Nicotine Adds Risk Factors to the Cardiovascular System and Increases Mortality and Sudden Cardiac Arrest

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Abstract

The Work began on 7th of January 2019 and for 9 months in General Academic Hospital and Specialized Center for Diabetes and Chronic Diseases on smokers patients in Iraq collecting patient history and duration of smoking (modern, chronic smoking) and on non-smokers and patients. After the collection of analyzes more patients than the **First Group**: of young patients older than> 25 years suffer from tension headache, polycythemia (Increased hemoglobin blood), Psychology, variant angina, Hypertension, respiratory disease, high triglyceride (TG), shortness of breath so the effect of smoking, pollution and nicotine on patients with chronic youth were evident smoking results : 30% of them have arrhythmias 15% increased Lipid (LDL,HDL, TG, Cholesterol), 10% psychology, 10% polycythemia (Increased hemoglobin blood), 10% Coronary disease, 20% Respiratory diseases, 5% High blood pressure, 5% depression. The **Second Group**: are older than> 40 years of chronic smoking and are suffering from atherosclerosis and high blood pressure, Ischemic heart disease, Respiratory diseases in addition to malignant tumors of the lung, heart rhythm disorders, polycythemia, Pulmonary heart disease, The appearance of cancerous tumors inside the mouth and lip, (MI) myocardial infarction , ACD (Acute coronary syndrome), So the results were: 20% Arrhythmias, 10% coronary artery disease, 3% polycythemia (Increased hemoglobin blood), 25% chest and respiratory diseases, 9% drug-resistant diabetes, 3% lung and oral cancers, 2% ASD, MI, 18% Increased lipid, 5% depression, In addition to emergencies sudden cardiac death that require the patient to enter Intensive Care Unit and the work of cardiac catheterization to ensure patient safety. Compared to people 65 patient who do not smoke cigarettes there is no aggravation of risk factors and a threat to people's lives directly. Patients are under control of their risk factor Leading to death.

Keyword: *Cigarettes, nicotine, factor risk, Coronary heart disease, atherosclerosis, Electrocardiographic (ECG), adult population smoke cigarettes. The environment, tobacco.*

Introduction

Cigarette smoke contains more than 9,000 chemicals, and greater than 69 known carcinogens, the type of nicotine found in tobacco plants, comes from the nightshade family[1], In this applied scientific work at Academic Teaching Hospital in Samawah, Iraq because of its importance and human value to drive the specter of death and the threat of human life from the harm of smoking and toxic substances carried by cigarettes and tobacco **,** cigars, pipes or water pipes (Hookahs) And chewing tobacco in the mouth , In addition to containing toxic substances Nicotine, Carbon monoxide, Tar, Carbon[2]. Represents an essential risk factor plus chronic conditions, such as cardiovascular disease (CVD), cancer, chronic obstructive lung disease, asthma and diabetes[3]. Smoking cessation is one of the few interventions that can safely and cost- To minimize mortality and morbidity, We focused on research cardiovascular disease ,Cigarette Smoking markedly increases the risk of acute coronary, including myocardial infarction, stroke and sudden death[4]. Smoking accelerates atherogenesis producing premature atherosclerosis in epicedial coronary arteries, the aorta, carotid, and cerebral arteries, as well as peripheral circulation. Other cardiovascular effects of smoking include aggravation of stable angina pectoris, intermittent claudication, vasospastic angina, and restenosis after thrombolysis or angioplasty of coronary or peripheral arteries[5]. Cigarette smoking also promotes progression/aggravation of heart failure, chronic kidney disease and cardiovascular morbidity and mortality in people with chronic kidney disease and increases

the risk of developing atrial fibrillation. So Smokers experience acute myocardial infarction on average at a younger age than nonsmokers, and myocardial infarction is associated with more thrombus and less severe underlying atherosclerosis. Paradoxically, smokers who quit smoking after myocardial infarction have a much better prognosis than non-smokers because they have less severe underlying atherosclerosis and multiple reversible pathophysiological adverse effects caused by smoking[6,7,8]. The aim of the study is to reduce sudden heart disease (SCD) for different ages and to eliminate human life-threatening risk factors and to protect society morbidity and premature death to determine the effect of smoking and smoking cessation among people, coronary artery disease and early atherosclerosis, we assessed the future relationship between the amount Cigarette smoking (status, amount of cigarettes smoked daily, duration of smoking and early heart disease).

Materials and Method

Work began on 7 January 2019 for 9 months at the General Academic Hospital and the Specialized Center for Diabetes and Chronic Diseases on smokers who collect patient history and duration of smoking (modern and chronic smoking) and on non-smokers and patients attending 915 patients were randomly assigned to both men and women to review clinics Hospitalization, Internal Medicine, Cardiology, Diabetes and Chronic Diseases. Who do not smoke cigarettes only risk factors and diseases around them, examine patients and perform laboratory tests for patients to control heart disease and chronic diseases : HbA1c, RFT, profile fat, CPK-MB, CBP, AST, ALT , Electrolyte blood, Vit -D, ECG, Holter ECG, Treadmill ECG, cardiac enzyme examination, lung function test, taste of stress, pulse, pressure, HR , Sonar (ultrasound) and echocardiography, chesr-x-ray, after collecting analyzes more than patients from the **first Group** young patients over > 25 years of age Suffer from tension headaches, polycythemia, psychology, variant angina vasospastic , high blood pressure, respiratory disease, high triglycerides (TG), dyspnea smoking, pollution and nicotine in patients with chronic youth the results of smoking were clear: 30% of them had arrhythmias, 15% fat gain, 10% psychology, polycythemia By 10%, 10% from coronary artery disease, 20% from respiratory disease, 5% high blood pressure, 5% depression. **Group II:** greater than > 40 years of chronic smoking and suffering from atherosclerosis, hypertension, ischemic heart disease, respiratory diseases, as well as malignant lung tumors, heart rhythm disorders, polycythemia, pulmonary heart disease, the appearance of cancerous tumors inside the mouth and lips, coronary artery disease, so the results were: 20% arrhythmia, 10% coronary artery disease, 5% polycythemia, 25% of chest and organ diseases Respiratory, 9% of drug-resistant diabetes, 3% of lung and mouth cancer, 2% ASD, MI , 21 % increase in fat, 5% of depression, In addition to sudden emergencies cardiac death that requires the patient to enter the intensive cure unit treatment and perform cardiac catheterization To ensure patient safety. Compared to 65 people who do not smoke cigarettes, there is no exacerbation of risk factors and a direct threat to people's lives. They are safer in life for patients under control of the risk factor that leads to death

pharmacology the nicotine: Nicotine is a tertiary amine composed of a pyridine and a pyrrolidine ring. Nicotine can reach the brain in as little as **10** seconds after being inhaled. In the body, the half life or nicotine is around **2** hours**..** Once within the blood stream, nicotine travels to the brain where it binds to and activates receptors called cholinergic receptors. These receptors are abundant in the brain as well as in other areas of the body such as the muscles, heart, adrenal glands and other vital organs. Normally, these receptors are activated by the neurotransmitter acetylcholine which is produced at nerve endings in the brain and in the nerves of the peripheral nervous system. Acetylcholine stimulation of the receptors is involved in maintaining healthy respiration, heart function and muscle movement as well as cognitive functions such as memory. Since nicotine has a similar structure to acetylcholine, it can activate the cholinergic receptors.

Common Side Effects: Toxic effects of nicotine, Effect on coronary arteries, (ECG (electrocardiogram)

Deaths increase from sudden cardiac arrest (cardiac arrest). In fact, an electrical defect is attributed to heart diseases or heart diseases, or the exacerbation of the risk factors resulting from chronic diseases. Most cases, especially young people, accelerate the heart rate for many reasons, which shows (ECG) aerial fibrillation (AF), SVT supraventricular tachycardia, wolff-parkinson, VT

ventricular tachycardia) In addition to cardiac disturbances, either at the age of 40 years, heart disorders, ventricular hypertrophy of high blood pressure, Ischemia heart disease coronary plaque..) Early and periodic examination is to reduce and treat heart disease and eliminate risk factors that may lead to death.

Table 1. Smoking patients, young people over the age of >25

Gender	**Risk factor pt. (Smoking)**	**Patient with CHD Number : 140**	**Healthy controls Number : 65**
Men : YES Woman : yes	Arrhythmias	Man : 30% Woman : 25%	Man : 3 % Woman : 2 %
	Tension headache	Man : 10% Woman : 9 %	Man : 3 % Woman : 2 %
	Variant angina(prinzmetals angina)	Man : 8% Woman : 10 %	Man : 2 % Woman : 3 %
	Hypertension	Man : 9 % Woman : 8 %	Man : 3% Woman : 1 %
	Respiratory disease	Man : 20% Woman : 12 %	Man : 4 % Woman : 3 %
	Hyperlipidemia	Man : 15% Woman : 7 %	Man : 4 % Woman : 3 %
	Polycythemia	Man : 15% Woman : 0 0 %	Man : 4 % Woman :00 %
	Depression	Man : 5 % Woman : 5 %	Man : 2 % Woman : 2 %
	Psychology	Man : 5 % Woman : 5%	Man : 2 % Woman : 1 %
	Sudden cardiac death	Man : 001% Woman : 00 %	Man : 0001 % Woman : 00 %
	Coronary disease	Man : 9 % Woman : 4 %	Man : 2 % Woman : 1 %

Table 2. Smoking patients over the age of > 40.

Gender	**Risk factor pt. (Smoking)**	**Patient with CHD Number : 282**	**Healthy controls Number : 65**
Men : YES Woman : yes	Arrhythmias	Man : 22 % Woman : 19 %	Man : 5 % Woman : 3 %
	Tension headache	Man : 5 % Woman : 6 %	Man : 4 % Woman : 3 %
	variant angina(prinzmetals angina)	Man : 10 % Woman : 23 %	Man : 4 % Woman: 6 %
	Hypertension	Man : 45 % Woman : 32 %	Man : 12 % Woman : 7 %
	respiratory disease	Man : 55 % Woman : 15 %	Man : 10 % Woman : 3 %
	Hyperlipidemia	Man : 42 % Woman : 33 %	Man : 16 % Woman 4 %
	Polycythemia	Man : 6 % Woman : 001 %	Man : 9 % Woman : 001 %
	Depression	Man : 7% Woman : 5 %	Man : 3 % Woman : 2 %

Cont... **Table 2. Smoking patients over the age of > 40.**

	Psychology	Man : 6 % Woman : 4 %	Man : 3 % Woman : 1%
	Sudden cardiac death	Man : 2 % Woman : 1 %	Man : 002 % Woman : 001%
	lung and mouth cancer	Man : 5 % Woman : 1%	Man : 1 % Woman : 001%
	Coronary disease	Man : 45 % Woman : 35 %	Man : 9 % Woman : 5 %

Results

In the research we provided clear evidence of smoked exposure to cardiovascular disease. The risk of cardiovascular disease increased dramatically with age , We calculated the long-term risks of death from smoking for individuals of different ages and smoking status in terms of excess deaths that smoking contributed to, in addition to the primary deaths resulting from the same diseases caused by factors other than smoking using standard life schedule procedures. Because mortality data for specific categories of smoking were only available from future studies, we expanded their range to death levels. We have assumed, for lung cancer and heart disease among the most interested in expelling the specter of death, that death rates among non-smokers have not changed, and for other diseases related to smoking, the risk of death for smokers compared to non-smokers is clear. The possibilities resulting from alternative assumptions were also investigated and presented. Up to a third of heavy smokers who are 35 years old before the age of 80 will die from diseases caused by smoking. So according to the results first group young patients over > 25 years 30% of them had arrhythmias (arrhythmias, Palpitations, sinus arrhythmias, bradycardia, tachycardia, ventricular tachycardia, ectopic), 15% fat gain (LDL, HDL, TG, cholesterol), 10% psychology, polycythemia By 10% (increased hemoglobin blood), 10% from coronary artery disease, 20% from respiratory disease (chest, Lung, stomach and colon)), 5% high blood pressure, 5% depression , Group II: greater than > 40 years of chronic smoking 20% arrhythmia, 10% coronary artery disease, 5% polycythemia (increased hemoglobin in the blood), 25% of chest and organ diseases Respiratory, 9% of drug-resistant diabetes, 3% of lung and mouth cancer, 2% ASD, MI, 21 % increase in fat (LDL, HDL, TG, cholesterol), 5% of depression.

Discussion

The risk of sudden cardiac death in smokers increases compared to non-smokers compared to the risks of myocardial infarction[9,10]. This may result from the combined effects of ischemia and the effects of nicotine irregularity[11]. The release of nicotine catecholamine can contribute to ventricular tachycardia and lethal fibrillation, therefore, I am using it in research to assess the important effects that the starting age of the individual cigarette smoking cycle can have and the health effects: (a) nicotine dependence, (b) number Cigarettes that are smoked daily (smoking intensity), (C) (likelihood of quitting smoking) or conversely, the likelihood of keeping a smoker), and (4) health outcomes. These four factors are closely related[12,13]. The dependence of nicotine is closely related to the smoking intensity, and both procedures in turn are linked to the possibility of remaining a long-term smoker. Factors: smoking intensity (number of cigarettes per day) and duration of smoking yen (number of years of smoking), as well as the effects of a lifetime cumulative exposure to cigarette smoking[14,15]. Much of the harmful health effects of cigarette smoking depends on a dose, we provide an automatic explanation of how a very early age from the beginning can strongly participate in the health effects of smoking that you mediate by increasing your exposure to cigarette smoke[16]. Cigarette smoke, and therefore, due to the relationships between dose and response, is expected to increase the risk of smoking diseases and deaths caused by smoking[17,18,19]. Another negative consequence of starting smoking at a young age is that tissues and organs of organs that are still in ripening and maturity may be particularly exposed to toxic substances in smoke[20,21], so that a certain dose of exposure to cigarette smoke is more harmful when exposed occurs during childhood and adolescence[22,23]. Puberty.

Conclusion

Smoking cigarettes greatly contributed to the population burden of many of the leading causes of chronic disease deaths that usually occur in late and late adulthood, such as cancer, cardiovascular disease and chronic obstructive pulmonary disease , SCD indicates sudden cardiac death; and CHD, coronary heart disease (angina, myocardial infarction [MI], or coronary revascularization); Therefore, quitting smoking has an economic benefit, reducing medical effort, reducing deaths and spreading healthy culture among people.

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Ethical Clearance: Not required

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