

Module: Introduction to Physiology

Assessment: Assessment 1 - Respiratory system

Topic: How is lifestyle and health behaviour related with Asthma

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Introduction

- How Lifestyle significantly affects our health
Adherence to healthy lifestyle guidelines can prevent many diseases or mitigate their impact on quality of life
- Asthma indicators are diverse and numerous, and among them are lifestyles and habits
The causes of asthma can be reduced by adopting healthier lifestyles
- Knowing the physiology of the human body leads us to reject harmful and unfavourable influences (Relationship Between Lifestyle And Health Health And Social Care Essay, 2020)

-Knowing that the way of life or the way we live is in fact essential for our health, which many are not aware of. Unfortunately, many adopt habits that are against their own health. There is ignorance of many people, that most diseases today can be prevented by their own active lifestyle choices that lead to health, joy and well-being.

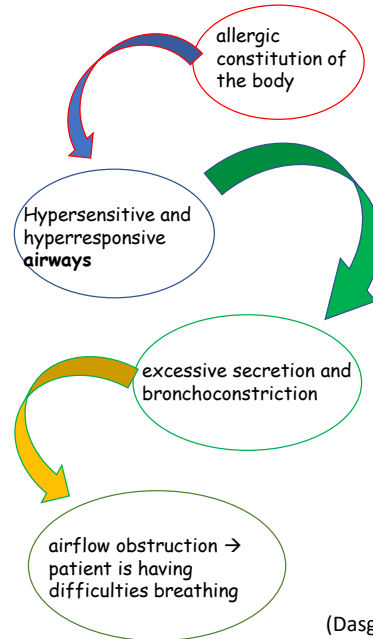
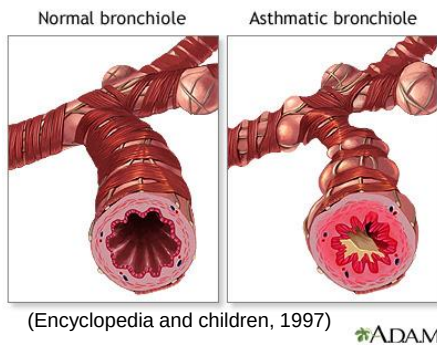
-Unpleasant knowledge among people is that they are aware that some aspects of their lifestyle (smoking, alcohol, inactivity, unhealthy food, drugs, etc.) are not conducive to their health. Each person on their own, with the help of H&SC, can significantly contribute to their own healing.

-H&SC in the field of health care and civil society organizations provide and promote a healthy lifestyle.

All parts of the body are in a very close relationship with each other and they are all together in an indivisible relationship. Understanding the functioning of our organism can divert the course of lifestyle events in the healing process in a positive or negative direction. (Relationship Between Lifestyle And Health Health And Social Care Essay, 2020)

Asthma

- Chronic inflammatory disease of the airways.
- We can hear wheezing and patient is scared
- This happens in recurrent episodes, and it can be regulated with appropriate treatment, lifestyle and healthcare. (Dasgupta, 2021)



(Dasgupta, 2021)

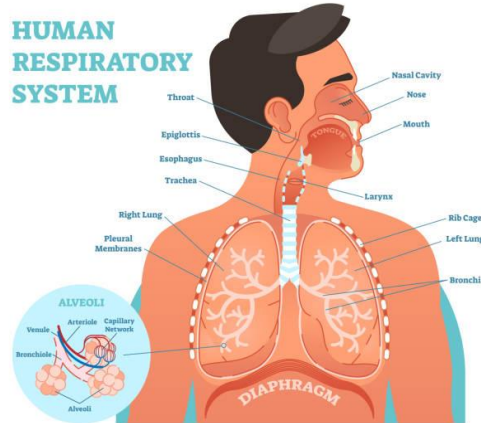
Asthma is one of the most common chronic respiratory diseases that is thought to be caused by a combination of genetic and environmental factors. It limits the physical and social aspects of the patient's life. The main risk factor for asthma is sensitivity to respiratory allergens, environmental substances, including tobacco. They are involved in the development of asthma numerous cells and cellular elements leading to broncho obstruction. (Dasgupta, 2021)

Anatomy of the respiratory system

Conductive zone

- Nose and nasal cavity
- Mouth
- Throat (pharynx)
- Voice box (larynx)
- Windpipe (trachea)
- Main bronchi
- Bronchioles
- Terminal bronchioles

HUMAN RESPIRATORY SYSTEM



(Now, 2018)

Respiratory zone

- Respiratory bronchioles
- Alveolar ducts
- Air sacs (alveoli)

***Lungs are paired organs which continues to trachea through two main bronchi. It consists from bronchioles, acinus, blood vessels and interstitium.

(How Lungs Work, 2021)

Respiratory system is a very complex system which includes many organs. Functionally, we can separated it in two zones: 1**Conductive zone** a/Nose and nasal cavity

b/Mouth ,c/Throat , d/Voice box (larynx), e/ Windpipe (trachea) , f/Main bronchus – windpipe splits into two main bronchi, g/Bronchioles , h/Terminal bronchioles

2**Respiratory zone** : a/Respiratory bronchioles b/Alveolar ducts c/Air sacs (alveoli) - Alveoli are the part of the respiratory system where the exchange of the gases takes a place.

The lungs are the largest part of the respiratory system, looking like pink sponges that almost fill the chest. The left lung is slightly smaller than the right because it shares space with the heart on the left side of the chest. The lung wing is divided into lobes , three in the right and two in the left lung. (How Lungs Work, 2021)

Physiology of the respiratory system

Respiratory system has the main role in **breathing**.

On the alveoli - capillary barrier, carbon dioxide is crossing to alveoli, and oxygen to the blood by **diffusion**.

Main respiratory muscles are **diaphragm and intercostal muscles**.

One respiratory movement is called **VENTILATION** and it consists of INSPIRATION and EXPIRATION.

When these muscles are in contraction - lungs, which are attached to the chest cavity and the diaphragm, are stretching, alveoli are spreading and passively filling with

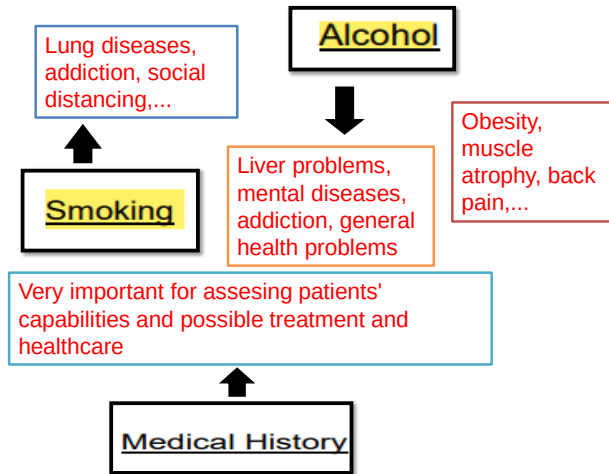
(How Lungs Work, 2021)

Respiratory system has the main role in breathing. It brings oxygen into our blood stream which distributes it further to every cell in our organism. Also, through respiratory system carbon leaves our bodies.

One respiratory movement is called **VENTILATION** and it consists of INSPIRATION and EXPIRATION.

The basic function of respiration is the exchange of gases at the level of the alveoli - the intake of oxygen that is further transported into the blood, or the release of carbon dioxide from the blood into the air we exhale. In order for air to reach the alveoli by inhalation, it must pass from the nose (or mouth), through the pharynx, larynx and trachea to the bronchi and its smallest branches, the bronchioles. When breathing calmly, an adult inhales and exhales about 16 times a minute. Since the lungs do not have their own muscles, respiratory work is performed primarily by the esophagus and to a lesser extent by the intercostal muscles. Other muscles of the neck, chest wall and abdomen are also involved during heavy or difficult breathing. (How Lungs Work, 2021)

QUESTIONNAIRE



The main aspects used in measuring lifestyle information for the occurrence of asthma are:

- Alcohol
- Smoking (active or passive smoking)
- Obesity
- Sitting, less activities
- Genetic predisposition

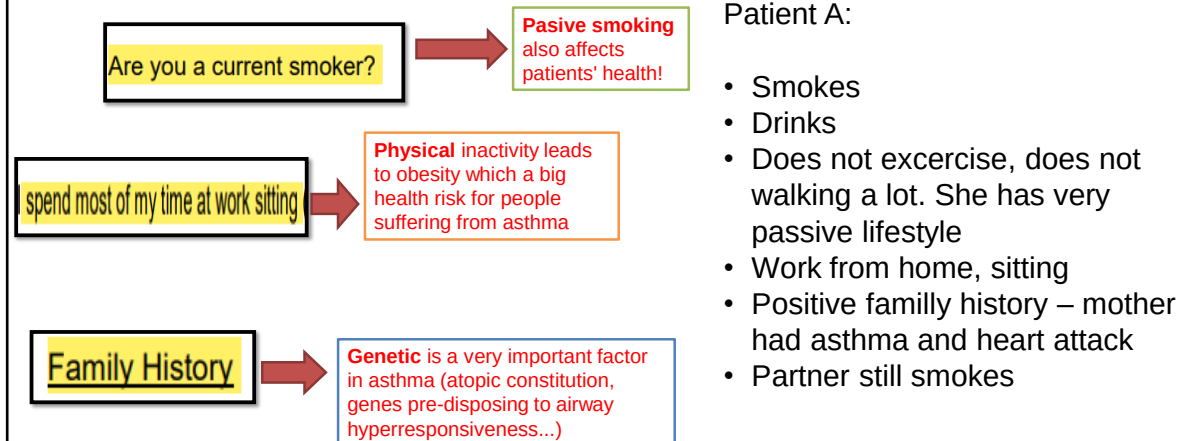


Shortness of breath is a very common occurrence, and given the complexity of the path by which air reaches the alveoli, there are many possible causes. Although anyone can experience this condition, it is more common in anemic people, anxious people, heart or lung problems, smokers, severe respiratory infections, poor fitness or severe obesity, all of which are associated with our person A

Lifestyle, diet without protective substances, with the use of additives and artificial substances, the so-called. fast food diet, harmful habit of smoking, even passive smoking, obesity, reduced physical activity, constant stay at home, and rarely in nature.... The combined action of these factors causes the appearance of diseases, asthma.

Also smoking worsens the condition of people with allergic asthma, it changes the structure of the bronchial tree and worsens hypersensitivity and inflammation

PATIENT "A" – health risks for asthma patients



Our patient a British white woman, smoked a box of cigars per day. She left cigarettes last year, but her partner still smokes in the house. She drinks a bottle of beer every day. As for her family, her mother had a heart attack and asthma. Our patient works from home and sitting a lot, does not go out often. She does not do any exercises, does not do gardening no walk a lot. She often forgets what happened during the week, gets tired quickly, she can't breathe, properly.

Health Risks

- Smoking mostly affects the respiratory system, but also, combined with alcohol abuse, obesity, high blood sugar and high blood pressure, it can help and accelerate **atherosclerotic processes** in blood vessels all over the body.
- Result of this process: **heart attack** and **stroke**.
- Brain or heart does not get enough supplies, and this leads to ischemic processes (**tissues dies**).
- Asthma can also lead to **depression** and **anxiety** due to isolation (avoiding allergies) and social distancing. (Stress and anxiety as asthma triggers | Asthma + Lung UK, 2022)

Smoking mostly affects the respiratory system, but also, combined with alcohol abuse, obesity, and high blood pressure, smoking accelerate atherosclerotic processes in blood vessels all over the body. Atherosclerotic plaque narrows the diameter of the blood vessel so tissues distal to the plaque don't get enough oxygen. The worst result of this process are heart attack and stroke. This happens when there are atherosclerotic plaques in the blood vessels of the heart or the brain. Brain or heart does not get enough supplies and this leads to ischemic processes (tissues dies). Consequences depend of diameter of the clogged blood vessel – the bigger the diameter bigger are the consequences including the worst outcome – death of the patient. (Stress and anxiety as asthma triggers | Asthma + Lung UK, 2022)

Recommendation

- Asthma + Lung UK - Healthcare professionals who can help with asthma, recommend sport and exercises for asthma, dieting, singing, wearing scarf during winter (Who we are Asthma & Lung UK, 2015)
- NHS – recommend to stop smoking - which reduces the severity of the asthma attack regular exercise do exercises that are appropriate with asthma healthy diet (Living with, 2021)

Education is great and is an integral part of helping. Education helps with the importance of avoiding risk factors for asthma that may be affected by the patient. Organization educates about the importance of avoiding exposure to tobacco smoke, about the diet, not using alcohol, in choosing which exercises can and should be used, which to omit, about way of diaphragm breathing, also they are helps to change bad life habits. (Who we are Asthma & Lung UK, 2015)

Conclusion

Asthma has the most obvious effect on the lungs and thus on breathing, which can affect other areas of life and health. Most illness and health are related to lifestyle. If people would just improve their diet, physical activity and quit smoking, avoid alcohol, asthma would reduce its intensity. Choosing a healthy lifestyle, avoiding bad habits, is the best choice for people with asthma.

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