

CHAPTER 9

SUICIDES WITH ELECTRONIC CIGARETTES

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BACKGROUND

Electronic cigarettes (ECs) are devices that allow various combinations of liquids (nicotine, vegetable glycerin (VG), propylene glycol (PG), and/or ethanol of various flavors) to be inhaled by heating and turning them into aerosols (1). The frequency of the use of ECs among young people is gradually increasing. The reason for its popularity is that the dose of nicotine can be individualized, various aromas are available, and the belief that it will help the user to stop smoking classic tobacco. In 2003, a Chinese pharmacist Hon invented and patented the first e-cigarette and subsequently began to be available in markets around the world (2). E-liquid with a lot of flavor and nicotine content is available in markets and on the internet. As the rules and laws regarding this are not sufficient, the nicotine dosage in e-liquid may differ. Although many European countries determine the maximum nicotine dose of 20 mg/ml, e-liquids in the range of 0-60 mg/ml can be reached in the internet environment (3). Recently, the available dose has increased to a relatively high dose of 210 mg/mL.

The widespread use of ECs and nicotine-containing liquids causes various health problems (4, 5). In addition, it increases the intentional or unintentional toxic exposure events in parallel. However, the clinical effects of e-liquid intake remain uncertain. Since different substances are present in different doses in e-liquid, it has not been possible to evaluate this until now. However, the most common features of (i) nicotine poisoning are: agitation, headache, nausea, vomiting, high blood pressure, and tachycardia; (ii) PG overdose are: hyperosmolality, hemolysis, and subsequent kidney failure and lactic acidosis; and (iii) VG overdose are: headache, nausea, vomiting, and dehydration (3).

The purpose of this article is to review suicide cases related to the consumption of ECs in the literature and highlights the health problems associated with poisoning.

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