

Module: Introduction to Physiology
(BMHP5003_LON)

Assessment: 1

Topic: **Lifestyle and health condition**

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Introduction

- Health condition is related to lifestyle
- Asthma is related to the lifestyle of the patient
- Measure lifestyle information:
 - Find the best solution to decrease health problem caused by poor lifestyle
 - Empower patients to manage their long-term lifestyle changes (Ellen, F., 2022)

Health condition is related to lifestyle. Not all diseases need to be treated with medication or surgery. There are diseases that, at a certain stage, can be treated or alleviated by changing the lifestyle of the patient or by treating the underlying cause of the disease. In this presentation, I present one of the diseases - asthma. Everyday life habits are largely related to the health, quality of life and longevity of modern humans. Such a connection can be both positive and negative. Equally, the absence of good and the dominance of bad habits, over time, lead to illness. The most common diseases that occur as a result of a poor lifestyle are chronic non-communicable diseases. According to the World Health Organization (WHO), chronic non-communicable diseases are the cause of 71% of all deaths (WHO, 2021).

In Health and Social Care, when creating a care plan, we measure the lifestyle of patients. We measure lifestyle information to find the best solution for a patient's health conditions. The patient's conditions can improve if they change their lifestyle. A Health Care professional empowers the patient to understand and manage their condition through long-term lifestyle changes (Ellen, F., 2022).

Anatomy and Physiology (Respiratory system and Asthma)

Respiratory system: - supplies tissues and organs
with oxygen which produces life energy!!!

Asthma : - swelling of muscular mucous membranes
and production of mucus that blocks the
airways
- difficulty breathing (exhalation) - excess air
into the lungs
- less oxygen is delivered to tissues and
organs – death !!!

The respiratory system is a system of organs in the human body that has the main task of supplying tissues and organs with oxygen. It consists nose and mouth, epiglottis, trachea (trachea), two tubes (bronchi) that branch from the trachea going into each lung, smaller tubes (bronchioles) and alveoli. This is the way the air we breathe (contains oxygen) enters our bodies. The alveoli are places where the two systems (the respiratory and cardiovascular) meet. They are lined with capillaries that are filled with blood. They exchange oxygen and carbon dioxide gases. The blood in the capillaries contains red blood cells (carring erythrocytes which contain haemoglobin. Haemoglobin binds oxygen and releases it into tissues as it circulates through the body's capillaries. Haemoglobin carries back carbon dioxide from the tissues to the lung capillaries.

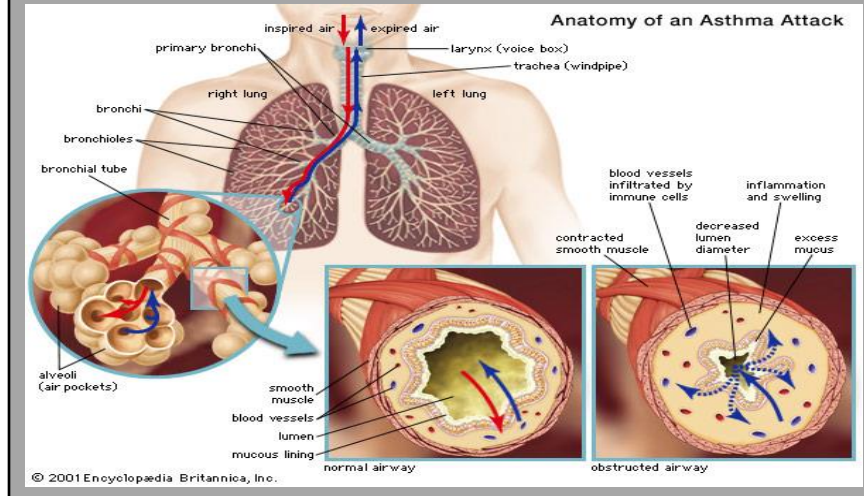
According to Asthma UK research, 5.4 million people are currently being treated for asthma in the UK (Medicalert,2021).

Asthma affects the respiratory system, especially the smaller airways, such as the bronchi and bronchioles. These airways are lined on the inside with a mucosa surrounded by a layer of smooth muscle. In people with asthma, the airways are chronically inflamed, which can make them hypersensitive to certain triggers

(tobacco smoke, pollen, dust, odours, exercise, cold weather, stress). When people with asthma are exposed to these triggers, an asthma attack can occur. This happens because the smooth rings of muscles that surround the small airways in the lungs shrink and become narrow. At the same time, the trigger exacerbates inflammation causing the muscular mucosa to become more swollen and secrete more mucus. In the normal state, the body uses this mucus to trap and clean particles such as pollen, dust, etc. During an asthma attack, the mucus blocks the narrowed airways making it difficult to breathe. These effects lead to asthma symptoms. However, inflammation makes it harder to exhale than to inhale. Over time, this leads to excess air in the lungs (hyper-inflammation) and automatically less oxygen is delivered to tissues and organs. Lack of oxygen in tissues and organs can also cause death (American Lung Association, 2020).

Anatomy and Physiology Asthma

(Worldpress, n.y.)



People with asthma have sensitive airways that tend to overreact and narrow when they come into contact with even slight triggers (Ratini, M.,2021).

Questionnaire

Lifestyle measured by questionnaire

The questionnaire consists of three parts:

- general life habits:
(smoking, alcohol) of patients, medical and family history
- patient's physical activity
- alcohol consumption



The patient's answers to the questions in the questionnaire affect their risk of heart disease and stroke in the next 10 years.

The questionnaire consists of three parts:

- 1.) questions about general life habits (smoking, alcohol) of patients, medical and family history
- 2.) questions about the patient's physical activity
- 3.) more detailed questions about alcohol consumption

Lifestyle health-related information of the patient

Patient A:

- 50 years old man, white European with chronic asthma
- Current smoker (20 cigarettes per day)
- Drink 25 beers/week
- Work in the pharmaceutical industry
- 2 hours /week he swims and plays football, he doesn't cycling, he walks 3 and more h/w with a steady average pace

Patient A born in 1971, is a white European is a current smoker. Smoke 20 cigarettes per day. He is drinking 25 beers per week , sometimes and more. There was no close relative in his family history (father, mother, brother, sister) who had angina or heart attack before 60 years of age. In the past, he had never had an angina/heart attack or stroke. He works in the pharmaceutical industry and his work does not require much intense physical effort. He spends most of his time at work standing or walking. He spends an hour a week swimming and an hour playing football. He doesn't cycle. He walks 3 and more hours per week. He does housework between 1 and 3 hours a week and he doesn't do gardening. His usual walking pace is steady average pace. He has had eight or more drinks on one occasion monthly. For the past year, it hadn't happened to him that he couldn't remember what had happened the night before because he was drunk. Over the past year, he has never failed to do, because of his drinking, what was expected of him. In the last year, no one has been, worried about his drinking nor did suggest he cut it?

Health Risks:

- **Smoking** can cause heart attack, lung cancer, anxiety, death
- **Drinking** can improve the risk for attack
- **Poor environment** can improve the risk for attack
- **Low physical activity** can cause stress, anxiety or depression

From the answers to patient A questionnaire, we can conclude that his lifestyle contributes to his health (frequent asthma attacks). There are certain risks in his lifestyle such as smoking, frequent beer consumption, environmental and diet, which could worsen his health in the future. Smoking is very harmful to people suffering from asthma because it causes more frequent attacks as it irritates the mucous membranes of the respiratory tract (Polosa, R. & Neil, T., C., 2013). Drinking beer has a double negative impact on asthma attacks. Alcohol in beer irritates the mucous membranes of the respiratory tract and contains high levels of sulphites used in beer production as preservatives (Velayutham, M., et al., 2016) and which cause risk for an asthma attack.

Recommendations

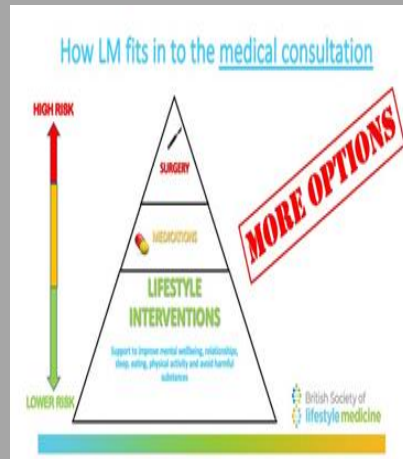
- "Asthma + lung UK"
 - recommend: - stop smoking
 - daily body exercise
 - keep a healthy weight
 - (Asthma+lung UK, 2022)
- "British lung Foundation"
 - recommend: - breathing exercise (abdominal breathing)
 - meditation
 - (Lung UK, 2022)

Prevention deals with preventing the worsening of the disease. There are Health and Social Care organizations in the UK that provide patients with recommendations/ programs to improve or maintain asthma. "Asthma + lung UK" is a British charity organisation that recommends smoking cessation, daily body exercise and maintaining normal body weight as prevention for asthma attacks.

The "British Lung Foundation" recommends breathing exercises (abdominal and conscious breathing) that strengthen the diaphragm, intercostal muscles and bring more air into the lungs.

Conclusion:

- Smoking, drinking alcohol and low physical activity affect asthma
- Lifestyle changes programmes can prevent surgery and medications
- By increasing awareness, the patient can improve the quality of life



Poor lifestyle (smoking, drinking alcohol and insufficient physical activity) affect asthma and increase the risk of more frequent attacks and the development of more serious diseases, and even death. Lifestyle change is a preventive, natural way to keep the disease under control and to avoid surgery or taking medications that bring a certain dose of toxins into the body. Patients should increase awareness and change poor lifestyles to prevent more severe disease states and maintain the existing quality of life.

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