

The Popularity of Nargile in Nasiriya City, Iraq

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Abstract

Background: The spread of Nargile smoking is widespread, especially among young people who visit Nargile cafes. Unfortunately, most Nargile smokers appear to have little information about potential health problems of the heart and blood vessels and other outcomes of Nargile smoking.

Objectives: This project was designed to investigate the sociodemographic data of the study sample of Nasiriya people (like age, gender, academic achievement, and job), smoking habits, and the impact of smoking nargile on the health (including physical changes, and psychogenic changes).

Materials and Methods: A cross-sectional study was carried on 400 healthy Iraqi citizens who are smoking Nargile in the Iraqi Cafes and restaurants in Nasiriya city. The volunteers aged 15-50 years were recruited during the period from April to July 2019 in Nasiriya to participate in this study. All volunteers were provided with oral consent to participate in the study. Materials include queries about data, the use of current Nargile, and habits of Nargile smokers, the impact of Nargile on health including physical changes, and psychogenic changes. The questionnaire will be presented to the volunteers and asked to answer the required data, the information is filled by the researcher.

Results: Most of the Nargile smokers were males 95.75%, with a mean age of 28.49 ± 7.55 years, 83.75% were regular smokers of Nargile, and 86% smokes for more than one year.

Conclusion: According to this study, youth were the most smoking age group for Nargile with a few underage users. Interventions to reduce Nargile use should provide real information about the health risks of Nargile use.

Keywords: Nargile smoking, Nasiriyah City, Iraq.

Introduction

Nargile is one of the sources of global health concern and is a type of tobacco smoking bypassing tobacco smoke through water before inhaling it. Smoking hookahs went back six centuries ago, so its image was strange and made it more attractive to young people, compared to cigarettes and tubes^(1,2). It is noticed that smoking nargile has become more prevalent in the Arab Gulf and the Middle East, so it has become a public habit in the Arabic region, although there is proof of the health risk of nargile smoking^(2,3).

Nargile smoking is spreading all over the world, and it is popular among adolescents and youth⁽⁴⁾. Places that have seen nargile smoking are where people communicate, such as restaurants and cafes. Most of the smokers were university and college students and young people from urban dwellers or professionals⁽⁵⁾. The majority of those surveyed are male and unmarried⁽⁶⁾. The main instigators causing people to smoke nargile are family and friends⁽⁷⁾. One of the features of the nargile that entices a lot of people is the fragrant odour. This scented odor is produced by the gentle warming with the coal of tobacco that contains nearly thirds of coarse incision tobacco and is fermented with nearly two-thirds of treacle molasses (syrup) and the pith of various fruits. This recent type of tobacco called “muassel” was presented by some Egyptian tobacco companies in the first 1990s⁽⁹⁾. The increasing saleability can be due to the excessive promotion of Nargile, Nargile attachments, and “muassel” of many companies that have spread in the world. To entice consumers, these companies propose a variability of nargile for purchase, e.g. Almasrya Nargile, Alsheikh Nargile, Revolving Nargile, and Modernistic Nargile or provide these stuff

strange terms such as ‘Sherazade,’ ‘Syrian Almalka,’ and ‘Almalka Nefertiti.’ Specific websites sponsor Nargile use as stylish, as part of a special life or holy respect. The main causative influence is the extent of communication consideration⁽⁹⁾. Consequently, of the increasing acceptance, nargile smoking is a rising hazard to community healthiness⁽⁵⁾.

Nargile smoke includes the identical addictive material located in cigarettes, nicotine. Nicotine is a stimulating alkaloid that binds to nicotinic receptors and owns brief- and extended- period outcomes. In the brief-period, it rises heart rate and can cause nausea or vertigo in recent consumers and slight euphoria of expert consumers⁽⁴⁾. The mood outcomes are regarded as being caused by nicotine- interceded neurotransmitter dopamine and serotonin release⁽¹⁰⁾. extended- period usage of nicotine can create tolerance and dependence, this last outcome makes a stop of nicotine intractable due to aversive symptoms (e.g., nervousness, irritability, agitation) that occur throughout abstinence times⁽⁴⁾.

Growing use frequency, the number of Nargiles smoked, and longer smoking times were linked with a greater danger of the dependence of nicotine⁽¹¹⁾. Cognitive functions including attention, alertness, and memory were remarkably impaired in healthy adults nargile smokers compared to people who do not smoke nargile⁽¹²⁾. Although nicotine decreases hunger; it increases the glucose level in blood; and deadens taste buds⁽¹³⁾.

The relationship between Nargile use and BMI (body mass index) remained certain and statistically significant (the relation has not been confirmed in cigarette smoking⁽¹⁴⁾), and this additional body weight

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may rise the hazard of numerous health cases, comprising metabolic syndrome, diabetes, and coronary heart disease^(15,16). Daily nargile consumers, compared to consumers who have never had a higher BMI, translate to an additional six kilograms of weight on average and are three times more likely to be obese⁽¹⁷⁾.

Subjects, Materials and Methods

This cross-sectional study was carried on 400 healthy Iraqi citizens who are smoking Nargile using a questionnaire for people in the city of Nasiriya, Iraq from April to June 2019. The instrument to collect the data for this study was designed by the researcher⁽⁵⁾ and validated by the Scientific Committee in the College of Pharmacy - Baghdad University. The volunteers were notified of the purpose of the research, its aims, and ensure the privacy of their responses.

Inclusion criteria

All nargile smokers, who are 15-50 years of age were randomly approached and asked to

participate in a part of the survey regardless of ethnics, occupations and social status⁽⁵⁾.

Exclusion criteria

- 1- Children aged under 15 years or people aged over 50 years.
- 2- Cigarette smoking people.
- 3- Alcoholic people.
- 4- People who have chronic diseases.
- 5- People who work in smoky environment.

Statistical analysis

The statistical analysis was done using the statistical package for social science (SPSS), version 25. Statistics are stated as percent, mean \pm standard deviation.

Questionnaire

The instrument to collect the data for this study was designed by the researcher and validated by Scientific Committee in the College of Pharmacy - University of Baghdad. The response to questions with either yes or no.

Results

The total number of participants was 400 with an age range between 15-50 years and a mean of (28.49±7.55) years. The data of the study participants were included in table 1 and show the majority of participants were male (95.75%), in age group range of 15-40 years (93.25%), have faculty achievement (23%), and free work (41%).

| Table 1. General features of respondents | | |
|--|--------------|---------------|
| Item | Subcategory | Frequency (%) |
| Gender | Male | 383 (95.75) |
| | Female | 17 (4.25) |
| Age | 15-20 years | * 58 (14.5) |
| | 21-30 years | 197 (49.25) |
| | 31-40 years | 118 (29.5) |
| | 41-50 years | 27 (6.75) |
| Academic achievement | without | 8 (2) |
| | Read & write | 21 (5.25) |
| | Primary | 76 (19) |
| | Middle | 60 (15) |
| | Secondary | 27 (6.75) |
| | Student | 68 (17) |
| | Diploma | 48 (12) |
| | Faculty | 92 (23) |
| Job | Free work | 164 (41) |
| | Officer | 148 (37) |
| | Student | 68 (17) |
| | Unemployed | 20 (5) |

* Number of participants with age<18 years (15-17 years)=19

Table 2 shows the smoking habits, where the duration of smoking data reveals 86% of participants > 12-month smoking, 83.75% of participants were regular smokers, 77.5% of participants were heavy smokers(frequency of smoking ≥ 7 /week), 48.75% spend 45 minutes or more in each single nargile session, 45.25% of participant prefer mint flavor (among 13 flavors preferred by participants):

| Table 2. Smoking habits | | |
|---|--|----------------------|
| Item | Subcategory | Frequency (%) |
| Regularity of smoking | Regular | 335 (83.75) |
| | Irregular | 65 (16.25) |
| Duration of smoking | ≤ 6 month | 16 (4) |
| | 7-12 month | 40 (10) |
| | >12 month | 344 (86) |
| Frequency of smoking | Mild 1-3/week | 56 (14) |
| | Moderate 4-6/week | 34 (8.5) |
| | Heavy ≥ 7/week | 310 (77.5) |
| Nargile session (time in minute) | <45 minute | 205 (51.25) |
| | ≥ 45 minute | 195 (48.75) |
| the best nargile tobacco flavour | Mint | 181(45.25) |
| | Mint +gum | 74 (18.5) |
| | Two apple | 46 (11.5) |
| | Mint +lemon | 33 (8.25) |
| | One apple | 26 (6.5) |
| | Lemon | 22 (5.5) |
| | Others (Gum, Bounty, Lemon +orange, Grape, Orange, Lemon+ melon, Mix fruit) | 18 (4.5) |

The majority of participants (80%) had a relaxed feeling when smoking nargile while 64.75% of participants did not increase focus or concentration.

Table 3: Summarized psychogenic changes of participants:

| Table 3. Psychogenic changes | | | |
|-------------------------------------|---|-------------------|-------------------|
| | Question | Yes, N (%) | No, N (%) |
| 1 | A relaxed feeling? | 320(80) | 80 (20) |
| 2 | An increase in focus or concentration? | 141 (35.25) | 259(64.75) |

Table 4: Shows that 82.25% of participants had good taste in the mouth, 43.5% unchanged appetite, and 75% unchanged weight.

| Table 4. Physical change | | |
|---------------------------------|-----------------|----------------------|
| Physical changes | Response | Frequency (%) |
| Mouth taste | Good | 329 (82.25) |
| | Bad | 71 (17.75) |
| Change in appetite | Increase | 136 (34) |
| | Decrease | 90 (22.5) |
| | Unchanged | 174 (43.5) |
| Change in weight | Increase | 69 (17.25) |
| | Decrease | 31(7.75) |
| | Unchanged | 300 (75) |

Discussion

Sociodemographic data

In the present study, males (95.75%) uses Nargile greater than females, this is comparable to a study done by Hussain HY, *et al.* (2013) in Baghdad, Iraq(18), and Sajjad, *et al.* (2018) in Basra, Iraq⁽⁷⁾, and this may be attributed to the fact that women do not go to coffee shops as do men due to traditional customs.

The current study shows the proportion of young smokers is the highest among the rest of the age groups (vast majority aged 40 years and under) and this result come with the results of Maziak, *et al.* (2015) in Eastern Mediterranean region that showed the marked popularity of Nargile smoking among young, revealing that it has already substitute cigarettes as the most prevalent form of tobacco use⁽¹⁹⁾.

Less than two-thirds of Nargile smokers in the present study had a secondary school or lower academic achievement, while the college or institute certificate holders represent the lowest percentage of and this came opposite to Wong L, *et al.* study in Malaysia, in which the majority of respondents had tertiary education⁽⁵⁾.

In the present study, less than half were employees in the private sector, followed by government employees, while students ranked third, and the unemployed accounted for the lowest percentage, and this came with Wong L, *et al.* study in Malaysia. Nargile smoking is more popular among students in Iraqi people, especially among males according to a study conducted in Sulaimaniyah, Iraq in 2017⁽²⁰⁾, this may be the result of the highest cultivation and production of tobacco in the north of Iraq.

Smoking habits

As demonstrated in table 2, the present study shows that the majority of respondents were regular smokers, heavy smoking (≥ 7 /week), with an interval of smoking more than one year, the nargile session lasted for less than 45 minutes in about half of the participants and the remaining of 45 minutes or more. About third of >12 months duration, more than half-smoke one Nargile per week and more than third smoke two Nargile or more per week, and the results of the current study may be attributed to smokers attitudes that consider Nargile as a cool and trendy, or to fill free time, or it may be due to nicotine addiction⁽⁵⁾.

Psychogenic changes

As demonstrated in table 3, the majority of participants in this study had a relaxed feeling when smoking Nargile, this result came with the same result of Barnett TE, *et al.* in 2013 which reveals that the majority of the Nargile users use outcome expectancies were positive, including associating nargile smoking with relaxation and social experience⁽²¹⁾.

On the other hand, about two-thirds of participants had not increase focus or concentration, this outcome was compatible with a study of Meo SA, *et al* in Riyadh, Saudi Arabia in 2017 which showed that the young adult Nargile smokers show significant impairment in their cognitive functions compared to the matched control group⁽²²⁾, and also consistent with Barnett, *et al.* study in 2013, which showed that some Nargile smokers fell buzz or light-headed⁽²¹⁾, and the psychogenic changes in the present study expected from effects of nicotine, carbon monoxide, lead and other hazardous elements in Nargile smoke^(9,10).

Physical changes

As demonstrated in table 4, the majority of participants in the present study had good taste and this result came with the same result of Barnett, *et al.* in 2013 which reveals that about two-thirds had a good taste, the good taste expected from pleasant flavours with distinct attractive aromas⁽²¹⁾.

More than half of the participants in this study had a change in appetite (about a third of them had an increased appetite) while the majority of participants had unchanged weight and less than the quarter had increased weight, these results differ from the results of Soflari SS, *et al.* study in Mashhad, Iran in 2018 which reveals that about quarter of respondents had normal weight, the majority either overweight or obese⁽¹⁴⁾.

Intervention to minimize Nargile smoking

About two-thirds of participants in the present study were aged 30 and younger, this may indicate that most Nargile consumers were youth as in previous studies⁽²³⁾. The increasing popularity of Nargile use proposes that, in the current study, the present anti-smoking programs and consideration, which aim principally tobacco cigarettes, should also target Nargile smoking in addition to other nicotine products that are growing acceptance such as electronic cigarettes. This study provides proof of underage nargile smoking as shown with other studies^(24,25). Although only 19 participants were of age below 18 years, this is worrisome attention as it may mention that nargile sale points do not ban sales to those who are immature.

It is of concern that 17% of respondents were students. Understanding participants' thoughts about Nargile smoking give significant inferences for the upcoming way of intervention to reduce Nargile smoking. Interventions to decrease the use of Nargile should concentrate on eliminating the misunderstanding that Nargile is more healthy than tobacco cigarettes and give real knowledge about the health risks of Nargile use.

Limitation

As a result of the hardness in the attainment of a whole sample scope of Nargile consumers in Nasiriya, and difficulty finding female smokers or unwillingness to participate due to customs and traditions we surveyed an appropriate sample of Nargile consumers at cafes or restaurants that serve Nargile. Thus the outcomes cannot be popularized to the whole population of Nargile consumers in Nasiriya.

Conclusions

Concerning the results of the present study, one can conclude that:

- 1- The difference in Nargile consumers in terms of gender, age, academic achievement, and work may indicate an increase in Nargile popularity among the population, and this requires efforts to increase people's awareness of the dangers of Nargile smoking to reduce this phenomenon.
- 2- The majority of participants (80%) had a relaxed feeling when smoking Nargile while 64.75% of participants did not increase focus or concentration.
- 3- The majority of participants (82.25%) had good taste in the mouth, 43.5% unchanged appetite and 75% unchanged weight.

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شعبية النرجيلة في مدينة الناصرية/ العراق

الصيدلاني حسن علي حسن شبر، دائرة صحة ذي قار
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نبذة مختصرة

زاد تدخين النارجيلة، خاصة بين الشباب الذين يرتادون المقاهي. لسوء الحظ، يبدو أن معظم مدخني النارجيلة لا يعرفون سوى القليل عن العواقب الصحية المحتملة للقلب والأوعية الدموية وغيرها من الآثار السلبية لتدخين النارجيلة..

الأهداف: تم تصميم هذا المشروع لتقصي البيانات الاجتماعية الديموغرافية لعينة من مواطني مدينة الناصرية (مثل العمر والجنس والتحصيل الدراسي والوظيفة) وعادات التدخين وتأثير تدخين النارجيلة على الصحة (بما في ذلك التغيرات الجسدية والتغيرات النفسية المنشأ)

المواد والطرق: أجريت دراسة مقطعية على 400 مواطن عراقي سليم يدخنون النارجيلة في المقاهي والمطاعم العراقية في مدينة الناصرية. تم تجنيد المتطوعين الذين تتراوح أعمارهم بين 15-50 سنة خلال الفترة من أبريل إلى يوليو 2019 في الناصرية للمشاركة في هذه الدراسة. تم تزويد جميع المتطوعين بموافقة شفوية للمشاركة في الدراسة. تضمن الاستبيان استفسارات حول البيانات، واستخدام النارجيلة الحالية، وعادات مدخني النارجيلة، وتأثير النارجيلة على الصحة بما في ذلك التغيرات الجسدية، والتغيرات النفسية. تم تقديم الاستبيان للمتطوعين وطلب الإجابة منهم على البيانات المطلوبة، وتم ملء المعلومات من قبل الباحث.

النتائج: معظم مدخني النارجيلة هم من الذكور 95.75% بمتوسط عمر 28.49 ± 7.55 سنة و 83.75% مدخنون منتظمون للنرجيلة و 86% مدخنون لأكثر من سنة.

الخلاصة: وفقاً لهذه الدراسة، كان الشباب هم الفئة العمرية الأكثر تدخيناً للنرجيلة مع عدد قليل من المستخدمين دون السن القانونية. يجب أن تركز التدخلات الرامية إلى الحد من استخدام النارجيلة على القضاء على الاعتقاد الخاطئ بأن النارجيلة أكثر صحة من سجائر التبغ وتوفير معلومات واقعية عن المخاطر الصحية لاستخدام النارجيلة. يجب أن تحتوي النارجيلة على تحذيرات صحية مماثلة لسجائر التبغ.