

Letter

The Relative Risk to Health From Snus and Cigarettes: Response to Grimsrud et al.'s Commentary on “Perceptions of the Relative Harmfulness of Snus Among Norwegian General Practitioners and Their Effect on the Tendency to Recommend Snus in Smoking Cessation”

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In their letter to the editor, [Grimsrud, Gallefoss, and Løchen \(2012\)](#) criticize us for putting too little emphasis on the health hazards of snus in our study ([Lund & Scheffels, 2012](#)) and suggest that our scientific consensus that snus is much less harmful than cigarettes is faulty. Furthermore, they warn us about the risk of becoming useful tools for the tobacco industry and imply that we have been too selective in our choice of references. It seems timely for us to try and clarify a few misunderstandings in this respect.

First, in our article, we do not recommend the use of snus in general. Instead, we suggest that snus might serve as an alternative to other cessation aids for highly nicotine-addicted or heavy smokers if other available aids fail to lead to smoking cessation. We do not claim that snus is risk free. The interesting question is, therefore, not whether the use of snus increases the risk for diseases in general or specific illnesses in particular, but rather how the risks from snus use compare to the risks from smoking. From a harm-reduction perspective, replacing cigarettes with less harmful nicotine products can in some instances be encouraged. In our study, we have looked specifically at how general practitioners (GPs) in Norway perceive the *relative* health risks of snus and cigarettes in *general*. There are two very important words in that sentence.

The first important word is “relative.” Is snus harmful? Yes, but this was not the question we asked the GPs. What we *did* ask was “How harmful is daily use of snus compared to daily use of cigarettes?” “Daily use” is meant to function as a general indication of dose. In the report from the Royal College of Physicians (RCP, 2007, ch. 8.5), it is concluded, “In relation to cigarette smoking, the hazard profile of the lower-risk smokeless products is very favourable.” The Scientific Committee on Emerging and Newly-Identified Health Risks ([SCENIHR, 2008](#), ch. 3.81)

similarly states that “Overall, snus is clearly less hazardous, and in relation to respiratory and cardiovascular disease substantially less hazardous.” Furthermore, [SCENIHR \(2008\)](#) argues that there is no evidence that snus is associated with any major health hazard that *does not also* arise from smoking and that a substitution of smokeless tobacco (ST) for cigarettes would have the following public health benefits:

- Respiratory disease: No risk from ST, 100% risk reduction. In all, 46% of deaths from smoking are caused by respiratory diseases. A complete substitution of smokeless tobacco for cigarettes would prevent nearly half of all deaths caused by smoking.
- Cardiovascular disease (CVD): Accounts for 28% of all deaths caused by smoking; a substitution of smoking by snus would reduce mortality by at least 50%.
- Oral and gastrointestinal cancer: Responsible for relatively few smoking-related deaths. At least 50% risk reduction, but modest public health impact since numbers of deaths are relatively small.
- Passive smoking: 100% risk reduction.

The focus on relative risks in our study also explains why we did not include a reference to the International Agency for Research on Cancer ([IARC, 2007](#)) working group, where ST risks are discussed in absolute terms. However, we do not feel that the IARC findings render our conclusions invalid. We do not in any way argue that snus is harmless.

The other important word is “general.” Snus increases the risk for some diseases and not for others. However, our study was not primarily concerned with specific diseases, and the GPs were not asked to specify which diseases they thought snus use might cause.

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They were asked a global question about relative risk, and we have chosen to interpret their answers as their ideas of how the general risk tendencies of the two products compare. A 90% risk reduction estimate is used as a default in the research literature, including the RCP (2007), SCENIHR (2008), and Levy et al. (2004). This assessment of the total risk reduction is calculated by weighting the relative risks for specific diseases into one single measure. As demonstrated earlier, the size of the risk reductions will vary for different diseases; although there is room for discretion when assessing this global relative risk, the 90% estimate can be considered to be more on the conservative side. Some scientists believe that a better estimate would be around 95%–99% (Rodu, 2011).

As our focus was on general risks, we chose not to include any discussion of specific groups, for example, pregnant women, adolescents, or light and nondaily smokers.

The summary of health risks in our article was meant as an illustration more than a complete and exhaustive list. Nevertheless, a few words on the diseases Grimsrud et al. (2012) felt should have been given more weight: pancreatic cancer and CVD. Several studies have found an elevated risk of pancreatic cancer for snus users, with Boffetta, Hecht, Gray, Gupta, and Straif (2008) as an often cited study. However, these findings have been challenged by other more recent studies (Lee & Hamling, 2009; Sponsiello-Wang, Weitkunat, & Lee, 2008). Importantly, Boffetta and his team recently published a new study where they found no increased risk for pancreatic cancer for snus users (Bertuccio et al., 2011). As regards CVD, the risk profile of snus is highly favorable to the risk profile of cigarettes. Grimsrud et al. find it timely to remind us that CVD remains the most common cause of death in Norway. We will return the favor and remind them that current smokers have an estimated relative risk of 2.60–2.80 for myocardial infarction (Hergens, Ahlbom, Andersson, & Pershagen, 2005; Wennberg et al., 2007) and 3.6 for fatal myocardial infarction (Hergens et al., 2005), much higher than the snus/ST figure, which has been found to lie between 1.13 and 1.40 (Boffetta & Straif, 2009). Currently, CVD accounts for approximately 28% of deaths caused by smoking in the European Union (SCENIHR, 2008). A reduction in relative risk from 3.6 to 1.40 following a substitution of snus for cigarettes would make a substantial impression on the mortality statistics.

Grimsrud et al. appear to think that our conclusion that Norwegian GPs are at odds with science was somehow influenced by a desire to achieve press coverage and that we just as well could have concluded that they were in agreement with science. We would like to refute that idea as strongly as we can. The conclusions of the three reports that have addressed the risk differences between snus and cigarettes, the RCP (2007), SCENIHR (2008), and Levy et al. (2004), clearly suggest that the potential harm from snus is much lower than that from cigarette smoking.

Declaration of Interest

None declared.

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