

Kichelle Williamson  
Den1100 Evening Section  
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## **Writing Assignment #1**

### **Part 1**

**Ban, M., Weaver, S., Gregory, K., Whitney, C., Slovic, P., Pechacek, T., & Eriksen, M. (2016, October 26). Changing Perceptions of Harm of E-Cigarettes Among U.S. Adults, 2012–2015. Retrieved March 18, 2021, from <https://www.sciencedirect-com.citytech.ezproxy.cuny.edu/science/article/pii/S0749379716304433>**

**GEHRIG, J. S. (2020). Patient assessment tutorials: A step-by-step guide for the dental hygienist. In *PATIENT ASSESSMENT TUTORIALS: A step-by-step guide for the dental hygienist* (Fourth ed., p. 342-347). S.I., NY: JONES & BARTLETT LEARNING.**

**Grana, R., Benowitz, N., & Glantz, S. (2014). E-Cigarettes : A Scientific Review. *Circulation*, 129(19), 1972-1986. doi:10.1161/CIRCULATIONAHA.114.007667**

**Irusa, K. F., Vence, B., & Donovan, T. (2020). Potential oral health effects of e-cigarettes and vaping: A review and case reports. *Journal of Esthetic and Restorative Dentistry*, 32(3), 260-264. doi:10.1111/jerd.12583**

### **Part 2**

A very important and possibly life changing service of dentistry is providing tobacco cessation techniques and resources. Worldwide, tobacco use causes nearly 6 million deaths per year, and current trends show that tobacco use will cause more than 8 million deaths annually by 2030 (Gehrig, 2020). Apart from taking standard vital signs, DHCP should always document whether or not the patient is using tobacco. Tobacco not only affects systemic health but also increases the risk for periodontal disease. Products such as Electronic Cigarettes (A.K.A E-cigs or Vapes) falsely advertise that it is useful in tobacco cessation. A vast amount of teenagers and adults are oblivious to the harmful chemicals that are in these products. We as dental hygienists have to bring awareness to the potential risks of these products.

The reason I chose this particular product is because it has become very popular amongst teenagers and people in my generation. A brief history is: The “Cig-a-like”, which is like the first generation of e-cigarettes, was introduced in 2003, then evolved to the “Vape pen” in the mid 2000s, then “Mods” in the early 2010s, and finally the latest generation “Pod mods” were

developed in Mid 2010s. The device consists of four components: a mouthpiece; a tank or reservoir to hold the liquid; a heating element; and a lithium battery (Irusa, 2020). The liquid formulation is composed of 3 substances: a base, nicotine, and flavoring. What draws the attraction of the younger crowd is the enticing flavors. Some of the flavors include: Berry, Mint, Tobacco, Menthol, Cotton Candy, Peach Green Tea, Banana Bread, bubble gum, and the list goes on. The liquid is made of a certain percentage of propylene glycol. Propylene glycol is a colorless liquid that possesses a faintly sweet taste. When heated into an aerosol, its breakdown products include acetic acid, lactic acid, and propionaldehyde, all of which can demineralize enamel (Irusa, 2020). The device is used by inhaling vapor through the mouthpiece that is produced when the heating element heats the liquid in the tank. Three patients used in a case study reported to have used the e-cigarette 8-12 times a day (Irusa, 2020). Among each of the three patients, each presented with unusual dental caries.

As mentioned in the previous paragraph, e-cigarettes have an effect on oral health because in the act of vaping, it leaves deposits of the chemicals on the teeth, which lead to demineralization of enamel. Demineralization of enamel then results in carious lesions. According to (Irusa, 2020), “A short-term study that investigated the gingival response that occurred when smokers switched from smoking to vaping found a significant increase in gingival inflammation at 2 weeks. Another study evaluated peri-implant parameters in vaping individuals, and concluded that clinical and radiographic peri-implant parameters were compromised in these patients as a result of an increased inflammatory response.” This shows the effects that e-cigarettes can have on the gingiva. As far as systemic health, as stated in the article: E-Cigarettes: A Scientific Review, “Exposure to propylene glycol can cause eye and respiratory irritation, and prolonged or repeated inhalation in industrial settings may affect the central nervous system, behavior, and the spleen. In its product safety materials, Dow Chemical Company states that “inhalation exposure to [propylene glycol] mists should be avoided,” and the American Chemistry Council warns against its use in theater fogs because of the potential for eye and respiratory irritation. When heated and vaporized, propylene glycol can form propylene oxide, an International Agency for Research on Cancer class 2B carcinogen, and glycerol forms acrolein, which can cause upper respiratory tract irritation.” (Benowitz, 2014). This further shows why E-cigarettes can have a negative effect on both oral and systemic health.

Providing smoking counseling can be an important contribution to the patients oral and overall health. Patients should be aware of the risk factors that come with using tobacco products. These risk factors include: Various types of cancer, cardiovascular disease, lung disease, pregnancy complications, changes in the skin, and more. While it is important to discuss the risks of smoking, I would also discuss the benefits of tobacco cessation. The body has the ability to repair itself under the proper care and conditions. Within a given amount of years after cessation, the body shows significant improvement. E-cigarettes are marketed as “healthier” than traditional cigarettes. The article: Changing Perceptions of Harm of E-cigarettes Among U.S. Adults, states “Research has shown that cigarette smokers, college students, and young adults tend to perceive e-cigarettes to be less harmful than combustible cigarettes, and that this correct

perception is predictive of future use of e-cigarettes among never users. Furthermore, the belief that e-cigarettes are less addictive than cigarettes increases the appeal of e-cigarettes, especially to young adults.” (Weaver, 2016). It would be my duty as a hygienist to inform patients, both adults and especially teenagers, the effects of e-cigarettes. If presented with a teenager who just started smoking 2 months ago, I would discuss the dangers that could arise from this newfound habit and advise the teenager to quit while it is still early. I would refer the patient to a tobacco counseling program and motivate them in the best way possible. If presented with a 30 year old adult who has been smoking for 12 years, I would discuss the long term effects of smoking and emphasize that it is never too late to quit. I would provide statistics on the benefits of quitting. I would also refer that patient to a counseling program and promote motivation in any way possible.

Finding out whether or not a patient is using any form of tobacco is an important duty of our profession as hygienists. Cessation can avoid and also prevent many oral and systemic diseases. The sooner a patient can quit is the better. There is great satisfaction in knowing you have put someone in a position to have less health problems or unexpected disease. Less or no health problems can contribute to a better quality of life, which is the ultimate goal.

### **Part 3**

\_\_\_\_\_ From this assignment, I have learned the importance and health benefits of tobacco cessation. After only 2 weeks, lung function increases by up to 30% in most patients (Gehrig, 2020). It may seem like a small percentage, but I can only imagine what a dramatic improvement the patient would have in daily tasks such as walking up a flight of stairs. I have also learned that half of all smokers visit the dentist annually. A full 75% of these smokers indicate a willingness to hear advice on quitting from dental health care providers (Gehrig, 2020). This shows how much of an impact we as hygienists can have on helping patients to quit smoking. I found this assignment beneficial in helping me to understand a scientific view on why E-cigarettes are harmful. My little brother, who is 20 years old, has actually picked up the habit of smoking E-cigarettes. I can actually explain to him the specific parts of the products that are harmful to his oral and systemic health. I now have the knowledge that can be beneficial in helping him to quit. Also, with this knowledge I have gained I am definitely more confident with having a conversation with future patients about tobacco cessation.