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Assessment of Students' Knowledge about Substance Use in Tikrit Medical College

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ABSTRACT

Background: Substance use is a growing public health concern among university students that affects both health and academic performance. Medical students represent a key group for investigation due to their future role in health promotion and patient education. The aim of this study is to identify students' knowledge in Tikrit Medical College regarding substance use.

Subject and methods: A cross-sectional study was conducted among 340 students at Tikrit Medical College using a structured self-administered questionnaire covering sociodemographic criteria, knowledge of substance use and smoking behavior.

Results: Adequate knowledge about substance use was reported by 67.9% of students, particularly regarding alcohol, tobacco, and marijuana, while knowledge about opioids, stimulants, and hallucinogens was limited. The majority (90.3%) were non-smokers; among smokers, cigarettes were the most common type of tobacco used, followed by hookah, while vaping was the least common.

Conclusion: Medical students in Tikrit showed good level of awareness of substance use, however their knowledge was limited regarding less common substances. Targeted educational programs and stronger tobacco control efforts are recommended.

INTRODUCTION

Substance Use Disorder refers to a medical condition characterized by consumption of substances too much or in the wrong way leading to significant impairment in an individual's social interactions, educational performance, and occupational responsibilities. Substances commonly associated with this condition include nicotine, alcohol, marijuana, prescription medications such as painkillers, anti-anxiety drugs, hypnotics as well as stimulants, opioids, hallucinogens, inhalants and other illicit substances [1].

Substance use disorder varies in intensity, from mild to moderate and up to severe. Many people with mild substance use disorder can quit or change their unhealthy behavior while Addiction is considered the severe form, characterized by continued use of substance despite negative consequences. Addiction to substances developed when the brain's reward system takes control and reinforces compulsive substance-seeking development of physical and psychological dependence [2].

Despite awareness efforts by educational institutions, students report persistently high rates of smoking, alcohol use and illicit drug consumption [3]. In Iraq, youth addiction is linked to public health issues including poverty and school truancy [2]. Finding from a recent study reveal that (41.7%) of students in Iraq are smokers, highlighting concerns that smoking may act as entry point to other illegal drugs, potentially leading to harmful effects on health, brain function and life outcome [3].

Substance abuse represents a significant behavioral problem in modern communities, with the World Health Organization (WHO) identifying it as a

pressing global social problem [4]. It is complex behavior influenced by genetic predisposition, environmental, social pressures, mental health conditions such as depression, anxiety and stress [1], individual personality characteristics (age, sex, race and nationality, religious beliefs), material availability and community and cultural attitudes toward substance abuse [4].

Substance use among college students influenced by several factors that may increase the probability of risky behaviors such as substance abuse include the transitional nature of university life [5,6], academic pressures [5,6,7], increase independence exposure to new social connection [6], peer pressure [5,6,7] and individual mental health [6] moreover substances usage patterns are also influenced by false perceptions of harm and the desire for improved social or academic performance [6].

Substance abuse may lead to short- and long-term impacts for college students including decreased academic performance [8], lower stage points average [8,9], less time spent studying [10], missing teaching classes [9,10,11], disruption of cognitive function affecting memory and concentration, academic failure or expelling from university [8,9], doing risky things like driving under the influence, involved in assault (either as a victim or perpetrator) [8,10], getting into fights, stealing, or engaging in risky sexual behaviors, these behaviors can be potentially lethal [8,10,11] also affect health causing cardiovascular, respiratory and liver damage [8,9], risk of death by overdose or substance use related accident [9,12] and mental health problems (anxiety, depression) [8,9]. Social consequences include losing friendships, family [8,9] and

social isolation if spending much of time using alcohol or drugs and long lasting emotional and behavioral problems [8].

Aim: To identify students' knowledge in Tikrit Medical College regarding substance use.

Objectives:

Identify the sociodemographic criteria of study group, and clarify students' knowledge about substance use among Tikrit medical college.

MATERIALS AND METHODS

Study design: this study is cross-sectional study conducted in Tikrit Medical College from 10th September 2024 to 5th October 2025.

Type of sample: the study include 340 students selected as stratified sampling from stages of Tikrit medical college, 20% was taken from each stage as randomized sampling.

Data collection: structured self-administered questionnaire used to collect data from student evaluating knowledge and attitude about substance use.

Data presentation and analysis: Data presented by suitable tables and figures using Microsoft office programs.

Ethical consideration: research approval from Tikrit medical college/Family and Community department, Participation was voluntary and participants were informed of the confidentiality of their answers.

RESULTS

From table (1) the results showed that highest number of students 122(35.9%) were aged 20-22 years while only 21(6.2%) were more than 24 years old. Female represented 174(51.2%) while

male were 166(48.8%), the majority of them were single 332(97.6%) while 8(2.4%) were married. About 278(81.8%) of students were from urban areas. The study revealed that 154(45.3%) of students lived with their families. The recent study found that 155 (45.6%) of students in a medium socioeconomic status, but 31(9.1%) in low socioeconomic status. The largest proportion of students reported at the intermediate academic level 115(33.8%). The results of students' knowledge about substance use revealed that 231(67.9%) of students with adequate knowledge and alcohol reported by 253(74.4%) of students as the most known substance. The current study showed that most students 307 (90.3%) were nonsmokers, while 33(9.7%) were smokers. Most common type of smoking was cigarettes 24(53.3%) while vaping was the least.

DISCUSSION

The Socio-demographic characteristics found that the highest number of students 122(35.9%) were aged 20-22 years, this finding is consistent with regional studies in Iraq, such as Aljuboori et al. (2020) [13] and Mahmood K. et al. (2024) [14], which also reported that the majority of university students fall within the 20–22 age range. This study showed that females were 174(51.2%) and male were 166(48.8%). Most participants were single 332(97.6%) which matches previous findings from Iraq such as (kathem et al, 2021) [15] and Mahmood K. et al. (2024) [14] which showed that 92.1% and 92.7% of university students are unmarried respectively.

The study showed that approximately more than two thirds of students 278(81.8%) were from urban and

154(45.3%) of students lived with their families this is consistent with study in Kurdistan region Iraq (Mahmood et al. 2024) which reported that (94.5%) of students were from urban areas [14]

About socioeconomic state of students calculated by WHO social level scoring method [16] and found that most of student belong to medium socioeconomic level 155(45.6%). In comparison with regional studies in Iraq as (Rasool et al., 2023) [17] reported most of students belong to low to medium socioeconomic status, (Mahmood et al., 2024) [14] also showed a predominance of medium socioeconomic status students. However, other studies in Iraq revealed that many students come from low socioeconomic families [3]. Differences may reflect university location, regional economic context and field of study of student.

The study showed that most students were in intermediate score level followed by good then very good levels, while only a few were excellent or weak. This shows that most medical students perform in the middle ranges, with fewer at the extremes. The few students at the excellent level may be reflecting the effort and consistency needed to reach the top, while those at the weak level may find some parts of the curriculum particularly challenging for some individual. Similar patterns were reported in Baghdad (kathem et al, 2021) [15]. About Knowledge of students regarding substance use the current study showed high level of knowledge (67.9%) about Substance Use among medical students, this results are supported by study in Saudia Arabia (2025) [6], which found that high level of awareness about substance use among university students. Knowledge of students was highest regarding alcohol, marijuana and tobacco,

while knowledge about other substances such as opioids, stimulants and hallucinogens was less. This pattern indicates that alcohol and tobacco are more commonly recognized among students, possibly due to their higher prevalence and frequent public health discussions. These findings are consistent with previous literature showing that alcohol, tobacco, and marijuana are the most widely known and commonly reported substances among university students worldwide (Njoroge, 2017) [5].

Regarding attitude of students about substance use in this study, 91.3% of the participants were non-smokers , with cigarettes being the most common among smokers 53.3%, followed by hookah and vaping. These findings are consistent with Iraqi and regional studies among medical students such as Saeed et al. 2024 in Erbil [18], Al-Gburi et al.,2023 in Najaf [19] and Alshehri et al., 2025 in Saudi Arabia [6] suggesting that cultural and social norms strongly influence both the prevalence and type of tobacco use.

CONCLUSION

Medical students in Tikrit Medical College generally have good awareness of substance use, but there are gaps in knowledge regarding less common substances. Tobacco use is relatively low; however, cigarettes remain the predominant form of smoking among users. Socio-demographic characteristics, such as being single, urban residence, and medium socioeconomic status, were dominant characteristics among the students.

RECOMMENDATION

Application of awareness programs in medical colleges focusing on less common substances (opioids, stimulants, hallucinogens). Enhance tobacco control programs targeting not only cigarette smoking, but also on other forms such as hookah and vaping. Develop community-based prevention programs considering the role of cultural and social norms influencing substance use behaviors.

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TABLES

Table (1): Sociodemographic characteristics of medical students.

Item	No.	Percent
1-Age in years		
<19	40	11.8
19-20	60	17.6
20-22	122	35.9
22-24	97	28.5
>24	21	6.2
2.Gender		
Male	166	48.8
Female	174	51.2
3.Residence		
Urban	278	81.8
Rural	62	18.2
4.Accommodation		
With family	154	45.3
Universal hall	121	35.6
Shared house	65	19.1
5.socioeconomic status		
Low	31	9.1
Middle	155	45.6
High	154	45.3
6.Academic score		
Excellent	13	3.8
Very good	85	25
Good	96	28.2
Intermediate	115	33.8
Acceptable	23	6.8
Weak	8	2.4

Table (2): Knowledge of students about substance use

Item	No.	Percent
1.Knowledge		
Adequate	231	67.9
Not adequate	109	32.1
2.Types of substances		
Tobacco	231	67.9
Alcohol	253	74.4
Caffeine	170	50

Anti-depressant	190	55.9
Marijuana	241	70.9
Opioids	158	46.5
Hallucinogens	167	49.1
Stimulants	143	42.5
Inhalant	158	46.5
Others	42	12.4
3.smoking		
Yes	33	9.7
No	307	90.3
3.Type of smoking		
Cigarette	24	53.3
Hookah	14	31.1
Vape	7	15.6