

Identifying factors that conjointly influence nicotine vaping product relative harm perception among smokers and recent ex-smokers: Findings from the 2016 ITC 4 Country Smoking and Vaping Survey

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Abstract

Background: Use of nicotine vaping products (NVPs) to replace smoking is often influenced by perceived harmfulness of these products relative to smoking. This study aimed to identify factors that conjointly influenced NVP relative harm perception among smokers and ex-smokers.

Methods: Data (n = 11,838) from adult smokers and ex-smokers (quit < 2 years) who participated in the 2016 ITC 4 Country Smoking and Vaping Surveys in Australia, Canada, England and the US were analyzed. Decision tree models were used to classify respondents into those who perceived vaping as less harmful than smoking (correct perception) versus otherwise (incorrect perception) based on their socio-demographic, smoking and vaping related variables.

Results: Decision tree analysis identified nicotine replacement therapy (NRT) harmfulness perceptions relative to smoking, perceived vaping portrayal in the media and other sources as positive, negative or balanced, recency of seeking online vaping information, and age as the key variables that interacted conjointly to classify respondents into those with correct versus incorrect harm perceptions of vaping relative to smoking (model performance accuracy = 0.70-0.74). In all countries, NRT relative harmfulness perception and vaping portrayal perception were consistently the two most important classifying variables, with other variables showing some country differences.

Conclusions: In all four countries, perception of NVP relative harmfulness among smokers and recent ex-smokers is strongly influenced by a combination of NRT relative harmfulness perception and vaping portrayal in the media and other sources. These conjoint factors can serve as useful markers for identifying subgroups more vulnerable to misperception about NVP relative harmfulness to benefit from corrective intervention.

Recommended Citation

Yong, H.H., Karmakar, C., Motin, M. A., Borland, R., Elton-Marshall, T., Cummings, K.M., Fong, G.T., Thompson, M.E. (2021). Identifying factors that conjointly influence nicotine vaping product relative harm perception among smokers and recent ex-smokers: Findings from the 2016 ITC 4 Country Smoking and Vaping Survey. *Drug and Alcohol Dependence*, 218, 108370.

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