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Early View

Correspondence

Response to Britton *et al.*

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Response:

Currently 1521 words, 1500 suggested as a max by James Chalmers

We wish to thank Britton *et al* for responding to our editorial and giving us an opportunity to clarify our position as well as correct a few misunderstandings. We definitely share the same goal which is to relieve Europe and the rest of the world from the terrible results of the tobacco epidemic. We also do not 'blankly oppose e-cigarettes'; however, we strongly advocate against a harm reduction strategy including e-cigarettes as well as heated tobacco products (1). As clinicians we all see reluctant smokers where e-cigarettes can be tried as a last resort for getting off cigarette smoking - but that is of little relevance for a general harm reduction strategy. We also agree that the UK has achieved a lot in the area of smoking cessation but would argue that this has been achieved by impressive tobacco control – not by the use of e-cigarettes and that countries like Australia, that has banned nicotine-containing e-cigarettes, has achieved similar results.

Britton *et al* commented on our 7 responses to what we consider flawed arguments for e-cigarettes as part of harm reduction in public health. Below is our rebuttal.

1. The tobacco harm reduction strategy is based on incorrect claims that smokers cannot or will not quit smoking.

We entirely agree that more efforts are needed in tobacco control; however, smoking prevalence has been declining for decades in most European countries. Proper access to smoking cessation advice, approved free cessation drugs and nicotine replacement therapy (NRT) should be made available to the majority of smokers who want to quit their nicotine addiction, which will have a major impact on the prevalence of smoking. We may as a community have failed in pointing this out to politicians as investment in tobacco control seems to be fading (2). Excellence in this area could easily be achieved for a fraction of what is currently being spent on marketing and advertising for e-cigarettes and other alternative nicotine delivery systems. We too find, that it is a grand public challenge that the burden of smoking-related disease is higher among disadvantaged groups. However, evidence of the effect of e-cigarette use to reduce health inequalities is lacking; recent studies showing the opposite effect (3).

2. The tobacco harm reduction strategy is based on undocumented assumptions that alternative nicotine delivery products are highly effective as a smoking cessation aid.

None of the alternative nicotine delivery products have been approved as tools for smoking cessation. In the trial mentioned (4) it is correct that quit rates were twice as high in the e-cigarette

group than in the standard NRT group. However, most participants in the e-cigarette group continued to use e-cigarettes, thereby exposing their lungs to harmful substances, and many ended up with dual use (using both cigarettes and e-cigarettes). Furthermore, large real-world studies strongly indicate that use of e-cigarettes undermines, not promotes, abstinence from smoking (5, 6).

3. The tobacco harm reduction strategy is based on incorrect assumptions that smokers will replace conventional cigarettes with alternative nicotine delivery products.

We agree with Britton *et al* that harm reduction strategies do not assume that all smokers will completely switch from tobacco cigarettes to alternative products and we have not claimed that. We cannot, however, ignore the fact that most individuals use alternative nicotine delivery products as a supplement to conventional cigarettes (without reducing number of cigarettes substantially), not as an alternative to smoking (7). Therefore, there will be no health benefit for most smokers.

4. The tobacco harm reduction strategy is based on undocumented assumptions that alternative nicotine delivery products are generally harmless.

In the UK, the National Health Service (NHS) website on smoking cessation states that e-cigarettes are at least 95% less harmful than cigarettes (8); this is in our perception in concordance with "generally harmless", as we wrote. Vaping introduces inhalation of compounds that have not been properly tested and risk therefore not assessed. Many studies have shown that the respiratory response to vaping is far more pronounced than "5% of that of cigarettes", in some cases fairly similar (9-11). Thus, the whole basis for this commonly cited statistic is dubious (12). We admit that the long-term clinical consequences are unclear, and the uncertainty itself makes these products unsuitable for widespread use.

Regarding the US outbreak of e-cigarette, or vaping, product use-associated lung injury (EVALI), the Center for Disease Control states that "However, evidence is not sufficient to rule out the contribution of other chemicals of concern, including chemicals in either THC or non-THC products, in some of the reported EVALI cases" (13). In European cases reported, neither tetrahydrocannabinol (THC) nor Vitamin E seems to have played a major role.

5. Alternative nicotine delivery products can have a negative impact on public health even if "stick-by-stick" they turn out to be less harmful than conventional cigarettes.

We are of course happy if e-cigarette use in teenagers in the UK predominantly occurs in those who already smoke although we note that the number of vaping teenagers has tripled in the last 5 years (14) and that a school-based study from UK found that more than half of e-cigarette users had never

used tobacco (15). Among US e-cigarette users aged 18–24 years in 2015, 40.0% had never been regular cigarette smokers (14). Use of conventional cigarettes has decreased from 9% in 2014 to 6% in 2019 in US high-school students while use of e-cigarettes has risen from 13% to 27.5% in the same period. It is therefore difficult to follow the argument that e-cigarettes divert youth from cigarettes.

Widespread use of vaping in the public space may also "normalise" inhaling of a nicotine product, a sight that was getting increasingly rare in the UK and elsewhere. We can only guess what that means for future health behaviour but we already know that young adult smokers get the same urge to smoke when they see someone vape as when they see someone smoke and this could therefore have a negative impact on smoking cessation rates (15).

6. Smokers see alternative nicotine delivery products as a viable alternative to the use of evidence-based smoking cessation services and smoking cessation pharmacotherapy.

We mislead smokers if we pretend that the evidence-base and safety of e-cigarettes is comparable to that of approved tools such as NRT and varenicline. We agree with Britton et al that access to combined NRT/varenicline and psychosocial support is insufficient. Where we disagree is that we find it irresponsible to offer e-cigarettes as a tool as this will only reinforce the perception that the more costly – but highly efficient – cessation methods are unobtainable. Maintaining nicotine addiction through the use of e-cigarettes will likely not reduce social health inequality.

7. The tobacco harm reduction strategy is based on incorrect claims that we cannot curb the tobacco epidemic.

Britton *et al* state that the UK leads Europe in implementing tobacco control policies. We agree and would hope that many European countries will follow many of the elements of the UK success. These include the exclusion of the tobacco industry from influence on policy making, tobacco display bans, large graphic health warnings on packs, plain packaging, increased tobacco taxes and minimum pack sizes. We would argue that if all the above evidence-based interventions, known to be free of harm and implemented, were implemented across EU as they have been in the UK, we would be doing the 100 million smokers in the EU a huge favour. Some of us already use the UK as a shining example (16). However; all these factors likely play a determining role in the decrement in smoking that so many e-cigarette advocates now ascribe to the sensible British use of e-cigarettes. Also, countries like US and Australia, with respectively 2.4% and 0.8% vapers, have experienced similar decline in smoking rates as the UK where 6.2% of the population is vaping.

We still agree with Britton *et al* that more is needed to relieve the population in Europe and elsewhere from the perils of cigarette smoking. If e-cigarettes had been tested in RCTs similar to

those required for smoking cessation drugs and were found to be as efficacious, if they were on prescription, and if they came in neutral packages and without all the artificial flavours, we would actually welcome them as an additional smoking cessation tool to the few reluctant smokers. This would be in consistence with the original harm reduction strategy (for e.g. drug addicts), aimed at those few we otherwise would give up upon. However, we will maintain that a harm reduction strategy in tobacco control is inappropriate at population level and that the inadequately regulated market for e-cigarettes and other alternative nicotine delivery products pose harm to non-smokers, in particular children and adolescents.

We also maintain that quitting smoking and quitting nicotine should go hand in hand. In the UK, half of vapers are smoking on a daily basis (12). E-cigarettes will therefore not reduce the craving for nicotine in smokers and may actually stimulate new addiction in those who have never smoked. To us, this seems like an ideal scenario for any tobacco company and likely explains their huge investments in alternative nicotine delivery systems.

Charlotta Pisinger and Jørgen Vestbo, on behalf of the ERS Tobacco Control Committee.

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