A Retrospective Analytical Study of Smoking Cessation Services in Ras Al-Khaimah, United Arab Emirates

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Date of Examination: 26/5/2012.
It is with my true and everlasting love that I dedicate this study to my mother and father, brothers and sister, to my loving wife and my wonderful children.

Nazar
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A Retrospective Analytical Study of Smoking Cessation Services in Ras AL-Khaimah, United Arab Emirates

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For M.Sc. in Public and Environmental Health (May, 2012)
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ABSTRACT

Tobacco use is the leading cause of preventable death, and is estimated to kill more than 5 million people each year worldwide – more than tuberculosis, HIV/AIDS and malaria combined (WHO 2008). Tobacco smoke contains over 4000 chemical compounds including tar, carbon monoxide, nicotine, hydrogen cyanide, acetone, ammonia, arsenic, phenol, naphthalene, cadmium and polyvinyl chloride. Many of these agents are toxic and at least 43 can cause cancer (CDC 2007). Smoking kills or disables many people in their most productive years, which denies families their primary wage-earners, consumes family budgets, raises the cost of health care and hinders economic development (WHO 2004). While there are some costs associated with tobacco control and smoking cessation programs, these costs can be overwhelmingly offset by raising taxes on tobacco products – which themselves are highly effective at reducing tobacco use (WHO 2008). This study conducted at Ras Al Khaimah, UAE aimed to observe the characteristics, attitudes and various trends among subjects who attended to the smoking cessation clinic during the study period as well as the efficacy of the services provided to them. All subjects had received treatment in accordance with evidence based guidelines delivered by certified healthcare professionals; data was obtained from records of 417 clients who fit the selection criteria. The main findings of the study were that most of the subjects had started smoking at a young age; less than 20 years old (77.9%) and did not seek assistance to quit smoking until they had been smoking for more than ten years (60.2%). The study also observed that most of the subjects had started smoking because they were influenced by the marketing strategies of the tobacco industry (44.1%), peer influence (36%) and parental smoking influence (17.8%). Many of the subjects reported that they were driven by healthcare provider advice in their attempt to quit smoking (36.4%). The study found that the success rate of quitting smoking was increased by attending more than three treatment sessions and by combining counseling with the use of nicotine replacement therapy (P value 0.001). Findings from this study emphasized the fact that smoking is a chronic relapsing condition that should be dealt with accordingly. Based on these findings, it is recommended that smoking cessation services should be incorporated within all government healthcare services; healthcare providers should ask all clients about their smoking status and advise them to quit if they do smoke; clients who are attempting to quit smoking should be offered counseling and nicotine replacement therapy (NRT); healthcare providers should be trained and provided with the necessary resources to enable them to deliver smoking cessation services in accordance with evidence based guidelines and further research should be conducted on tobacco control issues.
دراسة تحليلية لخدمات الإقلاع عن التدخين في إمارة رأس الخيمة، دولة الإمارات العربية المتحدة (2011م)
نزار خالد حسن حمد
ماجستير العلوم في الصحة العامة وصحة البيئة (مايو 2012م)
قسم الصحة العامة
كلية العلوم الصحية والبيئية
جامعة الجزيرة
خلاصة البحث
تعاطي التبغ هو السبب الرئيسي لوفيات التدخين في العالم. وفقًا لمنظمة الصحة العالمية (WHO)، يقدر أن يقتل أكثر من 5 ملايين شخص كل عام في جميع أنحاء العالم. والتدخين يحتوي على مركبات كيميائية تؤدي إلى حدوث أضرار صحية خطيرة مثل السرطان والقرحة المعدة والتأهيلية وغيرها. والتدخين الطيفي والتدخين الإفراطى يسببان التهابات الجهاز التنفسي والقلب. وتشدد أنماط الحياة والبيئة على التدخين ونتيجةً لذلك، ينخفض المستوى العام للصحة.

وفقًا لبرنامج القيادة الصحية في الإمارات العربية المتحدة، فإن استمرار التدخين يشكل مصدرًا للأرقام العالية من الأمراض الدائمة. حيث يشير التقرير أن 98% من الذين يدخنون يواجهون خطرًا أكبر من الوفاة بسبب الأمراض القلبية والشريان التاجي وسرطان الرئة.

Telephone survey conducted in Ras Al Khaima health department in 2011 revealed that the rate of smoking in the Emirate was 20.7% of the total population. This rate is among the highest rates of smoking in the country. The survey also showed that the rate of smoking among males was 44.1% while the rate among females was 8.3%.

The study concluded that there is a need for more effective tobacco control policies and programs in Ras Al Khaima to reduce the rate of smoking and its associated health problems. It also highlighted the importance of public health education campaigns to raise awareness about the dangers of smoking and the benefits of quitting.
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CHAPTER ONE
INTRODUCTION

Tobacco use is the leading cause of preventable death, and is estimated to kill more than 5 million people each year worldwide—more than tuberculosis, HIV/AIDS and malaria combined (WHO, 2008). Most of these deaths are in low- and middle-income countries. The gap in deaths between low- and middle-income countries and high-income countries is expected to widen further over the next several decades if we do nothing. If current trends persist, tobacco will kill more than 8 million people worldwide each year by the year 2030, with 80% of these premature deaths in low- and middle-income countries. By the end of this century, tobacco may kill a billion people or more unless urgent action is taken (Mathers and Loncar, 2006).

It is difficult for the world’s more than 1 billion tobacco users to quit. However, most smokers want to quit when informed of the health risks (Peto, 1996). Although most who quit eventually do so without intervention, assistance greatly increases quit rates (U.S. Department of Health and Human Services, 2004).

Tobacco dependence treatment is primarily the responsibility of each country’s health-care system (Mathers and Loncar, 2006).

Despite their lower population-wide impact, individual cessation interventions have a significant impact on individual health and are extremely cost-effective compared with many other health system activities (Murray and Lopez, 1997).

People who quit smoking, regardless of their age, smoking history or health status, experience immediate and profound health benefits and can reduce most of the associated risks within a few years of quitting (Levine and Kinder, 2004).
Tobacco dependence treatment can include various methods, but programs should include: cessation advice incorporated into primary health-care services; easily accessible and free telephone quit lines; and access to free or low-cost cessation medicines. Integrated delivery of brief cessation counseling to tobacco users requires a well-functioning primary health-care system. Action to strengthen primary health care can draw on WHO developed health systems strengthening strategies to improve six health system building blocks; leadership/governance, health workforce, information support, medical products and technology, financing, and service delivery (Benowitz, 1996). Brief cessation counseling is relatively inexpensive when integrated into existing primary health-care services, is usually well received by patients, and is most effective when it includes clear, strong and personalized advice to quit (Peto, 1996).

There are many existing opportunities to incorporate brief cessation counseling into primary health-care services. Integration of brief cessation counseling into management and prevention of cardiovascular disease as well as tuberculosis care is already in process.

Doctors and other health-care workers should also serve as role models by not smoking themselves. Advice and counseling can also be provided in the form of telephone quit lines, which should be free of charge and accessible to the public at convenient times (WHO, 2007).

Cessation medications can double the likelihood that someone will successfully quit, and this probability increases even further if the medication is administered in conjunction with counseling. Nicotine replacement therapy (NRT) has recently been added to the 16th WHO model list of essential medicines because of the evidence of its effectiveness, acceptability, safety and cost effectiveness.
Wealthy countries with substantial financial resources should be expected to offer comprehensive quit smoking services at no or minimal cost, although low and medium-income countries can effectively implement at least some cessation services (Hendricks, 2006).

**Rationale**

Tobacco is the only legal consumer product that can harm everyone exposed to it—and it kills up to half of those who use it as intended. Yet, tobacco use is common throughout the world due to low prices, aggressive and widespread marketing, lack of awareness about its dangers, and inconsistent public policies against its use.

Most of tobacco’s damage to health does not become evident until years or even decades after the onset of use. So, while tobacco use is rising globally, the epidemic of tobacco-related disease and death has just begun.

But we can change the future. The tobacco epidemic is devastating, but preventable. The fight against tobacco must be engaged forcefully and quickly with no less urgency than battles against life-threatening infectious diseases. We can halt the tobacco epidemic and move towards a tobacco-free world but action must start immediately (WHO, 2008).

Tobacco and tobacco smoke contain thousands of chemicals. Many of these chemicals are well known to be toxic, carcinogenic, atherogenic, teratogenic and addictive; many have no known safe level of exposure. The chemicals found in tobacco and tobacco smoke include nicotine, tar, carbon monoxide, acetaldehyde, hydrogen cyanides, arsenic, chromium, DDT, formaldehyde, benzene,
N-nitrosamines, cadmium, nickel, beryllium and vinyl chloride (Surgeon General Report, 1988).

Globally, one person dies from tobacco use every 6.5 seconds; tobacco kills around 5 million smokers each year, or the equivalent of 13 699 people per day. This is in addition to the suffering caused through tobacco-related diseases and the burden of disease on individuals, families and society as a whole. Studies have shown that people who start smoking in their teens (as more than 70% do), and continue to do so for two decades or more will die 20-25 years earlier than those who have never smoked, thus losing some of the most productive years of their lives. Lung cancer and heart disease are two of the most common health problems encountered by smokers, but the general public is largely unaware that there are a wide range of other diseases and ill-effects associated with tobacco use which are not as widely publicized (Surgeon General Report, 1988).

Children, who represent the building blocks of the future, are a large and significant segment of the population who are involuntarily exposed to the harm that tobacco can cause. Society needs to acknowledge the harm that environmental tobacco smoke exposure causes to the health of children and exert efforts to protect them from exposure to this smoke. Adults need to abstain from tobacco use, not only to protect themselves but to protect the young and future generations from falling prey to deadly tobacco-related diseases. It is also important to raise public awareness of the fact that modifications made to the shape, intensity and flavor of tobacco products is just the tobacco industry’s way of masking the truth about the deadly effects of tobacco use. The issue of environmental tobacco smoke has been an arena of intense struggle between health advocates and the tobacco industry as it affects smokers and non-smokers alike, but also because it addresses more directly the question of choice when faced with the health hazards caused through tobacco.
This issue has the greatest potential to shape the outcome of tobacco control efforts (WHO-EMRO, 2005).

1.1 Objectives

1.1.1 General objective

To assess the efficacy of smoking cessation therapy in the study group.

1.1.2 Specific objectives

1. To identify the types of smoking cessation methods used.
2. To identify the types of smoked tobacco used and the age at which subjects started to smoke among the study group.
3. To identify reasons of initiating smoking and attempting to quit smoking among the study group.
4. To compare quitting rates in relation to cessation method used; counseling alone as counseling and nicotine replacement therapy.
5. To compare quitting rates in relation to the number of visits made to the smoking cessation clinic.
CHAPTER TWO
LITERATURE REVIEW

2.1 Health Effects of Smoking

2.1.1 Addiction and Psychological effects

Cigarettes and other forms of tobacco are addictive. Nicotine is the drug in tobacco that causes addiction; and it is also a psychoactive (mood altering) drug (Surgeon General Report, 1988).

Nicotine is a euphoriant and its withdrawal symptoms can include irritability, difficulty in concentrating, cognitive impairment, anxiety and weight gain (Cohen et al., 1991).

The pharmacological and behavioral processes that determine tobacco addiction are similar to those that determine addiction to other drugs, such as heroin and cocaine.

Environmental factors and social pressures are important in the initiation of tobacco use, patterns of its use, stopping smoking and resumption of its use after stopping (Surgeon General Report, 1988).

The problem of addiction to tobacco and nicotine is extremely serious as the symptoms of tobacco dependence can develop rapidly in some cases within just a few days, in others within a few weeks, and with minimum consumption. The development of even a single symptom of dependence strongly predicts the continued use of tobacco (DiFranza et al., 2002).

In one study, nicotine was found to be more addictive than other drugs surveyed (Kandel, 1997). Experimentally, volunteer smokers who received intravenous nicotine reported effects similar to those produced by other drugs of abuse, such as morphine or cocaine. Individuals with nicotine dependence had
higher rates of depression and anxiety disorders when compared to individuals with dependencies on other substances (Breslau et al., 1991).

The perception that smoking or nicotine alleviates stress is an erroneous perception, as nicotine, through its addictive and psychotropic effects, leads smokers to be in constant need for nicotine to feel ‘normal’, to reverse the tension and irritability that develop during nicotine depletion (Parrott, 1999) and to relieve the anxiety resulting from nicotine withdrawal symptoms (Parrott, 1999).

This chemical dependence can have other serious effects besides the actual addiction to nicotine and tobacco. For example, some brands of cigarettes are designed to contain or yield low nicotine levels. However, this leads many smokers to compensate for the low level nicotine by increasing the volume of smoke inhaled, leading to a two- to four-fold increase in their exposure to lung carcinogens. Thus, a much greater overall exposure results from smoking low nicotine cigarettes (Djordjevic, 1995).

Smokers in one study increased the total number of cigarettes they smoked in response to smoking low nicotine yield cigarettes (Petitti and Friedman, 1983). Smokers in another study also compensated by increasing their intake from each cigarette when cigarette smoke was diluted through the use of ventilated cigarette holders (Sutton, 1978). This belies the belief that low nicotine cigarettes are less harmful, or less addictive. It may also explain why the incidence of lung cancer and deaths from lung cancer has not declined despite the increasing trend for low tar and low nicotine cigarettes (American Thoracic Society, 1996).

Many individuals who are dependent on nicotine are able to give it up outside the context of a treatment program. Others, however, require the assistance of a formal cessation program that may include behavioral and pharmacological interventions to achieve lasting abstinence (Surgeon General Report, 1988).
2.2.2 The Respiratory System

Significantly increased incidences of lung cancer are reported for smokers, as an estimated 85%–90% of all cases of lung cancer are due to smoking. Smokers are between 20 and 30 times more likely to develop lung cancer compared to those who are not exposed to tobacco smoke (Ruano-Ravina et al., 2003).

Smoking causes a wide spectrum of respiratory and breathing-related diseases (American Thoracic Society, 1996). This includes airway diseases, such as chronic bronchitis and emphysema, where there is inflammation, narrowing and eventual destruction of the airways. At least 80% of these cases are due to smoking. These lung disorders cause progressive shortness of breath, frequent complicating illnesses, hospitalizations and severe disability, and require expensive treatments that do not reverse the course of the disease (Murin et al., 2000). Smoking leads to at least a twenty-fold increase in the risk of dying from a chronic obstructive lung disease (Doll and Peto, 1976). The average lung function and lung capacity in smokers is consistently worse than in nonsmokers, with up to double the rate of decline with age, even in smokers who do not develop chronic bronchitis or emphysema. People who are exposed to cigarette smoke earlier in their lives have a significantly increased chance of developing asthma. In people with asthma, tobacco smoke increases the rate of deterioration of the lungs’ function and capacity, and over time worsens the condition and makes it more difficult to control. It leads to more frequent hospitalizations and emergency room visits (Apostol, 2003). Smokers are also more likely to require mechanical ventilation (respirator) upon hospitalization (Leson and Gershwin, 1995). The risk of complications, such as lung infections, is significantly higher among smokers as compared to non-smokers (Murin et al., 2000).

In people who have already developed a chronic obstructive lung disease, such as chronic bronchitis or emphysema, stopping smoking results in a significant
decrease in the frequency of hospitalizations, and slows the rate of deterioration of their lungs over time to near non-smokers’ rates. It also significantly improves their symptoms and shortness of breath (Kanner, 1999). Smokers suffer an increased risk of developing respiratory problems, along with other non-respiratory complications, leading to an increased risk of admission to intensive care following any surgery compared to non-smokers. Smoking is implicated as a major causative factor in a large variety of disorders that cause lung damage or fibrosis. Tobacco smoke is strongly believed to be an important factor in the development of a number of serious and fatal diseases that cause lung fibrosis for which there is no known effective medical treatment (Fraig, 2002).

Smokers are also at risk from a number of unusual lung diseases and disorders that affect only smokers, such as Langerhans cell histiocytosis, which currently has no known effective medical treatment, and which may require lung transplantation. Other serious and unusual disorders cause lung bleeding, such as Good pasture syndrome (Vassallo, 2002).

Lung cancer deserves special attention as it is the leading cause of cancer mortality worldwide; an estimated 85%–90% of all cases of lung cancer are due to smoking. Some studies have suggested that women may be at a higher risk than men of developing lung cancer due to smoking. Epidemiological studies have shown that brands of cigarettes that contain less tar and nicotine only marginally reduce the risk of lung cancer mortality. Similarly, little difference in mortality has been found for lifelong filter versus non-filter smokers and for persistent smokers who switch from non-filter to filter cigarettes. The risk of lung cancer declines steadily in people who stop smoking, until, after 10 years, the risk becomes 30%–50% of that in continuing smokers (American Thoracic Society, 1996).
2.2.3 The Cardiovascular System

Smoking is clearly implicated in the development of coronary heart disease (narrowing and occlusion of the blood vessels supplying the heart), leading to chest pains, shortness of breath, heart attacks, hospitalizations, disability and death. The risk of developing coronary heart disease as a result of smoking is increased by up to three-fold in men and six-fold in women. This clearly indentified risk of developing a debilitating and deadly disease appears to be seriously unrecognized or underestimated by smokers (Ockene and Miller, 1997).

The importance of stopping smoking for people who have suffered heart attacks cannot be overemphasized, as cessation cuts by almost half the recurrence rate of heart attacks, and the death rate of those who stop smoking after a heart attack (Wilson et al., 2000).

Cigarette smoking is also an independent risk factor in the development of congestive heart failure, a condition that is caused by the heart’s inability to function normally to meet the body’s needs. It leads to weakness, fatigue, severe shortness of breath, frequent hospitalizations, and is associated with significantly short survival rates in patients afflicted with the condition (Gustafsson et al., 2003).

Smoking is a clearly recognized risk factor and contributing factor in the development of two very serious conditions: abdominal aortic aneurysm (AAA) and thoracic aortic aneurysm (TAA). Abdominal aortic aneurysm is the dilation, usually progressive, of a segment of the aortic artery, the body’s largest artery originating directly from the heart which supplies the whole body with blood. It is a deadly condition if the aortic artery aneurysm ruptures as it leads to internal bleeding, shock and cardiac collapse. More than 75% of people affected with abdominal aortic aneurysm are smokers. Following diagnosis of the condition, patients who continued to smoke had a significantly higher rate of rupture of their
abdominal aortic aneurysm and a notably shorter survival after their diagnosis. An accelerated rate of expansion (dilation) of the thoracic aortic aneurysm was also noted in patients with a history of smoking. Smoking also increases the risk of paralysis in both legs after surgery performed to repair thoracic aortic aneurysm (Auerbach and Garfinkel, 1980; Griepp et al., 1999).

As with other arteries in the body, smoking affects the carotid arteries supplying blood to the brain and results in their narrowing (stenosis) and potential blockage. This is a condition that increases the incidence of, and creates a predisposition to, even if initially without symptoms, different kinds of stroke. The complications following a stroke can include: paralysis, loss of speech, loss of sensation, blindness, disability and progressive dementia. Strokes may even lead to death.

After surgery to correct the narrowing of the carotid arteries and to reduce the chance of a stroke or the recurrence of a stroke, continued smoking was found to increase the chances of a recurrence of the narrowing of the carotid arteries (Mineva et al., 2002; Aburahma et al., 2002).

Smoking is a major contributing factor in the development of atherosclerotic peripheral arterial diseases, which is the roughening and narrowing of the arteries supplying the limbs. Atherosclerotic peripheral arterial diseases most commonly affect the lower extremities, with the potential to cause serious limitations in the ability to walk and to perform daily activities, to cause pain in the affected limb, and to create the potential for limb gangrene and the possible need for amputation. Patients with peripheral arterial disease are at a very high risk of developing serious and life-threatening illnesses, such as heart attacks and strokes.

Treatment recommendations consistently stress smoking cessation as a first line therapy (Schainfeld, 2001).
Another serious form of peripheral arterial disease in which smoking is central to the initiation and progression of the disease is thromboangitis obliterans or Buerger disease. It is strongly associated with heavy smoking and has a relatively early age of onset, at about 34 years of age. This condition causes severe, progressive pain in the affected limb(s), ulcerations, gangrene, frequent amputations and recurrent hospitalizations, and for the majority of patients ends their working lives. The only proven strategy to prevent progression of the disease and avoid amputation is the complete discontinuation of cigarette smoking or other use of tobacco. The rate of limb amputations in patients who continued to smoke after their diagnosis has been shown to be double that of patients who stopped smoking (Jeffrey and Olin, 2001).

2.2.4 The Nervous System

Smoking also increases the risk of different types of dementia, and as smoking is recognized as a risk factor for cognitive decline and vascular dementia, smoking cessation is considered essential in the management of dementia resulting from vascular diseases (Meyer, 2000).

Smoking-associated cognitive impairment and decline can begin as early as middle age, between the ages of 43 and 53 years. Smoking has also been found to increase the risk of developing Alzheimer disease, while smokers who quit have a reduced risk of developing the disease (Richards, 2003).

2.2.5 The Skeletal System

Osteoporosis is a serious medical condition that leads to a significantly increased rate of bone fractures, particularly vertebral (spinal) and hip fractures, in addition to well known complications, such as functional decline, chronic pain, psychological dysfunction and early mortality. Another confounding factor may be
the surgical and post-surgical complications that can result from surgical treatment of these fractures.

Smoking has been strongly identified as a significant risk factor to the development and acceleration of osteoporosis in both men and women, although women are clearly disproportionately affected by osteoporosis. The vast majority of osteoporotic fractures occur in elderly women. These comprise vertebral compression fractures, Colle’s fractures at the wrist, hip fracture and to a lesser extent fractures at other sites. Smoking has also been found to be significantly associated with repeat bone fractures in menopausal women.

Evidence seems to support the fact that use of smokeless tobacco may also cause osteoporosis. Tobacco avoidance has been recommended as a first line preventive measure against further bone loss and progression of osteoporosis. Smoking has been associated with severe spinal column degenerative diseases and with greater susceptibility to traumatic vertebral injury. Certain spinal surgical procedures are less often successful in smokers compared to non-smokers. Smoking also increases the risk of impaired bone healing after surgery and leads to a lower rate of bone healing with more complications after treatment for fractures. (Daniell, 1972; Johansson and Mellstrom, 1996; Spangler et al., 2001).

2.2.6 Male reproductive health

There is significant scientific evidence that smoking leads to a decreased sperm count, an increased frequency of abnormal sperm morphology, and an inferior quality of sperm in smokers compared with non-smokers. Smoking by men was also associated with delayed conception and reduced fertility rates.

The scientific and medical evidence that smoking is a significant risk factor for impotence is strong. Smokers are one and a half times more likely to suffer erectile dysfunction than non-smokers. One study found that up to 81% of the study
patients suffering from impotence were current or former smokers (Tengs and Osgood, 2001).

2.2.7 The Digestive System

In addition to the use of tobacco being a contributory factor in the development of many digestive system cancers, it is also a major contributing factor to other diseases of the digestive system.

Smoking has been found to be the main factor in the development of peptic ulcers, both gastric and duodenal, a disorder that, in addition to causing pain, can lead to fatal bleeding or perforation of the stomach or duodenum into the abdomen. Continued smoking has also been found to lead to a negative effect on, and delayed healing of, duodenal peptic ulcers with a higher relapse rate (Rosenstock, 2003).

Studies have found that smoking is associated with increased stomach acid reflux into the oesophagus, and that smoking is a risk factor in the development of gastro-oesophageal reflux disease. Gastro-oesophageal reflux has also been found to be a risk factor for the development of laryngeal and pharyngeal cancer, independent of the effect of smoking on the development of such cancers (Pandolfino and Kahrilas, 2000).

2.2.8 Cancer

The relationship between tobacco use and cancer cannot be overstated. Smoking is the direct cause of a significant number of cancers and a contributing factor to many other cancers. No other single product is known to do this (Parkin et al., 1993).

Tobacco use has been firmly linked to the risk of developing the following cancers: laryngeal cancer; oesophageal cancer; urinary bladder cancer; pancreatic
cancer; kidney cancer; oral cavity and pharyngeal cancer; and stomach cancer. Oral cavity cancer has been linked to both smoking and smokeless tobacco use.

Tobacco use has also been linked to the risk of developing colorectal cancer, liver cancer, cervical cancer, nasal sinuses cancer, and leukaemia. It has also been found to be an independent risk factor in the development of a type of skin cancer called squamous cell carcinoma (Kuper et al., 2002).

Long-term and short-term smoking has been found to be associated with a two-fold increase in the risk of certain types of ovarian cancers, and is a major risk factor in the development of uterine cervical cancer. Several studies and reports suggest that both passive and active tobacco smoke exposure cause an increased risk of breast cancer. There appears to be an association between cigarette smoking and a significantly higher risk of developing pulmonary metastatic disease (cancer spread to the lungs) among women with breast cancer. This may explain the noted higher breast cancer fatality rate among smokers. Tobacco users, including light users, have also been found to be at a higher risk for the spread of other types of cancer.

Smoking cessation reduces the risk of many tobacco-related malignancies, including cancers of the larynx, oesophagus, pancreas and urinary bladder (U.S. Surgeon General Report, 2001).

2.2.9 Oral and dental health

For both men and women, cancer of the mouth and pharynx ranks sixth overall in the world; although it is the third most common cancer among men in many countries. Tobacco use, through both smoking and smokeless tobacco, is a major risk factor for oral cancer and precancerous conditions.

It is also a significant risk factor in the development of a very wide spectrum of oral and dental diseases, and pathological conditions and lesions. These include
mucosal lesion, such as smoker’s melanosis (which is the abnormal dark pigmentation of the oral mucosa), keratotic patches, nicotinic stomatitis, leukoplakia, palatal erosions and black hairy tongue.

Tobacco use is associated with tooth staining, abrasions, dental carries and tooth decay. It is also associated with increased prevalence of periodontal and gingival disorders, including periodontitis, acute necrotizing ulcerative gingivitis and weakened defence and repair ability of the gingival tissue. This is in addition to increased alveolar bone loss, increased pocket depth and a higher rate of implant failures (Reibel, 2003).

2.2.10 Skin and hair

There is a strong link between smoking and squamous cell carcinoma. Smoking has been found to be an independent risk factor in its development of this skin cancer, the rate of its development being affected by the number of cigarettes smoked. Other effects of smoking and tobacco use on the skin and hair are numerous, and include premature skin wrinkling and ageing, particularly of the facial skin, in men and women. This effect increases with the number of cigarettes smoked. A strong link is suggested between smoking and tendency to greyness, baldness and hair loss.

Smoking is a clinically important contributing factor in increased incidence and severity of acne. Smoking and tobacco use are also associated with a number of skin diseases, such as psoriasis, eczema and palmo-plantar pustulosis. Palmo-plantar pustulosis is a common chronic skin disease that is very resistant to treatment, causing pustular lesions to develop on the palms and on the soles of the feet (Yin et al., 2001; Trueb, 2003; Onder et al., 2002).

Smokers have also been found to be at a greater risk of complications involving the surgical site following certain types of facial surgery (Kinsella, 1999).
2.2.11 Smoking and the senses

In some parts of the world, cigarette smoking is a major cause of untreatable visual impairment, and is significantly associated with cataract and glaucoma, Grave’s ophthalmopathy and age-related macular degeneration. Smoking is the only known preventable risk factor associated with any form of age-related macular degeneration. Continued smoking may perpetuate further ocular damage and lead to permanent blindness as a result (Wilson et al., 2000, Hyman and Neborsky, 2002).

Smoking is one of the main risk factors for hearing impairment and loss. It has been found that smokers are significantly more likely to suffer from hearing loss as a result of exposure to noise as compared to non-smokers (Noorhassim and Rampal, 1998).

Smoking has been found to cause long-term deficits in olfaction (the ability to smell), with double the rate of these deficits evident in smokers compared with non-smokers. This deficit improves in smokers who stop smoking (Frye et al., 1990).

2.3 Benefits of quitting smoking

The devastating effects of smoking and tobacco use, and the dangerously flawed notion or perception that tobacco use is harmful only to those who choose to use it, is clearly untrue.

The benefits of stopping smoking are self-evident when faced with the range of possible harmful effects that tobacco use can inflict. The major conclusions on the health benefits of smoking cessation made in a report by the U.S. Surgeon General were as follows (US Department of Health and Human Services, 2004):
1. Smoking cessation has major and immediate health benefits for men and women of all ages. Benefits apply to persons with and without smoking-related diseases.

2. Former smokers live longer than continuing smokers. For example, people who quit smoking before the age of 50 have one half the risk of dying in the next 15 years compared with continuing smokers.

3. Smoking cessation decreases the risk of lung cancer, other cancers, heart attacks, strokes and chronic lung disease.

4. Women who stop smoking before pregnancy or during the first 3 to 4 months of pregnancy reduce their risk of having a low-birth-weight baby to that of women who have never smoked.

5. The health benefits of smoking cessation far exceed any risks from the average 2.3 kilogram weight gain or any adverse psychological effects that may follow quitting. The importance of prevention of initiation cannot be overemphasized given its impact on future smoking behavior, the addictive nature of nicotine, the vulnerability of the young, and the role social norms and pressures play. There are immediate and long-term health benefits of quitting for all smokers (Table 2.1).
Table (2.1): Benefits of Quitting Smoking
(US Department of Health and Human Services, 2004).

<table>
<thead>
<tr>
<th>Time since quitting</th>
<th>Beneficial health changes that take place</th>
</tr>
</thead>
<tbody>
<tr>
<td>Within 20 minutes</td>
<td>Your heart rate and blood pressure drop.</td>
</tr>
<tr>
<td>12 hours</td>
<td>The carbon monoxide level in your blood drops to normal.</td>
</tr>
<tr>
<td>2-12 weeks</td>
<td>Your circulation improves and your lung function increases.</td>
</tr>
<tr>
<td>1-9 months</td>
<td>Coughing and shortness of breath decrease.</td>
</tr>
<tr>
<td>1 year</td>
<td>Your risk of coronary heart disease is about half that of a smoker.</td>
</tr>
<tr>
<td>5 years</td>
<td>Your stroke risk is reduced to that of a nonsmoker 5 to 15 years after quitting.</td>
</tr>
<tr>
<td>10 years</td>
<td>Your risk of lung cancer falls to about half that of a smoker and your risk of cancer of the mouth, throat, esophagus, bladder, cervix, and pancreas decreases.</td>
</tr>
<tr>
<td>15 years</td>
<td>The risk of coronary heart disease is that of a nonsmoker’s.</td>
</tr>
</tbody>
</table>

People of all ages who have already developed smoking-related health problems can still benefit from quitting (Table 2.2).
Table (2.2): Life Expectancy Gains when Quitting Smoking
(US Department of Health and Human Services, 2004).

<table>
<thead>
<tr>
<th>Time of quitting smoking</th>
<th>Benefits in comparison with those who continued</th>
</tr>
</thead>
<tbody>
<tr>
<td>At about 60</td>
<td>Gain 3 years of life expectancy</td>
</tr>
<tr>
<td>At about 50</td>
<td>Gain 6 years of life expectancy</td>
</tr>
<tr>
<td>At about 40</td>
<td>Gain 9 years of life expectancy</td>
</tr>
<tr>
<td>At about 30</td>
<td>Gain almost 10 years of life expectancy</td>
</tr>
<tr>
<td>After the onset of life-threatening disease</td>
<td>Rapid benefit, people who quit smoking after having a heart attack reduce their chances of having another heart attack by 50%.</td>
</tr>
</tbody>
</table>

2.4 Roles of health professionals in comprehensive tobacco control programs

All health professionals can help reduce tobacco consumption and its negative effects. Tobacco-related problem and tobacco control cut across a vast range of health disciplines. One of the roles of health professionals is to ensure that all of those affected by tobacco consumption or dedicated to the health sector are prepared to be supportive. Health professionals such as physicians, nurses, midwives, pharmacists, dentists, physiologists, chiropractors, and other health-related professionals have an enormous potential to play a key role in battling the tobacco epidemic. They have several roles in common and that work in union, where one role does not substitute for another. These roles include:

2.4.1 Role model

In community and clinical settings, health professionals are the most knowledgeable in health matters and they are expected to act on the basis of this
knowledge. In their society and their communities they are expected to be role models for the rest of the population. And that includes, in general, their behavior in health-related matters such as diet and exercise, and particularly regarding tobacco. The reality is that most people become addicted to tobacco before they have made a decision to become a health-care provider. In fact, more than 90% of all adult smokers begin while in their teens, or earlier, and more than half become regular, daily smokers before they reach the age of 19. Surely a health professional is aware of the health consequences of tobacco use, more than a professional in a different field. However, knowing the harm that tobacco use can cause to one’s health is not enough to overcome tobacco addiction in many cases. There is need for further support. It is not uncommon in countries around the world to find groups of health professionals with a similar if not higher smoking prevalence than the rest of the population. Professionally respected and popularly revered, they could use such clout to change current smoking trends and spearhead a national anti-smoking movement. That is, if they weren’t committed to the same smoking behaviors, misperceptions and lack of motivation as their tobacco-using patients. This perspective creates conflict for the health-care professional and it affects their image and credibility as spokesperson on tobacco control. Additionally, research has shown that health professionals who are smokers are less likely to promote smoking cessation or engage in tobacco control. More efforts need to be made by health professional organizations and health professional schools to assist them in becoming the tobacco-free role models (WHO-TFI, 2005).

2.4.2 Clinician

Physicians, nurses, dentists and pharmacists and all health professionals in the everyday health-care setting need to address tobacco dependence as part of their
standard of care practice. It has been suggested that questions about tobacco use should be included when monitoring vital signs and at every encounter with a patient the health-care professional must assess tobacco use and note it on the client’s chart. While doctors frequently advise their patients about exercise and diet, many perhaps do not put as much emphasis on smoking and tobacco use. The same could be said for many other health professionals. This practice could be easily incorporated, and it is of vital importance, given that the use of tobacco products is one of the most important determinants of both individual and community health. In the case of patients or clients who are tobacco users, all health professionals must advise that quitting tobacco is the best thing that can be done for one’s own health. And they can easily and quickly raise awareness about the immediate and longer-term benefits of doing so and remind patients that stopping smoking at any age results in tremendous health benefits, and the earlier one quits, the better. It takes health-care providers less than three minutes to provide this brief assessment and advice to all their patients. Research has shown that approximately 70% of all tobacco users admit they would like to quit eventually. Half of them have tried at some point, and a small fraction is ready to try immediately. Less than 10% of all smokers are successful in a given attempt. The more attempts, the more likely the tobacco user is to achieve his or her objective of stopping tobacco use. Simple advice from a physician has been shown to increase abstinence rates significantly compared to no advice. Likewise, nursing-led interventions for smoking cessation also increase the chances of successfully quitting. Research has demonstrated that interventions that use multiple providers are very effective, and that all health-care professionals can have an impact in assisting with cessation: essentially, the more a person hears a consistent message from all health professionals, the more likely that person will
Not all health professionals need to become cessation specialists. On the contrary, this work is carried out by specially trained counselors, who can be nurses, social workers, psychologists or any other health professional. However, all health professionals can have available references to more resources that allow them to add referral to more intensive counseling work in their daily health-care services routine. Even with the lack of these, every health professional has a duty to implement the minimal intervention steps of asking about tobacco use, assessing willingness to quit, advising quitting and further referring and arranging for cessation services. Health professionals should also be instrumental in developing and disseminating science-based and practical materials about cessation, adapted to the culture, ethnic background, age, language, and health status of the patient, or predisposition and timeframe attitude towards quitting tobacco use. Whenever possible, health professionals need to make the cessation advice relevant to the patient’s current situation by linking it with the existing diagnosis or current lifestyle. Arguments like smoking can cause bad breath, that it is an expensive habit, or that it will mean poorer performance in sports might be of more concern for a young patient than the possibility of lung cancer. Meanwhile, the latter reason could be more compelling for an older patient who has been a tobacco user for a longer period of time. Another important area for health professionals in clinical setting is to assess exposure to tobacco smoke and to provide information about avoiding all exposure. This is ever more important in settings where tobacco use by the client may not, per se, be an issue, such as pediatrics and maternal-child health clinics. Health professionals need to incorporate such assessments into their practice; therefore, tobacco assessment and advice on quitting can be incorporated in a variety of clinical settings and clientele. (WHO-TFI, 2005).
2.4.3 Educator

Health professionals play an important role in preparing new generations of health professionals. They are involved in the training process of students, including pre- and post-graduate training, bedside education, continued education and training or in research and evaluation. According to research, training health professionals is effective in changing their practice. However, research has also shown that tobacco control content, both theoretical and practical, in health professional schools is inadequate. All aspects of tobacco control need to be incorporated into the existing health professionals’ curricula: tobacco control can be taught as a separate matter or be a part of existing content (epidemiology, health promotion, prevention and treatment, etc.). The health effects of tobacco can be incorporated in a variety of disciplines and students should be given an opportunity to gain practical skills in assessing tobacco use, cessation and advice as well as to learn about the policy aspects of tobacco control and their benefits to public health. Training time is also an ideal opportunity to offer support to health professional students who are tobacco users and are trying to quit (WHO-TFI, 2005).

2.4.4 Scientist

Tobacco control measures must be based on facts and evidence. Clinical, epidemiological and policy research as well as evaluation are important components to be taken into account when putting in place measures that are intended to reduce tobacco consumption. That is why all health professionals should be aware of science-based information about how tobacco control measures can be implemented within their scope of practice. Research in less traditional areas such as program and policy implementation and evaluation should be encouraged as well. Given that tobacco is a cross-cutting issue to many other health areas, research on tobacco should be included in several other health fields, such as cancer clinical trials, maternal-child health program outcomes and
cardiovascular disease studies. In their role as scientists, health professionals have a duty to create awareness and educate funding and research agencies about tobacco consumption’s impact on all aspects of individual, community and social health, so that adequate funding resources for research in addressing this worldwide epidemic can be maintained or enhanced (WHO-TFI, 2005).

2.4.5 Leader

Many health professionals have leadership positions at different levels and several enjoy considerable public trust. Health is very much a leadership responsibility, from the local leader/employer to a nation’s highest political health authority. Among the many activities health professionals in positions of leadership can take on is getting involved in the policy-making process—supporting comprehensive tobacco control measures that go beyond the availability of cessation to include smoke-free workplaces; increased taxation and prices of tobacco products; campaigns to prevent youth from taking up tobacco and funding for tobacco control programs+. This leadership position can be exerted at the community, national or global level, depending on where one is best able to promote changes. Not all health professionals will be able to tackle all tobacco control issues at the same time, but all health professionals can take small steps to address at least one issue at their own workplace (for example, promoting smoke-free environments) and, depending on their position, tackle larger policy and political tasks as the opportunity arises. Health professionals who belong to professional organizations can also influence their organization to become involved in tobacco control policy-making, and to place tobacco in the organization’s agenda.

There have been many examples of initiatives of various kinds undertaken by health professionals and their organizations at different levels.
In the United Kingdom, the British Medical Association (BMA) has been calling for legislation to ban smoking in enclosed public places since 1986. In November 2004, they appealed to their role as leaders in calling on the United Kingdom’s Health Secretary to set a date for banning smoking in public places. (WHO-TFI, 2005).

2.4.6 Opinion-builder

As a citizen of a community, member of an NGO or through national associations, this role to build opinion in support of tobacco control has great potential but has been neglected by most health professionals to date. While not everyone can make tobacco control the centre of their professional activities, they can and should express clearly the magnitude of the tobacco issue in terms of diseases, suffering and premature deaths as well as the economic burden for society, and convey their support for tobacco control measures.

Becoming political active or lending support to a group that is championing tobacco control issues are some of the ways to get involved.

Additional ways include writing letters to newspapers and other media, issuing press releases on important national or international dates for example, or assisting in disseminating information. It is vital to have figures on these effects appropriate to the level of action-global estimates may not convince a local politician to allocate resources for cessation support. As an opinion-builder, health professionals should be knowledgeable of existing information resources (WHO-TFI, 2005).

2.4.7 Alliance-builder

Health is important to all health professionals and to other groups. Public health is no one’s domain but everyone’s arena. Sometimes a health professional
group should act by itself but cooperation with others should always be considered carefully. Tobacco-related problems and tobacco control cut across a vast range of health disciplines and one of a health professional’s roles is to ensure that all of those affected support in one way or another tobacco control.

Health professionals can form alliances as individuals, but they can also be formed between societies and organizations. The results of such alliances can have a much greater impact, and the benefits to one cause or issue, in this case tobacco control, are enhanced. Such was the case of a meeting convened by WHO’s Tobacco Free Initiative (TFI) that took place in Geneva between 28-30 January 2004.

TFI invited representatives from 30 different international health professional organizations, with members and affiliates throughout the world. The meeting aimed to explore potential ways in which they could contribute to tobacco control/public health goals as well as their possible role in the signature, ratification (or legal equivalent) and implementation of the WHO FCTC. The meeting led to fruitful discussions with excellent outcomes—they adopted the Code of practice on tobacco control for health professional organizations, with the commitment to adopt common standard strategies in the approaches and activities of the different professional groups on tobacco control. The selection of the theme The Role of Health Professionals in Tobacco Control for World No Tobacco Day was also one of the outcomes of that “alliance”. Moreover, the organizations devised a way to promote and raise awareness of the WHO FCTC by creating the web page www.fctcnow.org, where individuals and associations could sign up to show support. To date, it has collected some 650 signatures from organizations worldwide and over 3600 from individuals.

Building alliances in a vertical way is also a way to synergize efforts, and obtain better outcomes by using existing resources. Every type of health
professional association at the local or national level has its counterpart at the regional, international or global level. Smaller associations can benefit from existing resources and the exchange of technical information that is created at the higher level while the international associations reach more members and affiliates through their subsidiaries or national members. International organizations that were present during the meeting in Geneva, agreed to disseminate the outcomes among their members, endorsing the principles agreed and in the end, reaching a higher percentage of the global population in every country in which they are present. Joint initiatives between different associations, whether local, national or international are also a good way to advance the tobacco control agenda.

There are many examples of coalitions that are created by health professional associations at the national level with this purpose. In March 2005, doctors and nurses in Liverpool, England, joined forces to back smoke-free legislation after the release of data published by the British Medical Journal showing that second-hand smoke at work kills over 600 people every year in the United Kingdom. The British Medical Association (BMA), the Royal College of Nursing (RCN) and the Joint Consultants Committee (JCC) all backed Smoke-free Liverpool’s private bill, which was due for reading in the House of Lords (WHO-TFI, 2005).

2.4.8 Watch out for tobacco industry activities

Health professionals, as individuals or associations have a duty to denounce tobacco industry strategies aimed at hindering local, national or international tobacco control efforts and to demand from the authorities the adoption of policies that prioritize the health and quality of life of their people over the industry’s profits. In addition, health professionals need to take a stand against the pervasive and negative influence of tobacco industry money in many aspects of our society. It is not easy to keep away from the tobacco industry sphere. The presence of their
resources, products or influence is not always that visible. Health professionals should have a greater awareness of this influence than the rest of the population. Banning the sale and consumption of tobacco products on their premises; refusing to accept funding from the tobacco industry for their projects or research; and possibly having a declaration of interest for their associations, members and partners that regulates interaction with the tobacco industry are ways of raising awareness and keeping away from this undesirable influence. All of the above points are listed under the code of practice approved and adopted during the Geneva meeting. In addition, by developing alliances with health professionals in other areas, the awareness of the tobacco industry’s influence can grow and be countered more efficiently. This is why it is so important that all health professionals be involved in tobacco control, and not only those that encounter the more obvious consequences of tobacco use. The actions of health professionals who are interested in setting an example as well as changing policy and public opinion should go beyond their strictly clinical or individual patient duties (WHO-TFI, 2005).

2.5 Clinical interventions for tobacco use and dependence

2.5.1 Brief intervention

I. Ask

The smoking status of every adult should be identified and prominently documented in the medical record. For current smokers and those who have quit in the past year, smoking status should be updated at each visit.

II. Assess

Determine the willingness of smokers to make a quit attempt by asking every smoker how they feel about their smoking.
III. Advise

Provide brief cessation messages at every encounter. These messages should be:

• Clear, strong and personalized.
• Supportive
• Non-confrontational.

IV. Assist

Provide assistance according to the person’s readiness to quit. Relevant information is important for everyone, even those not ready to quit. Provide additional support for those with some interest in quitting:

• Offer self-help material.
• Assist in setting a quit date and help develop a quit plan.
• Provide practical counseling and support.
• Explore barriers to successful cessation and strategize solutions.
• Offer referral to organized cessation support.
• Encourage nicotine replacement therapy as first-line pharmacotherapy or if previous failure or contraindication to NRT, discuss use of other first line medication.

V. Arrange (follow-up)

Arrange appropriate follow-up for all smokers. Arrange follow-up (in person or by phone) with smokers who are ready to quit:

• First follow-up within the first week
• Second follow-up within the first month
• Reinforce staying quit during visits in the first year post-cessation (Fiore, 2000).
2.5.2 Intensive intervention

Intensive tobacco dependence treatment can be provided by any suitably trained clinician. The evidence shows that intensive tobacco dependence treatment is more effective than brief treatment. Intensive interventions i.e. more comprehensive treatments that may occur over multiple visits for longer periods of time and that may be provided by more than one clinician are appropriate for any tobacco user willing to participate in them; neither their effectiveness nor cost-effectiveness is limited to a subpopulation of tobacco users (Grandes et al., 2003; Hilleman et al., 2004).

In addition, patients, even those not ready to quit, have reported increased satisfaction with their overall health care as tobacco counseling intensity increases (Barzilai et al., 2001).

Assessments should determine whether tobacco users are willing to make a quit attempt using an intensive treatment program. Other assessments can provide information useful in counseling (e.g., stress level, dependence). Multiple types of clinicians are effective and should be used. One counseling strategy would be to have a medical/health care clinician deliver a strong message to quit and information about health risks and benefits, and recommend and prescribe first-line medications recommended by guidelines. Nonmedical clinicians could then deliver additional counseling interventions (Fiore, 2000).

There is evidence of a strong dose-response relation; therefore, when possible, the intensity of the program should be:
- Session length-longer than 10 minutes.
- Number of sessions-4 or more.
- Program format either individual or group counseling may be used. Telephone counseling also is effective and can supplement treatments provided in the
clinical setting. Use of self-help materials and cessation Web sites is optional. Followup interventions should be scheduled (Fiore, 2000).

Counseling should include practical counseling (problemsolving/skills training) and intratreatment social support.

The clinician should explain how medications increase smoking cessation success and reduce withdrawal symptoms. The first-line medications include: bupropion SR, nicotine gum, nicotine inhaler, nicotine lozenge, nicotine nasal spray, nicotine patch, and varenicline. Certain combinations of cessation medications also are effective. Combining counseling and medication increases abstinence rates.

Intensive intervention programs may be used with all tobacco users willing to participate in such efforts (Fiore, 2000).

2.6 MPOWER

The WHO Framework Convention on Tobacco Control, a multilateral treaty with more than 150 Parties, was the first step in the global fight against the tobacco epidemic. This treaty presents a blueprint for countries to reduce both the supply of and the demand for tobacco. The WHO Framework Convention establishes that international law has a vital role in preventing disease and promoting health. Parties to the WHO Framework Convention have committed to protect the health of their populace by joining the fight against the tobacco epidemic. To help countries fulfill the promise of the WHO Framework Convention, WHO has established MPOWER, a package of the six most important and effective tobacco control policies: raising taxes and prices, banning advertising, promotion and
sponsorship, protecting people from secondhand smoke, warning everyone about the dangers of tobacco, offering help to people who want to quit, and carefully monitoring the epidemic and prevention policies. These policies are proven to reduce tobacco use. To support MPOWER, WHO and its global partners are providing new resources to help countries stop the disease, death and economic damage caused by tobacco use. When implemented and enforced as a package, the six policies will prevent young people from beginning to smoke, help current smokers quit, protect non-smokers from exposure to second-hand smoke and free countries and their people from tobacco’s harm (WHO, 2008).

### 2.6.1 Monitor tobacco use and prevention policies

Assessment of tobacco use and its impact must be strengthened. Currently, half of countries-and two in three in the developing world-do not have even minimal information about youth and adult tobacco use. Data on other aspects of the epidemic, such as tobacco related disease and death are also inadequate.

Good monitoring provides information about the extent of the epidemic in a country, as well as how to tailor policies to specific country needs. Both global and country-by-country monitoring are critical to understanding and reversing the tobacco epidemic (WHO, 2008).

### 2.6.2 Protect people from tobacco smoke

All people have a fundamental right to breathe clean air. Smoke-free places are essential to protect non-smokers and also to encourage smokers to quit. Any country, regardless of income level, can implement smoke-free laws effectively. However, only 5% of the global population is protected by comprehensive smoke-free legislation. In most countries, smoke-free laws cover only some indoor spaces are weakly written or are poorly enforced. Once enacted and enforced, smoke free
laws are widely popular, even among smokers, and do not harm businesses. Only a total ban on smoking in public places and workplaces protects people from second-hand smoke and helps smokers quit (WHO, 2008).

2.6.3 Offer help to quit tobacco use

Most of the world’s more than one billion smokers-about a quarter of all adults-are addicted. Many want to quit, but few get the help they need. Services to treat tobacco dependence are fully available in only nine countries, with 5% of the world’s population. Countries must establish programs providing low-cost, effective interventions for tobacco users who want to escape their addiction (WHO, 2008).

2.6.4 Warn about the dangers of tobacco

Despite conclusive evidence, relatively few tobacco users understand the full extent of their health risk. Comprehensive warnings about the dangers of tobacco can change tobacco’s image, especially among adolescents and young adults.

Graphic warnings on tobacco packaging deter tobacco use, yet only 15 countries, representing 6% of the world’s population, mandate pictorial warnings (covering at least 30% of the principal surface area) and just five countries, with a little over 4% of the world’s people, meet the highest standards for pack warnings. More than 40% of the world’s population lives in countries that do not prevent use of misleading and deceptive terms such as “light” and “low-tar”, even though conclusive scientific evidence-which has been known to the tobacco industry for several decades-shows that such products do not reduce health risks. This first report has not assessed public education campaigns, which, if hard-hitting, sophisticated and sustained, are highly effective. Countries such as Australia show what can be done with effective public education campaigns (WHO, 2008).
2.6.5 Enforce bans on tobacco advertising, promotion and sponsorship

The tobacco industry spends tens of billions of dollars worldwide each year on advertising, promotion and sponsorship. Partial bans on tobacco advertising, promotion and sponsorship do not work because the industry merely redirects its resources to other non-regulated marketing channels. Only a total ban can reduce tobacco consumption and protect people, particularly youth, from industry marketing tactics. Only 5% of the world’s population currently lives in countries with comprehensive bans on tobacco advertising, promotion and sponsorship.

About half the children of the world live in countries that do not ban free distribution of tobacco products (WHO, 2008).

2.6.6 Raise taxes on tobacco

Raising taxes, and therefore prices, is the most effective way to reduce tobacco use, and especially to discourage young people from using tobacco. It also helps convince tobacco users to quit. Only four countries, representing 2% of the world’s population, have tax rates greater than 75% of retail price. And although more than four out of five high-income countries tax tobacco at 51-75% of retail price, less than a quarter of low- and middle-income countries tax tobacco at this rate. A 70% increase in the price of tobacco could prevent up to a quarter of all tobacco-related deaths worldwide. A 10% price increase may cause a 4% drop in tobacco consumption in high-income countries and an 8% drop in low- and middle-income countries, with tobacco tax revenue increasing despite reduced consumption. Higher taxes can provide countries with funding to implement and enforce tobacco control policies and can pay for other public health and social programs. In countries with available information, tobacco tax revenues are more than 500 times higher than spending on tobacco control. For 3.8 billion people living in the low-
and middle-income countries for which information is available, total national tobacco control expenditure was only US$ 14 million per year. In contrast, tobacco tax revenue for these same countries was US$ 66.5 billion. In other words, for every US$ 5000 in tobacco tax revenue, these countries spent about US$ 1 for tobacco control. Per capita expenditure on tobacco control in low- and middle-income countries with available information was less than one tenth of one cent and about a half a cent, respectively. Although the dangers of tobacco use know no socioeconomic boundaries, the tobacco epidemic will cause the most harm to low income households and countries. Most of the world’s population lives in low- and middle-income countries where overall tobacco consumption is rising, but which have fewer resources to respond to the health, social and economic problems caused by tobacco use. The tobacco industry is increasingly targeting marketing and promotion to vulnerable groups in these countries (WHO, 2008).
CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Study area

Ras Al Khaimah-commonly referred to as RAK-is one of the seven emirates that make up the UAE federation. The northernmost emirate, it is located approximately 100 kilometres north-east of Dubai, to which it is connected by Emirates Road, a multi-lane highway, as well as by a number of smaller roads. Its neighbours are the emirates of Fujairah and Umm Al-Quwain (and it also shares a very short border with Sharjah in the desert interior) and the Sultanate of Oman’s Musandam peninsula.

Ras Al Khaimah is also the part of the UAE that is geographically closest to Iran, with its Mina Saqr (port) only 100 kilometres (60 miles) away from the Iranian Port of Bandar Abbas.

According to 2009 population and vital statistic estimates from the UAE Ministry of the Economy, RAK is estimated to have a total population of 241,000. While UAE citizens officially make up less than 20 per cent of the overall population of the UAE, this figure is higher in RAK, with Emiratis making up a much more significant portion of its population, at around 40 percent. The official language of the UAE is Arabic, although English is widely used in business circles. A significant portion of the expatriate population, in Ras Al Khaimah and the rest of the UAE, also speak Farsi or one of more of the following: Hindi, Urdu, Malayalam, Tamil and other languages of the Indian subcontinent. French is also spoken by many expatriates from the North African and Levant regions.
It is expected that the construction of new residential projects and emerging business opportunities in the emirate will lead to rapid growth in the population in the coming years, with the possibility of it doubling by 2015.

### 3.2 Study setting

The smoking cessation clinic in the emirate of Ras Al-Khaimah UAE. It is a walk in clinic that operates five days per week in the evening, it has a two consultation rooms and a waiting room. Services of the clinic are free of charge to the general public operating under the Ministry of Heath of UAE. Counseling and medication (if required) is provided to clients attending the clinic by certified healthcare professionals who have undergone advanced training in smoking cessation counseling.

### 3.3 Study design

This is a retrospective, analytical study of smoking cessation services that was carried out to cover the services provided by the smoking cessation clinic, and the characteristics of the clients attending the clinic in the emirate of Ras Al-Khaimah, United Arab Emirates in the period between 2010-2011.

### 3.3.1 Study variables

Various quantitative and qualitative variables were studied including the following; sex, current age, age of starting smoking, quantity of smokes/day, duration of smoking, type of smoked tobacco, cessation method used, number of treatment sessions attended, number of previous quit attempts, level of nicotine addiction, reasons for starting to smoke, and reasons for attempting to quit smoking.
3.3.2 Study strategies

All subjects who attended the clinic were assessed by direct interview using a standardized questionnaire (Appendix 1). The subjects received counseling in accordance with international guidelines for smoking cessation counseling.

Every subject was assessed and counseled during the initial visit for about 45 minutes; subsequent counseling was tailored according to specific needs of each subject.

Subjects are considered to have made a successful quit attempt if were able to abstain from smoking for at least 24 hours and are considered to successfully quit smoking if they were able to abstain from smoking completely for more than 6 months, in accordance with international guidelines.

Biophysical measures; height, weight, pulse, blood pressure and carbon monoxide levels were taken for all subjects at the initial visit and then as required.

3.3.3 Inclusion criteria

Subjects must have been smoking ten or more cigarettes per day or what is equivalent to that in the form of other smoked tobacco products for at least 30 days prior to attending to the clinic to seek assistance in quitting smoking.

3.3.4 Study sampling

In view of the design of this study all smokers who have attended the smoking cessation clinic at RAK for assistance in attempting to quit smoking and met the inclusion criteria were selected, a total of 417 subjects.

3.3.5 Data collection

Data was collected directly from the subjects records.
3.3.6 Analysis of data

Data was analyzed manually and by computer software using Statistical Package for Social Sciences (SPSS) program version 17.

3.4 Ethical consideration

All ethical issues were addressed during this study.
CHAPTER FOUR

RESULTS

In this chapter various qualitative and quantitative data have been analyzed and illustrated in the following tables and diagrams that show the results of this study in view of its stated objectives.

Table (4.1): Subjects Gender.

<table>
<thead>
<tr>
<th>Sex</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>404</td>
<td>96.8</td>
</tr>
<tr>
<td>Female</td>
<td>13</td>
<td>3.2</td>
</tr>
<tr>
<td>Total</td>
<td>417</td>
<td>100</td>
</tr>
</tbody>
</table>

Table (4.1) illustrates that the majority of the subjects of the study were males.

Table (4.2): Age groups of subjects.

<table>
<thead>
<tr>
<th>Age groups in years</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;15</td>
<td>5</td>
<td>1.2</td>
</tr>
<tr>
<td>15-20</td>
<td>37</td>
<td>8.9</td>
</tr>
<tr>
<td>20-30</td>
<td>83</td>
<td>19.9</td>
</tr>
<tr>
<td>30-40</td>
<td>103</td>
<td>24.7</td>
</tr>
<tr>
<td>&gt;40</td>
<td>189</td>
<td>45.3</td>
</tr>
<tr>
<td>Total</td>
<td>417</td>
<td>100</td>
</tr>
</tbody>
</table>

Table (4.2) shows that the great majority of subjects who attended the clinic were more than 40 years old.
Figure (4.1) clearly shows that the great majority of the subjects who attended the smoking cessation clinic had started smoking at a young age; below 20 years of age.

Figure (4.2) indicates that most of the subjects in the study smoked cigarettes, and that the Midwakh is very popular among the study group.
Figure (4.3) clearly indicates that advertisement for smoking plays a great role in attracting people to start smoking.

Table (4.3): Smoking duration in years.

<table>
<thead>
<tr>
<th>Smoking in years</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-3</td>
<td>29</td>
<td>6.9</td>
</tr>
<tr>
<td>3-5</td>
<td>32</td>
<td>7.7</td>
</tr>
<tr>
<td>5-10</td>
<td>105</td>
<td>25.2</td>
</tr>
<tr>
<td>&gt;10</td>
<td>251</td>
<td>60.2</td>
</tr>
<tr>
<td>Total</td>
<td>417</td>
<td>100</td>
</tr>
</tbody>
</table>

Table (4.3) shows that more than 60% of the subjects in the study have smoked tobacco products for more than 10 years.
Fig. (4.4): Reason for wanting to quit smoking.

Figure (4.4) shows that healthcare provider advice has influenced many of the subjects among the study to attempt quitting smoking.

Fig. (4.5): Previous quit attempt.

Figure (4.5) shows that more than 70% of the subjects of the study have made at least one previous quit attempt.
Figure (4.6) demonstrates that more than 60% of the subjects in the study were able to quit smoking for a period of 1 to 30 days.

Table (4.4): New quit attempt status.

<table>
<thead>
<tr>
<th>New quit attempt</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quit attempt made</td>
<td>257</td>
<td>61.6</td>
</tr>
<tr>
<td>No quit attempt made</td>
<td>160</td>
<td>38.4</td>
</tr>
<tr>
<td>Total</td>
<td>417</td>
<td></td>
</tr>
</tbody>
</table>

Table (4.4) shows that 61.6% of study subjects were able to make at least one new quit attempt during the study period.
Fig. (4.7): Final subject status.

Figure (4.7) shows that exactly 32.6% of the subjects in the study were finally able to successfully quit smoking for more than 180 days.

Table (4.5): Age group vs quitting success.

<table>
<thead>
<tr>
<th>Age group</th>
<th>Frequency</th>
<th>Percentage (%)</th>
<th>Quit</th>
<th>Not Quit</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;15</td>
<td>5</td>
<td>1.2</td>
<td>1</td>
<td>4</td>
<td>20</td>
</tr>
<tr>
<td>15-20</td>
<td>37</td>
<td>8.9</td>
<td>7</td>
<td>30</td>
<td>19</td>
</tr>
<tr>
<td>20-30</td>
<td>83</td>
<td>19.9</td>
<td>14</td>
<td>69</td>
<td>17</td>
</tr>
<tr>
<td>30-40</td>
<td>103</td>
<td>24.7</td>
<td>51</td>
<td>52</td>
<td>49.5</td>
</tr>
<tr>
<td>&gt;40</td>
<td>189</td>
<td>45.3</td>
<td>63</td>
<td>126</td>
<td>33.3</td>
</tr>
<tr>
<td>Total</td>
<td>417</td>
<td></td>
<td>136</td>
<td>281</td>
<td></td>
</tr>
</tbody>
</table>

Table (4.5) indicates that among the study group the success rate in quitting smoking was higher among the older age groups.
Table (4.6): Medication use vs quitting status.

<table>
<thead>
<tr>
<th>NRT</th>
<th>Quit smoking</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Yes</td>
<td>104</td>
<td>136</td>
</tr>
<tr>
<td>No</td>
<td>32</td>
<td>145</td>
</tr>
<tr>
<td>Total</td>
<td>136</td>
<td>281</td>
</tr>
</tbody>
</table>

Table (4.6) demonstrates that the success rate in quitting smoking was higher among the group who used NRT along with counseling (P value < 0.001), (Odds ratio 3.4).

Table (4.7): Number of treatment sessions vs quitting status.

<table>
<thead>
<tr>
<th>Number of sessions attended</th>
<th>Quit Smoking</th>
<th>Total subjects</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>&gt;3</td>
<td>112</td>
<td>123</td>
</tr>
<tr>
<td>1-3</td>
<td>24</td>
<td>158</td>
</tr>
<tr>
<td>Total</td>
<td>136</td>
<td>281</td>
</tr>
</tbody>
</table>

Table (4.7) shows that the success in quitting smoking increases with the number of treatment sessions at the smoking cessation clinic, specifically more than three (P value < 0.001), (Odds ratio 5.9).
CHAPTER FIVE

DISCUSSION

The study attempted to analyze various trends among the subjects whom have attended the smoking cessation clinic during the study period. The study examined various quantitative and qualitative variables in order to gain insight and further understanding of the characteristics and attitudes of smokers attending to the smoking cessation clinic at Ras Al Khaimah for assistance in their attempt to quit smoking.

It was found that the great majority of the subjects were male, 96.8% compared to a very low turnover in female subjects only 3.2% (Table 4.1). This finding reflects the gender trend in smoking in the UAE which is a total of about 18.7% of the population, 16.3% males and 2.4% females (WHO-Global Adult Tobacco Survey 2005), but it is still thought that the low female turnover is possibly explained by the conservative nature of the community, in which females would be reluctant to disclose the fact that they do smoke.

The study also showed that most of the subjects who attended the clinic were among the older age groups 45.3% were above 40 years, 24.7% were between 30 to 40 years old, 19.9% were between 20 to 30 years old, 8.9% were between 15 to 20 years old and only 1.2% were less than 15 years old as is illustrated in (Table 2). This finding clearly reflects that smokers have usually smoked for a considerable amount of time after which only then they start to realize and develop the various consequences of smoking and then make a serious attempt to quit (U.S. Department of Health and Human Services, 2004; Guindon and Boisclair, 2003).
The study clearly illustrates that the great majority of the subjects had started smoking at an early age; 39.8% below the age of 15, 38.1% between the age of 15 and 20, 16.3% between the ages of 20 to 30, and very few only 3.8% were between 30 to 40 years old and only 2% were above 40 years old when they started smoking (Figure 4.1). This finding coincides with similar results in many other studies that also found that younger people are more vulnerable to the marketing strategies of the tobacco industry (Khuder et al., 1999; Breslau and Peterson, 1996).

Subsequent data suggest that approximately one in five high school students report “current” smoking, defined as any smoking in the past month (CDC, 2008). Smoking prevalence increases with age throughout adolescence, data from the Monitoring the Future study conducted by Johnston et al. in 2007 showed that current smoking is reported by 8.7 percent of 8th graders, 14.5 percent of 10th graders, and 21.0 percent of 12th graders and that the younger children are when they first try smoking, the more likely they are to become regular smokers and the less likely they are to quit.

With respect to the types of smoked tobacco used by the subjects in the study, it was found that the majority of subjects were smoking conventional cigarettes 49.6%, while 21.1% smoked midwakh, 18% smoked the waterpipe or what is known as sheisha and 11.3% smoked more than one type as is shown in Figure 4.2.

These findings reflect the fact that cigarettes are more widespread and available at various outlets and are vigorously marketed and advertised (Basil et al., 2000; Shafey, 2004).

Midwakh which is a traditional type of pipe manufactured locally in the mountains made from the trunks of tree is very popular among the indigenous population of UAE came in second order; used by 21.1% of the subjects (Figure 4.2). It is a local product and no previous studies were found on its use.
The finding that 18% of the subjects smoked shiesha coincides with its popularity at the regional level as is described by other studies.

An adult survey conducted by the Egyptian Smoking Prevention Research Institute (ESPRI) in 2005 in the some Lower Egypt villages (10 157 individuals above age 12, 4994 males, and 5163 females with a mean age of 36 ± 28 years), found that 34% of the men were current cigarette smokers, 9% smoked waterpipe and 1% smoked both. The smoking of shiesha was also found to be very popular among university students and on the rise (Maziak et al., 2004).

Data from the study showed that a large proportion of the subjects 44.1% had started smoking in the first place because they were attracted by advertisement for smoked tobacco products, (Figure 4.3) and this finding is well documented in many studies.

The tobacco industry spends tens of billions of dollars worldwide each year on advertising, promotion and sponsorship (CDC, 2008; Federal Trade Commission, 2005; Borland, 2007).

Second in rank for the reasons for initiating tobacco smoking found in the study was peer influence 36% of the subjects in the study. As it was described previously that most of the subjects had started smoking at an early age (below 20 years old), it well documented that individuals at this age are strongly influenced by the behavior of their peers in general and specifically in their attitude towards tobacco consumption as is described by Willemsen and De Zwart (1999) in a study examining this aspect of their behavior published and study published (Hoffman et al., 2006).

The study showed that 17.8% of the subjects had started smoking because they were influenced by a parent who also smoked, it is well known that parents are role models to their children who usually imitate their behavior towards smoking especially, this finding is also supported by observations of their study on parental
smoking and its influence on adolescent smoking initiation which was published (Stephan et al., 2009).

The study also found that 60.2% of the subjects had smoked for more than 10 years, 25.2% had smoked for 5 to 10 years, 7.7% for 3 to 5 years and 6.9% for less than 3 years (Table 4.3). This is explained by the fact that it takes a long time for smokers to start experiencing and recognizing the ill effects of smoking before they decide to make a serious attempt to finally quit (Ann et al., 2008; Messer et al., 2008).

The reason smokers usually continue to smoke for many years has also been attributed to the addictive nature of nicotine. Cigarettes and other smoked tobacco products rapidly deliver the addictive drug nicotine to the brain immediately after smokers inhale-about as efficiently as an intravenous injection with a syringe (Benowitz, 1996).

The study has also observed why the subjects wanted to quit smoking and found the healthcare provider advice in the form of a brief intervention has influenced 36.4% of the subjects to seek more comprehensive help at the smoking cessation clinic (Figure 4.4). 28% of the subjects wanted to quit due to development of ill health effects of smoking, this is expected because most of the subjects were above 40 years old and had smoked for more than 10 years; this finding is supported by various reports (WHO, 2002; Surgeon General Report, 2010).

18.2% of the subjects decided that they wanted to quit smoking because of new legislation against smoking tobacco products which has been implemented in the country in 2010. Legislation has banned advertisement and sponsorship; it has banned smoking in all public places and has enforced new revenues and increased taxes on tobacco products. This coincides with various reports and studies conducted worldwide (WHO-The European Tobacco control Report, 2007).
“Increasing the price of tobacco through higher taxes is one of the most effective ways to decrease consumption and encourage tobacco users to quit.” “A 70% increase in the price of tobacco could prevent up to a quarter of all smoking-related deaths worldwide” (WHO-Tobacco Free Initiative, 2004).

The study observed that 71.7% of the subjects had made at least one previous attempt at quitting smoking on their own while 28.3% had not tried to quit before attending the clinic (Figure 4.5), and during the study period 61.6% of the subjects were able to remain abstinent from smoking for at least one day while 38.4% were not able to make a new quit attempt (Table 4.4). This finding coincides with various surveys and research that have consolidated the fact the most smokers really want to quit but find great difficulty to achieve this goal on their own; they need professional help and support to overcome their dependence. (Jones, 2006; Fiore, 2000).

The study found that 61.7% of subjects were successful in remaining abstinent from smoking during their treatment period for at least 1 to 30 days, but this figure declined to 50.6% in the 30 to 90 day period then reached 39.1% for the 90 to 180 day period and finally 32.6% of subjects were able to successfully quit for more than 180 days. That means that about half of the subjects who were initially able to make a new quit attempt relapsed (Figure 4.6).

This finding emphasizes that smoking is addictive, that it usually requires multiple attempts – precisely three or more attempts to succeed in quitting and that it must be dealt with as a chronic relapsing condition (Piasecki, 2005; Fiore, 2000). Smokers who have recently quit face a high risk of relapse and most relapse occurs early in the quitting process (Kenford et al., 2002).

The study revealed that among the 136 subjects who had successfully quit smoking, 76.4% had received counseling and NRT while 23.6% received counseling only and among the subjects who did not receive NRT only 18% were
able to successfully quit smoking while 82% either relapsed or were not able to quit at all with an odds ratio of 3.4 (Table 4.6). This finding shows that combined counseling and NRT is superior to counseling alone in achieving smoking cessation (P value < 0.001). This finding is also supported by previous studies which observed the superiority of combined counseling and NRT (Hand et al., 2002; Molyneux et al., 2003; Davidson et al., 1998).

The study clearly demonstrated that subjects attending more than three treatment sessions at the smoking cessation clinic achieved a higher success rate in quitting smoking than those who attended three or less sessions with an odds ratio of 5.9 as is indicated in Table (4.7). 82.3% of subjects who attended more than three treatment sessions were successful in completely quitting while 17.7% either relapsed or completely failed to quit as compared to 13.3% of those who attended 3 or less sessions quit and 86.6% relapsed or completely failed to quit; the result is highly significant (P value < 0.001).

This finding is supported by previous studies which indicate that the success rate in quitting smoking increases with the intensity of treatment sessions specifically more than 3 sessions (Fiore, 2000; Brandon et al., 1987; British Thoracic Society, 1990).
CHAPTER SIX

CONCLUSION AND RECOMMENDATIONS

6.1 Conclusion

The importance of cessation and reduced exposure to tobacco smoke cannot be overemphasized, and in view of the results of this study very important conclusions have been reached and here I shall try to summarize them in the following section.

It is essential that clinicians and health care delivery systems consistently identify and document tobacco use status of all clients in their records at every visit.

The study also concluded that the likelihood of succeeding in quitting smoking increases with the intensity of treatment sessions. Person-to-person treatment delivered for three or more sessions appears especially effective in increasing abstinence rates.

Counseling and medication are effective when used by themselves for treating tobacco dependence. The combination of counseling and medication, however, is more effective than either alone. Thus, clinicians should encourage all individuals making a quit attempt to use both counseling and medication.

Marketing strategies of the tobacco industry especially the attractive advertisements have been able to lure the younger generations to start smoking and continue to do so for many years, thus awareness about the health risks of tobacco consumption and exposure to tobacco smoke, and about the benefits of tobacco free lifestyles and the cessation of smoking must be adopted by various media sectors to combat this growing epidemic especially among youths.
The healthcare system should reach out to various sectors, governmental and private and collaborate and advocate for policy that combats the tobacco epidemic. Community participation should be sought as it is a necessity to the success of anti-tobacco campaigns.

Most importantly the study reveals the importance of conducting a great deal of research in the field of tobacco control and smoking cessation in our part of world.

6.2 Recommendations

1. Healthcare professionals should ask all individuals presenting to them about their smoking status and document that in patient/client file. It is essential that clinicians and health care delivery systems consistently identify and document tobacco use status.

2. Healthcare professionals should strongly advice all individuals who smoke to quit smoking and warn them against the health hazards of smoking, inform them about the benefits of quitting and assist them in their attempt to quit smoking.

3. All individuals attempting to quit should be offered counseling to assist them in their quit attempt and encouraged to attend follow-up sessions.

4. Whenever it is feasible and appropriate counseling should be combined with nicotine replacement therapy as the evidence has shown that it increases the success rate in quitting smoking.

5. Governments/healthcare systems should incorporate smoking cessation services into all health delivery facilities and these services should be covered by health insurance as they are effective.
6. Governments/Health care systems need to promote and strengthen public awareness of tobacco control issues, using all available communication tools. These campaigns should specifically target school children and their teachers and parents.

7. Governments/Health care systems should develop comprehensive training programs and resources for healthcare professionals to enable them to deliver smoking cessation therapy in accordance with best practice guidelines.

8. Governments/educational organizations/healthcare systems should develop and promote national research, with focus on locally used tobacco products, and coordinate research programs at the regional and international levels in the field of tobacco control.

9. Governments should introduce comprehensive legislation that enforces complete bans on tobacco advertisement and sponsorship, prohibits smoking in public places, increasing taxes and revenue on tobacco products and utilizes part of the return on smoking cessation services.
REFERENCES


APPENDICES

Appendix (1): Smoking clinic assessment questionnaire.

Personal information

Name: ............................................................................................................
Sex:  M/F
Occupation: ....................................................................................................
D.O.B : ........../ ........../ ......................
Level of Education: ........................................................................................
Nationality ........................................................................................................
Address ............................................................................................................
Contact number(s)
.............................................................................................................
Marital status ..................................................................................................
No. of children .................................................................................................
How did you get to know about our facility?
(Physician, friends, advertisements, other)
.....................................................................................................................

Problem identification

- Age started smoking.................................
- No. of years smoking .................................
• Current pattern of smoking (cigarette, shisha, medwakh, other):

• No. of cigarettes or smokes / day

• Reasons for initiation of smoking (advertisement, peer influence, parent smoked, other)

• Reasons for continuation of smoking

• When and where do you smoke (i.e. triggers)?
  □ After waking up □ During work □ After food □ At home □ Others (specify)

• Can you specify the places and situations where you do not smoke?

• Did you try to quit smoking before?

• What was the longest period you spent without smoking?

• Any other substance abuse, if yes what?

• Why do you want to quit smoking? (Physician advice, Health Problem, Legislation, other)
Problems attributed to smoking

Medical history

Family history

<table>
<thead>
<tr>
<th>Condition</th>
<th>Yes</th>
<th>No</th>
<th>Relation</th>
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</thead>
<tbody>
<tr>
<td>Diabetes Mellitus</td>
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<td>Hypertension</td>
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<td>Coronary Heart Disease</td>
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<td>Cancer</td>
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<td>Bronchial Asthma</td>
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<td>Cerebrovascular Accidents</td>
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<td>Allergy</td>
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<td>Psychiatric Diseases</td>
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<tr>
<td>Others (specify):</td>
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</table>
Fagerstrom score for nicotine dependence

1. How soon after you wake up do you smoke your first cigarette?
   □ Within 5 minutes................................................................. (3)
   □ 6–30 minutes............................................................................... (2)
   □ 31–60 minutes............................................................................... (1)
   □ After 60 minutes............................................................................... (0)

2. Do you find it difficult to refrain from smoking in the places where it is not allowed? (e.g., in shopping malls)?
   □ Yes............................................................................................... (1)
   □ No................................................................................................. (0)

3. Which cigarette would you hate most to give up?
   □ The first one in the morning.......................................................... (1)
   □ Any other........................................................................................ (0)
4. How many cigarettes do you smoke/day?
☐ 10 or less................................................................. (0)
☐ 11–20............................................................................. (1)
☐ 21–30............................................................................. (2)
☐ 31 or more....................................................................... (3)

5. Do you smoke more frequently during the first hours after waking than during the rest of the day?
☐ Yes........................................................................... (1)
☐ No.................................................................................. (0)

6. Do you smoke if you are so ill that you are in bed most of the day?
☐ Yes........................................................................... (1)
☐ No.................................................................................. (0)

Total score: ........................................................................

Low dependence ........................................ (0 – 4)
Medium dependence ........................................ (5 – 8)
High dependence ............................................ (Above 8)

Clinical examination

- Vital signs:

<table>
<thead>
<tr>
<th>B.P.</th>
<th>Pulse rate</th>
<th>Height(cm)</th>
<th>Weight (kg)</th>
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<tbody>
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- General examination:

..................................................................................
- System Examination:
  Head and Neck: 
  Heart: 
  Chest: 

- CO level ............... ppm CoHb ............... %

Case assessment

Management plan
  - Non Pharmacological Management: 
  - Medications:
  1) 
  2) 
  3) 

- Next Follow up Visit Appointment: 

Quit date: / /
Follow up visits:

<table>
<thead>
<tr>
<th>No.</th>
<th>Date</th>
<th>B.P.</th>
<th>Co (ppm)</th>
<th>CoHb (%)</th>
<th>Quitting state</th>
<th>Management plan</th>
<th>Doctor’s sign.</th>
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<tr>
<th>Date</th>
<th>Progress Notes</th>
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