Review of: "Attribution of Use Characteristics to Electronic Cigarette Brands in the National Youth Tobacco Survey"

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Review of the paper "*Attribution of Use Characteristics to Electronic Cigarette Brands in the National Youth Tobacco Survey*" F. FOXON and S SHIFFMAN

Preamble

The article by F. FOXON and S. SHIFFMAN *"Attribution of Use Characteristics to Electronic Cigarette Brands in the National Youth Tobacco Survey"!* is a response to the article by DS MANTEY et al*" Use frequency and symptoms of Nicotine addiction among adolescent e-cigarette users: Comparison of JULL and non-JULL users"*. The paper needs to be analysed with the attention needed to assess any article written with the participation of the tobacco industry which has been lying at multiple times for the last 80 years. The tobacco industry has also a tendency to flood all independent science publication with wrong science to the benefit of the marketing strategy. JULL, which was an independent vape company, has accepted to be sold to the tobacco company PMI, which now links it to the tobacco industry.

At first, it seems important to raise two points of attention not mention by F. FOXON and S SHIFFMAN on the article by DS MANTEY et al.

1. According to DS MANTEY et al., a trend exists for*cartridge/podds e-cigarettes* -mainly JULL) to be less associated with signs of nicotine addiction than e-cigarettes that do not work with cartridges/podds (not JULL) (ORa=0.83 (0.62-1.11)).

In the MANTEY et al. study the leadership of JULL is confirmed in Table 1 which shows that 49.5% of e-cigarette users have used the JULL at least once in the last 30 days and that the main e-cigarette used is a cartridge e-cigarette in 47.4 % of cases. So theses datas suggest than e-cigarettes cartridges/podds are mainly JULL.

DS MANTEY reports the same trend for the use of e-cigarette from 20 to 30 days per month (ORa=0.75(0.51-1.10)). The frequency of use of cartridges e-cigarettes versus other e-cigarette technologies is significant lower for use from 6 to 19 days per month (ORa = 0.64 (0.47-0.87)).

DS MANTEY et al. based on other data from the same study reports a positive association between the use of JULL and nicotine dependence. The same observation is made for the frequency of e-cigarette use.

So in the same study, there is a contradiction between the negative effect of the podds e-cigarette (mainly Jull) on the induction of nicotine dependence and e-cigarette use and the positive effect of JULL on the induction of nicotine dependence and e-cigarette use.

Such incoherence between two assessments of the same item should make questionable the quality of student responses during the NYTS survey concerning technical aspects of e-cigarette consumption.

1. In the MANTEY study et al. the rate of dual users (e-cigarette users who also used tobacco cigarettes) is high in the NYTS study (37.8% of cases) and the "nicotine dependence" is the higher among dual users (ORa 2.64 (2.04-4.41)) compared to e-cigarettes exclusive users (risk=1= reference).

For comparison the ORa of nicotine dependence is only 1.77 (1.36-2.31) when comparing the groups using JULL (at least one over the last 30 days) vs. exclusive use of non-JULL e-cigarettes over the last 30 days (risk = 1=reference).

Therefore it is essential that the authors report:

- The distribution of dual users and exclusive e-cigarettes users among the participants according to the use of JULL or non-JULL e-cigarettes.
- The rate of nicotine dependence among dual users and among exclusive e-cigarette users with the distribution between JULL users and exclusive other brands users.

In the absence of these datas MANTEY et al cannot conclude to a causal link between nicotine dependence and the use of one brand or another of e-cigarettes. The nicotine dependence on the partial published data appears significantly stronger among dual users (54.4% (49.6-59.0)) than among those who only use e-cigarettes (31.5% (28.7-34.4)), but with no data on JULL/non-JULL distribution, the authors cannot conclude.

The 2 questions asked by F. FOXON and S SHIFFMAN on the article by DS MANTEY et al.

1 Opportunity for the tobacco-related industry to express itself in the scientific press

The question is whether scientists linked to the tobacco industry, by announcing very clearly their links of interest, have the right to publish or not in scientific journals. Most major scientific journals answered no. Others have a certain tolerance.

We can assume that tobacco industry scientists work is not independent: their scientific articles are reviewed internally by the communication department of the companies before green light for publication.

We can question when industries pay external scientists to dismantle the criticisms made of their products. In the present case, the methodology of the initial independent study can be questionable. From a scientific point of view, an automatic censoring without possibility to challenge questionable assertions and no right of reply is not satisfactory.

The questions posed by the FOXON et al. on this subject are relevant. Putting up the question of the right of reply for public discussion on an open site like Qeios could be one of the least bad solutions. But such option should involve special monitoring and a risk/benefit assessment of this practice for scientific papers involving tobacco industry or other industries.

2-The FOXON study questions the classification of data byMANTEY et al and proposes to relook at the datas with a new classification

- MANTEY considers that all students who did not answer on the brand of the e-cigarette they use, are classified as non-JULL users. This choice is open to criticism, especially because it concerns a large number of responses. FOXON suggests classified as missing data, those who answered: "*I don't know*". This choice is scientifically more adequate than arbitrarily classifying them in one of the 2 categories as MANTEY does.

- MANTEY considers that those who have taken JULL once in the last 30 days, even if another e-cigarette was the usual product, are code as "JULL user" for the analysis. This choice does not allow a causal conclusion. JULL would have to be the usual brand, to authorize to draw such conclusion on the link between JULL e-cigarette and nicotine dependence or e-cigarette regular use.

The FOXON et al. analysis with these 2 new classifications parameters is legitimate.

With an analysis protocol similar to that of MANTEY et al. with the exception of the two categorization criteria, FOXON et al. analysis do not confirm the conclusions of MANTEY et al.

FOXON et al. reports that regular or exclusive use of the JULL is associated with an RRR of 0.45 (0.28-0.75) of frequent use of the e-cigarette compared to non-JULL users. The RRR is even significantly lower with the exclusive use of JULL (RRR=0.31 (0.18-0.55).

For nicotine dependence: keeping the MANTEY et all. classification of the data, the relative risk of nicotine dependence is indeed 1.77 (1.36-2.30) for JULL, but it is 2.18 (1.67-2.86) for NJOY, 2.23 (1.36- 3.77) for the BLU. Those datas support that this association exists for all well-identified brands of e-cigarette and is not stronger for the JULL than for the other brands.

Taking the classification of the MANTEY et al. data the RRR of craving is 1.77 (1.36-2.30) and taking the classification of the more realistic data of FOXON et al. the RRR linked to the use of JULL e-cigarette compared to other cigarettes is 0.81 (0.62-1.06) which is not significant.

In conclusion, it is justified that Foxon et al. criticizes on a scientific level the article of MANTEY et al.