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REVIEW

Smoking as a risk factor for the health of individuals

El hábito de fumar como factor de riesgo para la salud de las personas

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ABSTRACT

Introduction: smoking is considered a dangerous risk factor for illness, complications and mortality from diseases of the cardiovascular, gastrointestinal, respiratory, genitourinary and nervous systems. It puts not only the smoking population at risk but also those exposed to environmental tobacco smoke.
Objective: to describe the risk factors of smoking for people's health.
Method: a descriptive bibliographic review was carried out from July to August 2021 at the University of Medical Sciences Villa Clara. Different search engines and bibliographic resources of national and international prestige, the VHL, Infomed, ClinicalKey and books were used, with respect to the principles of medical ethics.
Development: tobacco consumption is a risk factor that predisposes to various diseases. These include respiratory diseases (chronic bronchitis, chronic obstructive pulmonary disease, asthma), cardiovascular diseases (ischemic heart disease, atherosclerosis, arterial hypertension and myocardial infarction) and various types of cancer (lung cancer, gastric cancer, lip cancer, laryngeal cancer, esophageal cancer). It is also particularly harmful during pregnancy. It not only harms smokers, but also passive smokers.
Conclusions: it was concluded that smoking represents the main risk factor for different chronic non-communicable diseases such as respiratory and cardiovascular diseases, different types of cancer, and in adult women it affects pregnancy and the baby's location. In addition, it significantly increases the risk of SARS-CoV-2 infection.

Keywords: Smoking; Risk Factor; Smoking Habit.

RESUMEN

Introducción: se considera al tabaquismo un peligroso factor de riesgo para enfermar, para las complicaciones y para la mortalidad por enfermedades en el sistema cardiovascular, gastrointestinal, respiratorio, genitourinario y nervioso. No solamente pone en riesgo la población fumadora sino también a los expuestos al humo ambiental del tabaco.
Objetivo: describir los factores de riesgo del hábito de fumar para la salud de las personas.
Método: se realizó una revisión bibliográfica de tipo descriptiva, comprendida entre los meses de julio a agosto del año 2021 en la Universidad de Ciencias Médicas Villa Clara. Se utilizaron diferentes buscadores y recursos bibliográficos de prestigio nacional e internacional, la BVS, Infomed, ClinicalKey y libros, con respeto a los principios de la ética médica.
Desarrollo: el consumo del tabaco es un factor de riesgo que predispone a diversas enfermedades. Entre ellas destacan las enfermedades respiratorias (bronquitis crónica, enfermedad pulmonar obstructiva crónica, asma), cardiovasculares (cardiopatía isquémica, aterosclerosis, hipertensión arterial e infarto del miocardio)

y los distintos tipos de cáncer (cáncer de pulmón, cáncer gástrico, cáncer de labio, cáncer de laringe, cáncer de esófago). Además es especialmente perjudicial durante el embarazo. No solo perjudica a los fumadores, sino también a los fumadores pasivos.
Conclusiones: se concluyó que el tabaquismo representa el factor de riesgo principal para diferentes enfermedades crónicas no transmisibles como las enfermedades respiratorias, cardiovasculares, distintos tipos de cáncer, y en la mujer adulta afecta el embarazo y localidad del bebé. Además, incrementa notablemente el riesgo de contagio de SARS-CoV-2.

Palabras claves: Tabaquismo; Factor de Riesgo; Hábito de Fumar.

INTRODUCTION

Tobacco, a plant native to South America, has been known since ancient times. The aboriginal people of Cuba used it for entheogenic purposes; that is, they mixed it with other distorting substances to "get closer to the deities" during religious ceremonies through hallucinogenic trips.[1]

Smoking emerged in association with development and industrialization. It is the cause of three million deaths a year, with an upward trend.[1]

Smoking is a chronic systemic disease belonging to the group of addictions and is cataloged by the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV). The World Health Organization's (WHO) International Classification of Diseases (ICD-10) includes it in section F17 under the heading of mental and behavioral disorders due to tobacco use, as does the Third Cuban Glossary of Psychiatry (2001).[2]

A diagnosis of smoking is considered to be given to any person who, as a result of repeated consumption of any tobacco product, has developed a dependency syndrome, which can produce physical and psychological alterations.[2] It is one of the main risk factors for several chronic non-communicable diseases.[3]

A risk factor can be defined as an attribute or characteristic that makes an individual more or less susceptible to contracting a disease or health problem.[4]

There are circumstances in which smoking can be considered an extraordinary risk situation. These are: people who have had or have respiratory, cardiovascular, or allergic problems or diseases that can be aggravated by smoking; women during pregnancy or breastfeeding; adults who smoke in the presence of minors; who are not only exposed to smoke but also serve as negative role models, which contributes to increasing the ranks of future smokers; smoking in small, poorly ventilated rooms, and the early age of onset of the smoking habit (adolescence).[5]

Since the middle of the last century, when the first epidemiological studies appeared that associated different diseases with the smoking habit, the medical community has witnessed a momentous event: smoking went from being a glamorous habit to being considered a social plague of incalculable dimensions and represents the most widely documented cause of disease of all those studied in the history of biomedical research, to which is added, as aggravating factors, its addictive power and the ease with which it can be acquired and consumed.[6]

According to the World Health Organization (WHO), there are more than 1,3 billion smokers worldwide, representing approximately one-third of the population over the age of 15. In Latin America and the Caribbean, smoking causes 150 000 deaths every year, and the figure is rising steadily. It is estimated that mortality attributed explicitly to tobacco is 12 % worldwide and 16 % in the Americas (17 % in men and 15 % in women). Of the deaths associated with non-communicable diseases, tobacco is responsible for 15 % of deaths from cardiovascular disease, 26 % of deaths from cancer, and 51 % of deaths from chronic respiratory diseases.[7] To date, it is estimated that there are 150 000 deaths per year in Latin America and the Caribbean attributed to the use of this product.[6]

The current situation in Cuba about the prevalence of smoking and cigarette consumption is not favorable; it is among the countries with the highest tobacco consumption in the world, and despite the measures adopted to combat it, the incidence of smoking among adolescents and young people is increasing.[8] It has the highest figures compared to the rest of the Caribbean countries.[9] It is in fifth place in Latin America and the Caribbean in terms of the prevalence of smoking, with a higher proportion of men smoking than women. 24 % of the population aged 15 and over actively smoke, that is to say, one in four people, and more than 50 % are exposed to tobacco smoke in their homes, at work, or in public places. It is the only legal consumer product that kills between a third and a half of its consumers and is related to more than 25 diseases. Fifteen percent of the country's mortality is caused by smoking, which is equivalent to 13,300 people. Meanwhile, around 1,500 die each year from exposure to second-hand smoke.[7]

In Cuba, chronic non-communicable diseases cause more than 70 % of deaths, together with accidents. Currently, heart disease, malignant tumors, and cerebrovascular diseases are, in that order, the three leading causes of death, all with an upward trend in the last 20 years and related to the systematic consumption of

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tobacco.[1]

Diseases such as coronary heart disease and cerebrovascular accidents have occupied top places as causes of mortality in Cuba and Villa Clara. This province ranks fifth (238,5) in terms of cardiovascular conditions, tenth (218,2) in terms of malignant tumors, and eighth (85,9) in terms of the rate of cerebrovascular diseases.[10] In research carried out in the period 2001-2014, it was observed that one in four people from Villa Clara died of cancer, and one in four died of lung cancer. These pathologies are widely related to the levels of tobacco consumption. Although statistical reports where data on it are concerned are scarce in the territory, daily experience shows that they are high.[6]

In the municipality of Camajuaní, according to the latest Statistical Yearbook of Health, the leading causes of death have been heart disease (252,4), malignant tumors (220,5), vascular disease (94,2), and chronic lower respiratory tract disease (58,9).[11]

Taking into account that smoking is closely related to respiratory and cardiovascular diseases, as well as different types of cancer, and is especially harmful during pregnancy, the present bibliographic review is carried out to describe the risk factors of smoking for people's health. Our primary motivation is to broaden our knowledge of these risk factors that lead to the death of our population. We pose the following scientific problem: What are the risk factors of smoking that can damage people's health? To answer this question, 43 bibliographies were consulted.

DEVELOPMENT

Tobacco consumption is a risk factor that predisposes to various diseases, known as chronic non-communicable diseases. These include respiratory diseases (chronic bronchitis, chronic obstructive pulmonary disease, asthma), cardiovascular diseases (ischemic heart disease, peripheral vascular disease, atherosclerosis, high blood pressure, myocardial infarction, abdominal aortic aneurysm), and different types of cancer (lung cancer, gastric cancer, lip cancer, oral cancer, laryngeal cancer, oesophageal cancer). It is also particularly harmful during pregnancy. It is not only detrimental to smokers but also to those who breathe the same air (passive smokers). Among the effects produced, we know of the disorders and alterations that can be very harmful to health, such as hoarseness, persistent cough, irritation, sore throat, bad breath, decreased appetite, headaches, fatigue, bronchitis or irritation of the bronchi as well as increased blood pressure and palpitations. It can also cause emphysema or a loss of the lungs' ability to exchange gases and significant alterations that can lead to lung cancer.

Effects of tobacco on the body according to different systems

Cardiovascular system

The World Health Organization confirms that cardiovascular disease is the leading cause of death in the world. Factors associated with these, such as high blood pressure (13 %), smoking (9 %), diabetes mellitus (6 %), a sedentary lifestyle (6 %), being overweight, and obesity (5 %), are related to deaths of cardiovascular origin. As indicated, cardiovascular disease is the leading cause of death in the world. The calculation for the year 2012 suggests that 17,5 million people died, which represents 31 % of all registered deaths of deaths; 7,4 million were due to coronary heart disease. The Pan American Health Organization assumes that cardiovascular disease is the leading cause of disability and premature death worldwide and substantially contributes to the increase in healthcare costs. The fundamental injury is arteriosclerosis, which occurs over the years and is usually advanced when symptoms appear, generally in middle age 12 and 13.

The effects on cardiovascular health appear as soon as you start smoking and are also the first to be reversed when you stop. According to Castillo Rodríguez E et al.[14], for every 10 cigarettes smoked per day, the risk of death from heart disease increases by 18 % in men and 31 % in women. It is known that, two or three years after giving up smoking, the cardiovascular risk is similar to that of the non-smoking population.[15]

Cardiovascular diseases related to smoking include coronary heart disease (ischemic heart disease), peripheral vascular disease, atherosclerosis, high blood pressure, myocardial infarction, and abdominal aortic aneurysm.[1]

Smoking is one of the leading causes of coronary heart disease. The mortality rates for coronary heart disease are 60 to 70 % higher in older smokers than in non-smokers. Sudden death is the first manifestation of coronary heart disease and is 2 to 4 times more likely in young male smokers than in non-smokers. Cigarettes combined with oral contraceptives increase the risk of coronary heart disease at least tenfold. Individuals who continue to smoke after a heart attack increase the likelihood of dying from coronary heart disease compared to those who stop smoking. Smokers who undergo coronary bypass surgery have higher perioperative mortality than non-smokers. Smoking contributes to the production of coronary atherosclerosis as well as acute coronary ischemia, thrombotic or arrhythmic episodes.[16]

Smoking also aggravates peripheral ischemia and is the most critical risk factor for thromboangiitis obliterans and affects peripheral bypass grafts. The mortality rate for atherosclerotic aortic aneurysms is higher in

smokers.[16]

Tobacco use is the leading risk factor for peripheral vascular disease. The association is very high. More than 80 % of patients with typical intermittent claudication smoke more than two packs of cigarettes a day. Smokers, especially men, have a higher risk of suffering an abdominal aortic aneurysm.[14]

The authors consider smoking to be one of the most potent risk factors for ischemic heart disease from a causal point of view. It is mainly due to nicotine, which induces the release of substances such as cortisone, which raises blood pressure, increases heart rate, constricts the arteries, blocks the consumption of oxygen by the myocardium and increases the levels of lipids in the blood, which, when they accumulate in the arterial walls, narrows and hardens them. We also state that smokers of 15 cigarettes a day have twice the risk of heart attack as non-smokers, and those who smoke more than 25 cigarettes a day have four times the risk.

It has also been a risk factor for carotid atherosclerosis since the first studies in the 1950s. It is an additive risk to HBP and can accelerate atheromatous.[17,18,19,20]

Respiratory system

The action of tobacco smoke causes lesions at different levels of the respiratory system: increased secretions in the trachea and bronchi, which is associated with an increased risk of viral and bacterial infections and chronic bronchitis.[14]

The irritating action of smoke and the reduction in the supply of blood to feed the tissues in contact with smoke are the main causes of chronic bronchitis in smokers, with a productive cough, which determines the elimination of sputum-containing pus, as well as frequent pharyngitis, laryngitis, shortness of breath and emphysema, the latter characterized by a decrease in the elasticity of the lungs, with the consequent difficulty in adequately oxygenating the blood.[12] The longer a person smokes and the more cigarettes they smoke, the greater the likelihood of suffering from bronchitis and of it being severe. Being a passive smoker can also cause chronic bronchitis, which is made worse by environmental pollution, infection, and allergies.[21]

Tobacco smoke causes the destruction of the surface of the alveoli (emphysema), which leads to a reduction in airflow and is the main cause of COPD in active and passive smokers.[14] Currently, it affects both sexes almost equally, partly due to the increase in tobacco consumption among women in high-income countries. It is predicted that, in the absence of interventions to reduce risks, and in particular exposure to tobacco smoke, deaths from COPD will increase by more than 30 % in the next 10 years.[22] This disease has multiple origins, involving environmental factors and defects in the body's response to aggression. Among the former, without a doubt, tobacco is the primary causal agent (generally speaking, 80 or 90 % of all causes). Not only is smoking the most critical factor in chronic airway obstruction, but it also interacts with all the other contributing factors. Usually, only 15 % of smokers end up suffering from COPD, which requires treatment, which leads to the idea that there are smokers who are susceptible to the effects of tobacco.[21]

Tobacco increases the incidence and severity of various respiratory infections (common cold, pneumonia, flu, tuberculosis, etc.) by altering the defenses of the respiratory tract and the immune response and causing exacerbations in chronic processes.[14]

Exposure to tobacco in both the prenatal and postnatal periods is associated with an increased risk of developing asthma symptoms in young children. Tobacco smoke, with its large number of irritants, is a trigger for attacks on its own.[21] With just one smoker in the family and the child being indirectly exposed to the products of tobacco combustion, the predisposition to asthma increases since these products act by generating inflammation of the respiratory epithelium and increasing the levels of immunoglobulin E (IgE). Prenatally, smoking can also lead to a predisposition to developing this disease, as it has been shown that children of mothers who smoked during pregnancy tend to be born prematurely and with low birth weight, which in turn is related to a certain degree of immaturity of the respiratory tract. This factor predisposes to the development of asthma.[23]

Tobacco is related to diffuse interstitial lung diseases (DILD); DILD-associated respiratory bronchiolitis, desquamative interstitial pneumonia, and is a risk factor for idiopathic pulmonary fibrosis (IPF). The combination of pulmonary fibrosis with emphysema is also due to tobacco consumption. It is considered a clinical entity with characteristics that are different from those of other interstitial diseases. Over recent decades, smoking has gained importance. It has been implicated in the pathogenesis of DILD, in those mentioned above, and in other types of DILD in the context of collagen diseases, mainly in rheumatoid arthritis. These tobacco-related interstitial lung diseases are respiratory bronchiolitis (diffuse interstitial lung disease), desquamative interstitial pneumonia, pulmonary Langerhans cell histiocytosis, idiopathic pulmonary fibrosis, rheumatoid arthritis (interstitial lung disease), combined pulmonary fibrosis and emphysema, acute eosinophilic pneumonia and pulmonary hemorrhage syndromes.[24]

Tobacco use is the leading risk factor for lung cancer. Nine out of ten people with lung cancer are smokers. It is the second leading cause of death in Spanish male smokers, often coexisting with chronic obstructive pulmonary disease (COPD). The risk of cancer depends on the duration of consumption (the younger the age of

onset, the higher the risk), the number of cigarettes smoked per day, the type of cigarettes smoked and the length of time since smoking cessation. It increases the chances of active smokers by 13 times and 1,5 times for those with passive but prolonged exposure to tobacco smoke.[14,15,21] The risk of death from lung cancer is 20 times more frequent among women who smoke two or more packs of cigarettes a day than among non-smokers.[25] The risk of developing lung cancer decreases when you stop smoking, although it never reaches the level of a non-smoker.[21]

High tobacco consumption is generally considered to be one of the main risk factors for laryngeal cancer. It is estimated that at least 75 % of head and neck cancers are caused by cigarette smoking, particularly in heavy smokers.[26]

In several studies analyzed during this work, we observed that smoking has been known to be a risk factor in previous respiratory infections and that it increases the severity of this type of disease; it causes inflammatory damage to the airways and lungs, which, sustained over time, is associated with chronic obstructive pulmonary disease (COPD), cardiovascular disease and cancer, all risk factors for COVID-19. Smoking is also associated with a weakened immune system and risk of pneumonia, risk factors for acquiring SARS-CoV-2 and developing severe forms of COVID-19.

The World Health Organization has established that smokers are more likely to develop severe symptoms if they contract COVID-19 compared to non-smokers. COVID-19 mainly attacks the lungs, and smoking impairs lung function, making it difficult for the body to fight this and other diseases. All the instinctive movements involved in the act of tobacco notably increase the risk of contagion of SARS-CoV-2.[27,28]

In these few months of the pandemic, we have seen that smoking patients with COVID-19 have doubled that of non-smokers, present with severe forms, and have a 14 times greater deterioration in the first 2 weeks of infection.

Digestive system

Dental complications caused by smoking include nicotine and tar, causing the teeth to stain, producing a brownish coloration on the surface, and promoting the appearance of cavities in adults, as well as halitosis due to changes in the quantity and quality of saliva on the oral microbial flora.[14]

Smoking has long been associated with oral diseases, including periodontal disease. It is a real risk factor for periodontitis. Smokers are more likely to develop more severe periodontal disease and tooth loss than non-smokers. It is associated with increased gum inflammation that tends to become fibrous, with thickened margins, loss of periodontal adhesion, formation of periodontal pockets, and bone loss.[29]

Smoking, in both men and women, is a risk factor for the development of malignant and premalignant neoplastic lesions in the oral cavity. The different ways of using this habit, such as conventional cigarette smoking, reverse smoking, and passive smoking, present variables in terms of the incidence and prevalence of tumor appearance, as well as the type, quantity, and intensity of tobacco consumed.[30] The annual risk of cancer in women more than doubles among regular smokers, compared to women who have never smoked in the age groups between 45 and 74 years.[25]

Lip cancer is one of the sites that is becoming increasingly important due to its frequency and increase in recent years. It represents 0,6-1 % of all malignant tumors and 15 % of all tumors in Cuba. The highest rates are reported in Villa Clara and Camagüey. Smoking is the most critical risk factor for the development of this disease.[31]

There is one dominant risk factor: smoking, where its carcinogenicity is more than evident as a quarter of oral cancer cases are attributable to frequent cigarette consumption.[30] The risk of suffering from oral cancer in a smoker is six times higher than that of a non-smoker. Tobacco is responsible for 50 % of oral cancers.[14]

It has been proven that there are almost three times as many ulcers of the digestive tract among smokers as among non-smokers, and something similar occurs with gastric cancer.[12] Gastric cancer is the second cause of mortality and the fourth to fifth cause of annual incidence of malignant tumors. Smoking seems to be implicated in the genesis of non-cardial gastric cancer.[32] In Latin America, the risk of gastric cancer has been established as 1,47.[33] The risk of smoking 20 cigarettes a day is a risk of developing gastric cancer of 1,62 in men and 1,2 in women.[32]

We consider that this highly damaging habit is also one of the risk factors for cancer of the esophagus. Various studies indicate that the risk of suffering from cancer of the esophagus is five times greater among smokers than non-smokers, with a risk of up to ten times more excellent among heavy smokers.[34] Other affections of the digestive system are chronic gastritis and gastroesophageal reflux.[14]

Genitourinary system

In men, smoking damages the arteries that supply the penis, reducing blood flow. This can cause problems with erection and impotence. According to most studies published to date, smoking doubles the risk of impotence in men aged 30 and 45. In smokers of more than one packet a day, the risk of impotence can be 40 % higher than

among non-smokers and is dose-dependent.[14]

Cigarette smoking causes a reduction in the volume of ejaculate, as well as a decrease in the relative number of spermatozoa and a significant decline in their quality. Smokers have a reduction of up to 75 % in fertility when compared to non-smokers.[14]

In addition to the risks mentioned above for men, frequent tobacco consumption has consequences for women's health such as alterations in the menstrual cycle, premenstrual tension, very painful menstruation, irregular cycles or lack of menstruation, alterations in fertility: they tend to have lower fertility and are less likely to become pregnant when undergoing in vitro fertilization treatments, alterations during pregnancy: they have more miscarriages, premature births, placental abruption and placenta praevia than non-smokers, and menopausal changes 2-3 years earlier than non-smokers.[14]

There is also an increased risk of stillbirth between 28 weeks of gestation and 28 days after birth (neonatal death) and sudden infant death syndrome. It has been estimated that the risk of sudden infant death syndrome (SIDS) in mothers who smoke during pregnancy is three times higher than in non-smokers and increases due to maternal smoking 6. Maternal smoking during pregnancy causes fetal hypoxia due to placental insufficiency and an increase in the concentration of carbon monoxide and carboxyhemoglobin in the fetus.[35]

It also increases the chances of contracting the human papillomavirus (HPV) and intensifies the severity of this disease. In women with HIV, the risk of cervical disease is increased because the accumulation of nicotine and its breakdown product, cotinine, in the immune surveillance cells of the mucus-producing glands, interferes with the normal functioning of these cells.[36,37] The adjusted risk of this type of cancer in smokers is estimated to be between 3,42 and 2,96 for passive smokers exposed to three or more hours a day.[25]

Nervous system and mental illness

Tobacco is a significant risk factor for the nervous system. Some complications associated with this are depressive and anxious moods, stroke, multi-infarct dementia, and multiple sclerosis.[1]

The risk of suffering cerebrovascular disease (CVD) is almost twice as likely in people who smoke, with a similar risk in passive smokers. Similar results were found by several authors who report smoking as a contributing factor to all kinds of cardiovascular diseases, and the increase in fibrinogen levels is considered to be a fundamental cause. Nicotine releases catecholamines in the autonomic nervous system, increasing platelet aggregation, lipid alterations, and endothelial dysfunction. It also increases the production of free radicals and cytokines, which cooperate with macrophages and the lipid core formation.[38]

In current smokers, the risk of subarachnoid hemorrhage is close to 5, the relative risk of cerebral infarction is 2,5 and that of intracerebral hemorrhage is 1,5 to 3. The proportion of ischemic cerebrovascular events is related to the number of cigarettes smoked in a day. Smokers have a 3 times higher risk of stroke. This risk increases with the number of cigarettes smoked per day.[39]

Tobacco has an excitatory effect and therefore causes anxiety, tremors, tachycardia, palpitations, toxic-type headaches, dizziness, and ringing in the ears, and affects balance.[12]

Impact on passive smokers

Various studies have shown that non-smokers who breathe in tobacco smoke (passive smokers) increase their risk of suffering from the same diseases as smokers. If they also suffer from allergic, asthmatic, or cardiovascular problems, their condition may be aggravated. These risks are particularly significant in the case of pregnant women and children. During pregnancy, there is a higher risk of miscarriage, premature birth, or low birth weight. The mother who smokes has a lower milk production than the non-smoker, but she is also less likely to breastfeed and sooner switches to artificial feeding than the non-smoking woman. The breast milk of smokers contains less iodine than that obtained from non-smokers. Smoking during lactation can lead to iodine deficiency in the infant and, thus, brain damage.[25]

Smoking causes various diseases and is also linked to an increased risk of breast cancer in younger pre-menopausal women. The risk increases with the intensity and duration of the habit, as these derivatives generate free radicals that are quite reactive and attack genetic material, promoting mutations. It has been demonstrated that intense, passive exposure to tobacco smoke is related to the risk of contracting breast cancer in postmenopausal women. Therefore, active and passive smokers increase the risk of suffering from this neoplasm. In addition, women who started smoking at an early age are more susceptible to it.[41]

Inhaling cigarette smoke in childhood, including adolescence, is much more toxic and harmful than in adulthood. The smoke components damage the respiratory tract's epithelium, reduce mucociliary clearance, induce hypersecretion of mucus, and reduce surfactant and the activity of the alveolar macrophage. In children born to mothers who smoked during pregnancy, structural alterations in the lungs have been described, and they have, on average, 180 to 200g less weight. Passive smoke inhalation is associated with a decrease in the rate of growth of lung function during childhood, a higher frequency of lower ARIs, particularly tracheitis and bronchitis, an increase in the rate of hospitalizations for pneumonia and other respiratory infections in children

under 2 years of age, and an increased risk of acute and recurrent otitis media.[42]

Some studies have indicated that the risk of invasive meningococcal disease in children is influenced by environmental factors, including parental smoking, which increases the likelihood of contracting this disease.[43]

The presence of habitual coughing in children is 13 % more frequent when both parents are smokers; lower respiratory tract infections are 30 % more frequent, and the appearance of wheezing or asthma is 20 % more frequent.[25] In relation to the association between passive smoking in childhood and respiratory disease, it has been calculated that 42 % of children with chronic respiratory disease are passive smokers. In children, various studies have found an increased risk of acute leukemia, intracranial tumors, neuroblastomas, Wilms' tumor, and bone and soft tissue sarcomas.[6]

Attempts have also been made to relate passive smoking to chronic fatigue syndrome, fibromyalgia, and temporomandibular disease, and it has been found that individuals suffering from these conditions are more likely to be smokers. It has also been linked to thromboangiitis obliterans, cystic fibrosis, infantile esophagitis, and the appearance of post-anesthetic complications.[43]

In adults, passive smoking has been associated with cancer of the lung, nasal cavity, and uterine cervix; there is less evidence for cancer of the bladder, breast, stomach, brain, hematopoietic, and lymphatic systems.[6]

CONCLUSIONS

A comprehensive evaluation of the information presented above leads to the conclusion that smoking is a significant risk factor for human health. It is the leading risk factor for various chronic non-communicable diseases such as respiratory and cardiovascular diseases and different types of cancer. In adult women, it affects pregnancy and the baby's position in the womb. It also significantly increases the risk of contracting SARS-CoV-2.

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