Ain Shams University
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PSYCHIATRIC ASPECTS OF SMOKING

REVIEW SUBMITED BY

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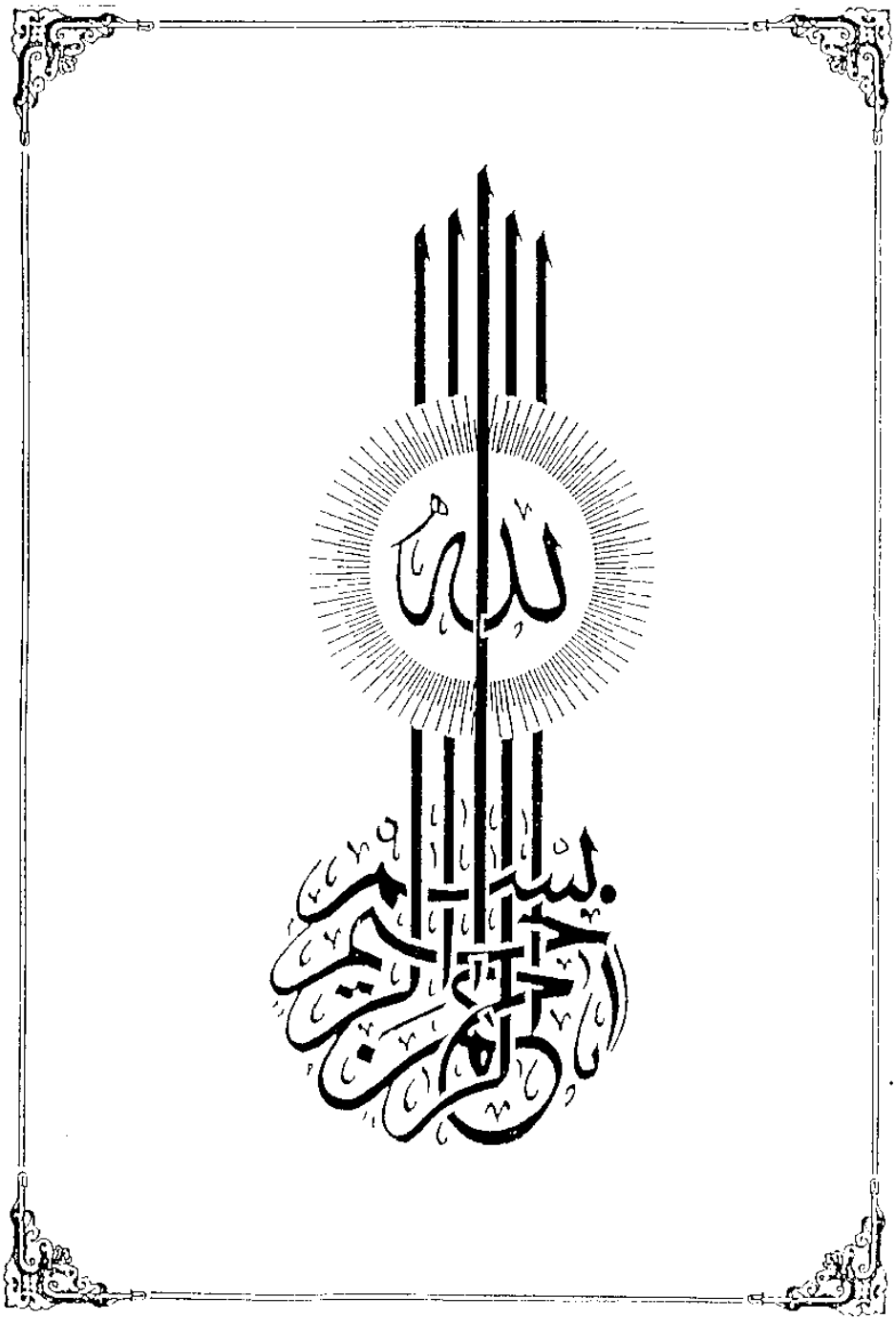
AIN SHAMS FACULTY OF MEDICINE

DEDICATION

TO

my

PARENTS



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INTRODUCTION

Ciagarette smoking is still as important cause of death as were the great epidmic diseases of the past. The evidence of its dangers is becoming increasingly clear, but although the dangers are widely recongnised, measures to combat them remain pitifully inadequate.

The reasons why people smoke tobacco are still far from clear, obviously, social and psycological reinforcers are very important. It is a fact that tobacco produces marked pharmacological reactions, primarily because of its nicotine content. " DOMINO " (1983).

There is new hypothesis that, the role of nicotine in cigarette smoking is similar to the role of opium, coca leaves, ethanol in the compulsive use of heroin, cocain, and alcoholic beverages respectively. So, it is clear, that pharmacologic and non pharmacologic (e.g., social, learning, and personality) factors must be considered in an explanation of smoking behavior. " Henning Field" (1981).

So The Aim of The Work is:-

1- Reviewing the literatures dealing with this subject.

2- Discussion of the following:-

a. Conscious and unconscious motives for smoking.

b. The neuro chemical mechanisms that under lie the smoking as dependence disorder.

c. The psycho social factors as reinforcers for smoking behavior.

d. The various approaches for prevention of smoking.

HISTORY OF SMOKING

Although we do not know the exact date of origin of the smoking practice, (Wagner,1971) and the origins of the drug "nicotine" are apparently lost in antiquity, the American-Indian is most frequently "credited" with having been responsible for its early cultivation & popularization. (Mahoney,1980).

A Mayan carving dating from the 5th century A.D. in the Yucatan of Mexico depicts a priest drawing smoke through a long tube, which most likely contained tobacco. (Modell,etal.,1967).

Columbus, Verrazano and Cartier, early explorers, 1492, observed and sampled the indian weed, (Morison,1971).

They were intrigued by the curious habit of native Americans-stuffing their long pipes with a strange-smelling leaf, lighting the substance, inhaling deeply, and then exhaling through the nose. (Mahoney,1980).

The introduction of tobacco to European civilization is credited to Andre de Thevet. In 1556 or 1557 he planted seeds of Brazilian tobacco in France. John Hawkins brought tobacco to England from Florida in 1565, its use popularized greatly after Sir Walter Raleigh and Thomas Hariot introduced the native virginia clay pipe. (Morison,1971).

The spreading of the habit all over the globe was often frustrating for customers in that they would use up their supply of tobacco long before the tall ships returned.(Mahoney, 1980). Thus, Brecher (1972) notes that the supply ships to the pacific islands were often met with cries from the Shore-tobacco "Sir, Strong tobacco, we die, Sir, if we have no tobacco!".

About the year 1560 Portuguese and Spaniards brought tobacco to East Africa and from there its cultivation spread to central, West and South Africa (Akehurst,1968) and turks brought it to Egypt. (Mahfous,1974).

As early as the 16th century,1575, smoking inside a church was prohibited by the spanish-American Priests of the Roman catholic faith. Two popes (Urban VIII & In nocent X) issued formal prohibitions of smoking in the 17th century, forcing the devout to switch to snuff, which could be used covertly (Modell,1967). In 1633, for example, the death penalty was levied against any one caught smoking in constantinople.(Mahoney, 1980).

Concurrently, Sultan Murad IV in Turkey tortured and killed violators of the Moslem ban on smoking. Similar situations existed in the European states, Russia, Japan and Colonial out posts. (Modell etal.,1967).

Economic sanctions (such as those imposed by king James I of England) commonly took the form of severe taxation when tobacco use was permitted, or fines and property confiscation for violation of the use and possession laws. (Wagner,1971).

These laws were largelly ineffective, for, as Brecher (1972) notes, "no country that has ever learned to use tobacco has given up the practice."

Ironically enough, James I, one of the greatest critics of tobacco use become the father of the tobacco industry in America. By the 17th century tobacco was world wide, firmly

CHEMISTRY OF TOBACCO SMOKING

Carboxy haemoglobin levels in the smoker's blood have been correlated with the amount of disease in the blood vessels. (Wald,etal.,1978).

Carbon monoxide can increase the permeability of blood vessels to cholesterol causing changes in the arteries which result in coronary heart diseases. (Astrup,etal.,1974).

However, there is no suggestion that carbon monoxide is implicated in cigarette dependence.

III- KNOWN CANCER-PRODUCING SUBSTANCES:

When tobacco smoke is condensed by cooling or by deposition during passage through a filter, the particles in the smoke are collected as a dark brown tarry material known as tobacco tar or tobacco condensate. Many chemical compounds isolated from tobacco-smoke condensate have been tested for carcinogenic activity. (Wynder,etal.,1967).

The carcinogens in tobacco tar are of 3 kinds:- i)Complete carcinogenes which above certain dose levels by themselves give rise to cancer. ii)Tumour initiators, which bring about the first stage of carcinogenic process. iii)Tumour promotors, which complete the process once it has been started, but can not themselves initiate it. (Davis,etal.,1975).

The chief initiators of cancer in tobacco-smoke are chemical substances known as polycyclic aromatic hydrocarbons and N-nitroso compounds. N-nitrosonor-nicotine has been identified in both tobacco smoke and unburnt tobacco, its presence may be of great biological importance and could explain the

The main stream smoke of cigarettes made of flue-cured tobacco is acidic and less irritant than that of pipes, which is usually alkaline, as in cigar smoke. The acidity or alkalinity of different tobacco smoke is important to the user because nicotine can be absorbed to an appreciable extent from acidic smoke only if it is taken into the lung. When the smoke is alkaline nicotine may be absorbed from the mouth and thus cigar and pipe smokers can obtain nicotine without inhaling. (Armitag,etal.,1970).

* CARBON MONOXIDE :

Most of cigarettes yield about 16-17 mg of carbon-monoxide in the main stream and about 40 mg in the side stream. Cigars produce more carbon monoxide than cigarettes. (Royal college of physicians,1983).

The concenteration of carbon monoxide produced by smoking have been measured under experimental conditions in rooms of various size, and in every day social conditions. The concenterations reached depend very much on the degree of ventillation. With concenterations of about 10 part per million, the amount of carboxy haemoglobin in the blood of non-smoker might rise to about 2.0% (Russell,etal.,1973).

* NICOTINE :

Some of nicotine derived from cigarette smoke will settle out of the air of the room. Nicotine concenterations in the blood and urine of people exposed experimentally to smoky atmosphere are increased, but are much lower than those found in smokers. (Russell,etal.,1980).

* CARCINOGENS :

The potent carcinogens benzo-a-pyrene is present in considerably increased in the air of a smoky resturant. Also dimethyl-nitrosamine is increased. (Walder,etal.,1979).

Very little is known about how much carcinogen is absorbed by a passive smoker ,However, inhalation in very low concenterations over long periods, increase the risk of developing lung cancer. (Kauffmann,etal.,1981).