

SWEDISH SNUS AND SNUS AND SMOKING CESSATION

KEY MESSAGES

- Recent data provide some support for the proposition that use of Swedish snus may aid in long-term smoking cessation. The predominant trend in product switching in Sweden is from cigarettes to snus which supports that the hypothesis that snus can be used for smoking cessation.
- Evidence shows that between the mid-1980s and 1999 in Sweden there was a population level shift from smoking to snus use.
- Clinical trials using snus are needed to provide confirmatory evidence that Swedish snus may serve as a smoking cessation tool.

QUESTIONS AND ANSWERS

Why would anyone consider using snus to quit smoking?

Research suggests that the vast majority of cigarette smokers want to quit, but fewer than 5 percent are able to quit or remain tobacco-free for 3 to 12 months (US DHHS 2004; 2010). Research also suggests that use of cessation therapy, such as an alternate form of nicotine, almost doubles the likelihood of long-term cessation compared to no intervention (Silagy et al. 2004). Snus, in addition to providing nicotine, may be more appealing to some smokers than pharmaceutical nicotine replacement therapy.

What evidence is available that snus has been used as a smoking cessation aid in Sweden and other Scandinavian countries?

The long-term tobacco use trends in Sweden indicate that snus may serve as a substitute for smoking on a population level. Evidence shows that between the mid-1980s and 1999 in Sweden, there was a population level shift from smoking to snus use and snus contributed to the reduction of smoking among Swedish males (Rodu et al. 2002; Stenbeck et al. 2009). Trends over time indicate that the significant decline in smoking in the past 20 years among Swedish men has been associated with an increase in the use of snus, particularly among certain age groups (Rodu et al. 2003). Preliminary data suggest that declines in smoking that are beginning to be seen among Swedish women may also be linked to increasing use of snus (Stegmayr et al. 2005).

Among Swedish males, the prevalence of smoking in 1976 was 40% whereas the prevalence of daily snus use was 9%; by 2009, the prevalence of smoking had declined to 14% whereas the prevalence of snus had increased to 23%. Smoking has also declined among Swedish women. The prevalence of daily smoking declined from 34% in 1976 to 17% in 2009. Snus use increased among women from 0% in 1976 to 3% in 2007 (Statistics Sweden 2007; WHO 2009; Foulds et al. 2003).

Several prospective studies documented participants who switched from cigarettes to snus, and then later abstained from tobacco products (Lindstrom and Isacson 2002; Lundqvist et al. 2009; Ramström and Foulds 2006; Rodu et al. 2003), suggesting that snus was used as an aid to quit smoking. Other studies have evaluated snus as a

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cessation aid for smokers and found that snus was associated with smoking cessation in Sweden (Furberg et al. 2005, 2006, 2008; Gilljam and Galanti 2003; Hjalmarson and Saloojee 2005) and in Norway (Lund et al. 2010). It is not clear if this pattern can be extrapolated to other countries (SCENIHR 2008).

What are some of the limitations of the studies of snus as a cessation aid?

In general, it is difficult to draw causal inferences due to the nature of some of the studies. In several, temporality of exposure and cessation outcome is unknown (Colilla et al. 2010). Intervention studies, including clinical trials, are necessary to establish whether snus can help smokers achieve long-term cessation. Currently, there are no published clinical trials of snus used as a cessation aid that provide this information. Several cessation intervention trials have been conducted in the United States that provides support that smokeless tobacco use is an effective smoking cessation aid (Tilashalski et al. 1998, 2005; Carpenter and Gray 2010).

References

Carpenter MJ and Gray KM. 2010. A pilot randomized study of smokeless tobacco use among smokers not interested in quitting: changes in smoking behavior and readiness to quit. *Nicotine Tob Res* 12:136-143.

Colilla, S. 2010. An epidemiologic review of smokeless tobacco health effects and harm reduction potential. *Regulatory Toxicology and Pharmacology* 56: 197 – 211.

Foulds J, Ramstrom L, Fagerstrom K.. 2003. Effect of smokeless tobacco (snus) on smoking and public health in Sweden. *Tobacco Control*; 12: 349 – 359.

Furberg H, Bulik CM, Lerman C, Lichtenstein P, Pedersen NL, and Sullivan PF. 2005. Is Swedish snus associated with smoking initiation or smoking cessation? *Tob Control* 14:422-424.

Furberg H, Lichtenstein P, Pedersen NL, Bulik C, and Sullivan PF. 2006. Cigarettes and oral snuff use in Sweden: Prevalence and transitions. *Addiction* 101:1509-1515.

Furberg H, Lichtenstein P, Pedersen NL, Thornton L, Bulik CM, Lerman C, and Sullivan PF. 2008. The STAGE cohort: A prospective study of tobacco use among Swedish twins. *Nicotine Tob Res* 10:1727-1735.

Gilljam H and Galanti MR. 2003. Role of snus (oral moist snuff) in smoking cessation and smoking reduction in Sweden. *Addiction* 98:1183-1189.

Hjalmarson A and Y Saloojee. 2005. Psychologists and tobacco: Attitudes to cessation counseling and patterns of use. *Prev Med.* 41:291-294.

Lindstrom M and Isacson SO. 2002. Smoking cessation among daily smokers, aged 45-69 years: a longitudinal study in Malmo, Sweden. *Addiction* 97:205-215.

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Lund KE, Scheffels J, and McNeill A. 2010. The association between use of snus and quit rates for smoking: results from seven Norwegian cross-sectional studies. *Addiction* Epub available September 30.

Lundqvist G, Sandstrom H, Ohman A, and Weinehall L. 2009. Patterns of tobacco use: a 10-year follow-up study of smoking and snus habits in a middle-aged Swedish population. *Scand J Public Health* 37:161-167.

Ramström LM and Foulds J. 2006. Role of snus in initiation and cessation of tobacco smoking in Sweden. *Tob Control* 15:210-214.

Rodu B, Stegmayr B, Nasic S, and Asplund K. 2002. Impact of smokeless tobacco use on smoking in northern Sweden. *J Intern Med* 252:398-404.

Rodu B, Stegmayr B, Nasic S, Cole P, and Asplund K. 2003. Evolving patterns of tobacco use in northern Sweden. *J Intern Med* 253:660-665.

Scientific Committee on Emerging and Newly-Identified Health Risks (SCENIHR). 2008. Scientific opinion on the health effects of smokeless tobacco products. European Commission. Available at:
http://ec.europa.eu/health/ph_risk/committees/04_scenihr/docs/scenihr_o_013.pdf

Silagy C, Lancaster T, Stead L, Mant D, Fowler G. Nicotine replacement therapy for smoking cessation. *Cochrane Database of Systematic Reviews* 2004, Issue 3. Art. No.: CD000146. DOI: 10.1002/14651858.CD000146.pub2.

Stenbeck M, Hagquist C, and Rosen M. 2009. The association of snus and smoking behaviour: a cohort analysis of Swedish males in the 1990s. *Addiction* 104:1579-1585.

Statistics Sweden, (Statistics Sweden). 2007. Use of alcohol and tobacco. Living Conditions Survey. Report No 114.

Stegmayr B, Eliasson M, and Rodu B. 2005. The decline of smoking in northern Sweden. *Scand J Public Health* 33:321-324.

Stockholm (Hvitfeldt T and Gripe I). 2009. Swedish Council for Information on Alcohol and Other Drugs (CAN) - Drug Trends in Sweden 2009. 118.

Tilashalski K, Rodu B, and Cole P. 1998. A pilot study of smokeless tobacco in smoking cessation. *Am J Med* 104:456-458.

Tilashalski K, Rodu B, and Cole P. 2005. Seven year follow-up of smoking cessation with smokeless tobacco. *J Psychoactive Drugs* 37:105-108.

U.S. Department of Health and Human Services (US DHHS). 2004. The Health Consequences of Smoking: A Report of the Surgeon General. Available at:
<http://www.surgeongeneral.gov/library/smokingconsequences/>.

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U.S. Department of Health and Human Services (US DHHS). 2010. How Tobacco Smoke Causes Disease: The Biology and Behavioral Basis for Smoking-Attributable Disease. Available at: <http://www.surgeongeneral.gov/library/tobaccosmoke/index.html>.

WHO. 2009. Report on the global tobacco epidemic: Implementing smoke-free environments. http://whqlibdoc.who.int/publications/2009/9789241563918_eng_full.pdf (Accessed December 13, 2010).