

2. Tobacco

Tobacco Use is the single most preventable cause of death in the world today, and is estimated to kill more than five million people every year – more than tuberculosis, HIV/AIDS and malaria combined.

By 2030, the death toll will exceed eight million a year, unless urgent action is taken.

Implementation of the World Health Organization Framework Convention on Tobacco Control (WHO FCTC) can reverse this devastating epidemic if it becomes a top public health priority especially for countries' political leaders.

Over many years cigarette smoking was and partially is still heavily advertised as a “modern live style substance”

Fashion – the most powerful means of social change

1950s

Quote from senior civil servant

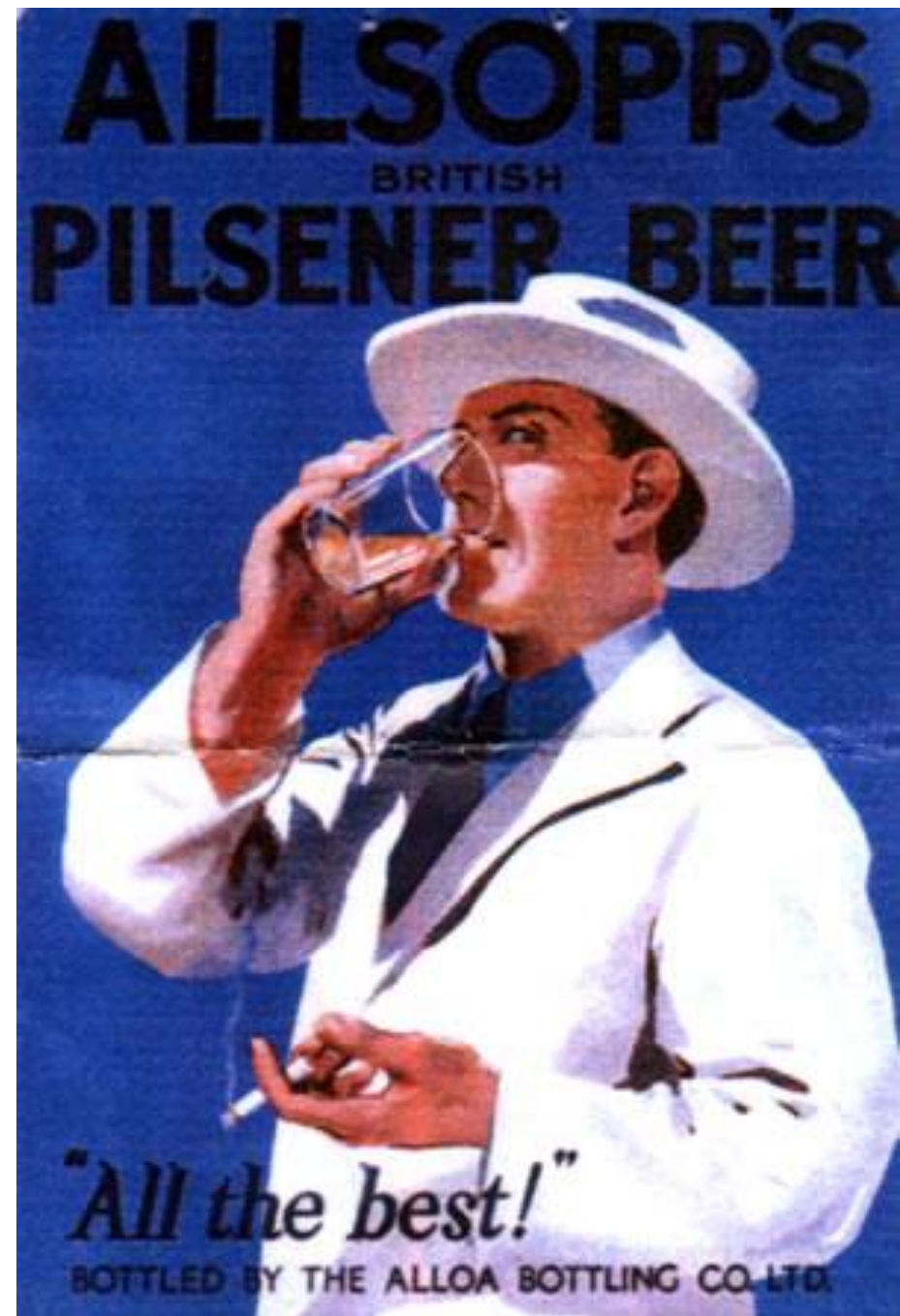
“ it would be unimaginable that the Prime Minister could be seen in public without a cigarette”

Why? ... urbane, sophisticated, in the mode, normal!

2000s

Would be electoral suicide

..... dirty habit, lack of self-control, an addict!





Some countries enforced the laws regarding smoking in public, eg. in Kenya you are only allowed to smoke in designated areas

CAMEL SMOKING LOUNGE



CAMEL SMOKING LOUNGE

In airports smoking is restricted to designated areas

Tobacco in Germany

dependent persons: approx. 7,5 - 10 Mio.
premature mortality: approx. 110 000/year

(Drogen- und Suchtbericht 2005)

Tobacco in Ethiopia

???

In what forms is tobacco consumed?

cigarettes

cigars

pipe tobacco

snuff

and chewing tobacco

they all contain the addictive drug nicotine

Why do people consume tobacco?

it tastes (not in the beginning)

it is fun

feeling of pulling together among smokers „belong to”

improves concentration

boring tasks become less boring (eg.repetitive tasks) it

becomes a ritual /habit

it excites, stimulates

lessens anxiety

reduces feelings of hunger

How Does Tobacco Affect the Brain?

Nicotine is eagerly absorbed into the bloodstream when a tobacco product is chewed, inhaled, or smoked. A typical smoker will take 10 puffs on a cigarette over a period of 5 minutes.

Upon entering the bloodstream, nicotine immediately stimulates the **adrenal glands to release the hormone epinephrine (adrenaline)**. Epinephrine stimulates the **central nervous system and increases blood pressure, respiration, and heart rate**.

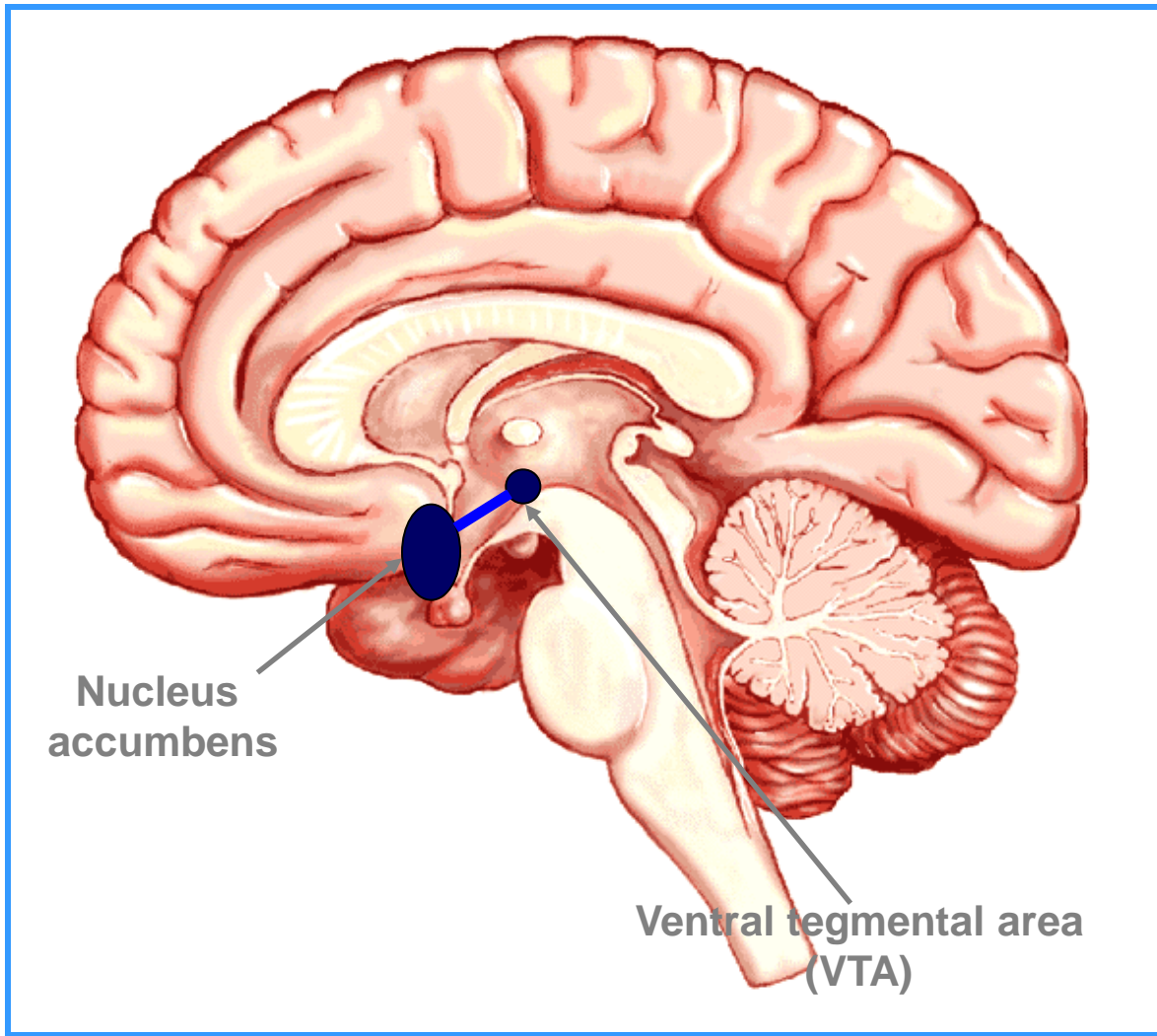
Glucose is released into the blood while nicotine suppresses insulin output from the pancreas, which means that smokers have chronically elevated blood sugar levels.

How Does Tobacco Affect the Brain?

Like cocaine, heroin, and marijuana, nicotine increases levels of the neurotransmitter **dopamine**, which affects the brain pathways that control reward and pleasure. For many tobacco users, long-term brain changes induced by continued nicotine exposure result in addiction.

Studies suggest that additional compounds in tobacco smoke, such as **acetaldehyde**, may enhance nicotine's effects on the brain. A number of studies indicate that **adolescents are especially vulnerable** to these effects and may be more likely than adults to develop an addiction to tobacco.

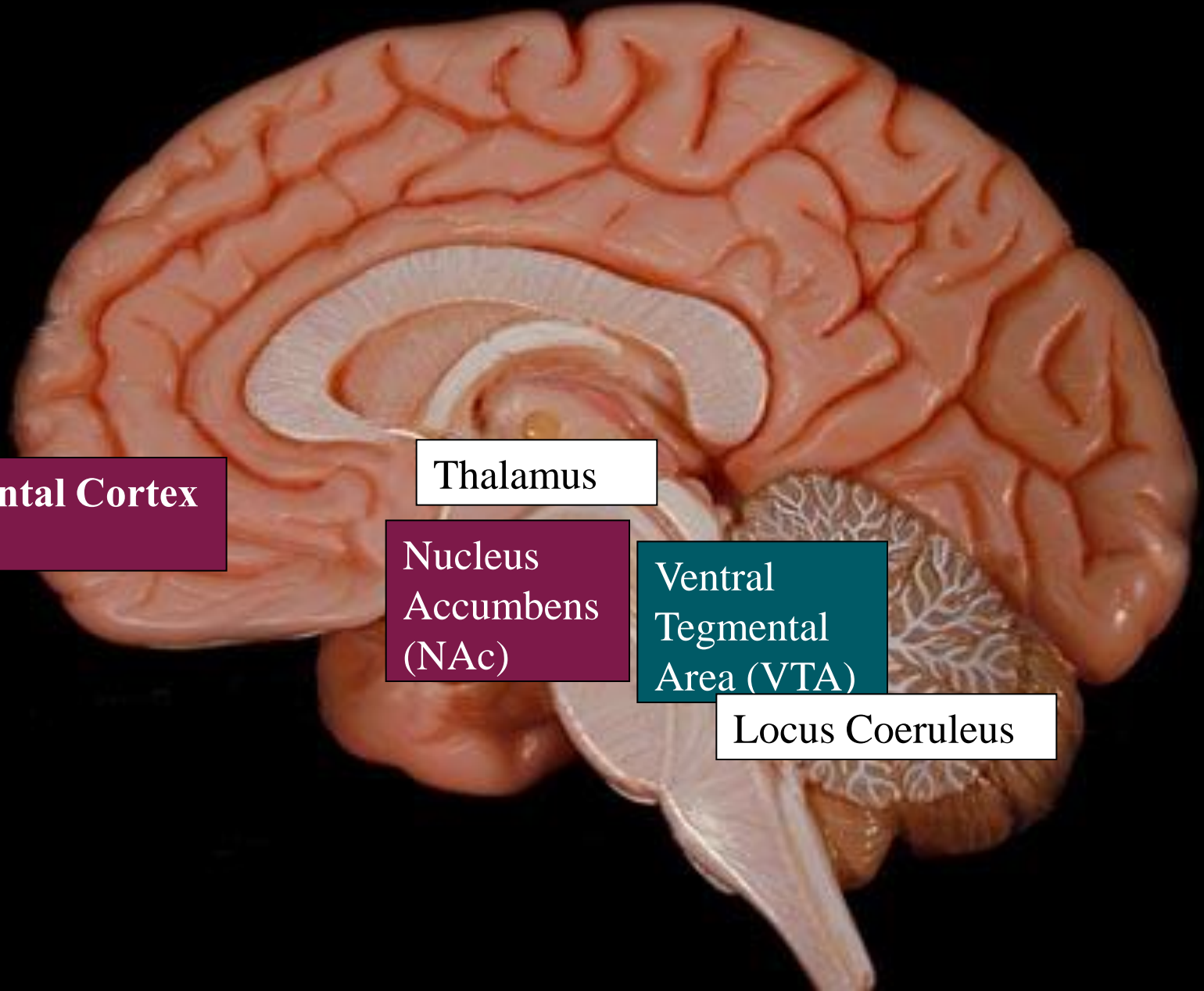
Brain Reward Pathways



The VTA-nucleus accumbens pathway is activated by all drugs of dependence including alcohol

This pathway is important not only in drug dependence, but also in essential physiological behaviors such as eating, drinking, sleeping, and sex

Reward Pathway: Brain Areas



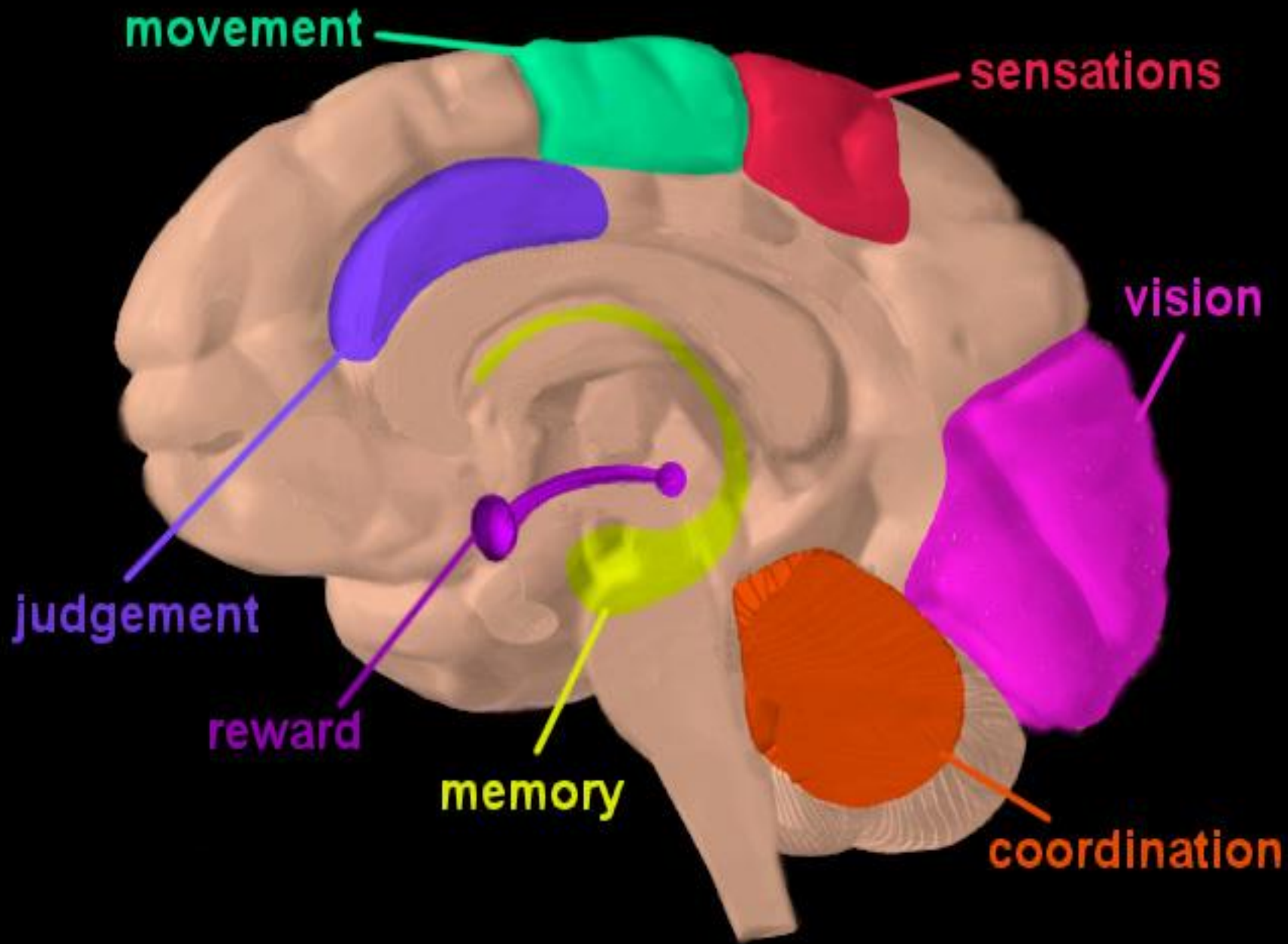
Prefrontal Cortex

Thalamus

Nucleus
Accumbens
(NAc)

Ventral
Tegmental
Area (VTA)

Locus Coeruleus



What Adverse Effects Does Tobacco Have on Health?

Cancers

Cigarette smoking accounts for about one-third of all cancers, including 90 percent of lung cancer cases. Smoking has also been linked to leukaemia.

chronic bronchitis, pneumonia

emphysema,

stroke

heart attack

vascular disease

stains teeth and fingers

ages the skin faster

Smokeless tobacco (such as chewing tobacco and snuff) also increases the risk of cancer, especially oral cancers.

On average, smokers die 14 years earlier than non smokers.

Its not the nicotine that causes cancer

Although nicotine is addictive and can be toxic if ingested in high doses, it does not cause cancer—other chemicals are responsible for most of the severe health consequences of tobacco use. Tobacco smoke is a complex mixture of chemicals such as carbon monoxide, tar, formaldehyde, cyanide, and ammonia—many of which are known carcinogens.

Carbon monoxide increases the chance of cardiovascular diseases.

Tar(solid residual) exposes the user to an increased risk of lung cancer, emphysema, and bronchial disorders.

Pregnancy

Pregnant women who smoke cigarettes run an increased risk of miscarriage, stillborn or premature infants, or infants with low birth weight.

Maternal smoking may also be associated with learning and behavioural problems in children.

Smoking more than one pack of cigarettes per day during pregnancy nearly **doubles** the risk that the affected child will become addicted to tobacco if that child starts smoking.

Environmental tobacco

Second hand smoke, also known as environmental tobacco smoke, consists of exhaled smoke and smoke given off by the burning end of tobacco products. Non-smokers exposed to second hand smoke at home or work increase their risk of developing heart disease by 25 to 30 percent and lung cancer by 20 to 30 percent. In addition, second hand smoke causes respiratory problems, such as coughing, overproduction of phlegm(mucus), and reduced lung function and respiratory infections, including pneumonia and bronchitis, in both adults and children.

What are the benefits of quitting to smoke?

Although quitting can be difficult, the health benefits of smoking cessation are immediate and substantial—including reduced risk for cancers, heart disease, and stroke. A 35-year-old man who quits smoking will, on average, increase his life expectancy by 5 years.

Tobacco: psychic dependence

80% plan to give up smoking

35% try to do it nearly every year

5% are successful

over 5 cigarettes daily usually develops addiction

- Did tobacco has withdrawal symptoms ?

Tobacco: withdrawal symptoms

irritability, anxiety

depression

difficulties to concentrate

appetite increase

weight gain

powerful craving for tobacco

Are There Effective Treatments for Tobacco Addiction?

Are There Effective Treatments for Tobacco Addiction?

Tobacco addiction is a chronic disease that often requires multiple attempts to quit. Although some smokers are able to quit without help, many others need assistance. Generally, rates of relapse for smoking cessation are highest in the first few weeks and months and diminish considerably after about 3 months. Both behavioural interventions (counselling) and medication can help smokers quit; but the combination of medication with counselling is more effective than either alone.

Behavioral Treatments

Behavioural treatments employ a variety of methods to assist smokers in quitting, ranging from self-help materials to individual counselling. These interventions teach individuals to recognize high-risk situations and develop coping strategies to deal with them.

Nicotine Replacement Treatments

Nicotine replacement therapies (NRTs), such as nicotine gum and the nicotine patch,

Does modernisation lead to more substance abuse?

does?

Smoking rates among adolescents in the USA

	1990	2009
8th-graders	21%	6.5%
10th-graders	30%	13%
12th-graders	36%	20%

reported they had used cigarettes in the past month

Relapse and smoking

It is well documented in the smoking cessation literature that alcohol use is a relapse factor for **resuming tobacco use**.

There has been no systematic investigation into whether tobacco use is a relapse factor for resuming alcohol or other drug use however, there is evidence that this may be the case. Frosch et al. *Exp Clin Psychopharm* 2000;8:97-103.

Psychiatric disorders and smoking

It has been estimated that individuals with psychiatric disorders purchase approximately 44 % of all cigarettes sold in the United States,

which undoubtedly contributes to the disproportionate rates of morbidity and mortality in these populations.

In addition, studies have shown that as many as 80 % of alcoholics smoke regularly, and that a majority of them will die of smoking-related, rather than alcohol-related, disease.

Psychiatric disorder and smoking cont...

percent of smokers

general population	25%
major depression	40 - 60%
schizophrenia	60 - 90%
bipolar affective disorder	50 - 70%
PTSD	45 - 55%

(George TP et al. 2003, Biol Psychiatry 53: 136-143)

**The best measure against tobacco
Addiction is never start**

References:

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STAY SAFE AND HOME