

Snuff use and hypertension: response to Rodu and Heavner

Dear Sir,

We thank Rodu and Heavner for their detailed reading of our paper and the opportunity to make some clarifications and corrections. However, we want to emphasize that this does not change the results or our interpretation of the findings.

As Rodu and Heavner points out there were some errors in the numbers of study subjects given in Tables 1 and 2. In Table 1, the following changes should be made: In the baseline cohort with 120 930 men, 85 470 (71%) (previously, 85 413) were never tobacco users. The healthy cohort with 42 005 men, 29 912 (71%) (previously 29 892) were never tobacco users. Furthermore, in Table 2 there were some minor errors when summing up the current and former snuff users into ever snuff users in all age groups. The previously given and correct numbers are presented in Table A.

Regarding the highest two dose categories in Table 1 amongst those with repeated measurements, the correct proportions are 5.6% and 2.3% (compared to 5% and 3% as given in our paper).

Age is an important confounder in our material. It is not unusual to adjust for age as a continuous variable even when stratified into age categories. Hence, this regression model does not need to be modified.

It appears that Rodu and Heavner misunderstood Tables 1–3. It is clearly stated in the table headings that these analyses comprise all 120 930 men at baseline and not only the 5 915 men with high blood pressure.

We did not present person-years in our paper. However, in the method section we stated that for longitudinal analyses we used the Cox proportional hazards

model which requires an estimation of follow-up time and person-years. For the benefit of the readers, we present person-years in the different subsets in Table B. In this table we have also added the relative risk of hypertension amongst the subset of workers who were healthy at baseline and did not have repeated measurements ($n = 35\,464$). In this subset, a total of 250 men with a diagnosis of hypertension were identified in the Inpatient Register during follow-up. The proportion of ever snuff users was 36% in this subset. Amongst the former snuff users, only five men were found to have a diagnosis of hypertension in the Inpatient Register during follow-up and amongst current snuff users the corresponding number was 61 cases.

Finally, some preliminary results were published in an original thesis by Karolinska Intitutet 2007 [1]. Due to some changes in the final analyses, minor discrepancies in the results exist between Table 10 in the thesis version and in the final paper [2]. However, the interpretation of the results remains the same: there appears to be a moderately increased risk of hypertension related to the use of Swedish

Table A Corrected numbers of ever snuff users in the different age strata. Baseline cohort ($n = 120\,930$)

Age at baseline (years)	Previously Ever used snuff n	Corrected Ever used snuff n
All	1106	1100
<45	529	528
45–49	110	109
50–54	116	115
55–59	168	167
60–64	176	174
≥65	7	7

	Healthy at baseline (<i>n</i> = 77 469)	Healthy at baseline with repeated measurements (<i>n</i> = 42 005)	Healthy at baseline without repeated measurements (<i>n</i> = 35 464)
		High blood	
Outcome	Hypertension	pressure	Hypertension
Follow-up period	1978–2004	1978–1993	1978–2004
Person years	1 411 922	449 883	847 222
			564 799
Relative Risk ^a (95% CI)			
Ever snuff use			1.28 (0.96–1.72)
Former snuff use			0.97 (0.40–2.37)
Current snuff use			1.32 (0.98–1.79)

^aDerived from Cox proportional hazards regression model; CI, confidence interval; adjusted for age (age at follow-up was used as time scale), body mass index [weight(kg)/height(m²)], categorized into <20, 20.24.9, 25–29.9 and ≥30 and region of residence northern, middle and southern Sweden.

Table B Follow-up periods and accumulated person-years amongst Swedish male construction workers

moist snuff, which may be of public health importance.

Conflict of interest statement

No conflict of interest was declared.

2 Hergens M-P, Lambe M, Pershagen G, Ye W. Risk of hypertension amongst Swedish male snuff users: a prospective study. *J Intern Med* 2008; 264: 187–194.

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References

- 1 Hergens M-P. *Swedish Moist Snuff and the Risk of Cardiovascular Diseases*. Stockholm: Institute of Environmental Medicine, Karolinska Institutet, 2007.