

Research Article

# THE RELATIONSHIP BETWEEN SMOKING BEHAVIOR AND LEVELS OF DEPRESSION AMONG UNDERGRADUATE NURSING STUDENTS

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## Abstract

**Introduction:** University students are at a heightened risk of using cognitive enhancers and psychoactive substances, and this risk is further exacerbated by the presence of depression, which negatively impacts academic performance and increases the likelihood of substance misuse. In Iraq, the use of cognitive enhancers and psychoactive substances has grown in the past decade due to sociopolitical factors. However, depression among tobacco users remains unrecognized and overlooked, receiving inadequate attention.

**Objectives:** This study aims to measure the levels of depression among nursing students, examine the association between smoking behavior dependence and levels of depression, as well as to find out the relationship between levels of depression and demographic characteristics.

**Results:** The results reveal that the majority of participants (53.9%) had a moderate level of depression (M=2.36). The highest mean level was observed in all depression scale. The study also revealed a significant relationship between age group and depression at a p-value of below 0.05. Moreover, the study also revealed a significant relationship between age and depression at a p-value of below 0.05, and between ages starts smoking.

**Conclusions:** The level of depression the smoking student was moderate. The factors include smoking type, age at which individuals started smoking, the number of cigarettes smoked per day, and the place of smoking, it can be inferred that smoking habits and behaviors contribute significantly to the likelihood of experiencing depression. *ASEAN Journal of Psychiatry, Vol. 25 (1) January, 2023; 1-8.*

**Keywords:** Student; Smoking Behavior; Depression; Nursing; Psychoactive Substances

## Introduction

Cigarette smoking is a common habit among college students in Iraq, with widespread consumption of tobacco, and the prevalence is expected to increase in the coming years [1]. According to recent studies, smoking prevalence among nursing students remains significantly elevated on a global scale [2]. Alternative Tobacco Products (ATPs), such as water pipes and electronic cigarettes, are also becoming more popular [3]. "Tobacco is a legal drug that poses a significant

threat to its users, causing numerous deaths when used as intended by the manufacturers. There are approximately 1.1 billion smokers globally, and this trend is particularly prevalent among college and university students, with many individuals starting to smoke during adolescence" [4]. Despite misconceptions that hookah or water pipe smoking is less harmful than cigarettes, it actually exposes users to higher levels of toxic compounds and poses risks of infections, cancers, lung disease, and other medical conditions [5,6]. Tobacco addiction is a major factor in the development of

diseases and has a significant relationship with neuropsychiatric conditions such as depression, Parkinson's disease, schizophrenia, and neurocognitive disease [1]. Smoking can increase the likelihood of experiencing severe depression, and individuals may perceive nicotine as a form of self-medication due to its antidepressant-like effects. The connection between smoking and depression might stem from a genetic inclination.

Additionally, challenges and stress within one's social surroundings can contribute to higher smoking rates among individuals with depression. Furthermore, nicotine can mimic the effects of antidepressants, thus leading some individuals to perceive it as a means of self-medication [7]. Recognizing the connection between smoking and depression among nursing faculty students is important as they play a crucial role in healthcare provision and educating patients about quitting smoking. Unfortunately, there has been limited research focusing on smoking behavior among nursing students. Understanding these complex interconnections can contribute to the literature on smoking and mental health, enhancing our knowledge in this area.

## **Materials and Methods**

### *Design of the study*

This research aims were accomplished *via* the use of descriptive correlational design was designed to meet the previously mentioned objectives of the current study. This research was conducted in nursing students at the University of Kufa for the period of (11<sup>th</sup> November 2021 and 15<sup>th</sup> April 2022).

### *Settings of the study*

The focus of the study was on nursing students, and it was conducted at the college of nursing, university of Kufa.

### *The instrument of study*

**Socio demographic data of the smoking students:** This part contains demographic information of clients who took part in the research. This consists of 11 items, including: Age, gender, level education, income, type of smoking and number of cigarettes, place of smoking, and age start smoking.

**Depression scale-Patient Health Questionnaire (PHQ-9):** The tool consists of multiple instruments designed to screen, diagnose, monitor, and assess the severity of depression. It comprises nine questions that align with the diagnostic criteria for depression outlined in the Depressive Symptoms (DSM-IV) by using the Arabic questionnaire version [3].

### *Sample of the study and data collection*

Participants were recruited using voluntary response sampling technique using an online form. Non probability sampling technique (network sample also called Snowball sample), has been obtaining required and suitable data. The data was collected from December 10<sup>th</sup>, 2021, to January 4<sup>th</sup>, 2022. The researcher gathered data by reviewing student's feedback at the nursing college.

### *Statistical data analysis*

The study data underwent analysis using the Statistical Package for the Social Sciences (SPSS) version 24.0, employing both descriptive and inferential statistical techniques.

## **Results**

The below Table 1, provides a comprehensive representation of the socio-demographic information of a group of (180) nursing students who smoke and participated in the study. The average age of the participants was (2.02) years, with the largest proportion (59.4%) falling within the age range of 20-21 years. The majority of the samples were in their third stage of nursing education (36.7%). Additionally, a significant percentage of the participants (45%) had an economic status that was considered barely sufficient. Among the participants, the highest level of education attained by their fathers was a bachelor's degree (27.8%), while their mothers had primarily completed elementary education (18.9%).

The results indicate that among the smoking nursing students who participated in the study, there was a variety of smoking habits. The most common type of smoking was cigarette smoking, with 51 participants accounting for 28.3% of the sample. Water pipe smoking was also prevalent, with 57 participants making up 31.7% of the sample. Shisha/Narguileh cigarettes were reported by 18 participants, representing

10% of the sample. Lastly, e-cigarette smoking was observed among 54 participants, constituting 30% of the sample. These findings demonstrate the diverse range of smoking behaviors among the nursing student population. This analysis focuses on categorizing individuals based on the number of cigarettes they smoke. This analysis provides insights into the distribution of the age at which individuals in the sample began smoking. It shows that a significant portion of individuals started smoking during (ages 12-13), while a smaller proportion started at a younger age or during later teenage years. Category represents students who high smoke between 11 and 40 cigarettes per day. Their favorite place for smoking is college places (73.3%) and their essential motive for initiate smoking was to emotional and family problems (32.8%).

A significant relationship between age group and depression at a p-value of below 0.05. Moreover, the table shows a non-significant relationship between socioeconomic status and depression, at a p-value of more than 0.05. The previous table shows that there is a significant relationship between depression and smoking type, age start smoking, number of cigarettes smoking per day and place of smoking, at a p-value of less than 0.05.

## **Discussion**

The largest proportion of participants (59.4%) falls within the age range of 20-21 years. This result is in agreement with the study by, which discussed how young adulthood is a critical period for both smoking initiation and the development of mental health disorders [8]. Young adults are more likely to escalate their smoking habits if they experimented with smoking during adolescence. Preventing the escalation and entrenchment of smoking during the young adult years is critically important in reducing tobacco's long-term health impact.

The majority of the samples were in their third stage of nursing education (36.7%). From the investigator point of view, according to the information you provided, it can be inferred that there is a correlation between the stress and workload experienced during nursing education and the higher likelihood of initiating smoking [1]. It's noteworthy that 41.5% of third-year nursing students admitted to currently smoking. The majority of nursing students (89.4%) agreed that health professionals should counsel smokers

on how to quit, and a much higher percentage (96.7%) agreed that they should be trained in the subject. Only 22.6% of nursing students actually obtained official training in this field, which is a quite low percentage. Additionally, 45% of the students had an. Level income that was considered barely sufficient. Low socioeconomic status is associated with both higher rates of smoking and increased risk of mental health problems, including depression [5,9]. Among the participants, the highest level of education attained by their fathers was a bachelor's degree (27.8%), while their mothers had primarily completed elementary education (18.9%). the educational level for majority of father's participants which was Bachelor and for mothers was Institute graduate While Assari et al., conducted their study on the influence of parent education and future transition to cigarette smoking, they discussed the potential impact of parental education on the relationship between smoking and depression in this context [2]. According to the findings, the three most common reasons reported by the students for smoking cigarettes were entertainment (22.1%), followed by stress and stress relief (18.3%), and anxiety/emotional causes (11.5%) (Table 2).

The researchers compared their study with various international studies, discussing both areas of agreement and disagreement. Additionally, the study revealed that water pipe smoking was prevalent among 43.1% of males [3]. According to the data presented in this table, the overall assessment of the link between students smoking and depression among nursing students is moderately, with a percentage of (53.9%) (Table 3) (Figure 1). These results agree with those of other recent research. As presented in the findings of the association of smoking with impairment of HRQoL among university students was mediated by higher levels of depressive symptoms [4,6]. A significant relationship between age group and depression at a p-value of below 0.05 (Table 4). Moreover, the table shows a non-significant relationship between socioeconomic status and depression, at a p-value of more than 0.05. The previous table shows that there is a significant relationship between depression and smoking type, Age start smoking, number of cigarettes smoking per day and place of smoking, at a p-value of less than (0.05) [3]. Agreed with this result also he found that a significant depression level of respondents who are 18 and 19 years old was significantly different from other ages this result agree with previous studies [4,8,10-14].

**Table 1. Distribution under graduate nursing students according to their socio-demographic.**

Demographic		Frequency	%
Age groups (Years) Mean ± SD 2.02 (.638)	≤ 19	35	19.4
	20-21	107	59.4
	22 Up	38	21.1
Gender	Male	180	100
	Females	0	0
Class	First stage	36	20
	Second stage	44	24.4
	Third stage	66	36.7
	Fourth stage	34	18.9
Economic status	Sufficient	79	43.9
	Barely sufficient	81	45
	Insufficient	20	11.1
Education level mother	Unable read and write	15	8.3
	able read and write	24	13.3
	Elementary	34	18.9
	Secondary	29	16.1
	preparatory	26	14.4
	Institute graduate	32	17.8
	Bachelor	12	6.7
	Higher Education	8	4.4
Education level father	Unable read and write	11	6.1
	Able read and write	17	9.4
	Elementary	10	5.6
	Secondary	28	15.6
	preparatory	18	10
	Institute graduate	38	21.1
	Bachelor	50	27.8
	Higher education	8	4.4
Total		180	100%

**Note:** f: Frequency, %: Percentage, M: Mean, SD: Standard Deviation.

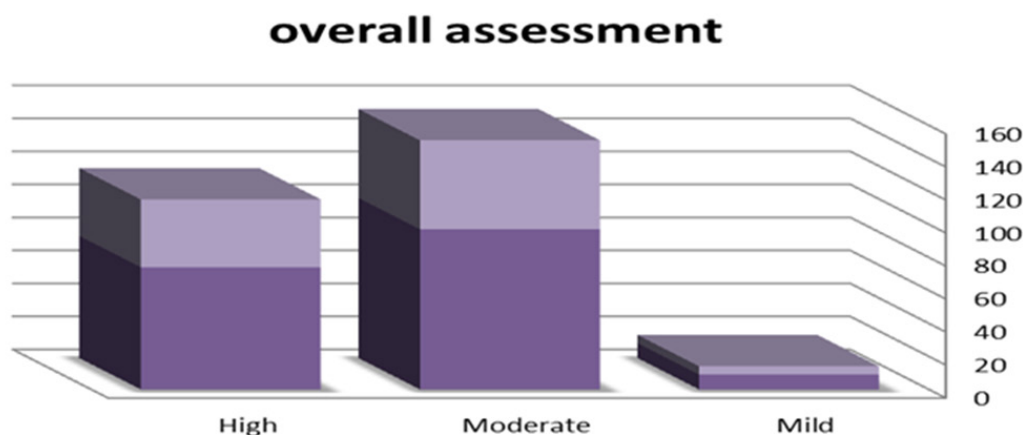
**Table 2.** Presents the data pertaining to smoking within the sample population of the study.

Data related to smoking	Rating and intervals	Frequency	%
Type of smoking	Cigarette smoking	51	28.3
	Waterpipe smoking	57	31.7
	Shisha/Narguileh cigarettes both	18	10
	E-cigarette smoking	54	30
Number of cigarettes smoked per day	≤ 10	1	0.6
	Nov-40	165	91.7
	41+	14	7.8
	Mean (std.deviation) 2.07 (.280)		
Place of smoking	Home	17	9.4
	College	132	73.3
	Recreational places (such as cafes, etc.)	31	17.2
Age start smoking Mean ± SD 2.78 (1.064)	≤ 8	32	17.8
	11-Sep	29	16.1
	13-Dec	65	36.1
	14+	54	30
Reasons for smoking	In harmony with family and friends smokers	19	10.6
	Boredom and boredom to waste time	53	29.4
	neglect of the family	29	16.1
	Emotional and family problems	59	32.8
	fun and happiness	20	11.1
Total		180	100%

**Table 3.** General assessment of the depression study participants.

Overall items		Frequency	%	M.S	Assess.
Depression scale	Mild	9	5	2.36	High
	Moderate	97	53.9		
	High	74	41.1		
Total		180	100%		

**Note:** Mild (less than or equal -3), Moderate (mean of scores 4-12), Sever (mean of scores 13; more).



**Figure 1.** Overall assessment of the link between students smoking and depression among nursing students.

**Table 4.** Relationship between demographic data and overall depression assessment (using Chi-square statistical test).

Demographic data		Mild	Moderate	Sever	Chi-square (df)	P-value (Sig.)
Age groups (Years)	20-21	28	58	20	8.919 (4)	0.063
	≤ 19	9	13	14		
	22+	12	21	5		
Socioeconomic status	Sufficient	19	38	22	5.85 (4)	0.211
	Barely sufficient	27	44	12		
	Insufficient	3	10	5		
Relationship between data pertaining to smoking and overall depression assessment						
Type of Smoking	Cigarette smoking	11	24	12	13.929 (6)	0.03
	Water pipe smoking	17	16	15		
	Shisha/Narguileh cigarettes both	4	21	5		
	E-cigarette smoking	17	31	7		
Age start smoking	≤ 8	6	13	13	17.402 (6)	0.008
	9-11	10	12	7		
	12-13	12	39	14		
	14+	21	28	5		
Number of cigarettes smoking per day	≤ 10	14	10	5	12.212 (4)	0.016
	11-40	17	50	14		
	41+	18	32	20		
Place of smoking	Home	3	6	7	53.9	53.9
	College	34	70	29		
	Recreational places (such as cafes, etc.)	12	16	3		

## **Conclusion**

The largest portion (59.4%) falling within the 20-21 age range, the smoking among nursing students may be more prevalent in this particular age group. Overall, this study sheds light on the diverse smoking behaviors among nursing students, emphasizing the prevalence of cigarette, waterpipe, shisha/narguileh, and e-cigarette smoking. It also provides valuable insights into the age at which smoking initiation occurs and the factors influencing smoking habits among this population. The overall assessment of the link between smoking and depression among nursing is moderately. The age plays a significant role in determining the likelihood of experiencing depression. The socioeconomic status does not have a significant impact on the occurrence.

## **Recommendations**

Establishing more studies like this study to warning the government about the dangerous of smoking among college students. Arranging educational seminars to the students to warn them about the danger of the smoking working on providing places for sporting like playgrounds and such places because sport helps in relieving psychological stress and other psychological problems and it full the time of the adolescents. Overall, these recommendations aim to reduce smoking prevalence among nursing students, promote their mental well-being, and create a healthier environment within nursing education settings. These results may contribute to the development of anti-smoking strategies in Iraqi universities.

## **Acknowledgement**

The authors would like to express their gratitude to the student's faculty of nursing/university of Kufa for their participation and cooperation in this study.

## **Authors' contribution**

HMZ was the idea founder, coordinated the data collection process, and the supervisor in all the steps. WHS coordinated the data collection process. He did the data analysis, interpreted the statistical results and identified patterns and trends. HMZ he is the submitting and corresponding author. All authors read and approved the final manuscript.

## **Funding**

We did not receive any fund.

## **Availability of data and materials**

The data sets generated and/or analyzed during the current study are not publicly available due to privacy and ethical restrictions but are available from the corresponding author on reasonable request.

## **Ethics approval and consent to participate**

Upon receiving approval from the Research Ethics Committee at the College of Nursing, the students were informed about the voluntary nature of their participation in the study. They were assured that their information would be treated with complete confidentiality and used solely for the purposes of the study. In order to provide informed consent and become a part of the study, the students were required to indicate their agreement by checking a box in the online form.

## **Consent for publication**

Not applicable.

## **Competing interests**

None to declare.

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**Received:** 22 November 2023, Manuscript No. AJOPY-23-120721; **Editor assigned:** 24 November 2023, PreQC No. AJOPY-23-120721 (PQ); **Reviewed:** 15 December 2023, QC No AJOPY-23-120721; **Revised:** 22 December 2023, Manuscript No. AJOPY-23-120721 (R); **Published:** 01 January 2024, DOI: 10.54615/2231-7805.47339.