

Knowledge And Attitude of Substance Abuse Among Medical and Pharmacy Students at The University of Al-Qadisiyah

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ABSTRACT

Background: Substance abuse continues to be an increasing public health issue globally, especially among adolescents and young adults, including undergraduate students. Medical and pharmacy students' knowledge and attitudes toward substance abuse are crucial given their future roles in prevention, early detection, and intervention. **Objective:** To evaluate the level of knowledge and attitudes toward substance abuse among undergraduate medical and pharmacy students. **Methods:** This cross-sectional study was carried out on a convenience sample of 400 undergraduate Medical and Pharmacy students at the University of Al-Qadisiyah, Diwaniyah City, Iraq, from all academic years, between March 1 and August 31, 2025. Data was collected using a structured self-administered questionnaire that included three sections, covering demographic, knowledge, and attitude toward substance abuse. Statistical analyses were conducted using SPSS (v. 28). **Results:** Survey analysis revealed that of 400 health-care students (mean age 21.26 ± 2.10 years; 53.5% female; 87.8% urban; 93.0% single). Investigating general knowledge of the enrolled students showed that 112(28%) of respondents had poor knowledge score, 161(40.2%) had satisfactory knowledge score and 127(31.8%) had good knowledge score, where awareness of classic addictive agents such as nicotine (79.5%), alcohol (78.5%), and cocaine (78.0%) was high, whereas knowledge of relatively newer substances like pregabalin (51.3%) and cough syrup (58.5%) was lower. Attitudinally, most students agreed that addiction is a medical disease (54.8%), medical treatment is effective (70.5%), and increasing health education can help prevent addiction (69.8%). The studying of student attitude regarding substance abuse shown that: only 50(12.5%) had good attitude score, 134(33.5%) had satisfactory attitude score and 216(54%) had poor attitude score. **Conclusion:** Students responses showed acceptable knowledge levels with low attitude score. The study highlights a gap in attitude toward substance abuse among future healthcare professionals.

Keywords: Substance Abuse, Knowledge, Attitudes, Medical and Pharmacy Students Undergraduate.

Article Information

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INTRODUCTION

Substance abuse refers to the dangerous or harmful use of psychoactive substances like alcohol, tobacco, and illegal drugs(1). One of the most significant issues facing any society is drug addiction, as the number of addicts rise

every year along with the variety of substances available, their detrimental effects on youth, and methods for preventing them(2). It poses a serious social concern since it erodes willpower and intensifies criminal activity(3).

Globally, it is projected that approximately 2.3 billion individuals consume alcohol, and approximately 1.3 billion are tobacco users(4, 5). Furthermore, the United Nations Office on Drugs and Crime (UNODC) estimated about 296 million undertaken illicit drugs globally during 2021(6). According to an international survey, smoking rates among students vary greatly by nations for example, among male medical students, smoking rates range from 3% in the United States to 24% in Turkey and 21% in Baghdad(7).

Substance use in neighboring countries shows notable variation. Recent studies report a prevalence of approximately 23% for substance use among university students in Iran, including 21% for smoking and 14%(8) for other substances; 7.1% of university students in Jordan reported substance use(9); in Syria, about 8% of individuals aged 15-64 years use substances, with a notable increase among youth (10); in Lebanon, 6.3% of adolescents reported alcohol consumption, with higher rates among males(11); and in Saudi Arabia, 20.2% of the population reported lifetime substance use, with lower recent use rates. These figures highlight the shared regional challenges related to substance abuse(12).

In recent years, Iraq is under the impact of a significant rise in substance abuse, emerging as a serious threat to public health, social stability, and the country's economic and security systems(13). Data from the Iraq National Household Survey on Alcohol and Drug Use (INHSAD) indicate that incidence was 28.8% for smoking tobacco, 8.1% for users of alcohol, 2.9% for non-medical use of prescription medications, and 0.7% for illicit drug use(14). Prescription drug, alcohol consumption, and the usage of illegal drug have increased among the youth population, according to the Iraqi Community Epidemiology Workgroup's report(13). Furthermore, the UNODC has warned Iraq of becoming a central route for drug trafficking in the Middle East(15).

Despite several studies on substance abuse in Iraq, data at the institutional level in Al-Diwaniyah remain limited. To the best of our knowledge, no studies have been conducted to assess the knowledge and attitudes of medical and pharmacy students toward substance abuse in this region. Addressing this gap is particularly important, as medical and pharmacy students represent future healthcare professionals who bear a critical responsibility in managing addiction-related issues with competence and empathy. Their knowledge and attitudes will directly influence the quality of patient care and the success of preventive and public health strategies. So, this study was performed to assess the level of knowledge and attitude toward substance abuse among medical and pharmacy students at the University of Al-Qadisiyah.

SUBJECTS AND METHODS

This survey-based study was carried out using a descriptive cross-sectional design among undergraduate medical and pharmacy students at the Colleges of Medicine and Pharmacy, University of Al-Qadisiyah, in Al-Diwaniyah, Iraq. The students were chosen through a non-probability convenience sampling technique. The time period was from the 1st of March 2025 to the end of August 2025. The required sample size was estimated based on Steven K. Thompson's formula; A total of 336 students was initially estimated as the required sample size. The final number of respondents reached 400, which further enhanced the statistical power, representativeness, and overall validity of the study findings.

The data needed for this study was gathered using a structured, self-administered questionnaire. The questionnaires were distributed manually by the researcher to the students within the colleges. Prior to distribution, we explained the aim of the study and the way of answering the questionnaire. The questionnaire was developed jointly by the

researcher and the supervisor, based on relevant literature and online sources, with relevant modifications, and was structured in a scientifically appropriate manner. It comprised three primary sections:

1. Demographic Information: This section contained variables like participant age, sex.

2. Knowledge-Based Questions: These items assessed participants' general knowledge of substance abuse, awareness of specific addictive substances, and understanding of treatment and management approaches. Most questions were answered using a "Yes/No" format, except for two items (source of information and most common reason for substance abuse), which required selecting one response from a list of predefined options. The score for each correct answer was (1), and the score for each incorrect answer was (0), resulting in a proportion-based score ranging from (0 to 1). The total score for each participant was calculated by summing the correct responses and dividing by the total number of knowledge questions resulting in a proportion-based score ranging from (0 to 1). Knowledge levels were classified into three categories based on three cut-off points as follows, poor scores were defined as those below 0.5, satisfactory scores were defined as those between 0.5 and 0.7, and good scores were defined as those above 0.7.

3. Attitude-Related Items: This section aimed to assess students' attitudes toward substance abuse by examining their personal beliefs and perceptions regarding addiction and its consequences. A total of nine items were used, addressing various aspects such as the medical versus moral interpretation of addiction, the perceived effectiveness of treatment and prevention methods, the impact of addiction on individuals and communities, and

the role of public health strategies such as education and smoking bans. A three-point Likert scale (Agree, Neutral, Disagree) was used to capture participants' responses in a simple and interpretable format.

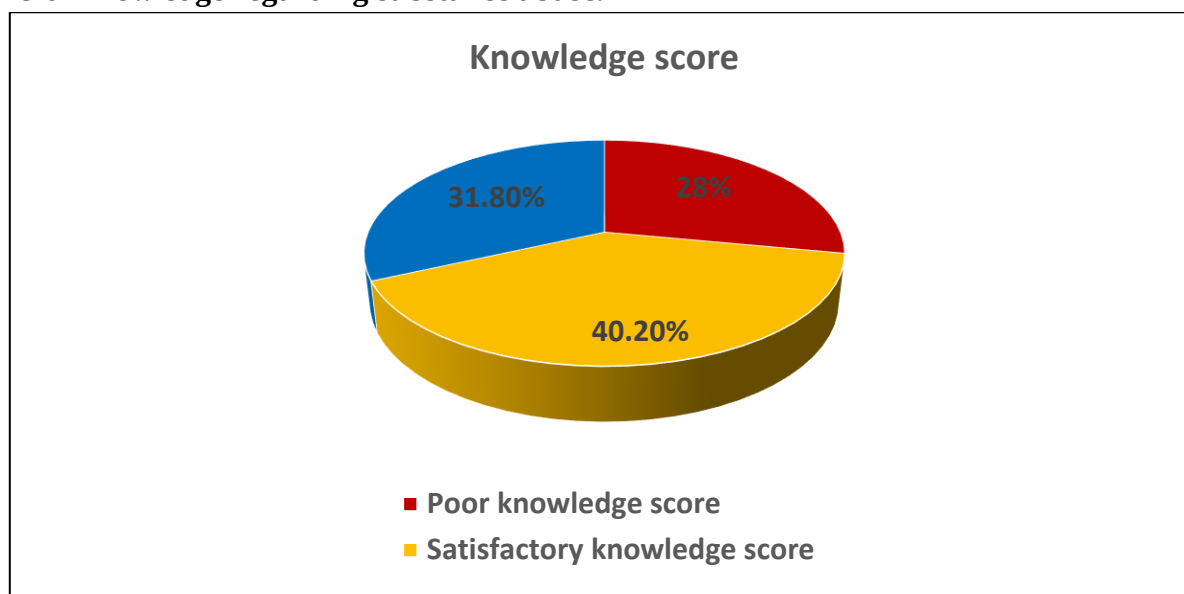
The Scientific Committee of Family Medicine at the Iraqi Board for Medical Specializations in Baghdad, as well as the Research and Ethics Committees of the University of Al-Qadisiyah's College of Medicine and College of Pharmacy, gave their ethical approval to this study. All included students provided verbal informed consent prior to the commencement of data collection. Collected variables were analyzed using IBM SPSS Statistics v28.0 (IBM Corp., USA).

RESULTS

Students' sociodemographic characteristics Analysis of the findings showed that the mean age of participants were 21.26 ± 2.10 years. Other demographic finding shown in **Table .1**. Investigating general knowledge of the enrolled students showed that 112(28%) of respondents had poor knowledge score, 161(40.2%) had satisfactory knowledge score and 127(31.8%) had good knowledge score, **Figure .1**. The response to each question regarding general knowledge of substance abuse was shown in **Table .2**, Knowledge among students regarding specific types of substance abuse was shown in **Table .3**, Students' knowledge regarding management of substance abuse was shown in **Table .4**. Students attitude toward substance abuse was shown that: 50(12.5%) had good attitude score, 134(33.5%) had satisfactory attitude score and 216(54%) had poor attitude score, **Figure .2**. Students' responses regarding attitude toward substance abuse was shown in **Table .5**

Table .1. Overall demographic characteristics of the enrolled students.

Variables		Mean±S.D	Count	%
Age		21.26±2.1		
Gender	Male		186	46.5%
	Female		214	53.5%

General knowledge regarding substance abuse.**Table .2. Students' responses regarding general knowledge of substance abuse.**

Questions		Count (%)
Do you know the definition of substance abuse?	No	167(41.8%)
	Yes	233(58.3%)
Have you ever received information about substances abuse?	No	109(27.3%)
	Yes	291(72.8%)
If the answer for the previous question was "Yes", what is your main sources of information about substance abuse?	Books or lectures	169(42.3%)
	Friends	52(13.0%)
	Relative	7(1.8%)
	Social media	150(37.5%)
	TV	22(5.5%)
In your opinion what is the most common reason for substance abuse?	Access and availability	57(14.3%)
	Bad relationship between parents and children or family problems	35(8.8%)
	Curiosity to experiment	42(10.5%)
	Influence of friends	45(11.3%)
	Pain management	48(12.0%)
	Pleasure seeking	42(10.5%)
	Psychological disorders	44(11.0%)
	Relieve stress or emotional trauma	45(11.3%)
	Substance Abuse by family	42(10.5%)
Are you familiar with common withdrawal symptoms associated with drugs use?	No	232(58.0%)
	Yes	168(42.0%)
Do you believe that substance abuse could cause psychiatric symptoms?	No	100(25.0%)
	Yes	300(75.0%)
Do you believe that drug addiction could cause death?	No	93(23.3%)
	Yes	307(76.8%)
Does substance abuse treatable?	No	94(23.5%)
	Yes	306(76.5%)

Table .3. Students' responses regarding specific types of substance abuse.

Questions		Overall count (%)
Do you know that nicotine is a highly addictive substance?	No	82(20.5%)
	Yes	318(79.5%)
Do you know that alcohol is a highly addictive substance?	No	86(21.5%)
	Yes	314(78.5%)
Do you know that cocaine is a highly addictive substance?	No	88(22.0%)
	Yes	312(78.0%)
Do you know that Crystal Meth (Methamphetamine) is a highly addictive substance?	No	127(31.8%)
	Yes	273(68.3%)
Do you know that Captagon (amphetamine) is a highly addictive substance?	No	174(43.5%)
	Yes	226(56.5%)
Do you know that tramadol is a highly addictive substance?	No	162(40.5%)
	Yes	238(59.5%)
Do you know that diazepam is a highly addictive substance?	No	162(40.5%)
	Yes	238(59.5%)
Do you know that cough syrup could be abused?	No	166(41.5%)
	Yes	234(58.5%)
Do you know that pregabalin could be abused?	No	195(48.8%)
	Yes	205(51.3%)

Table .4: Students responses regarding management of substance abuse.

Questions		Overall count (%)
Do you believe that early interventions are important in the management of substance abuse?	No	75(18.8%)
	Yes	325(81.3%)
Do you believe that increasing religious awareness prevents addiction?	No	130(32.5%)
	Yes	270(67.5%)
Are supportive relationships important in the recovery process from addiction according to your knowledge?	No	65(16.3%)
	Yes	335(83.8%)

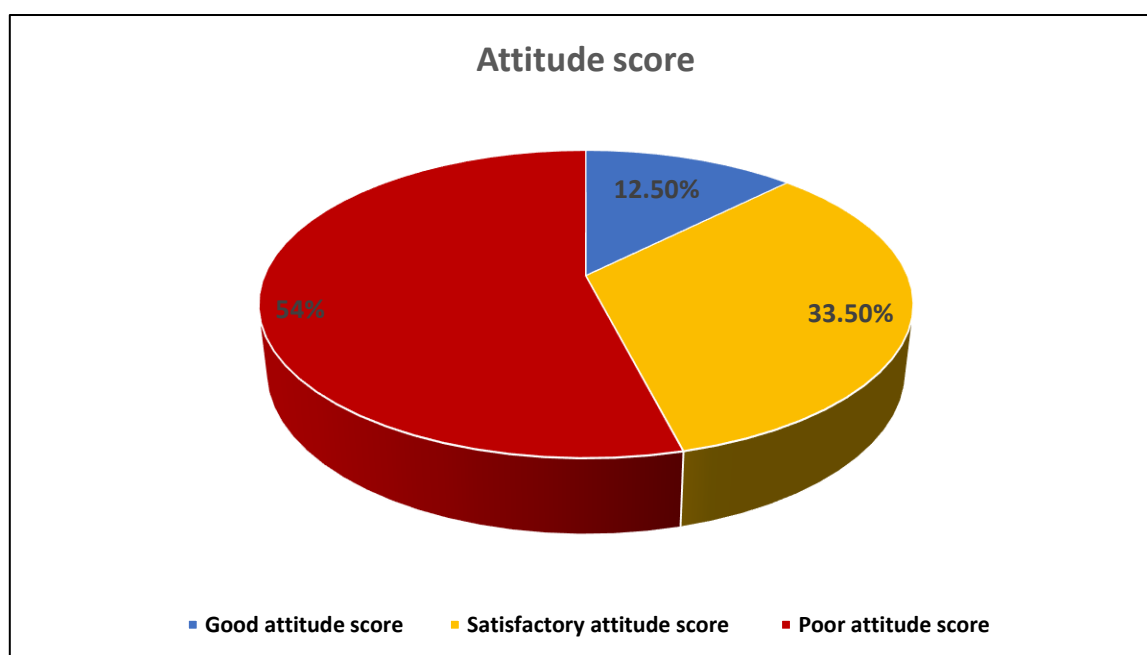


Table .5. Students responses regarding attitude toward substance abuse.

Questions		Overall count (%)
Addiction is a medical disease.	Disagree	72(18.0%)
	Neutral	109(27.3%)
	Agree	219(54.8%)
Addiction is a moral defect.	Disagree	104(26.0%)
	Neutral	121(30.3%)
	Agree	175(43.8%)
Medical treatment is beneficial in helping individuals recover from addiction.	Disagree	41(10.3%)
	Neutral	77(19.3%)
	Agree	282(70.5%)
Improving socioeconomic conditions can help in the recovery from addiction.	Disagree	54(13.5%)
	Neutral	136(34.0%)
	Agree	210(52.5%)
Using medications without a prescription can led to addiction.	Disagree	69(17.3%)
	Neutral	88(22.0%)
	Agree	243(60.8%)
Increasing health education can help prevent addiction.	Disagree	43(10.8%)
	Neutral	78(19.5%)
	Agree	279(69.8%)
Addiction is a growing public health problem in Iraq.	Disagree	46(11.5%)
	Neutral	121(30.3%)
	Agree	233(58.3%)
Addiction could harm the individual, the family, and the community.	Disagree	16(4.0%)
	Neutral	65(16.3%)
	Agree	319(79.8%)
Smoking should be strictly prohibited on university premises.	Disagree	36(9.0%)
	Neutral	114(28.5%)
	Agree	250(62.5%)

DISCUSSION

The level of knowledge about substance abuse were good and satisfactory in 72% of responder. A proximately similar finding was found in a study conducted in the Anbar and found a knowledge score reached (79.6%)(16). In contrast, a Saudi survey reported higher knowledge regarding substance abuse that effectively can cause addiction (97.3%)(17), other study from Lebanon found medical students answered only about 52.7% of substance-related knowledge questions correctly on average(18), this variation in detailed knowledge scores related to academic background of student and prior exposure to awareness programs, indicating that education and experience play a crucial role(19). This was evident in a study from Saudia Arabia which

reported higher scores on knowledge among pharmacy students than nursing students(17).

Current findings and findings from other studies suggest that students are familiar with basic drug terminology and prevention concepts. In Anbar, 72% agreed that social influences through peers could impact substance abuse(16). Participants in Tikrit likewise demonstrated good knowledge of preventive factors, such as education and family ties(20). Nevertheless, knowledge of specific substance dangers remains inconsistent among studies(14, 16, 18, 20, 21). Many students underestimate the harm of socially accepted substances (e.g. nicotine, alcohol or prescription sedatives) while perhaps overestimating their benefits for stress relief or performance(14, 22). A study based in the United States and Canada pointed

to significant gaps in the curriculum content on substance-specific effects and reported that students are required to receive formal training on substance abuse(23).

The current results also pointed toward specific misconceptions regarding substance abuse among our sample students. For instance, some students underestimate the addictive potential of certain substances, such as Captagon, tramadol, and pregabalin. A study identified (64%) of the surveyed sample failed in recognizing pregabalin as an agent that could result in addiction(17). Likewise, pharmacy students surveyed in the United States showed mixed understanding of cannabis risks, while over 60% acknowledged marijuana is addictive, nearly half believed it unlikely to cause serious outcomes(24). In addition, a study focusing on psychedelic drugs found that Iraqi medical students had dramatically lower familiarity with psychedelics than their Polish counterparts(25). This study revealed that most of those students were found familiar with the harms of substance abuse but still lack significant information regarding the etiology of addiction, drug effects, and availability of treatment options. This underscores a critical need for strengthening content on substance use disorders in undergraduate health curricula to ensure future professionals are well-equipped with accurate and comprehensive knowledge.

The current study showed a mix of attitudes and stigmatizing tendencies among students toward substance abuse. Results showed that 18% of the current sample did not believe that addiction is a medical disease, whereas 43.8% considered addiction as a moral defect. Consistent with other studies from Iraq, there is a notable tendency of negative attitudes. For example, the Tikrit youth study reported that 70–85% would feel nervous around people using illicit drugs and over two-thirds would actively avoid a person with addiction issues(20). Early reports suggest that a considerable portion of medical and pharmacy

students hold stereotypical or moralistic attitudes and display limited treatment optimism(26, 27). Addiction is frequently ranked among the most stigmatized health conditions worldwide, and studies show even medical trainees often have more negative perceptions of Substance use disorder patients than of patients with other psychiatric disorders(28). Such attitudes align with global trends, then it would not be surprising if a significant fraction of our students' view drug abuse as a personal or moral failing. Such stigma, if unaddressed, can adversely affect patient care and willingness to treat individuals with addiction(21).

Most studies on this subject feature both cultural influences and stigmas that shape negative attitudes toward patients with substance abuse. In Lebanon, despite the high prevalence of substance use among medical students themselves, attitudes were still shaped by stigma(18). The same study found that religious background was identified as a protective factor against substance use. Abuhammad et al. (2021) similarly documented stigmatizing beliefs, where older students and males were especially likely to hold negative views of drug users, whereas younger females had the most positive attitudes(29). In a study from Saudi Arabia, most university students strongly rejected the notion that substance abuse could be “enjoyable”, a notable minority perceived some potential benefits of substances in certain contexts(17). Meanwhile, studies in mostly non-religious countries still find stigma against Substance use disorder patients, indicating that religious background is not the only factor that could shape stigma in these regards(30).

Despite these negative attitudinal tendencies, there are also positive attitude indicators, such those mentioned in a study from Tikrit. The study found that most of the surveyed students agreed that society should invest in treatment and rehabilitation for people with SUDs(20).

Similarly, Yahyaa and Al-Rawi (2024) described constructive attitudes among high-schoolers toward drug use prevention(16). The findings suggest that many students recognize the importance of prevention and are likely able to support measures to prevent substance abuse(31). In addition, the widespread disapproval of drug misuse serves as a protective attitude that may discourage personal experimentation(32). Our students' responses appear to be much like those in Saudi Arabia and India who largely agreed on the fact that social and economic factors could play a major role in this subject(17, 33, 34). these findings present an attitudinal variation among students. Students intellectually support treatment and prevention efforts, yet they are still emotionally distant from people with SUDs. Addressing this divide is critical for developing a more compassionate healthcare workforce.

CONCLUSION

The study presented an overall good level of knowledge towards substance abuse among medical and pharmacy students at the University of Al-Qadisiyah, Diwaniyah city, Iraq. However, notable knowledge gaps were observed regarding withdrawal symptoms, health consequences of less common substances, and appropriate clinical responses to substance abuse. Attitudes toward substance abuse presented negative and stigmatizing behavior. Consistent with findings from other Iraqi studies and international studies, it appears that formal addiction-specific education is limited in most of the universities, and stigma towards substance abusers was even reported among medical students and current healthcare providers.

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Ethical statement

Not applicable.

Conflicts of Interest

The authors declare no conflict of interest.

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