

KING HUSSEIN CANCER CENTER POSITION STATEMENT ON ELECTRONIC NICOTINE DELIVERY SYSTEMS – ENDS – IN JORDAN:

A brief for clinicians and policy-makers

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مركز الحسين للسرطان
King Hussein Cancer Center

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An overview of Electronic Nicotine Delivery Systems (ENDS)

- Electronic nicotine delivery systems or ENDS, known by many names (e.g. electronic cigarettes, Electronic Nicotine Delivery Devices, e-cigs, pods, pod-mods, tanks, vaping devices, vapes, vape pens), are battery-operated devices that heat a liquid typically containing nicotine, in addition to flavors, water, and humectants like propylene glycol and vegetable glycerin. Upon heating the liquid, a nicotine-containing aerosol is produced.
- Heating of the liquid in ENDS generates additional compounds, many toxic or carcinogenic, that are inhaled. These include (in addition to nicotine), nitrosamines, aldehydes, metals, volatile organic compounds, and polycyclic aromatic hydrocarbons. While concentrations of these compounds are generally lower than in combustible cigarettes, they vary widely across ENDS, and remain harmful. Some ENDS liquids may also be infused with drugs like tetrahydrocannabinol.
- ENDS have been marketed by the tobacco industry as smoking cessation tools and as safer “smoke-free” alternatives to conventional [combustible] cigarettes. However, there are concerns regarding ENDS, including their safety profile; their potential to fuel nicotine dependence as well as normalize smoking; their role as gateway products to tobacco use; and the conflicting evidence about their use as smoking cessation tools.
- ENDS became officially licensed for sale in Jordan in 2019, and have gained popularity particularly among adolescents, young adults, and females.

The burden of smoking and the use of ENDS in Jordan

- Globally, tobacco control efforts have resulted in the decline of combustible cigarette smoking. Conversely, smoking rates in Jordan have been increasing, reaching an overall rate of 42% in 2019.
- National statistics indicated that ENDS even prior to their legalization were being used by approximately 10% of the adult Jordanian population. Studies from Jordan post-licensure of ENDS report higher rates of ENDS use in college students, but more recent national estimates are not available.
- There is a scarcity of nationally representative data regarding trends in smoking and ENDS use in the country. Lack of continually updated surveillance systems hinders understanding the true impact of ENDS across various community groups, particularly among vulnerable groups that tend to be targeted by the tobacco industry (e.g. women, youth and young adults). The marketing of e-cigarettes in Jordan in light of the current tobacco epidemic and the scarcity of data has complicated tobacco control efforts.

Purpose of KHCC’s position statement

King Hussein Cancer Center (KHCC) is a clinical entity that treats all forms of cancer in a comprehensive manner, and was the first Cancer Center in the region to establish and sustain smoking cessation services for both cancer patients and the broader Jordanian community. In light of the concerning rise

in use of ENDS, KHCC issued a scientific position statement that presents the most important findings and recommendations regarding ENDS.

This brief for healthcare practitioners and policy-makers highlights the key points of the position statement.

Concerns related to ENDS

- The widespread belief that ENDS are safer than cigarettes, supported by claims like Public Health England's "95% less harmful" statement, lacks strong evidence and overlooks various harm perspectives.
- More research is needed to establish the long-term effects of ENDS. Nevertheless, studies have demonstrated that ENDS use can cause nicotine addiction; impact cardiovascular health and respiratory health; contain carcinogens; and their use also has been associated with seizures, stress, anxiety and cognitive problems, particularly in young users.
- Marketed by the tobacco industry as tools to "help smokers who want to quit", ENDS are widely promoted in shapes and flavors that target all age groups, both smokers and non-smokers, and in particular, adolescents, young adults, and women.
- Concerns have been raised regarding labeled nicotine content in ENDS liquids: studies have demonstrated that some of these liquids, including "nicotine-free" labelled liquids, can be mislabeled and may contain higher or more variable concentrations of nicotine than those specified in the label.
- Dual use of ENDS and combustible cigarettes is reported in studies of ENDS users.
- ENDS use in nonsmokers may also increase the likelihood of their transitioning to tobacco smoke.

ENDS and their promotion as smoking cessation tools

Due to challenges in regulating the ENDS market as well as currently lacking data with regards to the unfolding impact of ENDS in Jordan, healthcare professionals must exercise caution regarding ENDS. ENDS should not be promoted as smoking cessation tools. The Jordanian Ministry of Health has expanded smoking cessation clinics across Jordan, using evidence-based medications and interventions. These clinics should be promoted as the primary intervention for smoking cessation.

The following are suggested discussion points for healthcare practitioners when managing smokers who want to quit regular cigarettes.

- Acknowledge that while some studies suggest ENDS can help with smoking cessation, these studies are insufficient for establishing a definitive evidence-base, and that continued ENDS use may lead to nicotine addiction or dual tobacco product use. In addition, it is important to highlight that the Jordanian Food and Drug Administration (JFDA) has not approved ENDS as cessation aids, whereas FDA-approved evidence-based smoking cessation medications are available in the Ministry of Health's smoking cessation clinics. Smokers

should exhaust, with their practitioners, proven cessation methods such as behavioral strategies in addition to nicotine replacement therapies, varenicline, and bupropion as first-line treatments. 'Quitting' merely by switching to ENDS use ignores the possibility of perpetuating nicotine addiction and tobacco use.

- Note the difficulty in precisely determining the chemicals delivered by ENDS due to variations in e-liquids, nicotine strengths, device characteristics (such as battery power), and puffing characteristics, making monitoring and advising ENDS users in an accurate manner challenging.
- Stress the uncertainty surrounding ENDS' long-term effects and advise users to plan on quitting ENDS as soon as possible if they are currently using ENDS.

In addition, healthcare practitioners should proactively advise against ENDS use in individuals who do not use combustible tobacco products.

ENDs regulations and their enforcement in Jordan

- Jordan signed the World Health Organization's Framework Convention on Tobacco Control (FCTC) in 2004, and has since then attempted to match the majority of its regulatory tobacco policies with the FCTC treaty. With the widespread availability of ENDS, the WHO has emphasized the importance of countries implementing additional measures to regulate ENDS. Therefore, in 2019, Jordan announced legislation allowing the entry of ENDS and registration into the Jordanian markets to fulfill its obligations towards the FCTC treaty and address ENDS smuggling.
- Sales of ENDS products to those younger than 19 are prohibited; smoking "in all its forms" is banned in public places and public transit; promotion is prohibited; and considerable penalties are imposed on those violating these regulations. These regulations are important, but other country experiences have included more stringent regulations than those currently imposed in Jordan (e.g. some countries have banned these products all together; some have imposed very high taxes on ENDS; and few have required that ENDS only be sold through a prescription).
- Jordan's tobacco and ENDS regulations in theory seek to protect vulnerable groups and restrict the promotion and sale of these products. In reality, minors can easily access ENDS and tobacco products at affordable prices; social media promotion of ENDS is pervasive; ENDS and their paraphernalia are sold widely in appealing forms and flavors to all age groups and smoking/non-smoking groups; exposure to tobacco smoke and vape is rife while penalty enforcement is limited; and tobacco as well as ENDS use is prevalent and normalized in Jordan.
- By 2021, Jordan's FDA reported registering 184 entities to sell ENDS. By the end of 2022, more than 570 e-liquids with (with a variety of flavors) and 223 ENDS were legally registered in the country, most of them flavored and attractively designed for youth.

Recommendations

The following recommendations were put forth in KHCC's position statement on ENDS:

- ENDS should not be promoted as viable smoking cessation tools. Approved treatments (pharmacotherapies and behavioral techniques) should be used for smoking cessation.
- ENDS should not be readily accepted nor promoted as acceptable tobacco alternatives in Jordan. There is currently insufficient definitive evidence regarding the short and long-term health effects of ENDS use, and regarding their potential to lead to or perpetuate tobacco use.
- The generation of timely national data to assess the impact of ENDS on the tobacco epidemic in Jordan is needed.
- The ENDS market in Jordan requires more stringent regulation, particularly because the tobacco industry (represented by both manufacturers, distributors and sellers of both tobacco and ENDS) is employing strategies that target vulnerable groups.
- Jordan's tobacco control communities (led by the Ministry of Health and inclusive of the various governmental and nongovernmental stakeholders) should collectively promote and implement all tobacco and ENDS regulations towards one end goal (protecting public health). The current environment has impeded a comprehensive tobacco and ENDS control process.