SURVEY ON DOCTOR'S ATTITUDE AND PERCEPTION REGARDING SMOKING AND THEIR ADVISING PREVALENCE TO THEIR PATIENTS

A dissertation to be submitted in the Department of Pharmacy for the Partial Fulfilment of the Degree of Bachelor of Pharmacy.

Submitted By

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DECLARATION BY THE RESEARCH CANDIDATE

I, Md. Sakhaoat Hossain, ID: 2012-1-70-011, hereby declare that the dissertation entitled "**SURVEY ON DOCTOR'S ATTITUDE AND PERCEPTION REGARDING SMOKING AND THEIR ADVISING PREVALENCE TO THEIR PATIENTS''** submitted to the Department of Pharmacy, East West University, in the partial fulfilment of the requirement for the degree of Bachelor of Pharmacy (Honors) is a genuine & authentic research work carried out by me. The contents of this dissertation, in full or in parts, have not been submitted to any other institute or University for the award of any degree or Diploma of Fellowship**.**

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CERTIFICATION BY THE SUPERVISOR

This is to certify that the dissertation, **entitled "SURVEY ON DOCTOR'S ATTITUDE AND PERCEPTION REGARDING SMOKING AND THEIR ADVISING PREVALENCE TO THEIR PATIENTS"** is a bona fide research work done by Md. Sakhaoat Hossain (ID: 2013-3-70-033), in partial fulfillment of the requirement for the degree of Bachelor of Pharmacy under my supervision.

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DEDICATION

This research paper is dedicated to my beloved parents and my two Youngersfor their unconditional support.

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List of Abbreviation

ACS	American Chemical Society
AHCPR	Agency for Healthcare Research and Quality
AMD	Age-related Macular Degeneration
CDC	Consultancy Development Centre
CHRNA	Cholinergic Receptos Nicotinic Alpha
CNS	Central Nervous System
COPD	Chronic Obstructive Pulmonary Disease
COX-2	Cyclooxygenase 2
CYP2A6	Cytochrome P450 2A6
DNA	Deoxy Ribonucleic Acid
ET-1	Endothelin 1
ETS	Environmental Tobacco Smoke
FDA	US Food And Drug Administration

GABA	Gamma-Aminobutyric Acid
HDL	High Density Lipoprotein
ICD-10	International Classification Disease
IUATLD	International Union Against Tuberculosis and Lung Diseases
LDL	Low Density Lipoprotein
NAc	Nucleus Accumbens
nAChRs	Nicotinic Acetylcholine Receptors
NCBI	The National Center for Biotechnology Information
NNK	Nicotine-Derived Nitrosamine Ketone
NSW	New South Wales
PAD	Peripheral artery disease
PAHs	Polycyclic Aromatic Hydrocarbons
PFC	Prefrontal Cortex
RNA	Ribonucleic Acid
SHS	Second hand Smoke
SIDS	Sudden Infant Death Syndrome
VTA	Ventral Tagmental Area

ABSTRACT

The present study assessed smokers' beliefs about the health risks of smoking and the benefits of smoking filtered and low-tar cigarettes, and their awareness of and interest in trying so-called reduced-risk tobacco productsSmoking has been called the chief, single, avoidable cause of death in our society and the most important public health issue of our time. It is a leading modifiable global disease risk factor, with nearly 6 million premature deaths. 80% of the more than one billion smokers worldwide live in low- and middle-income countries, where the burden of tobacco-related illness and death is heaviest. The objectives of this study were to assess the rate of smoking tendency and attitude of doctors toward their own smoking practices and also to assess the prevalence of non-smoking advices given to their patients. A total number of 200 doctors with the structured questionnaire were presented to each of the doctors practicing in different hospital, private chambers in urban area of Bangladesh. Most of the doctors are non-smokers and of those who are smokers stated that the reason for smoking is Image perception. In answering the major facts majority of the doctors strongly agree that children under age of 16 shouldn’t be allowed to buy cigarettes, should have strict law enforcement, prohibition of cigarette advertisement and necessity of smoking awareness programme. Approximately 27% did not ask patients about smoking and of those who asked 77% encourage their patients to quit smoking for better quality of life and discuss the risk factors of smoking with their patients. From the result, it can be concluded that attitude and patient advice rate about smoking of doctors are not at all in a satisfactory point. For obtaining a better viewpoint the doctors should be more heavily monitored and helped through both academically and professionally

Keywords:*Smoking Rate, Patients, Doctors, Awareness, Prevalence.*

Chapter 1

Introduction

1.1 Introduction

Smoking is the inhalation of the smoke of burning tobacco encased in cigarettes, pipes, and cigars. Casual smoking is the act of smoking only occasionally, usually in a social situation or to relieve stress. A smoking habit is a physical addiction to tobacco products. Many health experts now regard habitual smoking as a psychological addiction too and one with serious health consequences. (American Cancer Society)

The definition of smoking as the inhalation of the smoke of burned tobacco that may occur occasionally or habitually as a consequence of a physical addiction to some chemicals, primarily nicotine, cannot be fully accepted today since several clinical, biological, metabolic, epidemiologic, statistic and socio-economic factors which play a basic role in determining individual damage due to smoking are missing in this assessment. The analysis of findings shows undoubtedly that several constituents of cigarette smoking play a strong role in the development and progression of cardiovascular damage, primarily atherosclerotic lesions. Nicotine and its metabolites, carbon monoxide and thiocyanate seem to be the most specific markers of damage. Cigarette smoking is addictive because of nicotine. Because this nicotine withdrawal causes many side effects of quitting smoking as well as nicotine itself usually increases cardiovascular risk. So Smoking must be defined as chemical toxicities which is able to cause detrimental effects either of acute or chronic type on different structures of the body being some of these like cardiovascular system, respiratory system and epithelial glands target organs. Without these Smoking also causes physical addiction, primarily due to nicotine, that adversely influences smoking cessation. From these observations there is evidence that a large number of socio-economic and epidemiologic implications arise in smokers and that requires the necessity of specific structures which may help to face up the problem.

Smoking is a process of inhaling smoke from a device and then exhaling it into the environment. The person who is smoking directly from the device is an active smoker and the person who is inhaling the smoke indirectly is a passive smoker (Cancer Institute NSW, 2015). More than 1 billion people smoke around the world. Tobacco kills around 6 million people each year. More than 5 million of those deaths are the result of direct tobacco use while more than 600 000 are the result of non-smokers being exposed to passive smoking (WHO, 2015). Tobacco consumption continues to be the leading preventable cause of death in the world. As research and findings continue to show the negative effects of tobacco consumption on health and the number of affected people increases, the list of conditions caused by tobacco consumption has grown. Now it also includes cataracts, pneumonia, acute myeloid leukemia, abdominal aortic aneurysm, stomach cancer, pancreatic cancer, cervical cancer, kidney cancer, periodontitis and other diseases. These diseases join the familiar list of tobacco-related diseases such as vesicle, lung, esophagus, larynx, mouth and throat cancer; chronic pulmonary and cardiovascular diseases, and damage to the reproductive system. However, those who consume tobacco are not the only ones exposed to its negative effects. Millions of people, including one half of the world‟s children, are exposed to second-hand tobacco smoke, known also as passive smoking. There is conclusive evidence linking passive smoking to an increased risk of cardiovascular diseases, lung cancer and other respiratory diseases in adults and respiratory diseases, ear infection and sudden infant death syndrome in children, to name a few of passive smoking‟s harmful effects. Passive smoking is a health problem that requires society‟s active effort. In addition to the diseases caused by tobacco consumption and those caused by exposure to second-hand tobacco smoke, tobacco dependence itself is a disease as described in the International Classification Disease (ICD-10) III. As a chronic disease, often involving relapses, nicotine addiction requires proper treatment. Despite what we

know about tobacco today, tobacco consumption continues to increase worldwide. The epidemic is still expanding, especially in less-developed countries. The tobacco industry has a huge potential market in these countries, where they face weaker tobacco control measures and find a great number of possible new customers, among women in particular (World Health Organization, 2005).

Active smoking is dangerous for health so as the passive smoking. Tobacco is the compound that is mainly smoked all over the world. The active ingredient in the tobacco is nicotine which is responsible for the immediate effects that a smoker gets after smoking and in the long run it creates dangerous diseases (EncyclopediaBritannica, 2014). Nicotine acts on the brain rapidly within 10 seconds and produce stimulation or sedation depending on the amount taken. It stimulates the adrenal gland and increase secretion of dopamine that affects the mood. Tobacco smoking can produce bronchospasm; destroy cilia that fail the system to trap toxins from entering into the lungs. These toxins produce different kind of bronchial diseases. Nicotine constrict the blood vessel, increases low density lipoprotein, increase thrombin level, decrease coronary artery elasticity all these jointly can produce cardiovascular disease. Smoking disturbs the gastric balance and produce gastric acid reflux, heart burn. It decreases the mucus secretion and that make the stomach susceptible to gastric acid which can result in ulceration. Smoking weakens the immune system of the body that allows many hidden pathogen to show their activity. It decreases the absorption of many essential nutrients trough intestinal wall. It can also interact with the drug metabolism and thus activity. Each puff of a cigarette contains a mixture of thousands of compounds, including more than 60 well-established carcinogens. Long term exposure to tobacco smoke can produce diseases. Smoke damage the cell lining of epithelium in the lung and produce lung cancer, it also produce oral cancer, stain teeth, erectile dysfunction and abnormal sperm, premature birth, hearing loss and many other diseases(ACS, 2015).

1.2 Physician behavior and practice pattern related to smoking cessation:

Physicians can be major contributors to efforts to reduce smoking and tobacco use and remain one of the most important sources of information on health issues and health risks for patients and their families. More than 70% of smokers will visit a physician each year (AHCPR, 1997), and physician advice and encouragement have been shown to increase the number of patients who will attempt and succeed in quitting smoking. Recent studies suggest that physician interventions have the potential to increase long-term abstinence rates to 30% from only 7% among adult smokers attempting to quit on their own (Orleans &Alper, 2003). Physicians do not yet play the role they might in helping patients to reduce their dependence on tobacco. Of the approximately 45 million Americans who smoke, an estimated 70% reported wanting to quit (Centers for Disease Control and Prevention, 2004). However, the number of patients reporting that they had received advice to quit smoking from their physicians fell short of national goals established to address smoking cessation (National Women‟s Law Center, 2003; Fiore, Bailey & Cohen, 2000; Schnoll&Engstrom, 2004; Katz et al., 2004; Soloe et al., 2003). In addition, physicians are not routinely prescribing medications or providing services such as counseling and other supports consistent with current practice guidelines (Thorndike et al., 1998; Borum, 1999). Greater understanding of the factors that facilitate or impede physician participation in activities to control use of tobacco is needed to inform the design of programs and policies aimed at further reducing smoking, the most preventable cause of death and illness in our country.

Physicians believe they have a significant role to play in helping patients control tobacco use. More than 90% believed their role included helping both motivated and unmotivated patients to quit, discussing smoking behavior and relapse with patients, referring

smokers to others for appropriate treatment, and monitoring patients‟ progress in their attempts to quit. Perceptions varied little by medical specialty, organizational setting of practice, or demographic background. Physicians were much less likely to report that they regularly participated in the range of activities they recognized as part of their responsibilities. While a significant majority routinely asked patients about smoking status (84%) and advised smokers to stop (86%), fewer participated in activities such as counseling patients, enlisting support for quitting, monitoring progress, or prescribing medication. Physicians were least likely to arrange follow up visits to address smoking with patients or refer them to others for appropriate treatment. This broad variation in performance of tasks was |generally consistent with findings of other physician studies. Percent of Physicians who “Usually” Engage in Specific Cessation Activities with Patients who Smoke Advise patients to stop smoking 86% Ask about smoking status 84% Discuss pharmacotherapies 68% Assess patient willingness to quit 63% Discuss counseling options 37% Recommend nicotine replacement therapy 31% Discuss enlisting support for quitting 29% Monitor patient progress in attempting to quit 27% Prescribe other medication 25% Provide brochures/self-help materials 24% Arrange follow-up visits with patient to address smoking 17% Refer patients who smoke to others for appropriate cessation treatment 13% Refer patients to a quit line 7% (Association of American Medical Colleges, 2007).

1.3 Epidemiology

There are 7.2 billion people all over the world (Schlesinger, 2014) and more than 1.3 billion people smoke (WHO, 2015). The death toll from tobacco consumption is now 4.9 million people a year; if present consumption patterns continue, the number of deaths

will increase to 10 million by the year 2020, 70% of which will occur in developing countries (World Health Organization, 2005). According to the recent study conducted on Bangladeshi people, 46.4% male adults smoke and 1.96% of female adults smoke tobacco (Trading economics, 2015).

Available evidence suggests high rates of any tobacco use, particularly among men (Men in rural area – 52%, men in urban area 41%; women in rural area – 29%, women in urban area – 17%) (Bleichet.et al., 2011).

Tobacco consumption alone accounts for nearly 5.4 million deaths per year and one billion people may die in this century if global tobacco consumption remained at the current levels. An international treaty spearheaded by WHO in 2003 and signed by 170 countries, aims to encourage governments to reduce the production, sales, distribution advertisement and promotion of tobacco products (WHO, 2015).

On average, 435,000 people in the United States die prematurely from smokingrelated diseases each year; overall, smoking causes 1 in 5 deaths. The chance that a lifelong smoker will die prematurely from a complication of smoking is approximately 50%. Currently, about 45 million Americans smoke tobacco. Seventy percent of smokers say they would like to quit, and every year, 40% do quit for at least 1 day. Some highly addicted smokers make serious attempts to quit but are able to stop only for a few hours. Moreover, the 80% who attempt to quit on their own return to smoking within a month, and each year, only 3% of smokers quit successfully. Unfortunately, the rate at which persons, primarily children and adolescents become daily smokers nearly matches the quit rate, so the prevalence of cigarette smoking has declined only very slowly in recent years (Schlesinger, R. (2014).

1.4 Smoking (what it is actually)

Smoking is the inhaling or tasting of smoke produced by burning substances, most commonly tobacco. It is one of the most common forms of recreational drug use. Tobacco smoking is the most popular form of smoking and is commonly smoked through cigarettes.(Smoking Law and Legal Definition | US Legal, Inc.)

1.5 Smoking categories

There are several types of smoking, but mainly two types active and passive smoking. Active smoking is inhalation of smoke directly from cigarette, pipe or cigar. Passive smoking is when smoke is breathed in by someone other than the active smoker.

(Cancer Institute NSW, 2015)

1.6Active smoking

The intentional inhalation of tobacco smoke by a smoker.Tobacco smoking is the practice of burning tobacco and inhaling the smoke (consisting of particle and gaseous phases). (A more broad definition may include simply taking tobacco smoke into the mouth, and then releasing it, as is done by some with tobacco pipes and cigars.)

1.7 Passive smoking

Passive smoking is the inhalation of smoke, called second-hand smoke (SHS), or environmental tobacco smoke (ETS), by persons other than the intended "active" smoker. It occurs when tobacco smoke permeates any environment, causing its inhalation by people within that environment.

1.8Active v/s Passive smoking which is more harmful?

It has misdoubted that which is more harmful active or passive. Passive smoking can damage our body because second-hand smoke contains more than 4,000 chemicals, many of which are irritants and toxins, and some of which are known to cause cancer. Passive smoking from all forms of tobacco is harmful, including: cigarettes cigars pipe tobacco hand-rolling tobacco.

1.9 Kinds or devices of smoking:

1.9.1 Own cigarettes:

The basic idea behind the cigarette roller is to put choice of rolling tobacco into a chamber, insert a rolling paper and either use hands to manually roll the cigarette roller or pull down the lid on the automatic models which then rolls the cigarette for you. These are very popular because of their compact size and ease of use. They generally come in three sizes, 70mm, 79mm, and 110mm. (WHO,2016)

Figure 1.1: Own roll cigarettes

1.9.2Cigars:

The word cigar originated from the Spanish cigarro, which in turn probably derives from the Mayans car. There is also a possible derivation, or at least an influence, from the Spanish cigars("cicada"), due to their similar shape. The English word came into general use in 1730.A cigar is a tightly-rolled bundle of dried and fermented tobacco leaf, rolled in a series of types and sizes that is ignited so that its smoke may be drawn into the mouth. Cigar tobacco is grown in significant quantities in Brazil, Cameroon, Cuba, the Dominican Republic, Honduras, Indonesia, Mexico, Ecuador, Nicaragua, Panama, the Philippines, Puerto Rico, Canary Islands (Spain), Italy and the Eastern United States. The origins of cigar smoking are still unknown. In Guatemala, a ceramic pot dating back to the tenth century features a Mayan smoking tobacco leaves tied together with a string. (Altman, Alex 2 January 2009).

Figure 1.2: Cigars

1.9.3 Pipes or smoking pipes:

Smoking pipes of various types have been used since ancient times.The bowls of tobacco pipes are commonly made of briar wood, meerschaum, corncob or clay. Less common are other dense-grained woods such as cherry, olive, maple, mesquite, oak, and bog-wood. Minerals such as catlinite and soapstone have also been used. Pipe bowls are sometimes decorated by carving, and moulded clay pipes often had simple decoration in the mould.The tobacco plant is native to South America but spread into North America long before Europeans arrived. Tobacco was introduced to Europe from the Americas in the 16th century and spread around the world rapidly. As tobacco was not introduced to the Old World until the 16th century, the older pipes outside of the Americas were usually used to smoke hashish, a rare and expensive substance outside areas of the Middle East, Central Asia and India, where it was then produced. (National Trends in Drug Abuse)

Figure1.3: pipes or smoking pipes

1.9.4 Bidis

Beedi is a thin, Indian cigarette filled with tobacco flake and wrapped in a tendu or possibly even Piliostigmaracemosum leaf tied with a string at one end. The name is derived from the Marwari word beedaa mixture of betel nuts, herbs, and spices wrapped in a leaf.(WHO,2016)

Bidis are more harmful and addictive .A lots of people, especially youngsters, has a notion that bidis are better than cigarettes because they taste good and look herbal due to the leaf wrapping. But this is a dangerous misconception. Bidis contain tobacco and, therefore, nicotine. They are highly addictive. They also contain other chemicals like hydrogen cyanide and ammonia in greater amounts than found in regular cigarettes. (Health Community, 2011)

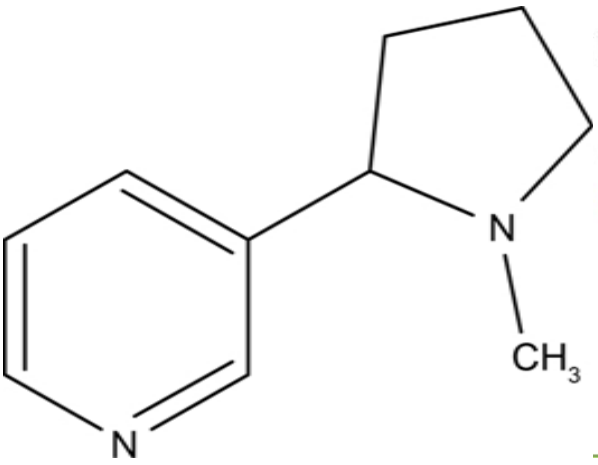
Figure 1.4: Bidis

1.9.5Shishas or hookahs:

Shisha smoking – also called hookah, narghile, waterpipe, or hubble bubble smoking – is a way of smoking tobacco, sometimes mixed with fruit or molasses sugar, through a bowl and hose or tube. Traditionally shisha tobacco contains cigarette tobacco, so like cigarettes it contains nicotine, tar, carbon monoxide and heavy metals, such as arsenic and lead. As a result, shisha smokers are at risk of the same kinds of diseases as cigarette smokers, such as heart disease, cancer, respiratory disease and problems during pregnancy.

Figure1.5: Shishas or Hookahs

1.10 Nicotine structure



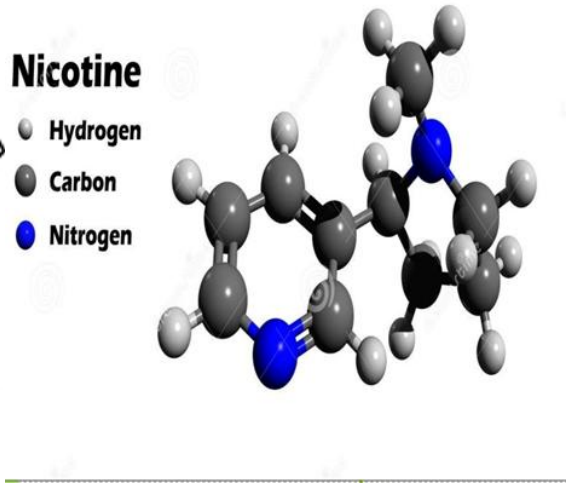


Figure 1.6: structure of nicotine **Figure 1.7: 3D structure of nicotine**

1.11 Nicotine: Nicotine sustains tobacco addiction, a major cause of disability and premature death. Nicotine binds to nicotinic cholinergic receptors, facilitating neurotransmitter release and thereby mediating the complex actions of nicotine in tobacco users. Dopamine, glutamate, and gamma aminobutyric acid release are particularly important in the development of nicotine dependence, and corticotropin-releasing factor appears to contribute to nicotine withdrawal. Nicotine dependence is highly heritable. Genetic studies indicate roles for nicotinic receptor subtypes, as well as genes involved in neuroplasticity and learning, in development of dependence. Nicotine is primarily metabolized byCYP2A6, and variability in rate of metabolism contributes to vulnerability to tobacco dependence, response to smoking cessation treatment, and lung cancer risk. Tobacco addiction is much more common in persons with mental illness and substance abuse disorders, representing a high proportion of current smokers. Pharmacotherapeutic approaches to tobacco addiction include nicotine replacement,

bupropion, and varenicline, the latter a selective nicotine receptor partial agonist. (NCBI public access, 2016)

1.12 Mechanism of action of Nicotine:

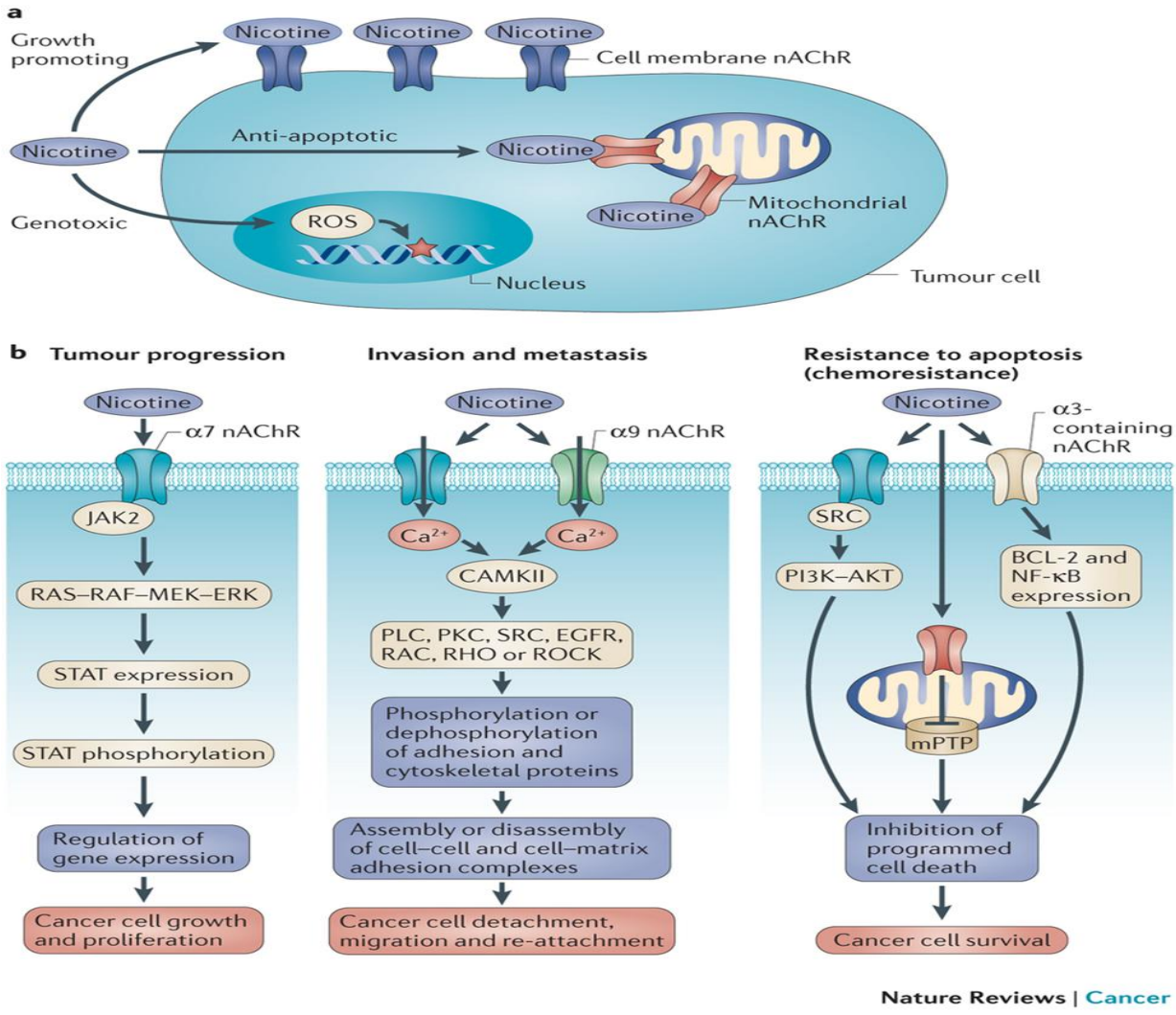


Figure 1.8: Mechanism of action of nicotine

Nicotine acts via 3 major mechanisms, producing physiological and pathological effects on a variety of organ systems.

1. Ganglionic transmission.

2. Nicotinic acetylcholine receptors (nAChRs) on chromaffin cells via catecholamines.

3. Central nervous system (CNS) stimulation of nAChRs.

Brain imaging studies demonstrate that nicotine acutely increases activity in the prefrontal cortex and visual systems. There is release of a variety of neurotransmitters important in drug-induced reward. Nicotine also causes an increased oxidative stress and neuronal apoptosis, DNA damage, reactive oxygen species and lipid peroxide increase. nAChRs were originally thought to be limited to neuronal cells, however, studies have identified functional nAChRs in tissues outside the nervous system. Actions on nicotinic receptors produce a wide variety of acute and long-term effects on organ systems, cell multiplication and apoptosis, throughout the body (Hammond, 2008; Committee of Smoking Cessation in Military and Veteran populations 2009)

1.13 Effects of nicotine:

Nicotine is the harmful, addictive substance found in all tobacco products. When smoke a cigarette, chew tobacco, or otherwise ingest nicotine, the effects are immediate. Nicotine travels through the body in the bloodstream and heads straight for the brain, arriving in 7 to 15 seconds. In the brain, nicotine boosts the “reward center,” releasing chemicals that cause a pleasant, happy feeling. Adrenaline is then released, increasing heart rate and blood pressure, and making breathing rapid and shallow. As nicotine use continues, these effects can damage your heart, arteries, and lungs, increasing the risk for heart attack, stroke, and chronic lung disease. (WHO, 2016)

1.14 Nicotine addictive or not:

Nicotine affects the neurotransmitters in the brain, changing the way certain brain cells work. When one stops using nicotine, the changes remain for a while until the brain can revert back to its normal state. These changes are what cause the withdrawal symptoms characteristic of addiction. Once the body is free of nicotine, it no longer works in the same way it did when it had a regular supply of nicotine. It can take as long as 4 to 6 weeks for the brain to readjust to life without nicotine as it “re-learns” how to make the chemicals to stimulate the pleasure centers on its own. It is during this transition period that former nicotine users may crave nicotine or feel irritable, anxious, or depressed. But don’t worry. After some time as the brain heals, these feelings and cravings will go away.

1.15 Nicotine affect in our body

There are so many dangers associated with using tobacco products that sometimes the harmful effects of nicotine alone get lost in the shuffle. Nicotine adversely affects every major system in the human body. As it builds up from regular use, it can lead to weakened immune function, fatigue, decreased healing time, and long-term diseases including cancer. In fact, nicotine prevents the body from properly disposing of damaged cells, thereby allowing cancer cells to develop.

1.16 Nicotine impacts in some individual parts in our body:

1.16.1Brain:

Nicotine disrupts normal neurotransmitter activity, causing chemical changes and addiction. Other neurological symptoms caused by nicotine include light-headedness, sleep disturbance, dizziness, and tremors.

1.16.2 Bones:

When used over time, nicotine alters cellular structures and has been found to increase risk for fractures while contributing long-term to the development of weakened bones (osteoporosis).

1.16.3 Eyes:

Nicotine reduces the ability to see at night by stopping the production of pigments in the eyes specially designed for low-light vision. Adrenaline released by nicotine reduces peripheral vision, and in the end, nicotine accelerates the degeneration of the eyes.

1.16.4 Heart and Arteries:

Nicotine increases heart rate and raises blood pressure when it stimulates the release of adrenaline. It has to work harder getting the blood and oxygen to cells that need it, preventing the body from reaching its maximum potential. Long term, the stress on the heart and arteries can lead to increased risk of heart attack and can even lead to a stroke.

1.16.5 Metabolism:

Nicotine increases calories burned but decreases endurance by wasting energy in the effort. So, while nicotine users may have the energy to sprint down the block, they won't have the maximum lung or heart capacity to get their best score on a PT running test or maybe even to finish the all-night trek with their unit.

1.16.6Reproductive System:

Nicotine prohibits proper blood circulation and is a leading cause of erectile dysfunction (impotence) for men under 40. Smokers are at an additional risk because nicotine is present in their lungs. Nicotine causes rapid and shallow respiration, leading to quicker fatigue during exercise or combat. Over time, nicotine permanently damages the cells in the lungs by changing their structure. This leads to increased risk for lung disease, lung cancer, emphysema,

1.17 Nicotine dependency

Nicotine dependence is an addiction to tobacco products caused by one of its ingredients - the drug nicotine. Nicotine is an addictive drug which causes mood-altering changes in the brain which are temporarily pleasing, making people want to use it more and more. When a person is addicted to nicotine they have unpleasant withdrawal symptoms, which temporarily go away when they receive the nicotine through smoking tobacco. Experts say that nicotine is one of the hardest of all addictions to break.

1.18 Menthol cigarettes more addictive

The FDA (US Food and Drug Administration) says it is to investigate the usage of menthol in tobacco cigarettes.

According to preliminary findings, menthol cigarettes are more addictive than other tobacco products. The FDA is seeking additional information as it decides whether to introduce new regulations which could include "tobacco product standards, sale and distribution restrictions among other regulatory actions and considerations." Menthol cigarettes are very popular in the USA. The FDA says that over 40% of young smokers and 30% of older smokers prefer and regularly smoke menthol cigarettes.

1.19 Signs and symptoms of nicotine addiction

Signs and symptoms of nicotine addiction may vary, according to the individual. Some people become totally dependent (addicted) fairly rapidly. Examples include

The individual smokes and cannot stop - they have made at least one serious attempt to stop, but unsuccessfully.

Withdrawal symptoms - when trying to stop the individual had physical and mood-related symptoms. There were cravings, bouts of moodiness and irritability, poor concentration, a feeling of being depressed and hollow/empty, anger, frustration, increased appetite, and insomnia

Smoking prevails despite the emergence of health problems - the individual continues to smoke, even though they have developed smoking related illnesses, such as a lung or heart condition.

Social and or recreational sacrifices - some activities were given up because of smoking. For example, certain restaurants or pubs that became smoke free. Perhaps the individual stopped visiting friends whose environments/homes are smoke free.

1.20 Risk factors for nicotine addiction

A risk factor is something which increases the likelihood of developing a condition or disease. For example, obesity significantly raises the risk of developing diabetes type 2. Therefore, obesity is a risk factor for diabetes type 2. Nicotine can affect anyone if they smoke. The majority of regular smokers today started smoking when they were

teenagers - in some cases even younger. Studies have shown a link between heavy smoking as an adult and starting to smoke at a younger age.

1.20.1 Parents who smoke - children whose parents both smoke are twice as likely to become smokers themselves, compared to children whose parents don't smoke.

Friends who smoke - children who have friends who smoke are more likely to start using tobacco products, such as cigarettes.

1.20.2 Hereditary-.Some people can smoke once in a while, throughout their lives, and never seem to become addicted, while others are unable to stop smoking without experiencing the unpleasant withdrawal symptoms. It is most likely that the way the receptors on the surface of our brain nerve cells respond to nicotine is influenced by our genes.

1.20.3 Mental illness - people with depression, bipolar disorder, schizophrenia and some other mental illnesses appear to become more easily addicted to nicotine than others.

1.20.4 Alcohol and substance abuse - individuals who abuse alcohol, as well as those who take illegal drugs are more likely to be regular smokers. (Mental health information, 2003)

1.21 Effect of smoking on the body:

1.21.1 Mood swing:

Smoking tobacco can eventually lead to nicotine addiction. And like any other addiction, the brain begins to recognize nicotine as something it needs. Depriving it of this substance leads to an intense reaction that's often accompanied by a number of

undesirable symptoms, including extreme changes in mood. The nicotine found in cigarettes actually affects the way the brain works. Upon inhaling, this alkaloid increases the release of neurotransmitters, such as dopamine, in the reward pathways of the brain, explains the National Institute of Drug Abuse. As dopamine levels rise, experience pleasure. But repeatedly stimulating these pathways is also known to reinforce behaviours. Over time, the brain acquires a need for the substance to maintain its pleasurable effects, resulting in addiction. While drug levels peak within 10 seconds of inhaling tobacco smoke, the American Heart Association estimates that nicotine from a single cigarette can last up to two hours in the bloodstream. Depriving the body of nicotine lowers the activity of dopamine within the brain, which triggers a craving for the substance. (livestrong.com)

1.21.2Poor vision:

1.21.2.1Smoking and Cataracts

Cataracts (clouding of the eye's natural lens) are a leading cause of blindness in the world. More than 50 percent of Americans will have a cataract or have had cataract surgery by age 80. Smokers significantly increase their risk of developing a cataract compared with non-smokers. In fact, studies show that people who smoke double their chance of forming cataracts, and the risk continues to increase the more smoke.

1.21.2.2 Smoking and Macular Degeneration

Age-related macular degeneration (AMD) affects the center of the retina, which is responsible for sharp, central vision needed for everyday tasks such as reading and

driving. Macular degeneration causes "blind spots" and often severely impairs central vision. AMD is the leading cause of permanent vision loss among Americans age 65 and older. Studies show smokers can have a three-fold increase in the risk of developing AMD compared with people who have never smoked. And female smokers over age 80 are 5.5 times more likely to develop AMD than non-smokers of the same age.

1.21.2.3 Smoking and Uveitis

Uveitis (inflammation of the eye's middle layer, or uvea) is a serious eye disease that can result in complete vision loss. It harms vital structures of the eye, including the iris and retina, and can lead to complications such as cataract, glaucoma and retinal detachment. Evidence shows smokers are more likely than non-smokers to have uveitis, and smoking appears linked to the development of uveitis. One study found smoking was associated with a 2.2 times greater than normal risk of having the condition.

1.21.2.4 Smoking and Diabetic Retinopathy

Diabetic retinopathy damages the blood vessels of the retina and can result in vision loss. More than 5 million Americans age 40 and older have diabetic retinopathy due to type 1 or type 2 diabetes. And that number will grow to about 16 million by 2050, according to the U.S. Centers for Disease Control and Prevention.

1.21.2.5 Smoking and Dry Eyes

Dry eye syndrome describes insufficient tears on the eye's surface, which is needed to keep the eye lubricated and healthy. Sufferers of dry eye can experience eye redness, itchiness, a "foreign body" sensation and even watery eyes. Tobacco smoke is a known eye irritant and worsens dry eye even among second-hand smokers particularly for contact lens wearers. People who smoke are nearly twice as like

1.21.2.6 Smoking and Infant Eye Disease

Women who smoke during pregnancy transmit dangerous toxins to the placenta, potentially harming the unborn child. Smoking while pregnant increases the chance of many fatal and infant eye disorders, among other serious health problems.ly to have dry eyes. (Association of American Medical Colleges)

1.21.3Appetite Suppressant

Nicotine appears to act as a weight suppressant by reducing the appetite. The effect of nicotine on appetite is particularly notable when a long-term smoker stops smoking; weight gain is a common result. According to research published in the December 2002 “Journal of Neurobiology,” 70 to 80 percent of people who quit smoking will begin to overeat and gain weight, with women more likely to experience this problem than men.

1.21.4Smoking and (anxiety, depression, schizophrenia, and stress)

Self-medication is the term used to describe how some people smoke to reduce their stress. Stress is prevalent especially if we are unable to cope up with it. It can produce physical symptoms such as breathlessness or headaches, anxious, sad or irritable. These negative feelings change our feeling and behaviour. It also makes some people resort to drinking or smoking casually and then habitually. Chronic, long-term stress is associated with depression and anxiety. Contrary to what regular smokers would say, smoking increases tension and anxiety. Although nicotine can make a person feel relaxed, it is only temporary and this also increases the person’s craving for nicotine. Smoking does not deal with the underlying causes of depression and anxiety.(Mental health information, 2016)

1.21.5Coughing

A smoker’s cough is a persistent cough that develops in long-term smokers—"persistent" meaning that it's present for more than 2 or 3 weeks. At first, it may be dry, but over time it usually produces phlegm. This phlegm or sputum can be clear, white, yellow, or even green. The cough is usually worst upon awakening and improves over the remainder of the day. The airways are lined with cilia, tiny hair-like cells that catch toxins in inhaled air and move them upwards toward the mouth. Smoking paralyzes these cells so they're unable to do their job. Instead of being caught in transit, toxins are allowed to enter the lungs, where they settle and create inflammation. (Daily health tips, 2016)

1.21.6Smoking and copd

Smoking is the leading cause of COPD. Smoking is also a trigger for COPD flare-ups. Smoking damages the air sacs, airways, and the lining of our lungs. Injured lungs have trouble moving enough air in and out, so it's hard to breathe. Things that make chronic obstructive pulmonary disease (COPD) symptoms worse are called triggers. Smoking is a trigger for many people who have COPD. Smoking can cause an exacerbation, or flare-up, of our symptoms. (Medline plus)

1.21.7Smoking and lung cancer:

Smoking is by far the biggest preventable cause of cancer. The links between smoking and cancer are now very clear. Smoking accounts for more than 1 in 4 UK cancer deaths, and nearly a fifth of all cancer cases. Chemicals in cigarette smoke enter our blood stream and can then affect the entire body. This is why smoking causes so many

diseases, including at least 14 types of cancer, heart disease and various lung diseases. Smoking causes more than 4 in 5 cases of lung cancer. Lung cancer survival is one of the lowest of all cancers, and is the most common cause of cancer death in the UK. Smoking also increases the risk of at least 13 other cancers including cancers of the mouth, pharynx (upper throat), nose and sinuses, larynx (voice box), oesophagus (gullet or food pipe), liver, pancreas, stomach, kidney, bowel, ovary, bladder, cervix, and some types of leukaemia Smoking could increase the risk of breast cancer, but any increase in risk is likely to be small.The main way that smoking causes cancer is by damaging our DNA, including key genes that protect us against cancer. Many of the chemicals found in cigarettes have been shown to cause DNA damage, including benzene, polonium-210, benzopyrene and nitrosamines. This is already bad news, but it's made worse by other chemicals in cigarettes. For example chromium makes poisons like benzopyrene stick more strongly to DNA, increasing the chances of serious damage. And chemicals like arsenic and nickel interfere with pathways for repairing damaged DNA. This makes it even more likely that damaged cells will eventually turn cancerous. Smokers are also less able to handle toxic chemicals than those with healthy lungs and blood. Chemicals in cigarette smoke make it harder for smokers to neutralise or remove toxins, and can make their immune systems less effective too. (Cancer research UK)

1.21.8 Smoking and bronchitis:

Cigarette smoke and the chemicals in cigarettes make bronchitis worse and increase your risk of developing chronic bronchitis and COPD.

Bronchitis can be described as being either:

acute bronchitis temporary inflammation of the airways, causing a cough and mucus production, lasting up to three weeks; acute bronchitis can affect people of all ages but

mostly affects children under the age of five; it's more common in winter and often develops following a common cold, sore throat or flu.

chronic bronchitis – a daily productive cough that lasts for three months of the year and for at least two years in a row; chronic bronchitis is one of a number of lung conditions, including emphysema, that are collectively known as chronic obstructive pulmonary disease (COPD); it mostly affects adults over 40.

1.21.9 Constricted blood vessel:

1.21.9.1 Increases Blood Pressure

Nicotine causes the blood vessels to constrict. As the blood vessels narrow, blood pressure rises. Undetected and uncontrolled hypertension or high blood pressure leads to heart disease. The estimated half-life of nicotine is approximately two hours. This means that nicotine remains in the bloodstream for that length of time. But since a smoker receives multiple dosing of nicotine, this drug stays in the circulatory system for much longer. The American Heart Association warns that significant levels of nicotine potentially remain in the smoker's blood for six to eight hours after the last cigarette. Hypertension is a risk factor for suffering a heart attack, stroke or premature death. Kidney and heart failure result from uncontrolled hypertension.

1.21.9.2 Increases Heart Rate

Nicotine causes the release of adrenalin and noradrenalin, which are hormones produced by the adrenal glands. Once nicotine is absorbed by the alveoli in the lungs or the mucous membranes of the nose, it stimulates the release of adrenalin and noradrenalin, which are collectively referred to as catecholamine’s. The rapid releases of

catecholamine are caused by nicotine increases heart rate. A heart rate of greater than 100 beats per minute is considered a fast heart rate, or tachycardia.

1.21.9.3 Narrowing of the Arteries

The American Heart Association lists narrowing of the arteries as another immediate effect of nicotine on the cardiovascular system. Arteries are the blood vessels that carry oxygen-rich blood from the heart to all parts of the body. Constriction of the arteries deprives major organs and limbs of oxygen. Smokers have a higher risk of developing peripheral artery disease, or PAD, which is characterized by blockage of the arteries that supply the kidneys, stomach, arms, legs and feet. (livestrong.com)

1.21.9.4 Too much blood clotting

Smoking raises the risk of unwanted blood clots and makes it more likely that platelets will stick together. Smoking also damages the lining of the blood vessels, which can cause clots to form. Increased homocysteine levels, linked to a high risk of vascular disease. Cigarette smoking has long been known to be a major risk factor in heart attacks, but scientists always have been puzzled about how smoke causes damage. Vanderbilt University researchers now think they have found the mechanism. A study of six habitual smokers and six nonsmokers shows that increased platelet activity among smokers possibly predisposes them to blood clots. Platelets regulate clot formation, which are a primary cause of heart attacks. Their findings indicate that chronic smokers-even those who look and feel healthy-have an active disease in their blood vessels. (Centers for Disease Control and Prevention)

1.21.9.5 High cholesterol:

Smoking increases the risk of coronary artery disease in people who have high cholesterol and other diseases that increase the risk of heart disease, such as high blood pressure and diabetes. Cigarette smoking lowers HDL ("good") cholesterol. It also injures the lining of the blood vessels and increases the risk of developing blood clots, which contributes to atherosclerosis (hardening of the arteries). Even inhaling others' cigarette smoke (secondhand smoke) has been shown to lower HDL cholesterol.Studieshave shown that HDL levels often go up soon after a person quits smoking. For information on how to quit, see the topic Quitting Smoking. (Centers for Disease Control and Prevention)

1.22 Effects of smoking in various systems:

1.22.1 Central Nervous System

One of the ingredients in tobacco is a mood-altering drug called nicotine. Nicotine reaches our brain in mere seconds. It’s a central nervous system stimulant, so it makes our feel more energized for a little while. As that effect subsides, we feel tired and crave more. Nicotine is habit forming. Smoking increases risk of macular degeneration, cataracts, and poor eyesight. It can also weaken your sense of taste and sense of smell, so food may become less enjoyable..

1.22.2 Respiratory System

When inhale smoke, we are taking in substances that can damage our lungs. Over time, our lungs lose their ability to filter harmful chemicals. Coughing can’t clear out the toxins sufficiently, so these toxins get trapped in the lungs. Smokers have a higher risk of respiratory infections, colds, and flu. In a condition called emphysema, the air sacs in our

lungs are destroyed. In chronic bronchitis, the lining of the tubes of the lungs becomes inflamed. Over time, smokers are at increased risk of developing these forms of chronic obstructive pulmonary disease (COPD). Long-term smokers are also at increased risk of lung cancer. Withdrawal from tobacco products can cause temporary congestion and respiratory pain as our lungs begin to clear out. Children whose parents smoke are more prone to coughing, wheezing, and asthma attacks than children whose parents don't. They also tend to have more ear infections. Children of smokers have higher rates of pneumonia and bronchitis.

1.22.3 Cardiovascular System

Smoking damages our entire cardiovascular system. When nicotine hits our body, it gives our blood sugar a boost. After a short time, we are left feeling tired and craving more. Nicotine causes blood vessels to tighten, which restricts the flow of blood (peripheral artery disease). Smoking lowers good cholesterol levels and raises blood pressure, which can result in stretching of the arteries and a buildup of bad cholesterol (atherosclerosis). Smoking raises the risk of forming blood clots. Blood clots and weakened blood vessels in the brain increase a smoker's risk of stroke. Smokers who have heart bypass surgery are at increased risk of recurrent coronary heart disease. In the long term, smokers are at greater risk of blood cancer (leukemia).There's a risk to nonsmokers, too. Breathing secondhand smoke has an immediate effect on the cardiovascular system. Exposure to secondhand smoke increases our risk of stroke, heart attack, and coronary heart disease.

1.22.4 Skin, Hair, and Nails (Integumentary System)

Some of the more obvious signs of smoking involve the skin. The substances in tobacco smoke actually change the structure of our skin. Smoking causes skin discoloration,

wrinkles, and premature aging. Our fingernails and the skin on your fingers may have yellow staining from holding cigarettes. Smokers usually develop yellow or brown stains on their teeth. Hair holds on to the smell of tobacco long after we put your cigarette out. It even clings to nonsmokers.

1.22.5 Digestive System

Smokers are at great risk of developing oral problems. Tobacco use can cause gum inflammation (gingivitis) or infection (periodontitis). These problems can lead to tooth decay, tooth loss, and bad breath. Smoking also increases risk of cancer of the mouth, throat, larynx, and esophagus. Smokers have higher rates of kidney cancer and pancreatic cancer. Even cigar smokers who don't inhale are at increased risk of mouth cancer. Smoking also has an effect on insulin, making it more likely that we'll develop insulin resistance. That puts you at increased risk of type 2 diabetes. When it comes to diabetes, smokers tend to develop complications at a faster rate than nonsmokers. Smoking also depresses appetite, so we may not be getting all the nutrients our body needs. Withdrawal from tobacco products can cause nausea.

1.22.6 Sexuality and Reproductive System

Restricted blood flow can affect a man's ability to get an erection. Both men and women who smoke may have difficulty achieving orgasm and are at higher risk of infertility. Women who smoke may experience menopause at an earlier age than nonsmoking women. Smoking increases a woman's risk of cervical cancer. Smokers experience more complications of pregnancy, including miscarriage, problems with the placenta, and premature delivery. Pregnant mothers who are exposed to secondhand smoke are also more likely to have a baby with low birth weight. Babies born to mothers who smoke while pregnant are at greater risk of low birth weight, birth defects, and sudden infant

death syndrome (SIDS). Newborns who breathe secondhand smoke suffer more ear infections and asthma attacks.

1.23 How many medical doctors smoke?

In many countries medical doctors have been at the forefront of attempts to reduce the number of people who smoke. The medical doctor is one of the most highly respected professionals and patients place a large amount of faith in their doctor‟s advice. However, concerns have been expressed about the willingness of doctors who smoke themselves to advise their patients to quit, and about the likelihood of patients taking such advice seriously if they are aware that the doctor is a smoker him/herself. So what proportion of medical doctors smoke In the past month Drs Derek Smith and Peter Leggat published a comprehensive international review of tobacco smoking in the medical profession from 1974-2004. The study showed that in countries like the United States, UK, Canada, Australia and New Zealand, smoking rates have dropped dramatically among doctors, from 15-20% in the 1970‟s to around 5% at the end of the 20th century. However, such low smoking rates are not uniform among doctors across the world. In China, 32% of male doctors smoke (but 0% of females doctors smoke), in Italy 28% of doctors smoke (32% among men), and in Turkey or Bosnia & Herzegovina around 40% of doctors smoke. Some may be surprised to hear that as many as 5% of US doctors smoke. But remember that doctors are human beings like the rest of us, and not immune to either infections or addictions. Many smoking doctors report that they (like most smokers) started in their teen years and so were likely addicted even prior to the decision to study medicine at college. I prefer to look at the low (and still falling) smoking rates among doctors in some countries as a very positive sign. It provides an indication of how low it is possible for smoking prevalence to go in a population that is well

informed of the health risks, has relatively good access to treatment, and generally works in a smoke-free environment where smoking is not considered to be socially acceptable. It suggests that 5% may be a reasonable target for the rest of the population as well. (Foulds and Raquo;, 2016).

1.24 Doctor's knowledge, perception and attitudes related tosmoking towards themselves and for their patients

A survey was done in Mongolia in 2004 regarding doctor‟s attitude knowledge towards smoking cessation. The full topic title was "Knowledge, Attitude and Practice on Smoking and Smoking Cessation among Health Profession Students and Family Doctors in Mongolia". The result showed that current cigarette smoking prevalence among family doctors is 10.5%. Female doctors were significantly lower than their male counterparts to smoke cigarette. Most family doctors (92.1%) said they were willing to counsel patients to quit smoking and 95.4% said that they advised smoker to stop smoking during most or all consultations. Only a third of family doctors said they had recommended NRTs to patients. However, only 11.2% of participants received formal training in cessation, and most of them (95.4%) would like to attend such a training course. Some difficulties and barriers were reported in smoking cessation practice such as perceived ineffectiveness of smoking cessation techniques, lack of family doctors‟ time, lack of knowledge about smoking cessation techniques, lack of space in their office to counsel patients, lack of smoking cessation materials and lack of patients‟ interest to quit smoking (Migiddorj, 2008).

Another survey was done in china in 2011 regarding Smoking Cessation Knowledge, Attitudes, and Practice Among Community Health Providers, and the result was that the

majority of Community Health Services providers surveyed feel they should offer to help smokers quit. Although 78% of them report that they have asked patients to stop smoking, only 13.3% believe that their patients will follow their advice to quit. More than half have not received training in smoking cessation counseling. Only 13.7% of providers report they have used nicotine replacement therapy when helping smokers to quit, and 55.3% have never heard of it, yet 24.5% have used Chinese herbs or acupuncture. No significant statistical differences were observed between physicians and nurses in the survey responses presented (Klink et al., 2011).

All physicians surveyed believe it is their role to help patients quit smoking. While most physicians consistently ask patients who smoke about their smoking status and advise them to stop (86%), they do not regularly provide extensive assistance to help patients try to quit. For example, only 13% say they usually refer smokers to others for appropriate treatment and only 17% say they usually arrange for follow-up visits to address smoking. Physicians regard current smoking cessation tools as inadequate, Insufficient services, resources, and organizational supports; o Interventions that have only limited effectiveness; and o Limited education and training for physicians on addressing tobacco use and cessation interventions. The five factors cited most often by physicians as significant barriers to successful interventions are: (1) lack of patient motivation (63%); (2) limited coverage for interventions (54%); (3) limited reimbursement for a physician‟s time (52%); time with patients is limited (41%); and too few available cessation programs (39%). Physicians believe patients bear a significant responsibility for both smoking and quitting. However, these beliefs were not found to be associated with levels of participation in cessation activities. Physicians identified “More effective interventions” (78%) and “Increased availability of interventions” (60%) as the factors that would most motivate them to more frequently assist patients quit smoking. Increased insurance coverage for both cessation interventions (61%) and physician

services (43%) to support their helping patients to quit smoking would also motivate physicians. Physicians who viewed incremental reductions in levels of tobacco use as successful outcomes were more likely to participate in cessation activities than those regarding success as complete abstinence only (Association of American Medical Colleges, 2007).

1.25 Necessity of doctor's advice against smoking

Advice from doctors helps people who smoke to quit. Even when doctors provide brief simple advice about quitting smoking this increases the likelihood that someone who smokes will successfully quit and remain a nonsmoker 12 months later. More intensive advice may result in slightly higher rates of quitting. Providing follow-up support after offering the advice may increase the quit rates slightly (Stead et al., 2013). The prevalence of advice to quit differed across studies. In Estonia, nearly all physicians (96%) reported advising patients to quit. In China, 70% of physicians had counseled patients to quit within the last year .About half the physicians in Malaysia, Guatemala, and Russia advised patients to quit, while less than one third of physicians in a Chinese study did so. In South Africa and Malaysia, advice to quit depended upon the patient having a condition associated with smoking. The most commonly used methods to encourage patients to quit were brief counseling and education about the dangers of smoking in several studies (Abdullah et al., 2013).

1.26 How to advice a patient to quit tobacco

1. The timing of advice

- First and every patient.
- Repetition of advice in each patient visit.
- Documentation of tobacco cessation advice on the prescription pad/ discharge slip.
- If patient visits with an acute illness (e.g. pain in tooth) then that should be addressed first, and advice should be given at 1st and all subsequent visits.

2. The type of advice

- Customize the ill effects of tobacco as per tobacco user profile. Need to emphasize the ill effects of tobacco usage that would be most relevantto each particular tobacco user.
- The patient‟s current illness needs to be linked to tobacco use. Clarifythat the presenting illness will not resolve unless tobacco usage isdiscontinued.
- Communicate to the tobacco user that there is help available and thatthe doctor and his staff are there to help if the tobacco user isinterested.
- On the basis of patient co- morbidities, age and motivation quotient,dental clinicians need to decide and advice on a preventive orinterventional approach for individual tobacco users
- Illustrating the other ill-effects of tobacco use and the positives ofquitting

However, if a tobacco user is not feeling fully motivated to quit and instead chooses to reduce the number of cigarettes/bidis/gutkha packets then the clinician should utilize this period to reinforce motivation and eventually drive complete tobacco cessation. This can be done by analyzing the reasons not to quit and addressing themappropriately. As a last resort a clinician may use a strategy called “paradoxical intentional” to motivate the tobacco user. Under this strategy, the clinician should ask the tobacco user to choose between continuing to take numerous medications for the primary illness and quitting

tobacco use. This strategy has been found to be effective in day to day practice. If there are tobacco users who insist that this is a matter of personal choice and they can give up whenever they decide to, a clinician can demonstrate to them that tobacco use is an addiction. Request the user to give up tobacco use for just one day and if they find it difficult, they can come back to the clinician for help. In addition toclinician‟s individual efforts with tobacco users, they can be also motivated by displaying educational posters in the clinic and distributing educational material in the form of newsletters, booklets, audio-visual aids and leaflets.

For tobacco users who express willingness to try and quit, help set a quit date approximately two weeks away. A day personally significant to the tobacco user makes it more relevant e.g. birthday, anniversary etc. The tobacco user should be encouraged to announce his/her decision to family members, friends and colleagues so as to mobilize their support as well as induce accountability. It is strongly recommended that the tobacco user give up completely in one go on the quit date (Mehta and Kaur, 2011)

1.27 Why doctor's advice is necessary to quit smoking

Doctor‟s advice is necessary to quit smoking because

1. If patients stop smoking patient:

- Reduce the risk of getting serious smoking-related diseases such asheart disease, cancers, chronic obstructive pulmonary disease (COPD) and peripheral vascular disease (PVD).
- Reduce the risk of getting various other conditions which, although notlife-threatening, can cause unpleasant problems. For example:

• A breakdown of the tissue at the back of the eye (macular degeneration).

• A skin condition called psoriasis.

• Cataracts.

• Erection problems (impotence).

• Fertility problems.

• Gum disease.

• Optic neuropathy - this is a condition affecting the nerve supplying the eye.

• Raynaud's phenomenon - in this condition, fingers turn white or blue when exposed to cold.

2. If patients have smoked since being a teenager or young adult:

- If patient stop smoking before the age of about 35, his/her life expectancy is only slightly less than it is for people who have never smoked.
- If patient stop smoking before the age of 50, patient decrease the risk of dying from smoking-related diseases by 50%.

3. But it is never too late to stop smoking to gain health benefits. Even if patient already have COPD or heart disease, patients outlook (prognosis) is much improved if patient stop smoking (Tedy, 2015).

1.28 Tips to help patient to stop smoking

A. **Setting up a date for stopping** and stop completely. (Some people prefer the idea of cutting down gradually. However, research has shown that if a user smoke fewer cigarettes than usual, the user is likely to smoke more of each cigarette and nicotine levels remain nearly the same. Therefore, it is usually best to stop once and for all from a set date.)

B. **Telling everyone that user is giving up smoking**. Friends and family often give support and may help the user. Smoking by others in the household makes giving up harder. If appropriate, it is tried to get other household members who smoke, or friends who smoke, to stop smoking at the same time. A team effort may be easier than going it alone.

C. **Being prepared for some withdrawal symptoms**. When user stop smoking, useris likely to get symptoms which may include feeling sick (nausea), headaches, anxiety, irritability, craving, and just feeling awful. These symptoms are caused by the lack of nicotine that user`s body has been used to. They tend to peak after 12-24 hours and then gradually ease over 2-4 weeks.

D**. Anticipating a cough. It is normal for a smoker's cough to become worse** when the past user stopped smoking (as the airways 'come back to life'). Many people say that this makes them feel worse for a while after stopping smoking and makes them tempted to restart smoking. The temptation must be resisted. The cough usually gradually eases.

E. **Being aware of situations**. In which user is most likely to want to smoke. In particular, drinking alcohol is often associated with failing in an attempt to stop smoking. The user should consider not drinking much alcohol in the first few weeks after stopping smoking .Changing the routine for the first few weeks. For example, despite the UK ban on indoor smoking in pubs, outside the pub might still be a tempting place to drink alcohol and smoke. Also, if drinking tea and coffee are difficult times, drinking mainly fruit juice and plenty of water instead may be tried.

F. **Taking one day at a time.** Marking off each successful day on a calendar. Looking at it when the user feel tempted to smoke, and tell him that you don't want to start all over again.

G. **Being positive**. The user can tell people that he/she don't smoke. The user will smell better. After a few weeks he/she should feel better, tasting food more and cough less, will have more money. Some people worry about gaining weight when they give up smoking, as the appetite may improve by anticipate an increase in appetite and trying not to increase fatty or sugary foods as snacks.

I. **Don't despair if User fails**. Examine the reasons why the user felt it was more difficult at that particular time. It will make the user stronger next time. On average, people who eventually stop smoking have made three or four previous attempts.

J. **Stop Smoking Clinics**. They are available on the NHS. They have good success in helping people to stop smoking. Doctor may refer him/her to one if he/she is keen to stop smoking but are finding it difficult to do so.

Various medicines can increase ones chance of quitting. These include nicotine replacement therapy (NRT) which comes as gums, sprays, patches, tablets, lozenges and inhalers. One can buy NRT without a prescription. Also, medicines called Bupropion and Varenicline can help. These are available on prescription. There are also electronic cigarettes (e-cigarettes). They are designed to look and feel like normal cigarettes. They have a heating element inside that vaporizes a solution - this looks like smoke. It may also contain nicotine. They are substituted for normal cigarettes or cigars. There is some uncertainty whether this is more effective than the other ways of stopping smoking. A recent research paper from The Lancet showed that the e-cigarettes were as effective as nicotine patches. Further studies are needed to ensure they are safe to use over a length of time (Teddy, 2015).

1.29Causes and symptoms after quitting smoking

No one starts smoking to become addicted to nicotine. It isn't known how much nicotine e may be consumed before the body becomes addicted. However, once smoking become a habit, the smoker faces a lifetime of health risks associated with one of the strongest addictions known to man (Lerman and Berrettini, 2003).

Table 1.1 symptoms that occur after quitting smoking

Symptoms	Cause	Duration	Relief
Craving for cigarette	**Nicotine craving**	**First week can longer for months**	**Distract yourself with other activity**
Irritability impatience	**Nicotine craving**	**2 to 4 weeks**	**Exercise, relaxation techniques ,avoid caffeine**
Insomnia	**Nicotine craving temporarily reduces deep sleep**	**2 to 4 weeks**	**Avoid caffeine after 6 PM relaxation techniques; exercise.**
Fatigue	**Lack of nicotine stimulation**	**2 to 4 weeks**	**Nap**
Lack of	**Lack of nicotine**	**A few weeks**	**Reduce workload,**

concentration	**stimulation**		**avoid stress**
Hunger	**Cigarettes craving confused hunger pangs**	**Up to several weeks**	**Drink water or low calorie drinks; eat low calorie snacks**
Coughing, dry throat nasal drip	**Body riding itself of mucus in lunge and airways**	**Several weeks**	**Drink**
Constipation gas	**Intestinal movement decreases with lack of nicotine**	**1to 2 weeks**	**Drink plenty of fluids; add fiber to diet ;exercise**

About 70% of smokers in the United States would like to quit; in any given year, however, only about 3.6% of the country's 47 million smokers quit successfully.

Although specific genes have not yet been identified as of 2003, researchers think that genetic factors contribute substantially to developing a smoking habit. Several twin studies have led to estimates of 46-84% heritability for smoking. It is thought that some genetic variations affect the speed of nicotine metabolism in the body and the activity level of nicotinic receptors in the brain (Lerman and Berrettini, 2003).

Significance of the study

Tobacco smoking is dangerous for both the active and passive smokers. Active smokers directly inhale the smoke and passive smokers indirectly. The indirect inhalation of the smoke is sometimes more dangerous than the direct smoking because the smoke exhaled by the smoker contains chemical that is converted into more deadly compound inside the smoker‟s system (ACS, 2015).

Tobacco smoking is a leading modifiable global disease risk factor, with nearly 6 million premature deaths, 6.90% of years of life lost, and 5.5% disability-adjusted lifeyears (DALYs) in 2010. Global age-standardized prevalence of daily tobacco smoking was 31.1% in 2012 for men. Nearly 80% of the more than one billion smokers worldwide live in low- and middle-income countries, where the burden of tobaccorelated illness and death is heaviest. Given the importance of tobacco as a risk to health, monitoring the distribution and intensity of tobacco use is critical particularly for low- and middle-income countries. Bangladesh is a low-income country and one of the largest tobacco consuming countries in the world. According to a previous study of Bangladesh, smoking causes about 25% of all deaths in Bangladeshi men aged 25 to 69 years and an average loss of seven years of life per smoker. Tobacco-use results in both health and economic costs that is large and growing. Due to its easy accessibility and social acceptability, there are now more young women and teenagers having access to cigarettes and hence getting addicted. Its losses are immeasurable or uncountable. Some losses are directly related and others are related indirectly. Smoking affects individual smoker, his/her family and society as a whole. Significant costs are being used for medicine purpose. It reduces the strength of individuals working capacity. As tobacco smoking is becoming a threat of the health of population and an economic burden, use

of tobacco is not stopped and no effective anti-smoking efforts are made in Bangladesh (Sultana, P et al., 2016).

There are several studies conducting and ongoing on knowledge attitude and perception on smoking towards doctors and their patients around in different countries. Here we see that the rate of smoking is higher in general population than the patients. Smoking causes various types of cancers such as larynx (voice box), esophagus (gullet), mouth and pharynx (throat), bladder, pancreas, kidney, liver, stomach, bowel, cervix, ovary, nose and sinuses and some types of leukemia. From this survey we want to know that the doctors consciousness about smoking in our country. Advertisement about the dangerous health effects of active smoking is common. In newspaper, television radio this kind of advertisement is always found, even on the packet of cigarette it is written that „smoking is injurious to health". And we see that when doctor"s gives knowledge about smoking to their patients, most of the patients are quitting smoking. So doctor"s awareness towards smoking is too much essential both for the patients and themselves.

Aims and Objective of the Study

The aims and objectives of this study were to:

- To assess the rate of smoking tendency of Doctors.
- To assess the prevalence of non-smoking advice towards patients.
- To assess the reason behind doctors smoking.
- To assess the thinking of doctors towards restricting or banning smoking.
- To assess the concern of doctors towards raising awareness about smoking

Chapter 2

Literature Review

2.1 Physicians' Attitudes in Counseling Patients about Smoking

Attitudes of physicians toward counseling patients about their smoking habits may influence whether and how counseling.in this proper occurs, authors develop and test a conceptual model of these attitudes.Themodel includes four attitude dimensions: physicians motivations to counsel, perceived costs and benefits to the physicians of counseling . A self-reported questioner including a 40 items measure of these attitudes was delivered to a random sample of male general practitioners, internists,surgeons,and obstetrician gynecologists who were members of a western country medical society in 1978. The response rates were 76%, based on factor analyses, 10 subscales and 3 global scales were formed by swimming items. The item contents of scales are consistent with the author's model, and reliability and item-discriminant validity are excellent. The author's model may be useful in understanding the factors that affect the process and outcomes of physicians counseling about smoking. (Med Care 1984, 22:360-365)

2.2 Physician smoking status, attitudes toward smoking, andcessation advice to patients: An international survey

The smoking status of physicians can impact interactions with patients about smoking. The 'Smoking: The Opinions of Physicians' (STOP) survey examined whether an association existed between physician smoking status and beliefs about smoking and cessation and a physician's clinical interactions with patients relevant to smoking cessation, and perceptions of barriers to assisting with quitting. General and family practitioners across 16 countries were surveyed via telephone or face-to-face interviews using a convenience-sample methodology. Physician smoking status was self-reported. Of 4473 physicians invited, 2836 (63%) participated in the survey, 1200 (42%) of whom

were smokers. Significantly fewer smoking than non-smoking physicians volunteered that smoking was a harmful activity (64% vs. 77%). More nonsmokers agreed that smoking cessation was the single biggest step to improving health (88% vs. 82%) and discussed smoking at every visit (45% vs. 34%). Although more non-smoking physicians identified willpower (37% vs. 32%) and lack of interest(28% vs. 22%) as barriers to quitting, more smoking physicians saw stress as a barrier (16% vs. 10%).Smoking physicians are less likely to initiate cessation interventions (Pipe, Sorensen and Reid, 2009).

2.3 Prevalence of smoking habits, attitudes, knowledge and beliefs among Health Professional School students: a cross-sectional study

A cross-sectional study was carried out in Catania University Medical Schools. The GHPSS questionnaires were self-administered. Logistic regression model was performed. The level of significance was $p < 0.05$. 422 students answered to the questionnaire. Prevalence of current smokers was 38.2%. 94.3% of the total sample believes that health professionals should receive specific training to quit smoking, but only 21.3% of the sample received it during the study courses. Given the high prevalence of smokers among health professionals and their key role both as advisers and behavioral models, our results highlight the importance of focusing attention on smoking cessation training addressed to them (Ferrante et al., 2013A cross-sectional study was carried out in Catania University Medical Schools. The GHPSS questionnaires were self-administered. Logistic regression model was performed. The level of significance was $p < 0.05$. 422 students answered to the questionnaire. Prevalence of current smokers was 38.2%. 94.3% of the total sample believes that

health professionals should receive specific training to quit smoking, but only 21.3% of the sample received it during the study courses. Given the high prevalence of smokers among health professionals and their key role both as advisers and behavioral models, our results highlight the importance of focusing attention on smoking cessation training addressed to them (Ferrante et al., 2013)

2.4 Smoking Habits and Attitudes of Medical Students towards Smoking and Antismoking Campaigns in Nine Asian Countries

As part of a world survey of the habits, knowledge and attitudes of medical students regarding tobacco a reported study in 15 medical schools from nine Asian countries. Some 1646 first year and 1587 final year students were included, of whom 59% were male. The prevalence of daily smoking in males was 4% in first year and 11% in final year; of occasional smoking 18% and 24% respectively, both with considerable variations between countries. The rates were very low in women. Male ex-smokers varied from 3% to 24% in different canters. Overall, 33% of smokers had made a serious attempt to quit; 44% expected to have succeeded within 5 years. Over 80% of non- or ex-smokers, but only 60% of smokers, thought smoking was harmful to health. There was gross underestimation of tobacco's causal role in a number of important diseases, e.g. coronary artery disease, peripheral vascular disease, emphysema, bladder cancer and neonatal mortality. There were notable defects both in training and in motivation to counsel smoking patients. There was only partial knowledge of legislative and other measures to discourage smoking, e.g. only 44% of final year students (26% of smokers) thought increased taxation an important measure. In knowledge and attitudes there was little difference between the sexes, but in most aspects smokers had notably lower scores (Tessier et al., 1992).

2.5Knowledge of and attitudes towards tobacco control among smoking and non-smoking physicians in 2 Gulf Arab states

The global health professional survey is a project organized by the World Health Organization, to determine the smoking habits, knowledge and attitude towards tobacco control of health professionals in several countries around the world. This paper presents data from Kuwait and Bahrain. The survey period was between May 2000 and March 2001. A questionnaire was distributed to all physicians in Bahrain and to a random sample from Kuwait. The responses to knowledge and attitude questions were on a scale of 1-5, (1 strongly agree, 2 agree, 3 unsure, 4 disagree and 5 strongly disagree). Four hundred and seventy physicians from Bahrain and 1095 from Kuwait completed the questionnaire. The prevalence of cigarette smoking in Kuwait was: current smokers 18.4%, previous smokers 15.8%, Bahrain 14.6% and 14.3%. The prevalence of shisha smoking was 12% and 6.4% for Kuwait and Bahrain, ($p=0.004$). The mean scores of agreement with the association between passive smoking and lung diseases, lower respiratory tract infections in children were 1.6, 1.7 and 1.8, 1.9 for non-smoking physicians and smoking physicians ($P<0.01$). The mean scores of agreement with the following policies: large health warning on cigarette packages, complete ban on tobacco advertisement and an increase in the price of cigarette were 1.3, 1.4, 1.7 and 1.7, 1.7, 2.5 for smoking and non-smoking physicians ($p<0.01$). Smoking physicians have less knowledge and less favorable attitude towards tobacco control compared to non-smokers. There was no difference in the prevalence of cigarette smoking between Kuwait and Bahrain, but the prevalence of shisha smoking was higher in Kuwait (Behbehani, Hamadeh and Macklai, 2004).

2.6 Attitudes and opinions of French cardiologists towards smoking

To assess attitudes and opinions of French cardiologists towards tobacco, a postal survey was performed in 1993 of all members of the French Society of Cardiology using a questionnaire designed by the World Health Organization (WHO) and the International Union against tuberculosis and lung diseases (IUATLD) for health professionals. 730 cardiologists responded to the mailing. The mean age of them was 47±9 years, 84% were males. The prevalence of smoking was 27% (14% daily smokers and 13% occasionally smokers). There were more never smokers in age group <45 than in those aged 45 and more (33% vs. 21%). Of daily smokers, 42% claimed to have made a serious attempt to stop smoking, but only 16% expected to have stopped within five years of the survey. French cardiologists aged 29–45 years had a better knowledge of tobacco related respiratory and cardiovascular diseases than those over 45 years old. Only 64% (54% of daily smokers) would counsel a patient to stop smoking if he did not have a smoking related illness and did not raise the question. 53% thought they had sufficient knowledge to advise their patients on stopping smoking. The results compared to those of the French general practitioners survey, showed a lower prevalence of daily smokers. French cardiologists especially those aged 29–45, have a better knowledge of the risk of cardiovascular diseases. But only 64% of them would advise any smoker patients. These results also demonstrated the influence of personal smoking of the attitude of cardiologists towards smoker patients (Tessier et al., 1995).

2.7 Smoking habits and attitudes towards smoking among Estonian physicians

This study examined the smoking habits and attitudes towards smoking among Estonian physicians. Cross-sectional data for 2668 physicians were gathered by a self-administered postal survey. The current smoking prevalence was 24.9% for male physicians and 10.8% for female physicians. The percentages of ex-smokers were 32.9 and 16.8%, respectively. Smoking prevalence among physicians was below the levels reported for the highest educational bracket of the total population in Estonia. Non-smoking physicians had more unfavorable views towards smoking than those who smoked. The majority of physicians were aware of the association between smoking and various diseases, with significant differences between smokers and nonsmokers. Non-smoking physicians were more active in asking patients about smoking habits than those who smoked. Most Estonian physicians, especially those who smoked, failed to perceive themselves as positive role models. This study found a lower prevalence of smoking among physicians compared with the general population, and demonstrated the impact of personal smoking on physicians' attitudes towards smoking. The results provide an important challenge to medical education in Estonia (Pärna, Rahu and Rahu, 2005).

2.8 Smoking Prevalence and Attitudes toward Smoking among Japanese Physicians

To estimate the nationwide prevalence of smoking and determine the attitudes toward smoking among Japanese physicians descriptive study in which anonymous questionnaires were mailed to 4500 randomly selected physician members of the Japan Medical Association in the year 2000, which represents 63% of all Japanese physicians; 3771 (84%) respondents were included in the analysis of Smoking prevalence among physicians, history of smoking, and attitudes toward smoking. The prevalence of cigarette smoking among physicians was 27.1% for men and 6.8% for women, about half the age-adjusted prevalence among the general Japanese population. Smoking

prevalence was higher among male physicians in Japan than those in the United States (3%-10%) and the United Kingdom (4%-5%). Smoking prevalence differed by age, with the highest prevalence among male past smokers aged 70 years or older (51.8%; 95% confidence interval [CI], 47.4%-56.2%). Among male current smokers, the highest rates were for those aged 40 to 49 years (31%; 95% CI, 27.5%-34.5%); rates for female past smokers were highest among those aged 50 to 59 years (10.7%; 95% CI, 6.6%-14.8%) and for female current smokers were highest among those aged 70 years or older (8.2%; 95% CI, 4.8%-11.6%). Nonsmoking physicians had more unfavorable views toward smoking and were more active in encouraging patients not to smoke than those physicians who smoked. The survey concluded that smoking cessation programs should be introduced among Japanese physicians to reduce the number of smoking physicians. Also, a continuing education program should be instituted to motivate physicians about their role in society (Ohida, 2001).

2.9 Physician assessment of patient smoking in Indonesia: A public health priority

To explore Indonesian physician's smoking behaviors, their attitudes and clinical practices towards smoking cessation this Cross-sectional survey was done. Physicians working in Jogjakarta Province, Indonesia, between October and December 2003.447 of 690 (65%) physicians with clinical responsibilities responded to the survey (236 men, 211women), of which 15% were medical faculty, 35% residents and 50% community physicians.22% of male (n = 50) and 1% of female (n = 2) physicians were current smokers. Approximately 72% of physicians did not routinely ask about their patient's smoking status. A majority of physicians (80%) believed that smoking up to 10 cigarettes

a day was not harmful for health. The predictors for asking patients about smoking were being male, a non-smoker and a medical resident. The odds of advising patients to quit were significantly greater among physicians who perceived themselves as sufficiently trained in smoking cessation. Lack of training in smoking cessation seems to be a major obstacle to physicians actively engaging in smoking cessation activities. The result concluded that Indonesian physicians need to be educated on the importance of routinely asking their patients about their tobacco use and offering practical advice on how to quit smoking (Ng et al., 2007).

2.10 Tobacco use prevalence, knowledge, and attitudes among newly diagnosed tuberculosis patients in Penang State and Wilayah Persekutuan Kuala Lumpur, Malaysia

There is sufficient evidence to conclude that tobacco smoking is strongly linked to tuberculosis (TB) and a large proportion of TB patients may be active smokers. In addition, a previous analysis has suggested that a considerable proportion of the global burden of TB may be attributable to smoking. However, there is paucity of information on the prevalence of tobacco smoking among TB patients in Malaysia. Moreover, the tobacco-related knowledge, attitudes, and behaviors of TB patients who are smokers have not been previously explored. This study aimed to document the prevalence of smoking among newly diagnosed TB patients and to learn about the tobacco use knowledge and attitudes of those who are smokers among this population. Data were generated on prevalence rates of smoking among newly diagnosed TB patients in the State of Penang from January 2008 to December 2008. The data were obtained based on a review of routinely collated data from the quarterly report on TB case registration. The study setting comprised of five healthcare facilities (TB clinics) located within

Penang and Wilayah Persekutuan, Kuala Lumpur health districts in Malaysia, which were involved in a larger project, known as SCIDOTS Project. A 58-item questionnaire was used to assess the tobacco use knowledge, attitudes and behaviors of those TB patients who were smokers. Smoking status was determinant in 817 of 943 new cases of TB from January to December 2008. Of this, it was estimated that the prevalence rates of current- and ex-smoking among the TB patients were 40.27% (329/817) and 13.95% (114/817), respectively. The prevalence of ever-smoking among patients with TB was estimated to be 54,220 per 100,000 populations. Of 120 eligible participants for the SCIDOTS Project, 88 responded to the survey (73.3% response rate) and 80 surveys were analyzed (66.7% usable rate). The mean (± SD) total score of tobacco use knowledge items was 4.23 ± 2.66 (maximum possible score=11). More than half of the participants (51.3%) were moderately dependent to nicotine. A moderately large proportion of the respondents (41.2%) reported that they have ever attempted to quit smoking, while more than half (56.3%) have not. Less than half (47.5%) of the study participants had knowledge about the body system on which cigarette smoking has the greatest negative effect. The majority wrongly believed that smokeless tobacco can increase athletic performance (60%) and that it is a safe and harmless product (46.2%). An overwhelming proportion (>80%) of the patients believed that: smoking is a waste of money, tobacco use is very dangerous to health, and that smokers are more likely to die from heart disease when compared with non-smokers. The use of smokeless tobacco was moderately prevalent among the participants with 28.8% reporting ever snuffed, but the use of cigar and pipe was uncommon (Awaisu et al., 2010).

2.11 Smoking Habits among Physicians in Two Gulf Countries

The smoking habit of physicians in United Arab Emirates (UAE) and Kuwait were studied as first step towards surveying the habit among medical professionals. A cross-sectional

survey was conducted in Kuwait between January-June 1990. Out of the 300 physicians who were contacted 252 (84%) completed the questionnaires, 190 (75%) were males and 62 (25%) were females. Among male physicians, current smokers were 86 (45.3%), ex-smokers were 34 (17.9%) and non- smokers were 70 (36.8%), while among the female physicians 10 (16%) were smokers and 52 (84%) were non-smokers. This cross-sectional study was conducted between De camber 1991-November 1992 to identify the extent of smoking among physicians in UAE. Of the 300 physicians, 275 (91.6%) responded, 214 (77.8%) were males and 61 (22.2%)were females. Among the males, current smokers were 94 (43.9%), ex-smokers were 32 (14.9%) and non-smokers were 88 (41.2%), while among the females 5 (8.2%) were smokers, 3 (4.9%) were ex-smokers and 53 (86.9%) were non-smokers. Most important factors responsible for non-smoking doctors for not taking up smoking were: 'Protection of health', 'Self- discipline' and 'to set a good example to others'. The majority of physicians in UAE (91.3%) and Kuwait (75.6%) strongly agreed that smoking is hazardous to health. The results revealed that less than 50% of physicians provide information to over 70% of smoking patients. The majority of physicians and health professionals were aware of association between smoking and various diseases. The ill- effects of tobacco smoking particularly as a major cause in relation to lung cancer, chronic bronchitis, coronary artery diseases, and pulmonary emphysema and laryngeal cancer were widely and correctly known by all categories of doctors in both Gulf countries, UAE and Kuwait. The options favored by doctors for preventing smoking included a ban on tobacco advertising, specific health warming on cigarette packs and restriction of smoking in public places, particularly hospitals and primary health clinics (Bener, Gomes and Anderson, 1993).

2.12 Prevalence of smoking habits, attitudes, knowledge and beliefs among Health Professional School students: a crosssectional study

A cross-sectional study was carried out in Catania University Medical Schools. The GHPSS questionnaires were self-administered. Logistic regression model was performed. The level of significance was $p < 0.05$. 422 students answered to the questionnaire. Prevalence of current smokers was 38.2%. 94.3% of the total sample believes that health professionals should receive specific training to quit smoking, but only 21.3% of the sample received it during the study courses. Given the high prevalence of smokers among health professionals and their key role both as advisers and behavioral models, our results highlight the importance of focusing attention on smoking cessation training addressed to them (Ferrante et al., 2013).

Chapter 3

Methodology

3.1Type of the Study

It was a Questionnaire based study.

3.2 Study Area

The name of urban area hospital list is given below:

Table: 3.1. The list of urban hospitals

The list of Urban hospitals
1. Appollo Hospital
2. Birdem
3. Care Medical Center
4. Central Hospital
5. China Bangla Hospital
6. Cholera Hospital
7. CMH
8. Community Maternity Hospital
9. Dhaka Community Hospital 10. Dhaka Medical College And Hospital
11. Dhaka National Hospital
12. Dhaka Shishu Hospital
13. Doctors General Hospital
14. Eden Multicare Hospital
15. General Hospital
16. Greenlife Hospital
17. Health And Hope Hospital

18. Lab Aid Hospital
19. Mugda General Hospital
20. National Kidney Foundation
21. ShahidSuhrawardy Hospital
22. Shamorita Hospital 23. Sir Salimullah Medical College And Hospital
24. Square Hospital
25. United Hospital

3.3 Study Population

In this study, a total number of 200 doctors with the age range of 25 to 53 years. All were practicing doctors in different hospitals and private chambers in urban area of Bangladesh. They were surveyed with a questionnaire in order to assess the knowledge, perception and attitude regarding smoking. Informed consent was obtained from the eligible participants before interviewed and participants who agreed to join the study provided the required information for the studies.

3.4 Study Period

The duration of the study was about five months starting from August to December in 2016 and conducted in 25 hospitals.

3.5 Questionnaire Development (Intentionally kept incomplete)

The pre-tested questionnaire was specially designed to collect the simple background data and the needed information. The questionnaire was written in simple English in order to avoid unnecessary semantic misunderstanding. The questionnaire was pilot

tested to ensure it was understandable by the participants. Extra space was however, allowed after some questions for the participants' comments; and in most cases, these were used as qualifying remarks which aided considerably in giving answers to specific questions and in providing additional information which assisted the interviewers in drawing up conclusions.

3.6 Sampling Technique

In this study purposive sampling technique was followed.

3.7 Data analysis

After collecting, the data were checked and analyzed with the help of Microsoft Excel 2010. The result was shown in bar, pie and column chart and calculated the Percentage of the knowledge attitude and perception regarding smoking.

3.8 Model of Questionnaire

1. Age: _____ 2. Gender: • Male • Female

3. Hospital: _____ 4. Hospital Area: Rural Urban

5. Your smoking status: never smoked • Current smoker • Former smoker

8. What do you think are the reasons for your smoking?

• Stress relief • Image perception • Companionship / Peer Pressure

• Leisurely Independence • Sign of masculinity • Relief of anger and frustration

Chapter 4

Result

4.1. Gender Distribution

Table 4.1: Gender distribution

Gender distribution	No of respondents	Percentage (%)
Male	**162**	**81%**
Female	**38**	**19%**

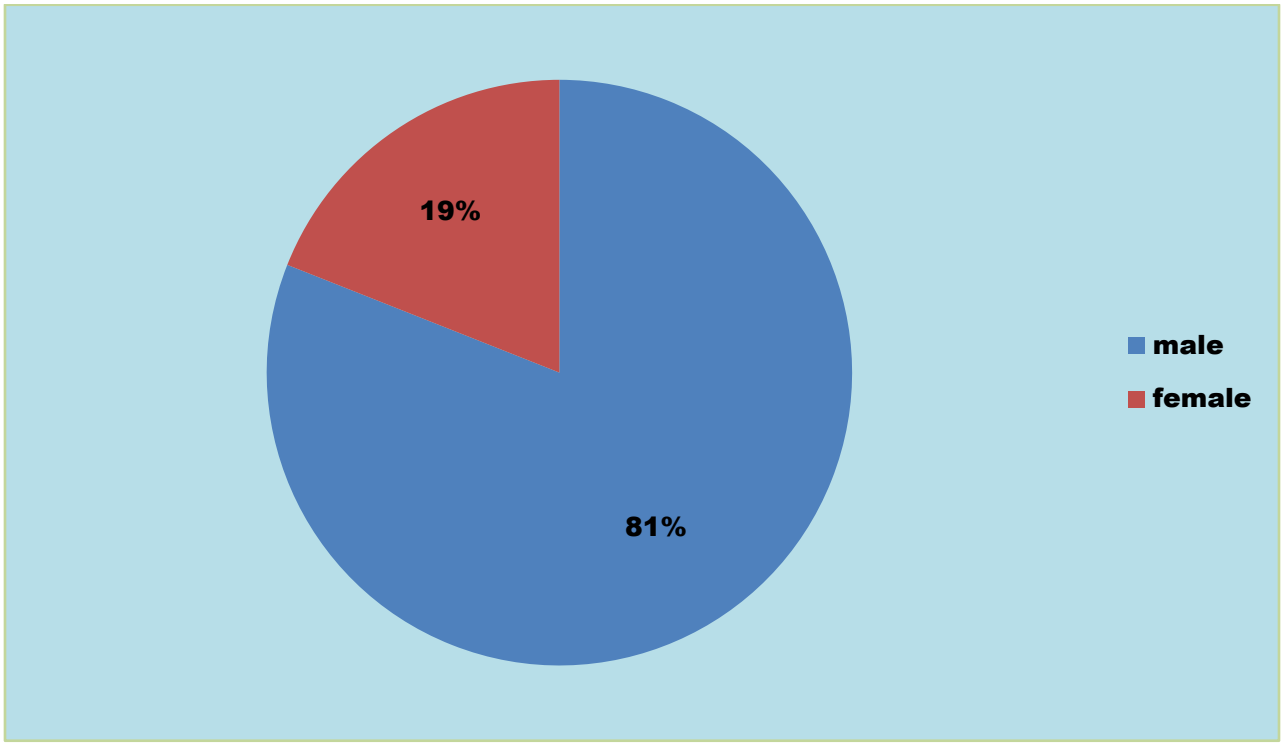


Figure 4.1: Gender distribution

Most of the respondents were male (81%)

4.2 Smoking status of doctors

Table 4.2 Smoking status of Doctors

	Never smoked		Current smoker		Former smoker	
	Male	Female	Male	Female	Male	Female
No	46	24	94	11	22	3
Percentage	28.39%	63.15%	58.02%	28.94%	13.58%	7.89%

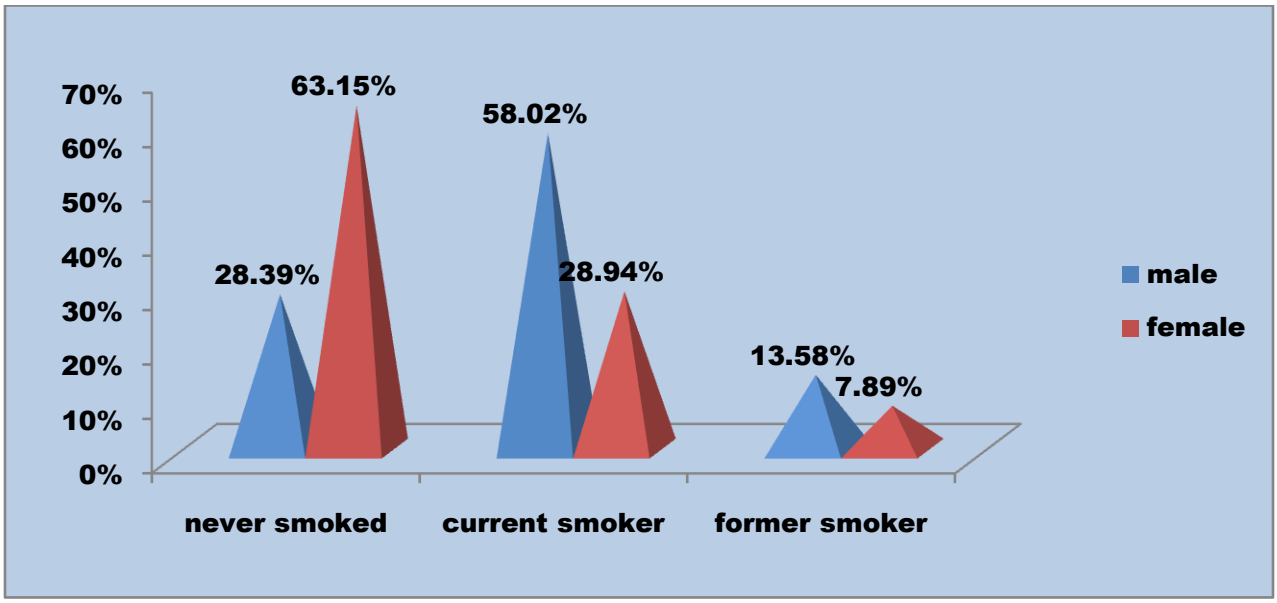


Figure.4.2: Smoking status of Doctors

Most doctor responds to that they never smoked in their life. A significant number of doctors (58.02% male and 28.94% female doctors) are current smoker and rests of them are former smoker.

4.3 Statement of Doctors

4.3.1 Restriction of buying cigarettes under age 16

Table 4.3 Restriction of buying cigarettes under age 16

	Agree		Disagree		Neither agree nor disagree	
	Male	Female	Male	Female	Male	Female
NO	125	27	28	5	9	6
Percentage	77.16%	71.05%	17.28%	13.15%	5.55%	15.78%

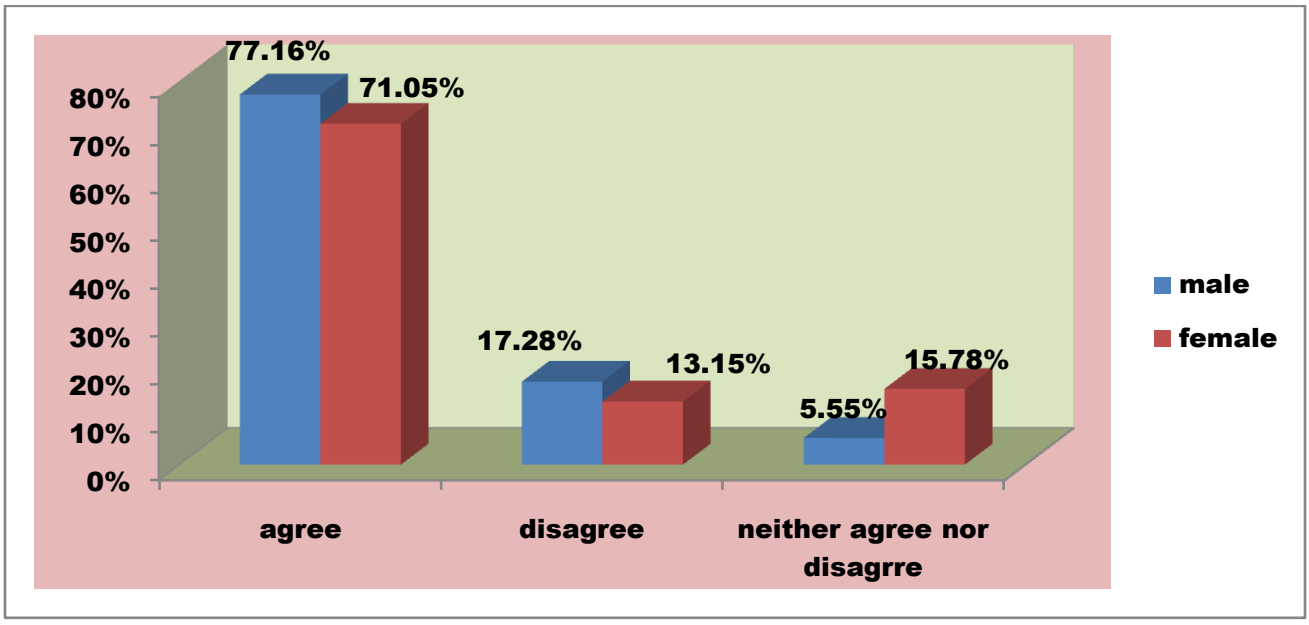


Figure4.3: Restriction of buying cigarettes under age 16

The doctors (77.16% male and 71.05% female) strongly agree to the fact that children under age of 16 shouldn't allowed to buy cigarettes.

4.3.2 Strict law against public smoking

Table 4.4: Strict law against public smoking

	Agree		Disagree		Neither agree nor disagree	
	Male	Female	Male	Female	Male	Female
NO	99	26	53	4	10	8
Percentage	61.11%	68.42%	32.71%	10.52%	6.17%	21.05%

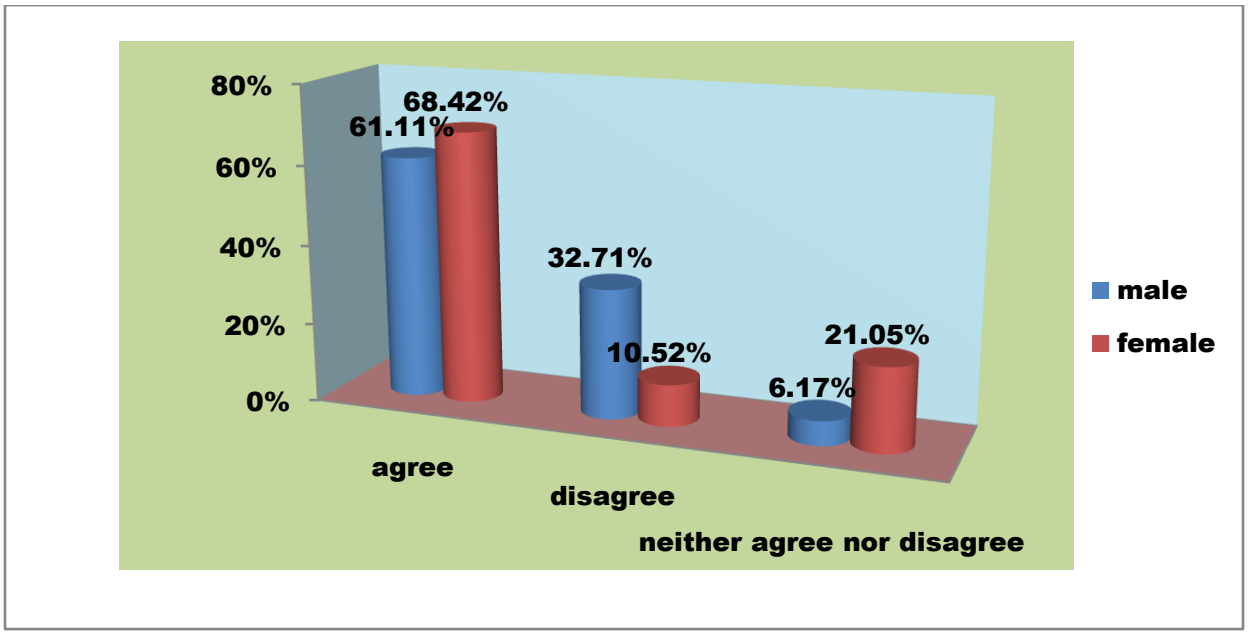


Figure4.4: Strict law against public smoking

Most of the doctors (61.11% male and 68.42% female) agreed to the fact that there should be strict law enforcement to stop public smoking.

4.3.3 Prohibition of smoking advertisement

Table 4.5: Prohibition of smoking advertisement

	Agree		Disagree		Neither agree nor disagree	
	Male	Female	Male	Female	Male	Female
NO	114	31	22.83	13.15	6.79	5.26
Percentage	70.37%	81.57%	22.83%	13.15%	6.79%	5.26%

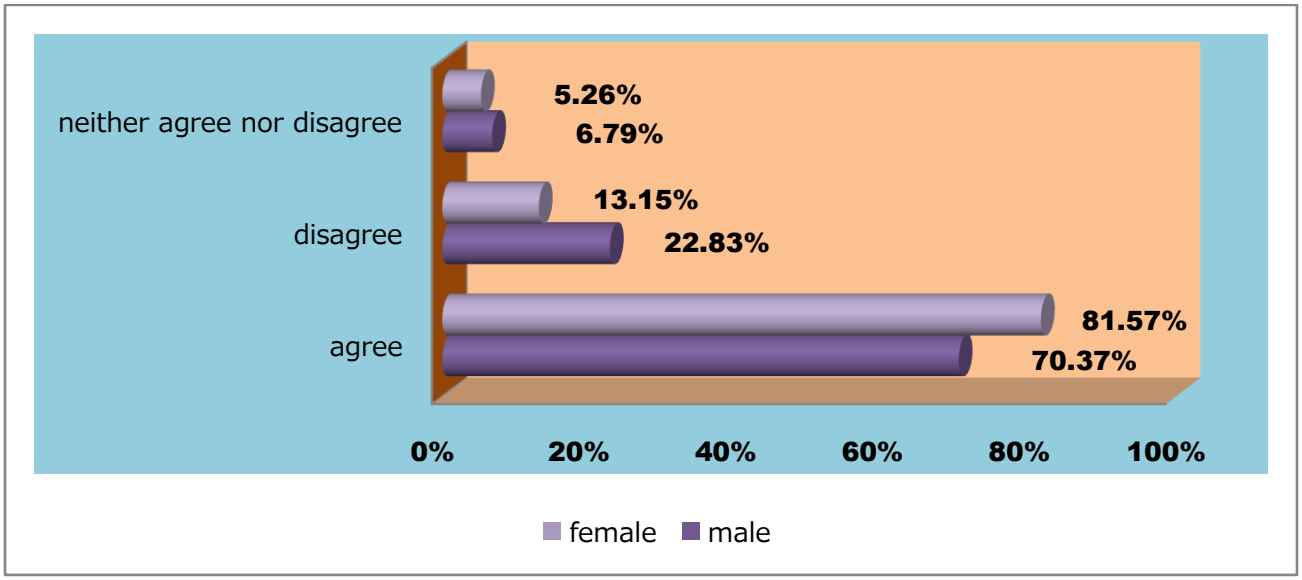


Figure 4.5:Prohibition of smoking advertisement

Majority of the doctors (81.57% male and 70.37% female) think that smoking advertisement should not be presented in the media.

4.3.4 Organizing smoking awareness program

Table 4.6: Organizing smoking awareness program

	Agree		Disagree		Neither agree nor disagree	
	Male	Female	Male	Female	Male	Female
NO	116	35	33	0	13	3
Percentage	71.60%	92.10%	20.37%	0%	8.02%	7.89%

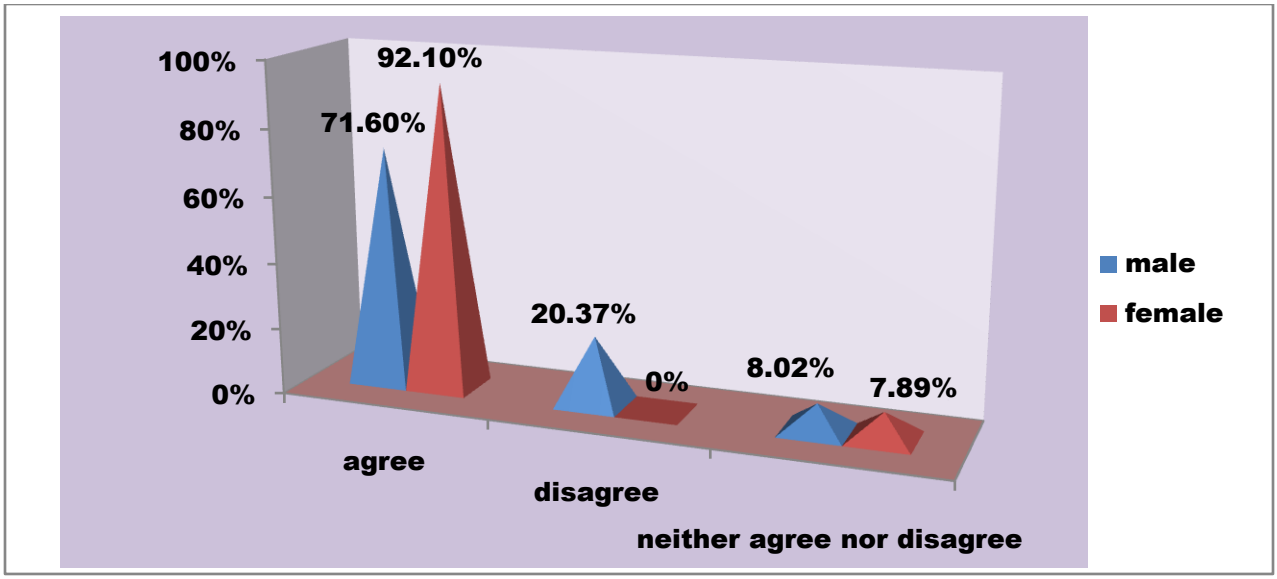


Figure 4.6: Organizing smoking awareness program

Most of the doctors feel that it is necessary of smoking awareness program from them 92.10% were female and 71.60% were male.

4.3.5 Enrichment of academic curriculum regarding smoking

Table 4.7: Enrichment of academic curriculum regarding smoking

	Agree		Disagree		Neither agree nor disagree	
	Male	Female	Male	Female	Male	Female
NO	113	31	20	5	29	2
Percentage	69.75%	81.57%	12.34%	13.15%	17.90%	5.26%

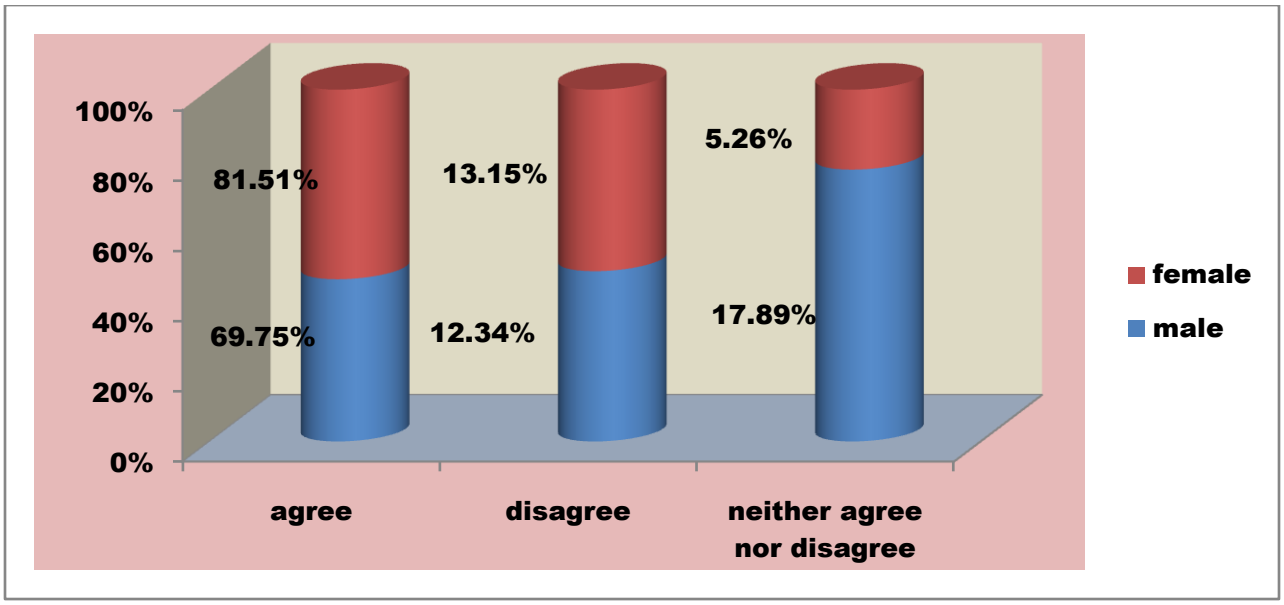


Figure 4.7: Enrichment of academic curriculum regarding smoking

Maximum doctors (81.51% female and 69.75% male) think that academic curriculum should contain information on harmful smoking effect of smoking for awareness.

4.4 Reasons for smoking

Table 4.8: Reasons for smoking

Reasons for smoking	No of respondents	Percentage
Stress relief	32	16%
Image perception	53	26.50%
Companionship/peer pressure	16	8%
Leisurely Independence	15	7.50%
Sign of masculinity	37	18.50%
Relief of anger and frustration	45	22.50%

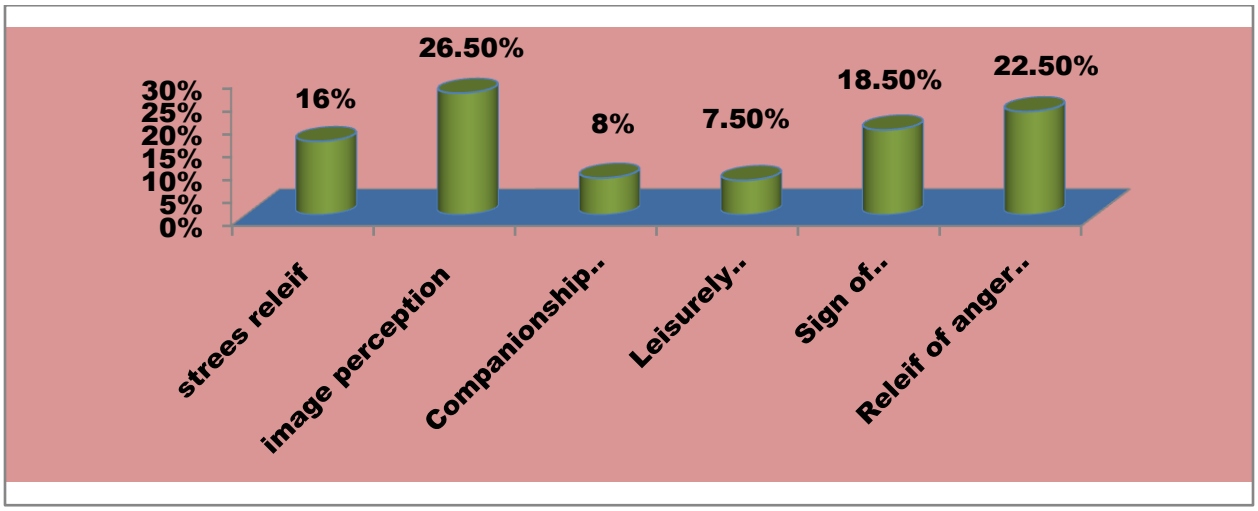


Figure 4.8: Reasons for smoking

Nowadays image perception is the best reason among all the reason for smoking, which is (26.50%).

4.5 Comply on the restriction of smoking in their area

Table 4.9: Comply on the restriction of smoking in their area

Comply on the restriction of smoking in their area	No of respondents	Percentage (%)
Yes	83	41.50%
no	117	58.50%

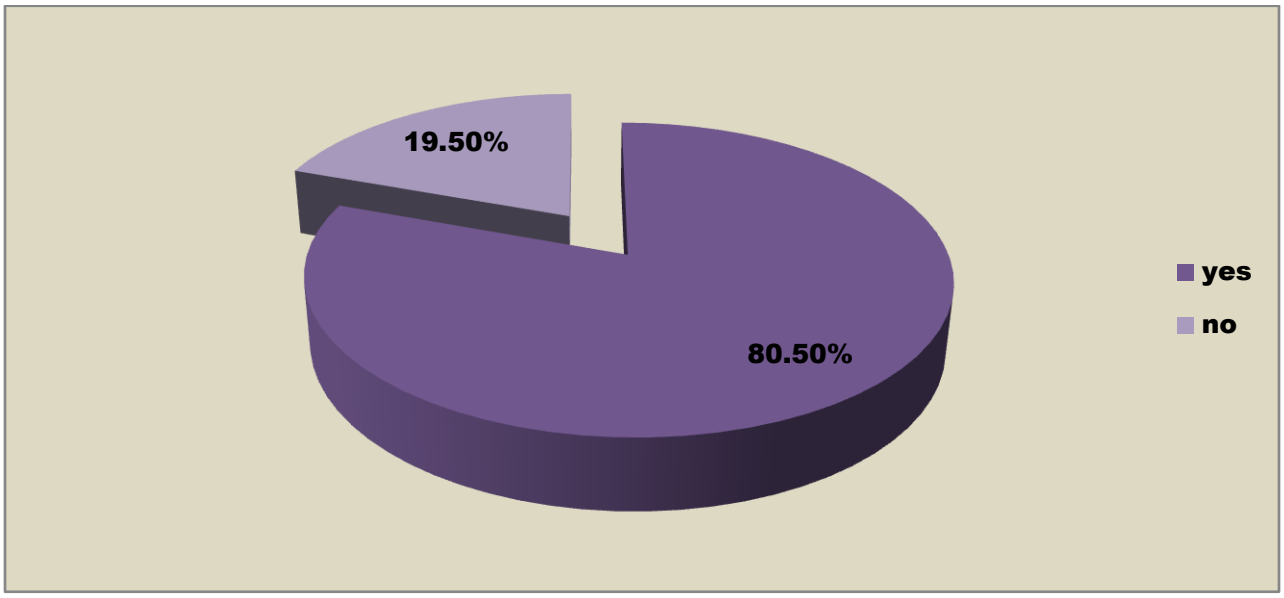


Figure 4.9:Comply on the restriction of smoking in their area

80.50% of the doctors feel that they will comply with the restriction of smoking and their self-area but 19.50% felt otherwise.

4.6 Asking about patients smoking status

Table 4.10: Asking about patients smoking status

Asking about patients smoking status	No of respondents	Percentage (%)
Yes	147	73.50%
No	53	26.50%

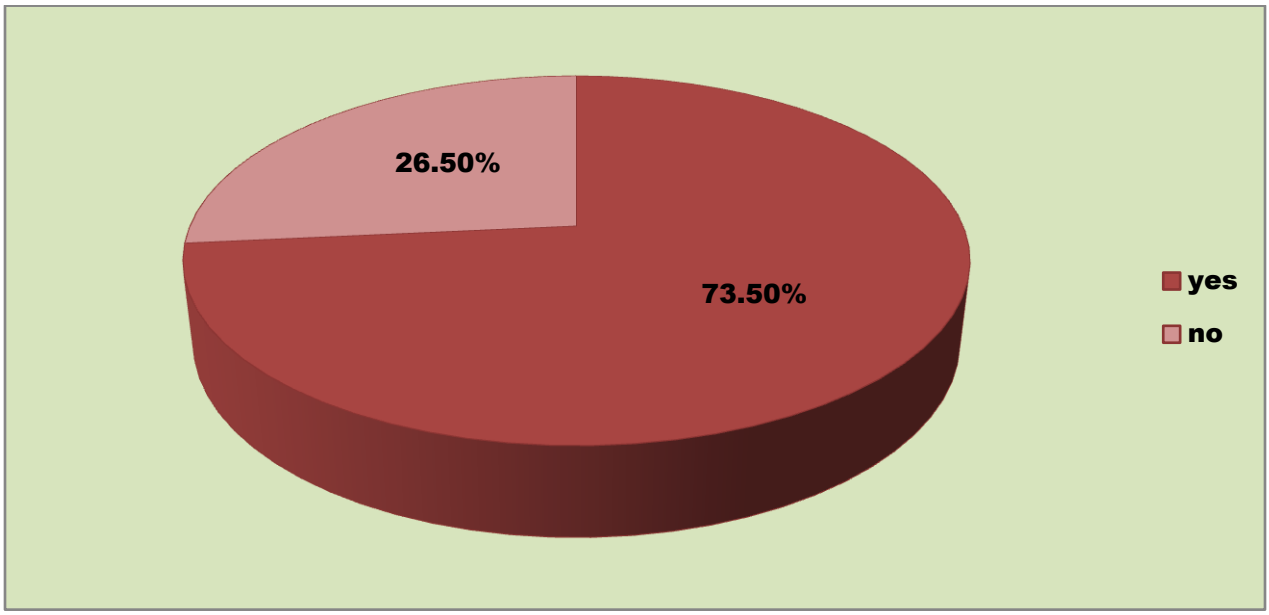


Figure 4.10: Asking about patients smoking status

The majority of the doctors (73.50%) responded that they ask their patients about their smoking status rest of them skip it.

4.7 Encouraging patient non-smoking

Table 4.11: Encouraging patient non-smoking

Encouraging patient non-smoking	No of respondents	Percentage (%)
Yes	154	77%
No	46	23%

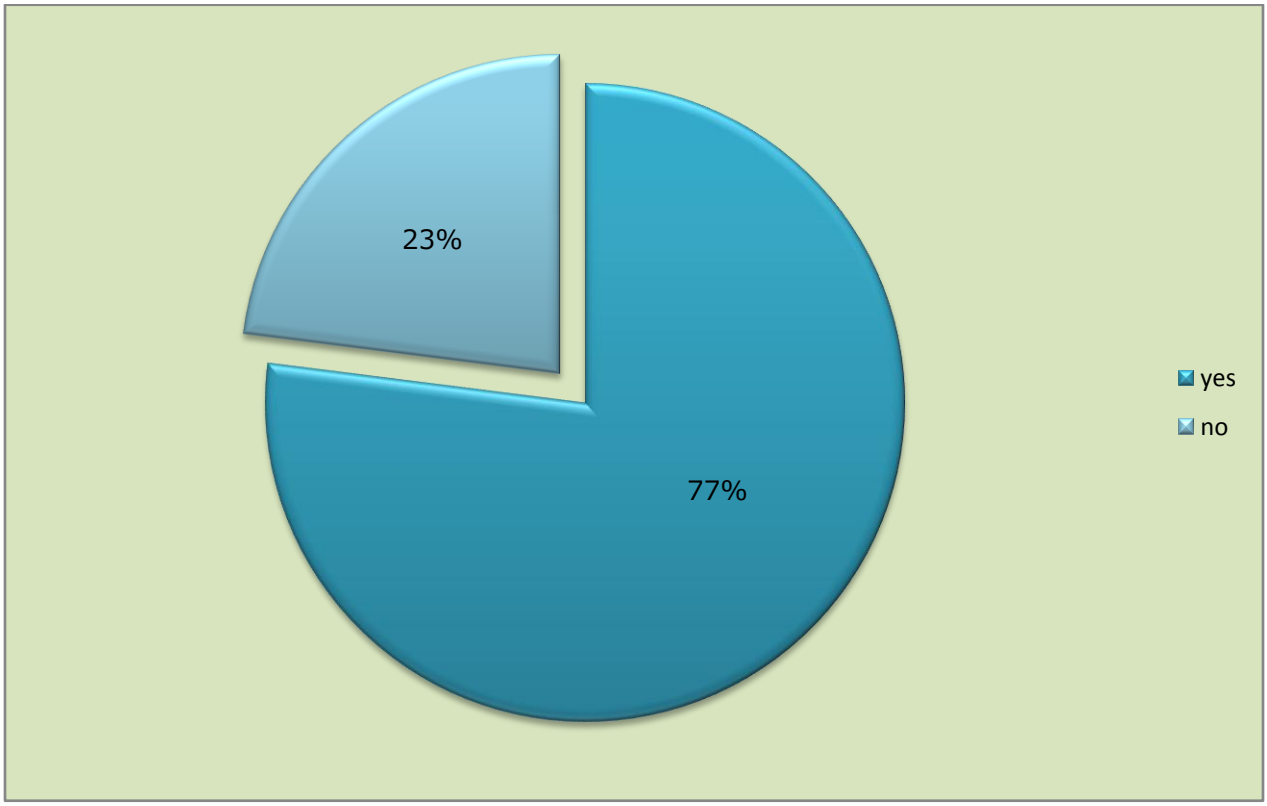


Figure 4.11:Encouraging patient non-smoking

Most of the doctors (77%) answered that they encourage their patients to quit smoking.

4.8 Discussion of smoking with patients

Table 4.12: Discussion of smoking with patients

Discussion of smoking with patients	No of respondents	Percentage (%)
Yes	**161**	**80.50%**
No	**39**	**19.50%**

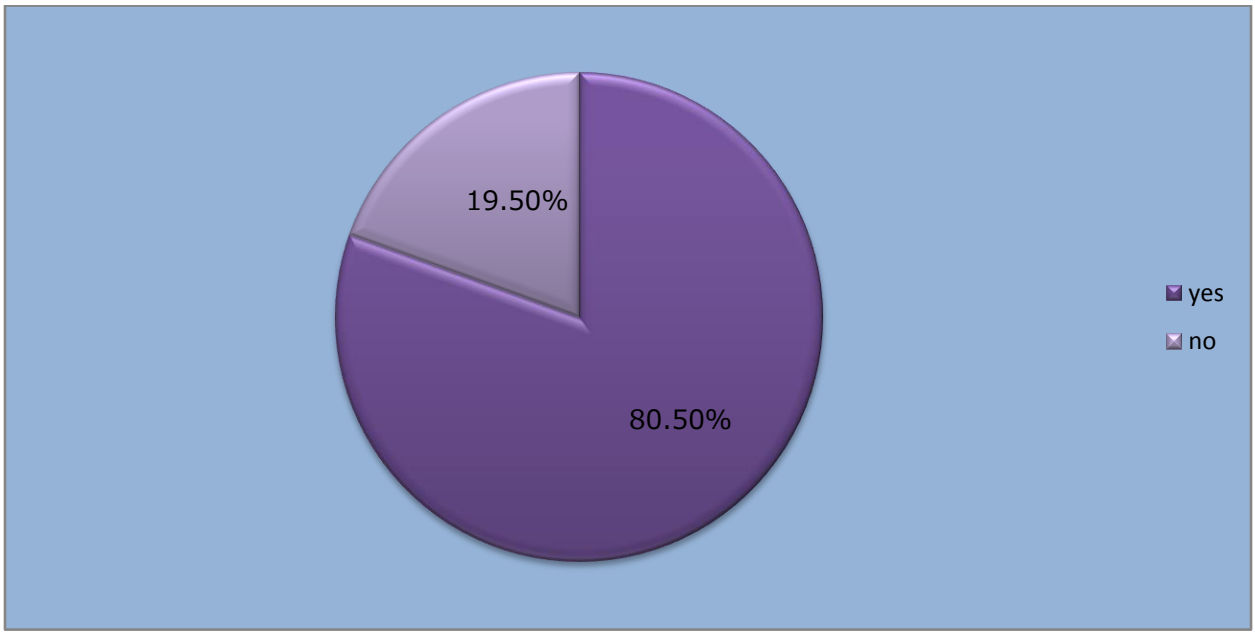


Figure 4.12: Discussion of smoking with patients

80.50% of the doctors said that they discuss the risk factors of smoking with their patients and rest of them said the opposite.

4.9 Reasons for not quite smoking

Table 4.13: Reasons for not quite smoking

Reasons for not quite smoking	No of respondents	Percentage (%)
Trying	6	9%
Passion	12	17.14%
Habit	14	20%
Addiction	30	42.85%
Others	8	11.42%

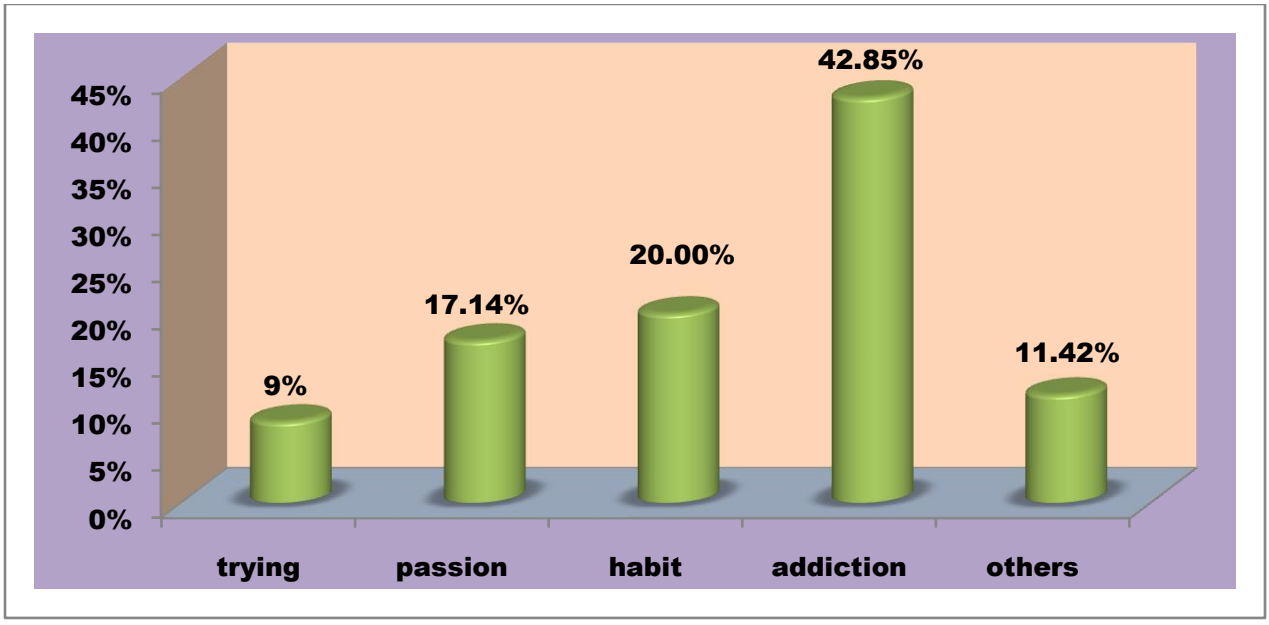


Figure 4.13:Reasons for not quit smoking

The majority of doctors 42.85% answered that they are addicted to smoking and very little amount of doctors 9% answered that they were trying to quit smoking.

Chapter 5

Discussion

&

Conclusion

Discussion

Smoking has been called the chief, single, avoidable cause of death in our society and the most important public health issue of our time. Many people are doing lots of harm to themselves by doing active smoking and many people believe that people will only get affected by active smoking. But scariest part is many people are exposed to the smoking by an active smoker and they are harmed by this passive smoking. People can have an increased risk of lung cancer and heart disease if they are exposed to other people smoking for long periods of time. For example, the risk of developing lung cancer is increased by about 20-30% in people who are regularly exposed to other people's cigarette smoke. Cigarette smoke is also an irritant, and can make asthma and other conditions worse. So it can be said that passive smoking is as much as harmful as active smoking.

But while conducting this study, it was found that 29% of the male physicians in this country were involved in smoking which was quite high if the study of Bener, Gomes and Anderson, 1993 is compared where 43.9% of the Kuwaiti doctors were current smokers. Though the female current smoker of this country was quite low compared to the female doctors of Kuwait where 8.2% of the Kuwaiti female doctors were current smokers and ours was only 6.25%. (Bener, Gomes and Anderson, 1993)

Physicians can play a key role in creating awareness about passive smoking and its harmful effect. But in a study conducted in Indonesia in 2007 suggested that approximately 72% of physicians did not routinely ask about their patient’s smoking status which is quite alarming and almost 80% believed that smoking up to 10 cigarettes

a day was not harmful for health (Ng et al., 2007). But in this study, it was found that physician's city is quite concerned about the smoking habit of their patients. As a result, almost 73.50% doctors asked about patient smoking status and around 77% doctors encouraged their patients to quit smoking in Bangladesh.

While asking about the reason behind their smoking, 42.85% said that they smoked for their addiction 17.14% of them said to passion. Peer pressure also a major reason for smoking. Due to these reasons physicians also found it quite hard to quit this habit.

Though huge numbers of physicians were involved in smoking, it was seen that they were quite supportive against banning smoking and creating awareness among the common people. Around 77.16% male and 71.05% doctors felt that children under age of 16 should not have any privilege of buying cigarettes where 69.75% male and 81.51% female doctors believed that academic curriculum should contain information on harmful effects of smoking to increase the awareness of the impacts of active and passive smoking. To prevent against the detrimental effects of passive smoking, 61.11% male and 68.42% female doctors demanded for a strict law against public smoking, 70.37% male and 81.57% female doctors said there should be a ban on advertisement about smoking. 73.50% of the doctors they all ask their patients about their smoking status where 80% of the doctors they answered they discuss about the risks of smoking with all their patients and 77% of doctors they are encouraging smoker patients not to smoke.

Physicians and health care professionals have a prominent role to play in tobacco control. They have the trust of the population, the media and opinion leaders, and their voices are heard across a vast range of social, economic and political arenas. At the

individual level, they can educate the population on the harms of tobacco use and exposure to second-hand smoke. They can also help tobacco users overcome their addiction.

Conclusion

By this study, it can be concluded that attitude and perception about smoking are not good state at all. Because many of the doctors are not answering all the question . Active smoking is a well-known fact to the general patients and doctors of Bangladesh and most of them well aware about the harm of active smoking. Most of the people are exposed to active smoking and most of them take steps to quit the smoke. Most of the doctors are not support smoking and also take some initiatives to quit smoking. However all the doctors also gives advice to their patients how they can stop smoking. It is however need to mention that this research was conducted on randomly chosen doctors and in a very small scale. So it doesn't reflect the whole idea.

Therefore it is suggested that if a conclusive result about the attitude and perception about smoking towards doctors is desired, further large scale researches should be conducted.

Chapter 6

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