

Prevalence of Electronic Hookah and Risk Factors among University Students in Mosul City/Iraq

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Abstracts: Tobacco use is considered as one of the largest public health threats facing the world. The estimated number of current smokers in the world epidemic now in the developing countries. Waterpipe smoking is a customary and cultural method of tobacco smoking in many parts of the world. The aim of the study to assess the Prevalence of electronic Hookah and risk factors among university students in Mosul City . A descriptive cross-sectional study that conducted during the period of 1 /12/ 2022 to 1 /3/ 2023 among university of students in Nineveh Governorate. The data collected in four college included in the study (Engineering, Sciences, Medicine and Education Colleges). The instruments of the study were composed of (3) parts:Part One: Demographic characteristics that include (ages, gender, Marital status, educational level, exercise and Smoking).Part Two: To assess Practice patterns among electronic hookah users. Part Three: To assess risk factors for university students towards electronic hookah.This study finding that most of the sample participating in the study amounted to 400 students, that most of the study sample was from 18 to 20 years old, at a rate of 54.25%, and that the sample of men was higher than that of women by (54.25%), 79%of the sample whose marital status was single. This study concluded that almost half of the university students were users of electronic hookah, and most students used electronic hookah smoking in the colleges of the engineering group, and many students had sufficient information about the risk factors related to electronic smoking.

Keywords: Prevalence, Electronic Hookah, Risk Factors, University Students.

1. INTRODUCTION

Tobacco use is the single most preventable cause of death in the United States [1]. Although the 2014 Surgeon General's report, The Health Consequences of Smoking — 50 Years of Progress, indicates that the prevalence of current cigarette smoking is on the decline, the report emphasizes the need to further monitor patterns of use for all tobacco products, particularly as disparities in use persist and alternate forms of tobacco use are increasing in popularity among youths [2]. Hookah tobacco smoking, for example, has increased tremendously [3]. Hookah, also known as water pipe or shisha, is a device used for smoking tobacco and other substances. Hookah smoking involves passing tobacco smoke through water before inhalation [4] .In a typical 1-hour hookah smoking session, hookah users inhale approximately 90,000 mL volume of smoke, which is substantially more smoke than the smoke from 1 cigarette (500–600 mL) [5]. The charcoal used to heat the tobacco can raise health risks by producing high levels of carbon monoxide, metals, and cancer-causing chemicals [6]. One session of hookah use contains approximately 200 puffs of smoke, which exposes users to 3- to 6-fold higher levels of carbon monoxide and 46-fold higher levels of tar than from a single cigarette[7].Globally more than 100 million people use hookah regularly [8]. However, given the recent proliferation of hookah cafes worldwide, this estimate is likely to increase. In the past decade, 2,000 to 3,000 new hookah cafes opened in the United States alone (Ahmed et al.,2011). Until recently, few studies focused on hookah smoking, and this practice was not considered a serious health problem [9]. Although studies have begun to examine hookah use among college-aged students, the related socio-behavioral risk factors are largely unknown [10]. Reports do, however, suggest hookah smoking is increasingly popular among youths in the United States [11-15].Thus, the objective of this to determine the Prevalence of electronic Hookah and risk factors among university students in Mosul City.

2. MATERIEL AND METHODS

2.1. Study Design

A descriptive cross-sectional study that conducted during the period of 1 /12/ 2022 to 1 /3/ 2023 at students in Mosul university.

2.2. Study Setting

The present study was conducted at Nineveh Governorate. It is a governorate in northern Iraq, with Mosul as its capital. Mosul is Iraq's second largest city, located 465 kilometers north of Baghdad. Four colleges are included in the study (Engineering, Sciences, Medicine and Education College).

2.3. Data Collection Period

The study has been conducted in a period of three months extending from 1 /12/ 2022 to 1 /3/ 2023 at university of Mosul.

2.4. Sample of the Study

Probability Multi-Stage sample was selected for the present study. A sample of students in Mosul of university (400 students) undergraduate student in different specialties would be selected. The study sample will be recruited from (4) colleges in the University of Mosul's Engineering, Sciences, Medicine and Education Colleges.

2.5. Steps of the study

The interview was conducted to fill out the questionnaire with students in four college included in the study (Engineering, Sciences, Medicine and Education Colleges) and each one of them needed approximately (15-20) minutes to complete the interviewing and answering the questionnaire.

2.6. Data collection Instrument

The information of data was collected through a questionnaire used to identify the Prevalence of electronic Hookah and risk factors among university students in Mosul City. The instruments of the study were composed of (3) parts, which included the following: Part One: Demographic characteristics that include (ages, gender, Marital status, Type of college, exercise, BMI and type of Smoking), Part Two: second tool used to assess Practice patterns among electronic hookah users. Part Three: Third tool used to assess risk factors for university students towards electronic hookah

2.7. Data Collection Method and Analysis

The data was collected in Nineveh Governorate at from four college in Mosul university (Engineering, Sciences, Medicine and Education Colleges). Data collection was performed using study instrument.

2.8. Statistical Analysis

The Statistical Package for Social Sciences (SPSS) version 26 was used to analyze the statistical results. A descriptive approach was applied. Using percentages and frequencies to calculate nurse's demographic description characteristics. To estimate the value of the data, means and standard deviation (\pm SD) were used. Using of Pearson coefficient correlation (test-retest) for testing the study tools reliability [16-25].

3. RESULT AND DISCUSSIONS

Table (1): Distribution of Demographical Characteristics of sample (400)

Variables	No.	Frequency (%)	Mean +SD
(A):Age			
18 – 20	217	54.25%	Mean (20.2) SD (1.76)
21 – 23	165	41.25%	
24- 26	18	4.5%	
(B):Sex			
Male	217	54.25%	
Female	183	45.75%	
(C): marital status			
Married	64	16%	
Single	316	79%	
widow	12	3%	
divorced	8	2%	
(E): Exercise			
Yes	161	40.25%	
No	239	59.75%	
(F):Smoking			
Yes	93	23.25%	
No	307	76.75%	
(J):Prevalence of electronic Hookah			

Table No. 1 shows that most of the sample participating in the study amounted to 400 students, that most of the study sample was from 18 to 20 years old, at a rate of 54.25%, and that the sample of men was higher than that of women by (54.25%), 79%of the sample whose marital status was single.

Table (2): Prevalence of electronic Hookah among university students(N=400)

Type of College	F	%
Engineering	57	57%
Medical	51	51%
Scientific	37	37%
Humanity	43	34%
Total of prevalence		47%

Table (3): Classification of socioeconomic classes according to Kuppuswamy's Score

Class	Total Score		
		F	%
Upper class	26_29	21	14
Upper middle class	16_25	64	42.67
Lower middle class	11_15	50	33.33
Upper lower class	5_10	13	8.67
Lower class	Less than 5	2	1.33

Total score distributes according Kuppuswamy's;upper class(26_29);upper middle class(16_25);lower middle class(11_15);upper lower class(5_10);lower class less than 5

Table (4): Risk factor of electronic Hookah among university students

Risk factors	Yes(%)	No(%)	Do not(%)
1.The electronic hookah contains nicotine	212(53)	78(19.5)	110(27.5)
2. Electronic hookah is addictive	114(28.5)	179(44.75)	107(26.75)
3. Electronic hookah is less addictive than cigarettes	221(55.25)	86(21.5)	93(23.25)

4. Electronic hookahs are less harmful to health compared to cigarettes	144(36)	218(54.5)	38(9.5)
5.Smoking an electronic hookah can cause injury lung cancer	146(36.5)	210(52.5)	44(11)
6.Smoking in electronic hookah leads to heart disease blood vessels and strokes	311(77.75)	82(20.5)	7(1.75)
7. Smoking in electronic hookah leads to dental problems	304(76)	96(24)	0(0)
8.Smoking electronic hookah reduces weight	223(55.75)	166(41.5)	11(2.75)
9. Electronic hookahs contain carbon monoxide	177(44.25)	204(51)	19(4.75)
10. The electronic hookahs contain tar	242(60.5)	97(24.25)	61(15.25)

Table No. 1 shows that most of the sample participating in the study amounted to 400 students, that most of the study sample was from 18 to 20 years old, at a rate of 54.25%, and that the sample of men was higher than that of women by (54.25%), 79% of the sample whose marital status was single. Cigarette and WP tobacco smoking are increasing worldwide substantially. Tobacco uses in all different types is responsible for about 10% of all causes of death globally, and it regards as the largest single preventable cause of death. Using of tobacco kills more than 7 million people each year [26]. The number of licensed places that introduce WP to their consumers as a part of their services including coffee shops, restaurants, casinos, and hotels inside Mosul city has been notably increased from 26 places in 2006 to 141 places in 2016 in addition to many unlicensed places [27]. In our country, unfortunately there is no strict legislations that restrict uses of tobacco in different forms like ban of tobacco advertising, ban or selling tobacco for underage, ban on tobacco smoking in public places and creating smoking free areas, increasing prices and taxes on tobacco, preventing of selling cigarettes packs that do not have warning messages and photos on the packaging of cigarettes and other tobacco products concerning their health effects and others. The study revealed that about 47% of the total studied students university of Mosul have addict of uses of electronic hookah, it appeared it is near percentages to than gathered in three studies done among university students in Iraq, two studies in Sulaymaniyah city and one in Karbala city, the percentages of CS ranged from 10% to 11.1% [28]. Less than, The STEPS (is a simple, standardized method for collecting, analyzing and disseminating data in WHO member countries) survey of Non-communicable disease risk factors that conducted in Iraq in 2015 found out that up to 20.7% of Iraqi adults over 18 years old were CS [29-33]. Much less, in other survey to estimate the prevalence of tobacco, alcohol and drug use in Iraq, 22% (20.18-23.92) of adults are cigarette smokers [34]. In other countries, prevalence of CS was 14.4% in Pakistan and 18.3% in Iran [35]. In some Arabian countries the prevalence of CS was much higher than our study results like in Saudi Arabia 29% [36] and in Lebanon 34% [37], it appears that this variation may be due to different socio-cultural factors. In the United States of America CS prevalence has been decreased from 20.9% (45.1 million smokers) in 2005 to 15.5% (37.8 million smokers) in 2016 because of increasing health education and awareness about harmful effects of CS, in addition to the implementation of control measures [38]. This, however, should be cautiously interpreted as these studies were computed at different times in an area where smoking rates may be rapidly changing.

CONCLUSION

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