

## Awareness of hookah smokers regarding its harmfulness among attende of cafés in Erbil city

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### Abstract

**Background and objective:** Hookahs are water pipes that are used to smoke specially made tobacco that comes in different flavors. Hookah has many of the same health risks as cigarette smoking. This study aimed to assess the awareness of hookah smokers about its harmfulness and identify the reasons for smoking hookah.

**Methods:** This study was conducted in all venues of cafes and restaurants located geographically in Erbil city during the period from June 27<sup>th</sup>, 2014 to February 4<sup>th</sup>, 2015. A questionnaire was used to obtain the smoking pattern, awareness and perceptions of 325 male peoples towards the harmfulness of smoking. Direct interview was used for data collection.

**Results:** A total number of 325 male people participated in this study. Their age ranged from 18-25 years. Most of them were singles, from urban areas and preferred to smoke in café (61.8%). More than one person was using the same hookah. The average duration of smoking was more than 46 minutes. Around half of the participants (49.5 %) were smoking hookah with friends as a group activity and 35.1% had a headache and dizziness during smoking hookah. The overall awareness about the harmfulness of smoking the hookah was poor (56%).

**Conclusion:** The overall awareness about harmful of smoking hookah was poor among attendees of cafes.

**Keywords:** Awareness; Hookah; Smokers; Erbil.

### Introduction

Hookahs, also called narghile, argileh, shisha, hubble-bubble, and goza are water pipes that are used to smoke specially made tobacco that comes in different flavors such as apple, mint, cherry, chocolate, coconut, licorice, cappuccino, and watermelon. Although many users think it is less harmful, hookah smoking has many of the same health risks as cigarette smoking. Hookahs vary in size, shape, and style.<sup>1,2</sup> Hookah smoking is typically done in groups, with the same mouthpiece passed from person to person. Its use began centuries ago in ancient Persia and India.<sup>1-4</sup> Today, hookah cafés are gaining in popularity around the world, including the Middle East, Britain, France, Russia and the United States.<sup>5</sup> Hookah used by youth and college students is increasing.<sup>6</sup>

In 2010, a survey found that among high school seniors in the United States, about 1 in 5 boys (17%) and 1 in 6 girls (15%) had used a hookah in the past year.<sup>7</sup> Using a hookah to smoke tobacco poses serious health risks to smokers and others exposed to the smoke from the hookah. The charcoal used to heat the tobacco can raise health risks by producing high levels of carbon monoxide, metals, and cancer-causing chemicals.<sup>4</sup> Even after it has passed through water, the smoke from a hookah has high levels of this toxic agents.<sup>5</sup> Hookah tobacco and smoke contain several toxic agents known to cause lung, and oral cancers.<sup>6</sup> Tobacco juices from hookahs irritate the mouth and increase the risk of developing oral cancers.<sup>4,7</sup> Babies born to women who smoked hookah every day while pregnant

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weigh less at birth (at least 3½ ounces less) than babies born to nonsmokers.<sup>5,8</sup> Babies born to hookah smokers are also at increased risk for respiratory diseases.<sup>7</sup> In Kurdistan, according to our knowledge, there are limited studies about awareness of the users and reasons for smoking hookah. This study aimed to determine the knowledge of hookah smokers regarding its harmfulness, to find out the reasons for hookah smoking, and to find out the relationship between socio-demographic characteristics of the sample with their knowledge regarding harmfulness of hookah smoking.

### Methods

The study was conducted between June 27<sup>th</sup>, 2014 to February 4<sup>th</sup>, 2015. Participants in this study were available from different cafes in Erbil city. Participants were those who were smoking hookahs in these places at the time of data collection. The data was collected mostly on Thursday and Friday nights where a large number of people in the twelve cafes, who were 325 males. Female hookah smokers were excluded in this study because they refused to participate in the study. The questionnaire was designed by the researchers which covered questions about the socio-demographic characteristics of the participants (gender, age, education, religion, etc) and the smoking pattern, awareness and attitude towards the law of prohibition of smoking in public places, and the knowledge about the harmfulness of hookah smoking compared to cigarette smoking. Verbal consent was obtained from all users before starting the interviews. The researchers informed participants about the objectives of the study. Direct interview was used as a method of data collection from only male consumers of hookah. Data were analyzed using the statistical package for the social sciences (version 19). The level of knowledge was calculated as a following; the participant who reported poor knowledge had (0-5) scores, fair

knowledge had (6-10) scores and (11-15) scores for good knowledge. The value of answers was (0) for incorrect and "I'm not sure" answers and (1) for correct answers. Major variables in this study were analyzed by using descriptive and inferential statistic, frequency, percentage, and Chi-square test at *P* value ≤0.05 was considered statistically significant.

### Results

Table 1 shows that the majority of study samples were within the age group 18 - 25 years old which represented 54.5%, while the lowest age group of the study sample was more than 40 years which represented 2.5%, and about two-thirds (72.6%) of them were single. Less than half (41.2%) of them were institute or college graduates, about one-third (32.9%) of them were secondary school graduates, and only a few (3.7%) of them were post graduates. More than two-thirds (76.3%) of the participants were habitants of Erbil city.

**Table 1:** Socio-demographic characteristics of study sample.

Socio-demographic data	n=325	
	No.	(%)
Age	13-17	44 (13.5)
	18-25	177 (54.5)
	26-32	65 (20.0)
	33-39	31 (9.5)
	>40	8 (2.5)
Marital status	Single	236 (72.6)
	Married	89 (27.4)
Education level	Illiterate	27 (8.3)
	Primary	45 (13.8)
	Secondary	107 (32.9)
	Institute/College	134 (41.2)
	Postgraduate	12 (3.7)
Place of living	City	248 (76.3)
	Suburb	77 (23.7)

Table 2 shows that half (50.2%) of the study sample were daily hookah smokers, while only (8.6%) of them smoked occasionally. More than half (60.6%) of them were non-cigarette smoking, and 61.8% of them reported that they prefer smoking in café. More than one-third (38.5%) smoke hookah for more than 46 minutes per session, and they

usually were sharing smoking. Table 3 shows that a considerable number of the study participants were complaining from a headache, dizziness, blurred vision, cough, and palpitation which represents (35.1%, 23.4%, 14.2%, 19.7%, 9.2% respectively), while 24% of them hadn't any problem during hookah smoking.

**Table 2:** Distribution of the study sample by general information of smoking habits.

Frequency and places of smoking		n=325	
		No.	(%)
How often do you smoke hookah?	Daily	163	(50.2)
	Weekly	81	(24.9)
	Monthly	53	(16.3)
	Occasionally	28	(8.6)
Tobacco smoking	Yes	128	(39.4)
	No	197	(60.6)
Places of preferring smoking hookah	Home	55	(16.9)
	Cafe	201	(61.8)
	Restaurant	24	(7.4)
	Picnic	45	(13.8)
Average duration of one session	15 minutes	60	(18.5)
	16-30 minutes	69	(21.2)
	31-45 minutes	71	(21.8)
	>46 minutes	125	(38.5)
Sharing <small>(Number of hookah smoker / One hookah pipe )</small>	1-3	116	(35.7)
	4-6	149	(45.8)
	7-9	60	(18.5)

**Table 3:** Distribution of study sample by complaining of symptoms during smoking

Symptoms while hookah smoking	n = 325			
	Yes		No	
	No.	(%)	No.	(%)
Headache	114	(35.1)	211	(64.9)
Dizziness	76	(23.4)	249	(76.6)
Blurred Vision	46	(14.2)	279	(85.8)
Cough	64	(19.7)	261	(80.3)
Palpitation	30	(9.2)	295	(90.8)
No complaint	78	(24.0)	247	(76.0)

Table 4 shows that the majority of the study participants (49.5%) were smoking hookah for group activity reason, 44.6% of them smoked for relaxation purposes and 40.9% of them during holidays, while 27.1% of them were smoking for being workless. Table 5, and 6 show that the

overall awareness of the participants about harmful of smoking hookah was poor (56%) About one-third (38.2%) of them were had fair awareness about the harmful of smoking hookah. Only 5.8% of them had good awareness.

**Table 4:** Distribution of study sample by reason for smoking.

Reason for smoking	n=325			
	Yes		No	
	No.	(%)	No.	(%)
Relaxation	145	(44.6)	180	(55.4)
Family problem	49	(15.1)	276	(84.9)
Not have working	88	(27.1)	237	(72.9)
Holidays	133	(40.9)	192	(59.1)
Friends(group activity)	161	(49.5)	164	(50.5)

**Table 5:** Distribution of study sample by their awareness about harmful of hookah.

harmfulness of hookah	n=325					
	Correct		Incorrect		I am not sure	
	No.	(%)	No.	(%)	No.	(%)
1. Does the water filters the smoke?	135	(41.5)	131	(40.3)	59	(18.2)
2. Has hookah tobacco?	161	(49.5)	116	(35.7)	48	(14.8)
3. Is hookah more dangerous than cigarette smoking?	157	(48.3)	117	(36.0)	51	(15.7)
4. Is electronic hookah less dangerous than cigarette smoking?	108	(33.2)	156	(48.0)	61	(18.8)
5. Is hookah more addictive than cigarettes smoking?	105	(32.3)	138	(42.5)	82	(25.2)
6. Is electronic hookah less addictive than cigarettes smoking?	119	(36.6)	123	(37.8)	83	(25.5)
7. Can hookah smoking can cause cancer?	133	(40.9)	119	(36.6)	73	(22.5)
8. Can hookah cause Asthma?	115	(35.4)	99	(30.5)	111	(34.2)
9. Passive hookah smoking is harmful?	115	(35.4)	94	(28.9)	116	(35.7)
10.Can hookah smoking can cause peptic ulcer?	102	(31.4)	113	(34.8)	110	(33.8)
11. Can hookah smoking can cause DM?	60	(18.5)	148	(45.5)	117	(36.0)
12. Can hookah smoking can cause heart disease?	91	(28.0)	110	(33.8)	124	(38.2)
13. Can hookah smoking can cause communicable disease ( TB,HIV)?	62	(19.1)	136	(41.8)	127	(39.1)
14. The fruity flavor have not benefits?	84	(25.8)	139	(42.8)	102	(31.4)
15. Can hookah cause any psychological problems (stress, anxiety)?	96	(29.5)	137	(42.2)	92	(28.3)

Table 7 shows that there was statistically significant association between age, places of living and education level of study sample with overall awareness about the harm of smoking hookah (*P* value ≤0.05). While there was no statistically significant

association between their frequency of hookah smoking, duration of smoking, smoking a cigarette, places of hooking and sharing in smoking hookah with their awareness about hookah harmfulness *P* value more than 0.05.

**Table 6:** Overall responses regarding their awareness about harmful of hookah.

Level of awareness	No.	(%)
Poor (0-5)	182	(56)
Fair (6-10)	124	(38.2)
Good (11-15)	19	(5.8)
<b>Total</b>	<b>325</b>	<b>(100)</b>

**Table7:** Association between socio-demographic of hookah smoker and their awareness about hookah.

Socio-demographic data		Level of awareness						<i>P</i> value
		Poor		Fair		Good		
		No.	(%)	No.	(%)	No.	(%)	
Age	13-18	32	(72.7)	12	(27.3)	0	(0.0)	0.039
	18-25	94	(53.1)	74	(41.8)	9	(5.1)	
	26-32	39	(60.0)	21	(32.3)	5	(7.7)	
	33-39	15	(48.4)	13	(41.9)	3	(9.7)	
	>40	2	(25.0)	4	(50.0)	2	(25.0)	
Education level	Illiterate	19	(70.4)	6	(22.2)	2	(7.4)	<0.001
	Primary	28	(62.2)	15	(33.3)	2	(4.4)	
	Secondary	68	(63.6)	34	(31.8)	5	(4.7)	
	Institute/College	63	(47.0)	65	(48.5)	6	(4.5)	
	Post Graduate	4	(33.3)	4	(33.3)	4	(33.3)	
Place of living	City	133	(53.6)	103	(41.5)	12	(4.8)	0.050
	Suburb	49	(63.6)	21	(27.3)	7	(9.1)	
How often do you smoke shisha?	Daily	84	(51.5)	69	(42.3)	10	(6.1)	0.467
	Weekly	46	(56.8)	32	(39.5)	3	(3.7)	
	Monthly	35	(66.0)	14	(26.4)	4	(7.5)	
	Occasionally	17	(60.7)	9	(32.1)	2	(7.1)	
cigarettes smoking	Yes	63	(49.2)	57	(44.5)	8	(6.2)	0.132
	No	119	(60.4)	67	(34.0)	11	(5.6)	
Places of prefer smoking shisha	Home	30	(54.5)	23	(41.8)	2	(3.6)	0.880
	Café	115	(57.2)	72	(35.8)	14	(7.0)	
	Restaurant	14	(58.3)	9	(37.5)	1	(4.2)	
	Picnic	23	(51.1)	20	(44.4)	2	(4.4)	
Average duration of one session	15 minutes	28	(46.7)	27	(45.0)	5	(8.3)	0.174
	16-30 minutes	43	(62.3)	22	(31.9)	4	(5.8)	
	31-45 minutes	42	(59.2)	29	(40.8)	0	(0.0)	
	>46 minutes	69	(55.2)	46	(36.8)	10	(8.0)	
Sharing class	1-3	62	(53.4)	47	(40.5)	7	(6.0)	0.160
	4-6	85	(57.0)	59	(39.6)	5	(3.4)	
	7-9	35	(58.3)	18	(30.0)	7	(11.7)	

## Discussion

Findings of this study indicated that the age of the greatest number of the study sample was between 18-25 years, they were single and graduated from institute or college. This means that the majority of them were in the adult age group, and their educational level was at institute and university level, this agree with study done in Jordan which showed that (25%) of university students used hookah smoking on a daily or weekly basis as it's the period of adolescence and early adulthood is most vulnerable to cigarette smoking and hookah.<sup>8</sup> The World Health Organization pronounced that North Africa, Eastern Mediterranean region and South-East Asia to have the highest rate of hookah smoking. The practice is also spreading fast among the youth at an alarming rate.<sup>9</sup> This study showed that the main preferred place for smoking hookah was in café, and the average duration of one session was more than 46 minutes. This result agree with a study conducted in Jordan by Khaled and others,<sup>11</sup> whom revealed that several friends who were preferring sitting in café or restaurant assist in smoking hookah and most of the hookah smoking started with friends in café as a group activity, and even those nonsmokers will eventually try to use hookah and become users with their friends. Despite such fact, hookah smoking gains social acceptance and consequently high levels of secondhand smoke is the result.<sup>10</sup> The participants suffered mainly from a headache and dizziness during smoking hookah. Smoke from cigarettes, cigars, and pipes can contribute to headaches for both the smoker and the non-smoker. Nicotine, one of the components of tobacco, stimulates the blood vessels in the brain to constrict. Smoking also stimulates the nerves in the back of the throat, contributing to a headache.<sup>11</sup> Similar findings were reported by Maziak et al., in which hookah smoking can cause a headache and cardiovascular disease. This low knowledge among university students needs urgent education

about the harmful effects of hookah smoking.<sup>10</sup> The current study showed that the main reason for smoking hookah was to practice a group activity. The problem is that some people are advocating the hookah, or water pipe, as safer than cigarettes, as it's perceived as less addictive. This agrees with the finding of other study done by Khaled in which participants mentioned that "[Hookah] is so relaxing that everyone is just chilling out and talking and having fun unlike drinking alcohol which is still fun, but it could lead to craziness which never happens with hookah."<sup>11</sup> This study revealed that there was widespread perception among hookah users that is more harmful than cigarette smoking. This result indicates that they have good knowledge about harmfulness of hookah smoking. The study also showed that the majority of hookah users believed that the water filters the smoke. Recent studies from different US population confirm this misconception.<sup>8,9</sup> The perception that the hookah smoke is filtered in the water seems to be one the main beliefs justifying less harmful influence of hookah. However, it's well known that passing bubbles through water does not change their concern since volatile carcinogens for tobacco smoke and other particles will stay within the air bubble during its passage through the water, the water will not filter the smoke in the bubbles.<sup>12</sup> The result shows that there was significant association between the knowledge of the study sample about harmfulness of smoking and some demographic characteristics such as age, educational level, and places of living, and this result agrees with study conducted in Malaysia on hookah smoking, and associated factors showed that the age and gender were found to be significantly associated with hookah smoking status.<sup>13</sup> However this result disagrees with a study conducted in Sulaimani city showed that statistical significant association was found between socio-demographic data of the subjects with their knowledge regarding



hookah smoking and its hazards.<sup>14</sup>

### Conclusions

There was a high frequency of hookah smoking. Poor awareness of young people about hookah lead to increasing prevalence of hookah smoking. The study recommends education programs by government and nongovernmental organizations to increase the awareness about the harms of hookah smoking.

### Conflicts of interest

The authors report no conflicts of interest.

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