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**Investigating the Attributes Related to Water Pipe,
Affecting the Choice of Water Pipe Tobacco Smoking
Among University Students**



Zahra Hessami ,MD ,PhD

Tobacco Prevention and Control Research

Center,National Research Institute Tuberculosis

and Lung Diseases,Shahid Beheshti University of

Medical Sciences



introduction

- Water pipe tobacco smoking (WTS), also known as hookah, shisha, and narghileh, is a centuries-old form of tobacco consumption native to the Middle East and South Asia
- Despite evidence of increasing popularity, especially among adolescents and young adults, WTS remains understudied and is often neglected in public health discussions



introduction

- Among young water pipe users, many have never smoked a cigarette, which suggests that WTS delivers tobacco to millions of young adults who would have otherwise been nicotine-naïve
- Waterpipe tobacco smokers believe that the smoke inhaled through a waterpipe is less harmful than cigarettes because the harmful products in the smoke are filtered out as it passes through the water

Gaps in Waterpipe Regulation

Regulation of WTS is inadequate in at least five areas:

Price: Price may be a strong intervention in preventing WTS in youths, as they are usually more price sensitive than adults.

Characterizing Flavors:. Flavoring contributes to the misconception that waterpipe is not dangerous as it masks the harshness of pure tobacco

GAPS CONT

Youth Access: Both in the home and out, young people have unrestricted access to WTS

Use Restrictions: loopholes in the law when it comes to WTS.

Health Warnings: Increasing awareness and educating people about the detrimental effects of WTS are required to eliminate current misconceptions



The importance of the subject

- -Research is needed to inform policy makers on ways to mitigate the threat of this product before it reaches epidemic levels
- -Product attributes, such as pricing, flavoring of tobacco, and health warning labels effects on choice water pipe
- -In this study, we considered the characteristics related to hookah, which can affect the choice of hookah by young people and presented them in different menus



OBJECTIVES

- Our primary objective is to test the effects of WTS attributes and regulatory strategies (e.g. price, flavor, health warning messages, age restrictions) on product demand
- Studies show that higher pricing, non-flavoring and the use of pictorial warnings discourage cigarette smoking, and we hypothesized that they will have similar effects on WTS consumption
- We planned to explore these effects by including price, flavor and warning labels as attributes in a *discrete choice experiment* (DCE) that measured the preferences of smokers among university students



MATERIALS AND METHODS

The survey consists of 4 sections:

Section 0: Potential participants are informed about the survey and ensured that their answers will be kept confidential and anonymous

Section I: Determine WTS use history, current use, attitudes regarding WTS, and the concurrent use of other tobacco-related products .

Section II: Examination of the effects of product price and warning labels, nicotine amount and tobacco type. DCE

Section III : Basic demographic questions



Data Collection

- Information on hookah use in students of Shahid Beheshti University of Medical Sciences was collected using standard questionnaire
- The main variables included the demographic characteristics of hookah users, history of hookah use, current use, and belief about hookah and concomitant use of other tobacco products.
- We recruited a sample of at least 342 student waterpipe tobacco smokers who were at least 18 years of age (including users of cigarettes, WTS, and dual users)
- Attributes related to water pipe by providing designed menus
- . SPSS software version 21 was used for data analysis







Methodology cont

The DCE technique is based on the theory of value and assumes that individual decisions about a good or service are determined by its attributes



One example of hookah menu:

60.Whih one of the following items would you prefer?

	Double Apple If you love apple, here's the flavor for you. Big and puffy, sweet and fruity clouds. Nicotine 0.5%	25000	<input type="checkbox"/>
	Blue Mist Very sweet blueberry flavor with a hint of mint that comes out in the aftertaste. Nicotine 0.0%	10000	<input type="checkbox"/>
	Pirate's Cave Creamy, juicy and extremely sweet aroma. Reminiscent of a lime margarita. Nicotine 0.5%	10000	<input type="checkbox"/>
	Non-flavored Tobacco that takes you back to rich, smooth traditional flavors. Nicotine 0.05%	10000	<input type="checkbox"/>
WARNING: Shisha smoking causes fatal lung disease		None of the above: <input type="checkbox"/>	

This menu was contained warning label



Results

342 students participated in this study

Mean age: 21.5 (SD = 4).

Sex: Female 170 (49.6%) Male 172(50.4%)

Cigarette smoking: Yes 77(22.6%) No 265(77.4%)

Educational level: Bachelor 130(38%) Master 20(5.8%)

Doctorate 150(44%) others

RESULTS



Characteristic factors of Hookah smokers:

36% have smoked hookah for the first time in their dormitory.

43% have smoked hookah in the last 30 days.

80% of the participants said that the message of hookah use causes lung cancer could be a motivational factor for quit hookah smoking.



DCE RESULTS

Tobacco Brands : significantly chose two apple and Blomist.

They significantly more preferred the nicotine-free type (0%) of hookah than products with high nicotine (0.05 percent and 0.5 percent) menu.

They Significantly, chose hookah with a price of 100,000 or 250,000 compared to 350,000 Rials.



DCE

Women were more likely to choose flavored, nicotine-free types than men.

Non-Cigarette smokers were less likely to use unflavored tobacco and high nicotine products.

Preferences of participants	Menu containing health warnings were chosen by:
Flavored tobacco brand	who had started consuming at an older age
Low nicotine level	Non- Cigarette smokers
Low price	



Discussion

Fruit flavored tobacco was more welcomed than unflavored type. This effect was stronger in women and non-smokers. These results support the theory that taste can lead women and non-smokers to start hookah use under the false belief that they are healthier .

Price is the second most important influential feature in choosing a hookah. In general, hookah consumers are more inclined to choose cheaper products. Price and tax-based policies are good options for enacting anti-hookah laws.

Amount of nicotine: Consumers usually prefer nicotine-free labeled products. Women and non-smokers are more likely to choose nicotine-free products.

Insert health warnings on the menu significantly reduces choosing and ordering hookahs.



Discussion and conclusion

The results of this study are the first guide for developing a protocol against hookah

Accordingly, it is necessary to ban the use of flavored tobacco,
Increase the price of hookah-related products,

Insert the correct labels of the components, including nicotine,
Insert health warnings on the tobacco packages and the hookah
itself and the menu of cafes.



Thank you for your attention

