Addiction to Cigarettes

Tobacco today has been proven as our most popular and most problematic drug. In 1995, there were over 97,000 adult, smoke-related deaths. It is widely known that smoking increases your risk of heart disease, can cause cancer, and should be avoided during pregnancy. How can we prove these claims, is there any medical evidence for them?

There are three main components of tobacco: nicotine, carbon monoxide and tar.

Nicotine is a very powerful, highly addictive stimulant drug. This is the drug that most people are addicted to in the cigarette. When a smoker inhales, nicotine is absorbed into their bloodstream and the effects are felt on the brain seven to eight seconds later. Nicotine also effects the rest of the body in different ways. In small amounts, nicotine stimulates nerve impulses in the central and autonomic nervous system (part of the nervous system which regulates heart, adrenal gland, bladder etc.) while in large amounts nicotine inhibits these nerve impulses.

The immediate effects of nicotine are:

- Increase in heart rate, blood pressure and hormone production
- Constriction of small blood vessels under the skin
- Changes in blood composition and metabolism

Carbon monoxide is a poisonous gas found in relatively high concentrations in cigarette smoke. It combines with the oxygen carrying substance in blood, hemoglobin. It will replace the oxygen in the blood so that up to 15% of the smokers blood may be carbon monoxide instead of oxygen. Oxygen is essential for body tissues and cells to function properly. If the supply of oxygen is reduced for long periods, it can lead to problems with growth, repair and absorption of essential nutrients.

Smoking or passive smoking is therefore particularly harmful during pregnancy as the carbon monoxide reduces the amount of oxygen carried to the uterus and fetus. Carbon monoxide can also encourage fatty deposits to form on the walls of arteries. This can lead to the arteries becoming blocked and other circulation problems.

When a smoker inhales, the cigarette smoke condenses and about 70% of the tar contained in the smoke is deposited in the lungs. High levels of tar on the lungs, over a period of time, can lead to cancer. Irritants in tar can also damage the lungs by causing narrowing of the bronchioles, coughing, an increase in bronchiole mucus and damage to the small hairs, which protect the lungs from dirt and infection.

The amount of nicotine, carbon monoxide, tar and other substances that are absorbed into the body, from a cigarette, varies greatly, and depends on how much the smoker inhales.

The facts and figures were obtained from - Smoking: The Facts. Published by Health Education Authority.