

Tobacco Dependence

Smoking is the most common preventable cause of death in the World. One half of smokers will eventually die due to a disease caused by smoking.

Epidemiology

According to the World Health Organisation, those killed by tobacco in middle age lose an average of 20-25 years of non-smoker life expectancy. Overall, regular cigarette smokers lose about 8 years of non-smokers life expectancy.

About 5 million people are dying every year, the world over because of tobacco smoking, and in the next 20 years the number of deaths will be 10 million per year due to an increase in consumption in the number of cigarettes.

In the Czech Republic, 22,000 people are dying each year from diseases caused by tobacco smoking. Most of these deaths occur in middle aged people.

The model of the tobacco epidemic is the same in all countries. People will start smoking and after reaching a peak of prevalence, the number of people smoking decreases. However even though the number of people smoking has reduced, the mortality rate among people is still increasing, having its peak with about 30-40 year delay after the peak of the number of people smoking.

In developed countries (i.e USA, Canada, UK, Australia or European Union) about 22% of the population over 15 years smoke. The smoking is somewhat decreasing especially among older men but is significantly increasing among teens and youth and young women.

Health Impact

Tobacco smoking is a non-modifiable risk factor and has a major influence of our health causing a variety of diseases including:

- **Cardiovascular diseases** (eg. Atherosclerosis, Angina Pectoris, Ischemic heart Disease, Cardiac failure etc.). Smoking causes a variety of changes inside the the system including vasoconstriction of the blood vessel walls, the build up of atherosclerotic plaques, and amplification of RBCs, WBCs, fibrinogen and endothelium which leads to increased blood viscosity.
- **Cancer** - The most prominent cancer caused by smoking is small cell carcinoma of the lungs. Cancers may also arise in the pancreas, urinary bladder, larynx, oesophagus and. cervix uteri.
- **Chronic respiratory diseases** - (eg. chronic bronchitis and emphysema). The pseudostratified columnar epithelium and goblet cells of the larynx is damaged and replaced by a stratified squamous layer of epithelium which prevents the trapping and removal of foreign particles. Smoke particles also affect the lung alveoli and reduce their surface area, decreasing the amount of oxygen and carbon dioxide that can be exchanged on these surfaces. The amount of surfactant is also reduced as the number of cells producing the exchange fluid has also decreased.
- **Other diseases** - (eg. ulcerative colitis and Parkinsons disease).
- **Passive smoking** can affect a number of people who do not smoke tobacco.

Environmental Tobacco Smoke (ETS) contains thousands of toxic components. the best indicator for measuring the ETS in the indoor air is nicotine since only tobacco smoke can be the source of it.

ETS exposure can be detected by **cotinine** in the smoker's/non smoker's **blood, saliva or urine**.

Passive smoking causes diseases similar to active smoking such as:

- lung cancer
- fatal and non fatal myocardial infarction
- upper and lower respiratory tract inflammation
- middle ear inflammation
- relapses of bronchial asthma
- Sudden infant death syndrome (SIDS)

Pregnant smoking is connected to with lower birth weight, congenital limb reduction, spontaneous abortion and ectopic pregnancy.

Prevention of Tobacco Dependence

Many smokers wish to quit smoking for several reasons. These include:

- awareness of health
- social and lifestyle reasons
- financial reasons

It is the role of a physician to: 1) motivate the patient 2) support the patient's decision

to stop smoking.

If the patient has no motivation to stop smoking, it is the patient's duty to help them find one. This is done according to the 5R principle.

1) **Relevance** - to find motivation relevant to health status, family and social situation, age, sex

2) **Risks** - discuss potential risks of smoking and mention that limiting number of cigarettes or smoking lighter cigarettes does not remove risk of related diseases.

- acute risks include: breath shortness, bronchial asthma deterioration, impotence, sterility, higher carbon monoxide content
- long term risks include: myocardial infarction, stroke, cancer, COPD,
- environment: higher risk of passive smoking

3) **Rewards** - help the patient find his/her potential benefit from stopping smoking

- health improvement
- saving money
- good example for children etc.

4) **Roadblocks** - tell the patient situations where they are likely to face temptation to smoke again and how to avoid them

5) **Repetition** - be sympathetic and empathetic towards the patient and keep motivating them.

The physician can help the patient find substitute activities for the moments when they used to smoke, when the patient was most likely to smoke before and make them aware of these times eg. after a meal, first thing in the morning, on a night out with friends.

The patient will agree on a date from when he will stop smoking "D" day.

Links

Related articles

- Tobacco Dependence Treatment

Bibliography

- BENCKO, Vladimir, et al. *Hygiene and epidemiology : selected chapters*. 2. edition. Prague. 2008. ISBN 80-246-0793-X.
- KUMAR, - ABBAS,. *Robbins & Cotran Pathologic Basis of Disease*. 8. edition. Saunders and Elsevier, 2010. ISBN 978-1-4160-3121-5.

External Links

- Quit Smoking (<https://quitday.org>)
- <http://www.vape-town.co.uk/vaping-guide/> (<http://www.vape-town.co.uk/vaping-guide/>)
- Tips for Friends and Family of Quitters (http://www.heart.org/HEARTORG/HealthyLiving/QuitSmoking/QuittingResources/Tips-for-Friends-and-Family-of-Quitters_UCM_307889_Article.jsp#.VsnszJN953k)
- Smoking Cessation Health Center (<http://www.webmd.com/smoking-cessation/default.htm>)