

Asthma essay with conclusions



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Asthma is one of the major chronic respiratory conditions which alter the respiratory function of the body. The World Health Organisation or WHO (2012) defines asthma as a chronic inflammatory disease of the airways characterised by frequent episodes of breathlessness and wheezing. This difficulty in breathing is caused by the swelling and constricting of the airways. Exposure to allergens, pollutants, cold air, infection and exercise can increase the risk of asthmatics having an attack (Funnel, Koutoukidis and Lawrence 2009). This essay will discuss on the pathophysiology, diagnosis, medical management and clinical manifestations of asthma. It will also cover the client education needed to provide for those with asthma, asthma's risk factors and its prognosis. According to the National Asthma Council of Australia or NACA (2006) more than 2.2 million Australians are suffering from asthma. This essay will therefore also describe how asthma impacts on its victims and their life style.

Kaufman (2011) describes the pathophysiology of asthma as a pathologic condition which affects the lower respiratory tract by narrowing the airways as a result of epithelial damage, excessive mucus production, oedema, bronchoconstriction and muscle damage. In asthma the cells in the epithelium layer can be destroyed and peel away, making the respiratory tract more susceptible to allergens and infections, thereby contributing to airway hyper-responsiveness (Kaufman 2011). Asthma also triggers the development of mucus cells and mucus glands. This increases mucus production, thus forming mucous plugs which can obstruct the airways (Monahan et al. 2007). Airway oedema is another change that occurs in the respiratory tract due to asthma. It involves the dilation and leaking of

capillaries in the airway walls which limits airflow (Kaufman 2011). Monahan et al. (2007) add that increased capillary permeability and leakage can obstruct the airways due to swelling. They also explain that the inflammatory agents such as histamine, tryptase, leukotrienes and prostaglandins act on smooth muscles of airway walls and cause bronchoconstriction which restricts the airflow to alveoli.

Brown and Edwards (2012) write that wheezing, breathlessness, chest tightness and cough are the most common clinical manifestations of asthma. They can occur especially at night and in the early morning and can vary from person to person. It is not necessary to have all the symptoms at once as different symptoms can occur at different times. According to NACA (2006) frequent cough, feeling weak, wheezing after exercise, shortness of breath and sleeping difficulties can be early signs of asthma while severe wheezing, continuous cough, rapid breathing, anxiety, chest pain, blue lips and fingernails are the symptoms of severe asthma attacks.

Diagnosing asthma can be done by obtaining a detailed history, performing physical examinations, pulmonary function testing, and laboratory assessments (Ignatavicius and Workman 2010) According to Ignatavicius and Workman (2010) it is important to ask patients about any experiences of having shortness of breath, cough, chest tightness, wheeze and increased mucus production as well as about their smoking habits and any family history of asthma. The same source write that physical examinations can be performed by listening to the patient's chest for any wheezing sounds and observing respiratory effort by assessing the respiratory rate and examining whether the patient is using any accessory muscles to breathe. They add <https://assignbuster.com/asthma-essay-with-conclusions/>

that the shape of the chest also needs to be examined, as a barrel-shaped chest can be a sign of prolonged asthma. In addition, the oral mucosa and nail beds need to be examined for any bluish tinge (Ignatavicius and Workman 2010).

Ignatavicius and Workman (2010) write that pulmonary function tests (PFTs), usually using spirometry, are the most accurate tests that can be performed to diagnose asthma. According to the National Heart Lung and Blood Institute (2012) this test measures how much air the patient can breathe in and out as well as how fast the patient can exhale it. Christensen and Kockrow (2011) add that PFTs determine the reversibility of bronchoconstriction which helps to diagnose asthma. In addition, arterial blood gases testing (ABGs) and sputum for culture testing are both laboratory tests that can be used to diagnose asthma further. The results of ABGs are used to assess the oxygen and carbon dioxide levels in the blood during an asthma attack, while the presence of eosinophils is assessed in sputum testing (Monahan et al. 2007). Finally, chest X-rays can be used to track any changes in chest structure such as hyperinflation, mucous build up and lung collapse (Brown & Edwards 2012).

There is no known cure for asthma. Its medical management therefore involves managing its symptoms, either by maintaining stability with long term medications or quickly relieving symptoms of an attack (Brown & Edwards 2012). Christensen and Kockrow (2011) write that maintenance drugs aim to prevent and minimize asthma's symptoms but need to be taken regularly. According to Tiziani (2010) these drugs are called symptom controllers. They include salmeterol and formoterol, (catergorised as long

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acting beta-2-agonists), and inhaled corticosteroids such as fluticasone and budesonide. Leukotriene modifiers are also used for the treatment of chronic asthma (Christensen and Kockrow 2011).

Symptom relievers, on the other hand, are used for the immediate treatment and relief of symptoms in an acute asthma attack. They include short-acting beta-2 agonists (Salbutamol, terbutaline), oral or IV corticosteroids and epinephrine (Christensen and Kockrow 2011). According to Christensen and Kockrow (2011) short-acting beta-2-agonists are the most effective drugs for relieving asthma symptoms. They add that epinephrine can be administered subcutaneously and intramuscularly when asthma's symptoms cannot be relieved by beta-2-agonists. Oxygen therapy is also an essential immediately treatment for an acute asthma attack, write Christensen and Kockrow (2011).

Because of the absence of a cure and a need for its management, client education on managing asthma is an important role undertaken by health care professionals. Clients should be educated about the signs and symptoms of asthma and its triggers, in order to lessen and prevent asthma attacks (Monahan et al. 2007). According to Ignatavicius and Workman (2010) clients should also be educated to assess their respiratory status, take their medication at the correct dosage and determine when to see their health professionals. Clients therefore need to be educated about the method of using peak flow meters, metered dose inhalers and inhalers with spacers. Monahan et al. (2007) add that a nurse should teach relaxation exercises to patients and the importance of not smoking. Ignatavicius and

Workman (2010) describe that patients also need to be educated to have adequate rest and sleep, proper nutrition and fluid intake.

According to NACA (2012) the risk factors of asthma are allergens, pollutants, drugs, infections, smoking, occupational factors, exercise and temperature change. Allergens known to trigger asthma include house dust mites, animal fur, moulds, pollens, tobacco smoke, bushfire smoke, paint fumes, household cleaning products and air pollutants (National Asthma Council Australia 2012). Aspirin, other NSAIDs and complementary medicines can trigger asthma as well, according to Brown and Edwards (2012). Cold and flu can act as infection triggers while dust, chemicals and stress are considered occupational factors that can trigger an attack.

The prognosis of asthma, however, is generally good because it can be managed by proper and timely treatment. According to Harvey (2011) most deaths from asthma are preventable, while mild to moderate asthma can be improved with proper management, making some adults symptom-free. Severe episodes also can be managed, depending on the treatment and the degree of obstruction in the airways. On the other hand, asthma causes irreversible problems in lung function for about 10% of patients even though it is well treated while poor treatment and control can lead to prolonged asthma and permanent disabilities (Harvey 2011).

Other relevant information about asthma includes 235 million people suffering from it globally, with most asthma-related deaths occurring in lower and middle income countries (WHO 2012). In addition, the prevalence of asthma increases with the age and it is also more common in females than

males after the teenage years (AIHW 2012). According to Andrews (2010) fruits and vegetables in the diet improve lung function while foods rich in Omega 3, (such as fish, sardines and salmon), helps to prevent asthma's symptoms.

Asthma is a disease which affects people physically, psychologically and socially as well. Gelfland (2008) writes that its coughing, breathlessness, wheezing and chest tightness affects the wellbeing of the client, limiting their involving in normal day to day activities. He also states that the condition keeps some children from going to school and some adults from work. According to the Australian Centre for Asthma Monitoring or ACAM (2004) 20% of children with asthma report not being involved in any physical activities such as playing and riding bicycles and of feeling anger, frustration and social isolation. Asthma's limiting of activities means life is felt to be more difficult as assistance is needed for activities such as shopping and housework. The National Sleep Foundation (2011) describes how most people with asthma suffer from coughing, wheezing and short of breath in night which prevents them getting enough sleep and makes them more anxious and weak.

The effects during an asthma attack can also be serious. Fear and anxiety can rise, even the fear of dying due to the experience of shortness of breath. Fear of an attack can cause constant anxiousness among some asthmatics (University of Chicago Department of Medicine 2007). Asthma's discomfort and stress can also make some persons more aggressive, or to lose control of their lives, leading to less self care in general (University of Chicago Department of Medicine 2007). ACAM (2004) adds that an asthmatic can feel

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embarrassment over taking their medications and can also develop stress and confusion as they try to understand their asthma. ACAM (2004) also describes an Australian study that showed children and adolescents with asthma having lower self esteem, more behavioural problems, poor physical and mental status and worse social functioning dimensions than others without it.

In addition, asthma can socially isolate people by restricting their participation in social events, limiting their working and other activities, taking more sick days at work and engaging in avoidance behaviour that impairs relationships with family, friends, relatives and colleagues (ACAM 2004). Asthma can also create financial problems due to long term work limitations and decreased education. Sufferers are therefore more likely to experience anxiety, stress and depression (ACAM 2004).

Conclusion

In conclusion asthma can be described as a chronic respiratory condition which can be identified by breathing difficulty, wheezing, cough and chest tightness. Narrowing and swelling of the airways and increased mucus production are the major episodes looked for to establish an asthma condition. Physical examinations, pulmonary function tests, blood tests and chest X-rays are also used to determine asthma. The medications used to manage asthma long term are symptom preventers and symptom controllers. Symptom reliever medications are used for the immediate control of its symptoms. Inhalation or ingestion of allergens and pollutants, exposure to cold weather, exercises, infections and occupational factors such as dust and chemicals can be considered asthma's risk factors, and

healthcare professionals need to provide client education in order to prevent and minimize asthma attacks. Chronic asthma conditions affect client physical, psychological and social wellbeing.