genetic causes, (Abou 2021). High blood pressure, lipoprotein, diabetes and overweight, high cholesterol, lack of exercise, are all risk factors for heart disease. Financial burden. (Timmis, 2019).

Symptoms: Difficulty catching your breath, dizziness, or fainting, heart palpitation, leg and arm discomfort, nausea and vomiting are all symptoms of cardiovascular disease..

Prevention

The best treatment is prevention. Regular exercise, quitting smoking, and consuming alcohol in moderation, all contribute to a healthier lifestyle and lowers your risk of heart attack. (Lopez, 2019).

Reduce saturated fat intake. Eat a high-fibre diet and eat two portions of fish per week, according to NICE. (Stewart, 2016). the best time for carbohydrate-rich meals is between the hours of 0700 and 1100, and that smaller meals are preferable later in the day. (Dashti, 2019).

Intervention

To manage cardiovascular disease, you can adopt lifestyle adjustments. Improve your lifestyle by recognising risk factors, keeping track of them, and changing your habits. (Francula-Zaninovic., 2018) Treatment can be more effective if diagnosis is made earlier. Many patients with cardiovascular disease have full and active lives. Exercise is widely acknowledged to have a positive impact on most of the health and the effects of exercise on cardiovascular disease are no exception. (Stewart, 2016).



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There is a good scientific evidence, according to WHO, that nutrients interact differently when offered as foods, and that food processing and cooking methods impact the nutritional content of foods. (Fernandes, 2019). Food timing is a crucial part of nutrition that has been linked to poor metabolic consequences. (Dashti, 2019).





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Physiology.

Cardiovascular disease is illness affecting the heart and blood arteries. Typically, cardiovascular illness is linked to the accumulation of fatty deposits within the arteries, (Atherosclerosis), a condition that raises the risk of blood clots. Plaque is a term used to describe this build up. The build-up of fat (visceral fat, ectopic fat). Adipokine production or secretion is disrupted.

According to Web Med, muscle failure, heart muscle illness, blood vessels disease, rheumatic heart disease, stroke and peripheral disease, pneumonia and deep vein thrombosis are all types of cardiovascular disease. Coronary heart disease occurs when the flow of oxygen-rich blood to the muscle is blocked. Cardiovascular disease is a major concern in the UK, accounting for roughly one -third of all fatalities and causing significant harm. (Stewart, 2016). Coronary heart disease, pericardial, Arterial, and Aorta heart disease are the four common cardiovascular disorder, according to the NHS. Some of the Symptoms are difficulty catching your breath, pain in the chest, dizziness, or fainting, heart palpitation, leg and arm discomfort, nausea and vomiting are all symptoms of cardiovascular disease.

The Cardiovascular system.

The cardiovascular system is a twin pump system in the cardiovascular system called the Pulmonary and the systemic. The system is responsible for delivering oxygen, nutrition, hormones, and other vital substances to the body's cells and organs. This hollow muscle pump keeps blood flowing to all parts of the body so it can survive.

The system consists of three parts, the heart, blood arteries, and blood. Plasma, red cells, and platelets are four primary components of blood. They serve a variety of activities, including carrying oxygen and nutrients to the lungs and tissues. The heart generally beats about 60-100 beats per minute; however, it can speed up.

The superior vena cava, right and left lung, right and left atrium, right and left ventricles, ribs, and the pericardial cavity, located within the thoracic cavity between the lungs makes up the cardiovascular system.

Arteries, veins, and capillaries each plays a significant role in the circulation process. The arteries carry oxygenated blood away from the heart. Inner tubes of the arteries are tiny and have a thick muscular wall. Its role is to transport blood away from the heart. The vein conducts blood towards the heart and has a thin wall and a bigger inner tube. It is equipped with valves that prevent obstructions. The capillaries are one- cell thick and thin blood vessels that changes gases from other blood vessels, and they are present in the muscle.

Causes / Risks

Blood pressure, lipoprotein, diabetes, overweight, high cholesterol, lack of exercise, are all risk factors. Heart misfunctions, smoking, inactivity family hereditary atherosclerosis, which narrows artery are all examples of causes and risk factors. The main three risk factors are Hypertension, Atrial fibrillation, and dyslipidaemia and the genetic causes. (Abou, 2021)

CVD is also caused by hypertension, which is a risk factor in and of itself. The effect of raising blood pressure above 120/80. (Stewart, 2016).

In terms of CVD risk, e- cigarettes are still contentious. Nicotine exposure still show CVD consequences, mice models showing increased Atherosclerotic risk. Long-term data is needed to establish the human impact. (Stewart, 2016).

Cardiac arrest needs immediate intervention, and patients who do not get prompt cardiopulmonary resuscitation from bystanders are unlikely to survive according to British Heart Foundation. (Renshaw, 2018).

According to some research reviews and meta- analysis, patients with pre-existing cardiovascular illness, during Covid-19 had a higher risk of death. (Ssentongo P, 2020). World Health Organization has predicted a total worldwide cost of cardiovascular disease to climb from 863 billion in 2010 to 1044 billion by 2030. (Timmis, 2019).

The case- study of patient A.

Patient A is 48 years old, smokes 10-19 cigarettes a day, drinks alcohol between 3-6 units a day. She had a blood pressure of 180/ 95. She had never suffered a heart attack, stroke, or paralysis on one side before. The father at the age of 68 suffered a heart attack. Her sister had a problem with high cholesterol. Patient A, who weighs 86 kilograms and stands 165 centimetres tall, does not engage in any type of exercise. She eats fish and chips and adores chips and fries.

Patient A is likely to have heart attack or stroke, due to the unhealthy lifestyle and habits of eating poor food, lack of exercise, 3- 6 units of alcohol per day, along with hereditary health concerns are all risk factors. (Lopez, 2019). Most people have a normal blood pressure of 120/ 80, and anything higher than that can be dangerous. Patient A's BMI is 31.5. suggesting she is obese according to BMI calculation. Healthy weight range for her height should be 50.44kg – 68.1kg according to her height should range between 18.5 and 25. Anything above 30 is risk factor. Patient A should try and keep 5% of her weight off. (NHS, 2018).

Obesity, overweight, diabetes, smoking, lack of physical exercise, and unhealthy consumption of alcohol are all rapid link to the development of cardiovascular disease (Ehsan, 2019).

Management. / Interventions

To manage cardiovascular disease, you can Improve your lifestyle by recognising risk factors, keeping track of them, and changing your habits. (Francula-Zaninovic., 2018). Avoiding cigarette smoking, excessive alcohol consumption, high blood pressure, poor diet, and lack of exercise, reduces mortality and improves life expectancy. (Lopez, 2019).

Treatment can be more effective if diagnosis is made earlier. Many patients with cardiovascular disease have full and active lives. Exercise is widely acknowledged to have a positive impact on most of the health and the effects of exercise on cardiovascular disease are no exception. (Stewart, 2016).

The best treatment is prevention. Regular exercise, quitting smoking, and consuming alcohol in moderation all contribute to a healthier lifestyle and lower your risk of heart attack. Reduce saturated fat intake, eating portions of fruit and vegetable per day, eat a high-fibre diet and eat two portions of fish per week, according to NICE. (Stewart, 2016). CVD is avoidable in 75% of cases according to WHO, 2020

. Food timing is a crucial part of nutrition that has been linked to poor metabolic consequences. (Dashti, 2019). The best time for carbohydrate-rich meals is early morning, and smaller meals later in the day according to Chinese ancient medicine. (Dashti, 2019). Several meta-analyses have found that certain dietary patterns, such as dietary approach to stop hypertension, the Mediterranean diet, and the healthy eating, have favourable impacts on CVD and risk factors. (Ehsan, 2019).

According to the WHO, a healthy adult diet should consist of fruits, vegetables, legumes, nuts, and whole grains, with at least 5 servings of fruits and vegetables equating to 10% of total energy intake from free sugars, but preferably, 6% of total energy intake for added health benefits (Fernandes, 2019).

As the WHO predicts an increase in cardiovascular fatalities, British Heart Foundation has revealed its intention of four research projects fighting for a £30 million grant towards the research. (Samani, 2020).

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