

Assessment 1

Introduction to Physiology

BMHP5003



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Introduction:

In this report, I will be focusing on a lifestyle health condition that is hypertension including the anatomy and physiology related to the heart.

In the main body of the report, I will describe routine health and lifestyle measures for collecting information on the body function of individuals with hypertension, health, and social care practices will also be explained.

In conclusion, I will provide recommendations for people who suffer from hypertension.

“Hypertension or high blood pressure is the force at which your heart pumps blood around your body”

Blood pressure is divided into systolic pressure and diastolic pressure, the difference between them is that systolic pressure the number is higher of heart pumps and diastolic pressure is a lower number is the resistance to the blood flow in the blood vessels.

High blood pressure is considered high when is around 140/90 mmHg (millimetres of mercury) or higher.

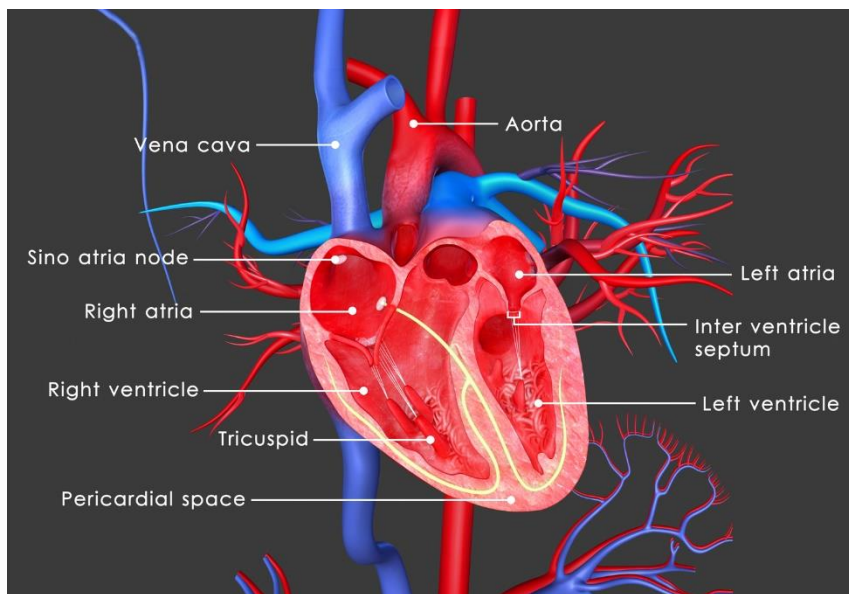
The normal blood pressure is between 90/60 mmHg or 120/80 mmHg. (NHS,2022)

Anatomy and Physiology

Anatomy of Heart

The heart is composed of four chambers upper and lower, the upper chambers are called a right atrium, left atrium and the lower chambers are the right ventricle, left ventricle.

The heart wall is divided into three layers Epicardium is the layer outside of the heart wall, the second layer is the Myocardium is the muscular middle layer of the heart wall, the last is Endocardium is based on the inside layer of the heart



The heart is also composed of five surfaces, the base is called posterior, the inferior is called diaphragmatic, and the anterior is in sternocostal and right and left pulmonary surfaces. The heart includes several margins which are left, superior, right, and inferior.

The right margin means a small part of the right atrium that expands in the middle of the superior and inferior vena cava, the left margin is created by the left ventricle and left auricle, the superior margin in the anterior location is created by the right and left atria, also auricles.

How do the right and left atrium function?

The right atrium and ventricle receive deoxygenated blood that comes through systematic veins and pass it to the lungs pumping, in opposite the left atrium and ventricle receive oxygenated blood that comes from the lungs and pumps it to systemic vessels so that can expand to all of the body. (Kenhub,2022)

Physiology of the heart

The heart is the muscular organ of the circulatory system that frequently pumps blood through the body, it is defined as a size of a clenched fist, the heart is formed of cardiac muscle tissue which is very strong and able to contract and relax with rhythm throughout a person lifetime.

The atrium receives and collects the blood that comes to the heart, after the atrium returns blood to the lower chamber that is called the ventricle, the ventricle pumps blood out from the heart through strong rhythmic contractions

Systole means contraction of the cardiac muscle tissue in the ventricles, when happening the contraction from the ventricles it forced the blood from their components into arteries leaving the heart. The left ventricle empties into the aorta and the right ventricle into the pulmonary artery.

The higher pressure because of contraction of the ventricles is called systolic pressure

Diastole is the relaxation of the heart muscle tissue in the ventricles, so when ventricles relax, they leave space to accept the blood from the atria, the lower pressure because of relaxation of the ventricle is called diastolic pressure. (Willis-Knighton,2022)

Health and Lifestyle Routine measures

It is suggested by **NHS,2022** people that who suffer from high blood pressure to change their lifestyle it is necessary to try to remove their salt intake to less than 6 g a day, also eat food with low fat, start to have a balanced diet by eating fruits and vegetables, be more active, it is important to do exercise, cut down drinking alcohol.

It is also necessary to take medicines every day for high blood pressure as provided, but in case of some problem or blood pressure stays under control your doctor may reduce or stop the treatment.

Health and Social Care practice

According to Gov.UK, 2017 the first step in preventing high blood pressure is the support for behaviour change to address modifiable risks factors.

The people that are at high risk of high blood pressure are different because of the number of modifiable and non-modifiable factors which include age, the increase of high blood pressure appears around 16 to 24 years or 75 years above, Gender is a nonmodifiable risk factor that influences between women and men blood pressure it has been said from Health Survey for England that normally women tend a lower blood pressure than men with the age of 65 to 74. Regarding ethnicity, it has been said that people in England from Black African and Black Caribbean ethnicity have an increased risk of hypertension than the general population.

Genetics is also a factor in relation to high blood pressure, heart disease, and other conditions

Some of the modifiable risk factors are Obesity, Excess salt, low physical activity, Excess alcohol consumption, mental health and the Impact of deprivation and socioeconomic status

The organization of NICE recommends that people go to the doctor to check blood pressure one time every five years, especially for the ones that have regularly high normal blood pressure

PHE helps the annual Know Your Numbers! Campaign through the charity Blood Pressure UK, which enables over 100,000 tests per year.

Know Your Numbers week include hundred nationwide organizations, that provide free blood pressure tests also information that is called pressure stations, the pressure stations are based on pharmacies, Gp, surgery, and health clubs.

Heart policy

- Use the NHS Health Check to support early diagnosis and management
 - Implement NHS England's RightCare CVD prevention pathway
 - Use existing data to make the case for action
 - The National CVD Prevention System Leadership Forum
- (Gov.UK,2019)

Conclusion and Recommendations:

In conclusion, I found this assignment very interested because I could learn more about hypertension, how to function the heart and how it is structured inside, also the lifestyle and health measures were comprehensive, it is important to know what to do in the case of higher blood pressure and to consult the doctor regularly so that you can prevent from having this condition

According to NICE,2022 it is recommended to measure blood pressure, Diagnose hypertension, Specialist investigations for possible secondary causes of hypertension, treating and monitor hypertension. (NICE,2022)

References:

NHS (2022) "High blood pressure(hypertension) Available at: [High blood pressure \(hypertension\) - NHS \(www.nhs.uk\)](#) Assessed Date: 20/04/2022

Kenhub (2022) "Heart" Available at: [Heart anatomy: Structure, valves, coronary vessels | Kenhub](#) Assessed Date: 21/04/2022

Willis-Knighton(2022) "Physiology" Available at: [Physiology | Patient Education | Willis-Knighton Cardiology | TOP Cardiologists | The Most Advanced Cardiovascular Specialists in Shreveport - Bossier City Louisiana and the Ark-La-Tex \(wkcardiology.com\)](#) Assessed Date: 21/04/2022

NHS,(2022) "Treatment High blood pressure" (hypertension) Available at: [High blood pressure \(hypertension\) - Treatment - NHS \(www.nhs.uk\)](#) Assessed Date:22/04/2022

GOV.UK (2017) "Health matters: combating high blood pressure" Available at: [Health matters: combating high blood pressure - GOV.UK \(www.gov.uk\)](#) Assessed Date: 23/04/2022

GOV.UK(2019) "Health matters: preventing cardiovascular disease" Available at: [Health matters: preventing cardiovascular disease - GOV.UK \(www.gov.uk\)](#) Assessed Date:24/04/2022

NICE(2022) "Hypertension in adults: diagnosis and management" Available at: [Recommendations | Hypertension in adults: diagnosis and management | Guidance | NICE](#) Assessed Date: 24/04/2022

Health and Social Care Practice

Recommendations:

Conclusion: