

Report summary of ‘Children and young people’s nicotine use – consequences and prevention’

The number of children and young people who consume smokeless nicotine products has increased considerably in the past 5-10 years. Today, children and young people are exposed to a growing selection of nicotine products, including e-cigarettes, pouches, snuff and chewing tobacco among others. The ample selection of available nicotine products in conjunction with their low price compared with cigarettes, the taste additives, and a packing that appeals to children and young people may be attractive to these groups and contribute to their rising popularity.

In view of the increasing consumption of this addictive drug among children and young people, the Council on Health and Disease Prevention perceives that there is a need in this report to present updated and extensive research-based knowledge about the consequences of nicotine consumption for the health and wellbeing of children and young people. Additionally, the report summarises knowledge about tobacco prevention to strengthen the decision basis for preventive measures targeting nicotine consumption.

Prevalence of nicotine products

In Denmark, around one in every three (31%) children and young people aged 15-29 years consume some type of nicotine products daily or occasionally. Excluding consumption of cigarettes from the figures, 14.7% of children and young people consume nicotine products. In other words, around half of the children and young people who consume nicotine products only use other nicotine products than cigarettes. Among the smoke-free nicotine products, the more prevalent ones are snuff and nicotine pouches.

Health risks

When considering the detrimental effects of nicotine for children and young people’s health, the effect on the develop-

ment of the brain is particularly worrying. The human brain is not fully developed until around 25-30 years of age, and use of nicotine at a young age has various negative impacts on the development of the brain.

Dependence and addiction: Nicotine is an appealing substance because it has an energizing effect and elevates mood. Furthermore, it is one of the most addictive drugs known.

Gateway effect: Based on updated and extensive research originating from human as well as animal studies, the working group assesses that moderate to strong evidence supports that nicotine increases the likelihood of becoming addicted to cigarettes and drugs in general. Thus, nicotine seems to have a so-called ‘gateway’ effect.

Cognitive functions: Moderate evidence indicates that early-onset nicotine consumption has a detrimental effect on cognitive function, among others on attention and motivation.

Self-control: Additionally, nicotine consumption in childhood and adolescence stretching into the mid-twenties may affect the person’s self control, e.g. the ability to control emotions and impulsivity.

Mental illness: Moderate evidence indicates that nicotine has a detrimental effect on mental health and may contribute to producing symptoms of anxiety and depression.

Stress: Stress and nicotine interact and mutually aggravate each other. Being affected by stress increases the risk of initiating nicotine consumption and, conversely, nicotine use in children and young people increases the risk of subsequently developing an increased sensitivity to stress.

Inflammation of the brain: Nicotine consumption at a young age may lead to the development of an inflammatory condition in the brain, and it seems that this inflammation is involved in the disturbances of the maturation of the brain that cause an increased risk of depression, anxiety and dependence.

In addition to affecting the brain, nicotine is associated with a range of other detrimental effects:

Congenital malformation: Moderate to strong evidence shows that nicotine exposure during pregnancy is associated with an increased risk of reduced foetal growth, poorer pulmonary function in the child, premature birth and stillbirth.

Cardiovascular diseases: The working group has found strong evidence that nicotine has detrimental effects on the heart and vascular system, which in the longer term increases the risk of high blood pressure, cardiac disease and blood clots.

Damage to the oral cavity: Studies indicate that nicotine may damage the gums, the mucosa of the mouth and the teeth, but this field has been studied only sparsely.

Cancer, immunocompromising or performance-enhancing effect, and fertility: No evidence was found that exposure to nicotine among children and young people has a carcinogenic, immunocompromising or performance-enhancing effect. Current evidence is insufficient to draw any conclusions as to the possible links between nicotine and fertility. However, these fields are so poorly studied that any associations also cannot be excluded.

Prevention

The assessment of the working group is that strong parallels may be drawn between traditional tobacco prevention and prevention of the use of nicotine products. Therefore, the working group recommends employing the structural measures that we know have a strong preventive effect from measures to prevent tobacco consumption in the prevention of the use of other nicotine products among children and young people. The most effective form of prevention is achieved through multi-tiered measures that combine state-level structural measures with local measures and by including as many stakeholders as possible.

Avenues of action

The state may, among others, ensure that the statutory instruments in place in the tobacco area are extended to comprise all nicotine-containing products rather than only some individual products as is the case now. As part of this measure, the state may introduce neutral packaging for all nicotine products, impose a tax on all nicotine products along with a ban on taste additives. The state may also raise the age limit for nicotine product sales. Additionally, municipalities, schools, retail outlets and social media owners may collaborate to ensure that the current legislative measures are observed, e.g. the presentation ban, the no-smoking and no nicotine at school provision, the age limit on nicotine product sales and the advertising ban.

Conclusion

Childhood and adolescence stretching into the mid-twenties are periods of life that carry an increased risk of becoming addicted to nicotine and they are particularly sensitive periods for permanent detrimental effects of nicotine, particularly effects affecting the brain. Additionally, nicotine increases the risk of starting to smoke cigarettes and consuming other drugs. Based on current evidence for the detrimental effects on the health of children and young people, there is ample basis for concern because a growing number of children and young people start using nicotine, which is very addictive. Therefore, a pressing need exists to initiate measures that may rapidly prevent the development of additional addiction and detrimental effects.

Health risks associated with nicotine use in children and young people

