Scientific Rationale for Harm Reduction with ST

Comparison of risks from ST use and smoking

The established health risks associated with ST use are vastly lower than those of smoking. In the past twenty-five years, almost eighty peer-reviewed scientific and medical publications have acknowledged the differential risks between the two tobacco products.

In 2002, the Royal College of Physicians of London issued a report acknowledging that some ST manufacturers may want to market their products ‘as a harm reduction’ option for nicotine users.

Evidence that ST is an effective substitute for cigarettes

1. Survey data

A 1991 national survey revealed that one-third of adult US ST users were former cigarette smokers. According to an earlier survey, young men who had smoked cigarettes and subsequently used ST were twice as likely to have quit smoking as cigarette-only users.

2. Clinical trial data

One clinical trial has been conducted assessing the efficacy of an ST product in helping cigarette smokers quit. ST users were former cigarette smokers. Sixty-three percent of ST use was more likely to quit successfully than those using nicotine gum, which was also true for women.

3. The Swedish tobacco experience

For the past 100 years, cigarette smoking has been the dominant form of tobacco consumption in almost all developed countries. One notable exception is Sweden, where smoking rates, especially among men, have been considerably lower than those of comparable countries for decades. Over the past fifty years, Swedish men have had the lowest rates of smoking-related cancers of the lung, larynx, mouth, and bladder in Europe and the lowest percentage of male deaths related to smoking of all developed countries.

A 2006 study examined data from a 2001-02 nationally representative Swedish social survey. The data shows that snus use among men was significantly associated with a reduced rate of smoking. They also found that snus was the most commonly used cessation aid among men (used by 24% of men on their most recent quit attempt). Men who used snus as a quit-smoking aid were more likely to quit successfully than those using nicotine gum, which was also true for women.

Conclusion

Despite massive anti-smoking public health campaigns over the past forty years, 45 million Americans continue to smoke, and far too many die from smoking-related diseases. ST has far fewer adverse health effects than cigarette smoking and should be encouraged as one option for tobacco harm reduction for smokers who can no longer abstain from tobacco.


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Cigarette Smoking

Prevalence

At first glance, the United States appears to be the quintessential example of the slow but substantial decline of cigarette smoking in the developed world. The smoking rate among men was 52% in 1965 but dropped to 23% by 2004. Prevalence among women declined from 34% in 1965 to 19% in 2004.

But declining prevalence overshadows the fact that, with population growth, the absolute number of smokers in the U.S. remained relatively constant at 45 to 50 million over the entire period. Additionally, today’s smoking population has a higher proportion of heavy smokers, who are more resistant to conventional cessation strategies emphasizing tobacco and nicotine abstinence.

Health effects

Cigarette smoking remains the single most important avoidable cause of death in the developed world. The CDC estimates that smoking is responsible for 438,000 deaths in the U.S. annually.

Cigarette smoking is a risk factor for cancers of the lung, throat, esophagus, bladder, kidney, pancreas, and cervix and for leukemia. It is also a risk factor for cardiovascular diseases, including heart attacks, strokes, and aortic aneurysms and for lung diseases such as bronchitis, emphysema, and chronic airway obstruction.

Nicotine

Because nicotine is so powerfully addictive, most smokers attempting to quit are not successful. It is estimated that 70% of smokers want to quit and 40% make a serious attempt to quit each year, but fewer than 5% succeed in any given year. What can be done for the remaining smokers who want to quit? The use of ST may be an alternative for these smokers.

ST Use

ST was the dominant form of tobacco used in the U.S. until early in the twentieth century, when cigarettes became more popular. Use of all types of ST is most prevalent in Southern states and in rural areas throughout the U.S.

Types of ST

Modern ST products are either chewed nor spit. ST products are not burned but instead are placed in the cheek or between the lip and gum. Three types of ST are used in the U.S.: powdered dry snuff, loose leaf chewing tobacco, and moist snuff.

In addition to the U.S., Scandinavia has a long tradition of moist snuff use, especially Sweden, where “snus” (the generic term for moist snuff in Swedish, pronounced “snoose”) is essentially the only type of ST product in use.

One reason for the increased popularity of moist snuff is that manufacturers have gradually refined the products in this category to be more user-friendly. Modern moist snuff products are sold in pre-portioned pouches similar to teabags but much smaller. Because these products remain stationary in the mouth and generate very little juice, they can be used discreetly without creating a need to spit.

Prevalence

In 2000, in the U.S., about 1 in 23 men and 1 in 330 women used ST. About 25% of ST users also sometimes smoke cigarettes, but cigarette consumption is considerably lower in these users than in those who smoke exclusively.

Introduction

About 45 million Americans continue to smoke, even after one of the most intense public health campaigns in history. Each year over 400,000 smokers die from smoking-related diseases.

Many smokers are unable to quit smoking through complete nicotine and tobacco abstinence, and conventional quit-smoking programs generally present smokers with two unpleasant alternatives: quit or die.

Another approach to smoking cessation, tobacco harm reduction, involves the use of alternative sources of nicotine, including modern smokeless tobacco (ST) products. Switching from cigarette smoking to using ST reduces the risk of many smoking-related diseases, including oral cancer. Very few smokers realize that it is the inhaled smoke, not nicotine, that is so hazardous to health. A substantial body of research, much of it prospective, demonstrates that ST use is associated with risk of many cancers even in areas of the body not in contact with cigarette smoke. By comparison, numerous epidemiologic studies have failed to demonstrate that ST use is associated with risk of cancer at any site outside the mouth.

Cigarette Smoking

Health effects

1. Oral leukoplakia

Oral leukoplakia is a term that literally means “white plaque,” and it is used to describe areas of the mouth lining that become thickened by ST use or smoking. The condition is very uncommon, occurring in less than 1% of the general population, primarily in long-time smokers. Smoking-related leukoplakia most commonly involve the undersurface of the tongue and throat area, locations that account for 75% of oral cancer in the U.S. Oral leukoplakia occur in up to 60% of ST users but only rarely progress to cancer.

2. Other cancers

As noted above, cigarette smoking is associated with increased risk for many cancers even in areas of the body not in contact with cigarette smoke. By comparison, numerous epidemiologic studies have failed to demonstrate that ST use is associated with risk of cancer at any site outside the mouth.

3. Cardiovascular diseases

Over the past fifteen years, eight epidemiologic studies have examined the risk of cardiovascular diseases among ST users. Six of the studies found that ST users had no increased risk for heart attacks or strokes. The other two reported modestly positive associations.