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Nicotine poisoning trend after emerging of e-cigarette products in Malaysia

Ms Sulastri Samsudin¹, Ms Adilah Mohamed Ariff¹, Dr. Leong Yin Hui¹

¹National Poison Centre, Penang, Malaysia

Objective

A rising prevalence of e-cigarette users in Malaysia has been reported with similar trends as seen in other countries. This phenomenon may contribute to the increasing poisoning incidence from the liquid or aerosol from these devices. Data from Malaysian National Poison Centre (NPC) revealed the epidemiological trend in the country. Therefore, this study aims to describe the pattern of e-cigarette and e-liquid poisoning incidence in association with several socio-demographic factors in Malaysia.

Method

A retrospective analysis was conducted based on the e-cigarette and e-liquid related poisoning exposure calls as received by the Malaysian National Poison Centre from January 2015 to August 2022.

Results

A total of 66 calls were received by the Malaysian National Poison Centre during this period. There were no cases of e-cigarette exposure reported to NPC before 2015. A substantially increased number of exposures in 2020 (22.7%) and 2021 (31.8%) were noted during the Covid-19 pandemic. The most frequent age groups involve children aged 5 years and below with 40 (60.7%) cases of exposure and adults aged 20-74 years with 15 (22.7%) cases of exposure. With the government's Movement Control Order (MCO) enforced during Covid19 pandemic, where parent and children spent most of the time indoor and possibility of children to access parents' or their family members' e-cigarette and e-liquid are higher may contribute to the large proportion of exposure among young children. Most cases involved accidental ingestion of e-liquid (76%) at home. Reported symptoms from exposures range from mild to severe severity including metabolic acidosis, seizure, and CNS depression. However, the majority of patients (92%) only developed mild symptoms consistent with nicotine poisoning such as vomiting and drowsiness.

Conclusion

The trend of e-cigarette poisoning exposure coincides with the availability of the product in the market including the type of devices used and e-liquid content. Therefore, continuous monitoring of the usage of these new and emerging nicotine delivery products should be emphasized from the aspect of toxicovigilance to prevent future incidences of poisoning, especially population of high-risk and vulnerable groups.