Written evidence submitted by Dr Richard Holliday (ECG0036)

Dr Richard Holliday is an NHS NIHR (National Institute of Health Research) Doctoral Research Fellow and Speciality Registrar in Restorative Dentistry at Newcastle University.

Centre for Oral Health Research, School of Dental Sciences, Newcastle University, UK.

**On e-cigarettes and oral health:**

**Background**

- Tobacco smoking has significant adverse effects on oral health, with an extensive scientific literature documenting the relationship of smoking to periodontal disease, wound healing and oral cancers.
- Severe periodontitis (gum disease) is the sixth most prevalent health condition in the world and tobacco smoking is the biggest risk factor for periodontitis. It has been estimated that over 50% of all cases of periodontitis could be attributed to tobacco smoking. Smokers are 2-8 times more susceptible to periodontitis, have poorer responses to treatment and lose more teeth. It has been shown that smokers who quit smoking during periodontal therapy achieve improved clinical outcomes compared to those who continue to smoke (Preshaw et al., 2005; Rosa et al., 2011).

**Current evidence**

- With regards to e-cigarettes there is now broad agreement in many fields that vaping with e-cigarettes is far safer than tobacco smoking. However, there are still mixed opinions among dental professionals. We conducted a recent survey and found a third of dental professionals were of the opinion that e-cigarettes were more or equally harmful for health compared to conventional cigarettes (Holliday et al., 2017a). A survey of tobacco education in UK dental schools found the majority were delivering teaching on e-cigarettes (Holliday et al., 2017b), although the content was not assessed.
- There is an increasing number of laboratory based studies looking at exposing oral cells to different conditions e.g. e-cigarette vapours. The clinical relevance of these can be challenging to interpret and the study designs are often missing appropriate controls. We discussed this in a recent commentary (Holliday et al., 2016).
- There are a number of pilot level non-randomised clinical studies now published in the literature (Franco et al., 2016; Tatullo et al., 2016; Wadia et al., 2016, Javed et al., 2017). Within the limitations of the study designs, these all indicated improvement in oral health when tobacco smokers switched to vaping e-cigarettes.

**Ongoing research**

- We are currently conducting an NIHR funded, 80 participants, feasibility Randomised Controlled Trial (RCT): *A mixed methods feasibility study of electronic cigarette use by patients with periodontitis* (https://www.isrctn.com/ISRCTN17731903). To the best of our knowledge (based on the clinical trial databases) this is the first randomised clinical study looking at e-cigarettes and oral health. We are hoping to publish results in 2018 and future studies will be required to provide definitive conclusions.

**Future research**

- Future robustly conducted research is needed on:
Written evidence submitted by Dr Richard Holliday (ECG0036)

- The role of e-cigarettes as a smoking cessation or harm reduction aid within healthcare settings e.g. dental clinics.
- Understanding of any effects of e-cigarettes (and other novel nicotine products) on oral health.

To conclude, oral health is a critically important aspect of the health considerations around e-cigarettes. The early clinical evidence available indicates that switching from tobacco smoking to vaping e-cigarettes leads to improvements in oral health but further research is needed to provide definitive conclusions.

December 2017

References


