

Alternative Tobacco Products: Use Adverse Effects and Communication Patterns
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Adverse Effects of Mainstream Tobacco-Based Hookah Smoke in Young Adults
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Abstract:

Tobacco use to date, primarily in the form of cigarettes, remains the number one cause of preventable death in the U.S. Despite this, tobacco smoking continues to be a major concern worldwide. Of great significance, is that the ethnic diversity of the U.S. is rapidly changing with increasing immigration from South Asia and the Middle East. Such immigration accompanies cultural changes include the introduction and widespread use of alternative tobacco products and delivery systems (such as hookahs) among both recent immigrants and non-immigrants. While the adverse effects of cigarette smoke have been clearly delineated, health implications of the newer tobacco products and smoking techniques for these culturally-linked inhaled tobacco products have been poorly addressed. The proposed panel study will address the research gaps presented by exposure to mainstream tobacco smoke generated by hookah smoking, an emerging example of a culturally-linked method of tobacco smoke consumption that has also entered mainstream adolescent society. Thus, we hypothesize that the inhalation of mainstream hookah smoke, whether in the home or in dedicated hookah lounges and bars, produces adverse pulmonary and cardiac effects and alterations in serum levels of inflammatory biomarkers that could be useful as “footprints” of exposure. To test this hypothesis, we will: 1) characterize the exposure atmosphere of hookah smoke; and 2) use a ‘before and after’ study design to examine pulmonary and cardiac function, mRNA expression levels in airway epithelial cells, and blood markers of inflammation in subjects exposed to mainstream hookah smoke. The proposed studies will provide key research findings that will influence tobacco control policies and regulations and how advisory communications should be targeted to diverse immigrant and susceptible populations throughout the U.S.