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Abstract

Background: Recently, the trend of e-cigarette use is on the rise due to the perception that it is a safer alternative to traditional smoking. However, there is limited literature on various types of cancers in e-cigarette vs. traditional cigarette users. In this study, we aim to evaluate the prevalence of various types of cancers among e-cigarette users, traditional smokers, and non-smokers.

Methods: A retrospective, cross-sectional analysis of participants of National Health and Nutrition Examination Survey (NHANES) was done from 2015-2018. Types of cancers (MCQ220), smoking status (SMQ020),(SMQ040), and e-cigarette use (SMQ900) were identified using the questionnaire. Univariate analysis was performed to find the prevalence of types of cancers among e-cigarette users, traditional smokers, and non-smokers.

Results: Out of 154,856 participants included in the study, 7756 (5%) were e-cigarette users, 48,625 (31.4%) were traditional smokers and 98,475 (63.6%) were non-smokers. E-cigarette users had higher prevalence of following cancers as compared to traditional cigarette users: breast cancer (12.1% vs. 12.0%), cervical cancer (22% vs 2.6%), leukemia (8.5% vs 1.1%), skin cancer (non-melanoma) (15.6% vs 12.3%), skin (other) (27.7% vs 9.5%), and thyroid (10.6% vs 2.4%). Our study also showed a younger median age of onset of cancers in e-cigarette users as compared to traditional smokers and non-smokers (45 years vs. 63 years vs.59 years) and lower cancer prevalence (2.32% vs. 16.8% vs. 9.5%).

Conclusion: In our large population-based study, e-cigarette users had higher prevalence of cervical cancer, leukemia, skin cancer, and thyroid cancer compared to traditional smokers. In addition, e-cigarette users had lower median age at onset of cancers. Future studies could focus on finding and comparing the risk of developing cancers among e-cigarette users vs. traditional smokers.

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