

Cardiovascular and neuropsychiatric risks of varenicline - Authors' reply

Citation for published version (APA):

Kotz, D., Viechtbauer, W., Simpson, C., van Schayck, C., West, R., & Sheikh, A. (2016). Cardiovascular and neuropsychiatric risks of varenicline - Authors' reply. *The Lancet Respiratory medicine*, 4(3), Article e10. [https://doi.org/10.1016/S2213-2600\(16\)00056-4](https://doi.org/10.1016/S2213-2600(16)00056-4)

Document status and date:

Published: 01/01/2016

DOI:

[10.1016/S2213-2600\(16\)00056-4](https://doi.org/10.1016/S2213-2600(16)00056-4)

Document Version:

Publisher's PDF, also known as Version of record

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Authors' reply

In their Correspondence on our retrospective cohort study into the cardiovascular and neuropsychiatric risks of varenicline for smoking cessation,¹ Lee Fidler and colleagues ask "whether propensity matching succeeded in balancing baseline covariates across groups". We have examined this important point further and take the opportunity to present additional data: the baseline characteristics of the two matched samples (nicotine replacement therapy vs bupropion and nicotine replacement therapy vs varenicline; table). Overall, trimming and matching of patients by propensity score succeeded in balancing potential confounders, although subtle differences remained. Notably, most present and previous diseases had a marginally higher prevalence rate at baseline (range 0.1–1.1%) in the bupropion and varenicline group than in their matched nicotine replacement therapy group. Consequently, users of bupropion and varenicline might have been at slightly higher risk of the

	NRT vs bupropion		NRT vs varenicline	
	NRT (N=6393)	Bupropion (N=6393)	NRT (N=50163)	Varenicline (N=50163)
Age (years)	37.7 (11.2)	37.2 (10.8)	37.8 (11.9)	37.6 (11.2)
Sex				
Women	3138 (49.1%)	3095 (48.4%)	24 720 (49.3%)	23 858 (47.6%)
Men	3255 (50.9%)	3298 (51.6%)	25 443 (50.7%)	26 305 (52.4%)
Socioeconomic status*	3.0 (1.3)	2.9 (1.3)	3.0 (1.3)	3.0 (1.3)
COPD	341 (5.3%)	355 (5.6%)	3286 (6.6%)	3554 (7.1%)
Diabetes	139 (2.2%)	162 (2.5%)	1946 (3.9%)	2114 (4.2%)
Peptic ulcer disease	82 (1.3%)	119 (1.9%)	968 (1.9%)	1105 (2.2%)
Renal disease	89 (1.4%)	146 (2.3%)	1006 (2.0%)	1178 (2.3%)
Rheumatological disease	82 (1.3%)	87 (1.4%)	777 (1.5%)	926 (1.8%)
Cancer	123 (1.9%)	127 (2.0%)	1074 (2.1%)	1220 (2.4%)
Alcohol misuse	277 (4.3%)	283 (4.4%)	2446 (4.9%)	2562 (5.1%)
Previous ischaemic heart disease	100 (1.6%)	100 (1.6%)	1161 (2.3%)	1267 (2.5%)
Previous cerebral infarction	47 (0.7%)	52 (0.8%)	444 (0.9%)	463 (0.9%)
Previous heart failure	6 (0.1%)	9 (0.1%)	72 (0.1%)	78 (0.2%)
Previous peripheral vascular disease	28 (0.4%)	30 (0.5%)	254 (0.5%)	319 (0.6%)
Previous arrhythmia	51 (0.8%)	69 (1.1%)	367 (0.7%)	470 (0.9%)
Previous depression	2114 (33.1%)	2137 (33.4%)	15 463 (30.8%)	15 340 (30.6%)
Previous self-harm	516 (8.1%)	586 (9.2%)	3997 (8.0%)	4254 (8.5%)

Data are n (%) or mean (SD). NRT=nicotine replacement therapy. COPD=chronic obstructive pulmonary disease.
*Townsend index: 1 (lowest) to 5 (highest level of deprivation).

Table: Patient characteristics at entry date to the cohort in the propensity score-matched samples

neuropsychiatric and cardiovascular events of interest during follow-up in our propensity score analyses. However, if such differences had biased the findings from our analyses, the bias would not have been in favour of varenicline. Nevertheless, we found no evidence of an increased risk of any neuropsychiatric or cardiovascular event associated with varenicline compared with nicotine replacement therapy in the propensity score analyses.¹

DK has received an unrestricted grant from Pfizer for a smoking cessation trial outside of the submitted work and is supported by a research grant from the Ministry of Innovation, Science and Research of the German Federal State of North Rhine-Westphalia. OCPvS has received an unrestricted research grant from Pfizer outside of the submitted work. The manufacturers of varenicline and bupropion were not involved during any stage of this project. RW has received grants, personal fees, and non-financial support from Pfizer, GlaxoSmithKline, and Johnson & Johnson, and personal fees from Novartis, outside of the submitted work. AS is supported by the Farr Institute, which is supported by a consortia of funders led by the Medical Research Council and

Commonwealth Fund; the views presented here are those of AS and not necessarily of the Commonwealth Fund, its directors, officers, or staff. All other authors declare no competing interests.

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