

# Review of: "Population estimates of biomarkers of exposure to carbon monoxide, nicotine, and NNK in smokers and non-smokers"

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**Potential competing interests:** The author(s) declared that no potential competing interests exist.

A very interesting population study was performed by Felix-Ayala Fierro and colleagues. The pool of patients and data is significant and broadly collected from different countries worldwide.

The study highlighted the difference of the level of CoHb and Nicotine derivatives in smokers and non-smokers. A group of former smokers was also included to get a more clear and substantial result of the data collected.

However, increasing the number of non-smokers and, in particular the number of former smokers, could improve the difference between the study group collective. The non-smokers are only 10% of the smokers and the former smoker group is even smaller.

An interesting aspect of the study is the significant reduction of all parameters after cessation of smoking. In particular, the reduction of the CoHb, which stabilizes at higher level than non-smokers but the difference is not significant.

The Nicotine Equivalent, even though a strong significant reduction in comparison to smokers, is still high in former smokers in comparison to non-smokers.

The study gives broad and substantial results of the main aspects that affect smokers in terms of CoHb, NEQ and NNAL. Other aspects that can be further elucidated would be the stability of such level of markers in long term and short term smokers and at which time point the former smokers highlight a reduction of the level of those markers.

Any correlation with air pollution and industrialised areas have not been included in the study and could represent additional research aspects that would improve the difference in the study group.