

Eighty-eight percent of schizophrenics smoke.

Tobacco **FACT** Sheet

www.tobaccoprevention.org

Smoking and mental health

How smoking affects the brain

Within 10 seconds of inhaling tobacco smoke, nicotine reaches the brain and begins to act on a specific set of neurons, the working cells of the brain. On each of these neurons are receptors, which are like slots or keyholes onto which brain chemicals called neurotransmitters attach, causing the brain to transmit messages. Nicotine fits into one of the receptors acted upon by acetylcholine, one of several neurotransmitters in the brain. This causes the brain to release two other substances, noradrenaline and dopamine, that act as stimulants.

Smoking and Stress

Smokers often report that smoking tobacco helps to relieve feelings of anxiety and stress. However, smokers exhibit higher levels of stress in their lives than non-smokers. The high smoking prevalence among people facing social and economic deprivation suggests that smoking may be used as a stress coping mechanism. However, the stress reducing properties of nicotine seem more illusory than real.

Nicotine stimulates the brain to release dopamine, which is associated with pleasurable feelings, and smokers quickly develop regular smoking patterns. Eventually, smokers need increasing levels of nicotine to feel 'normal'. As the nicotine content in their blood drops below a certain level, they begin to crave for a cigarette. This craving makes the smoker feel 'stressed' until the craving is relieved. The relief felt when this craving is finally satisfied is the feeling that smokers commonly mistake as 'relaxing'.

Depression

Cigarette smoking is linked with a wide range of psychiatric diagnoses including anxiety, agoraphobia and panic disorder but especially with depression. Many studies have reported an association between clinical depression and smoking. Some have concluded that the effects of long-term nicotine exposure on the brain may have a causal influence on major depression. One study found that a history of daily smoking increased significantly the risk of major depression

The evidence so far is inconclusive and there is dispute among scientists as to whether smoking is the cause, or effect of mental illness. However, some researchers believe that smoking itself could act as a trigger for mental illness. In a review of the evidence to assess the links between tobacco smoking and mental disorder, two public health researchers concluded that nicotine dependence is indeed a mental disorder, from which most smokers suffer.

Schizophrenia

A link is thought to exist between smoking and schizophrenia. However, the key, relevant factors are the degree of the psychiatric disorder and whether the sufferer is institutionalised. As a consequence, the debate over the relationship between smoking behavior and mechanisms underlying schizophrenia or its treatment has been labelled "premature."

Patients with schizophrenia have an extremely high prevalence of smoking; a US study in 1986 found about 88% of patients were smokers compared with only 33% in the general population. The reason for this is unknown, but it is likely that smoking behavior in schizophrenia is a complex process. The increase in dopamine release induced by smoking may be helpful in alleviating some schizophrenic symptoms. Therefore, schizophrenics may smoke in an attempt to self medicate. Smoking also interacts with neuroleptic treatment (drug treatment for schizophrenics), reducing neuroleptic plasma levels and possibly causing higher doses of neuroleptics to be prescribed.

Risks of smoking far outweigh any benefits to keep smoking.

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Alzheimer's Disease and Dementia

AD is a common form of senile dementia, the other being vascular dementia. Loss of neurons (brain cells) that use acetylcholine as their neurotransmitter, and loss of memory are prominent features of AD. Studies conducted in the early 1990s suggested that nicotine from smoking may have a protective effect against AD. Although research on this subject has failed to be conclusive, it was thought that nicotine could delay the onset of familial AD. Scientists at the Scripps Research Institute, California, have discovered that nor nicotine, a by-product of nicotine, appears to prevent the abnormal build-up of amyloid protein plaques associated with Alzheimer's disease. However, the research did not demonstrate that smoking had any protective effect for AD. Other research has shown that smoking increases the risk of AD and vascular dementia by increasing the amount of free radicals in the body, which impair brain and body cell functions and undermine immunity.

Even if smoking is "protective" against AD, smoking could never be advocated for this purpose. This is because the known health risks of smoking far outweigh any possible reduction in risk of getting AD in later life.

Five tips for quitting

Studies have shown that these five steps will help you quit and quit for good. You have the best chances of quitting if you use these five steps to develop and maintain your own quit plan.

1. *Get ready.*
2. *Get support.*
3. *Learn new skills and behaviors.*
4. *Get medication and use it correctly.*
5. *Be prepared for difficult situations.*

Talk to your health care provider, they can help. If you do not have insurance or just need to talk call the Washington Tobacco Quitline.

Tobacco Quit Line

1-800-QUIT-NOW

toll-free 1-800-784-8669

QUITLINE.COM

We also recommend:
www.seconddhandsmokesyou.com
www.cdc.gov/tobacco