



Original article

Youth Awareness of Psychoactive Substances: A Cross-Sectional Study

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Abstract

This study evaluates psychoactive substance awareness and socio-environmental catalysts among 114 Libyan youth. Using a descriptive cross-sectional design, the results showed high scientific literacy, with 87.7% recognizing neurochemical changes caused by substances. However, 45.6% underestimated addiction risks from a single trial, indicating a significant knowledge-to-behavior gap. Peer pressure was the primary catalyst for experimentation (71.1%), while social stigma remains a major barrier to seeking treatment (56.1%). The findings suggest that current awareness programs are insufficient (71.1%) and should shift toward interactive, lived-experience-based models to effectively bridge the preventive gap.

Keywords. Awareness, Psychoactive, Students.

Introduction

Psychoactive substance use among youth represents a critical public health challenge worldwide. The transitional stage of adolescence and early adulthood is characterized by heightened vulnerability to experimentation, peer influence, and risk-taking behaviors, which collectively increase the likelihood of substance misuse [1]. Recent epidemiological studies highlight that young individuals often underestimate the addictive potential of prescription medications such as pregabalin (Lyrica) and tramadol, while simultaneously overestimating the safety of socially normalized substances like alcohol and cannabis [2–4]. This misperception contributes to a widening knowledge gap that hinders effective prevention and intervention strategies.

Neurobiological evidence demonstrates that psychoactive substances alter brain chemistry by disrupting dopaminergic and serotonergic pathways, leading to long-term cognitive and psychological impairments [5]. Furthermore, misconceptions such as the belief that “a single trial cannot cause addiction” persist among youth, despite clinical data confirming that early exposure significantly increases the risk of dependency [6]. Social stigma and fear of legal repercussions further exacerbate the problem, discouraging individuals from seeking timely treatment [7,8].

Globally, awareness programs have been criticized for their limited effectiveness in engaging young populations, particularly in digital environments where peer influence dominates. Studies emphasize the importance of integrating lived experiences of recovered individuals, psychiatric support, and culturally relevant deterrents to

enhance credibility and impact [8,9]. Addressing these gaps requires a multidimensional approach that combines scientific literacy, clinical awareness, and social perception to foster resilience against substance misuse.

Our society is currently facing a rising tide of psychoactive substance proliferation, exacerbated by dangerous misconceptions that categorize medical sedatives (such as Lyrica and Tramadol) as “safer” alternatives to prohibited drugs. The lack of awareness that addiction can begin with a single trial, or that sudden cessation of use can be fatal, creates a fertile environment for the spread of this epidemic. Consequently, the problem lies not merely in the availability of drugs but in the pervasive health illiteracy regarding their inevitable consequences. This study primarily aims to assess and analyze the actual awareness among Libyan youth, moving beyond superficial information to evaluate their understanding of the scientific and clinical effects of psychoactive substances. More specifically, the research seeks to explore the relationship between educational background and the ability to identify the risks of prescription drug misuse, while also identifying the primary sources of information among youth. The ultimate goal is to provide a scientific roadmap for developing educational programs that address a fundamental question: To what extent do our youth realize that changes in brain chemistry may represent a one-way trajectory?

Methods

Study Design

In order to provide a realistic and vivid depiction of the current awareness levels among youth, a descriptive



cross-sectional study design was adopted. This specific design was selected for its effectiveness in analyzing prevalent knowledge and perceptions regarding psychoactive substances within a defined timeframe. This approach allows for the scientific identification of "knowledge gaps" within the community through an organized academic lens.

Study Setting, Duration, and Participants

The study was conducted over a two-week period in early 2026. Given the digital nature of modern social interaction, the research was implemented via an online platform, targeting a diverse group of young individuals across various social and academic circles. A total of 114 respondents participated in the study. The sample reflected a dynamic youthful demographic, with a notable female participation rate of 83.3%.

Participants were primarily concentrated within critical age groups: 18–21 years (41.2%) and 22–25 years (41.2%), while 71.1% were university students, providing a highly educated segment for the assessment of awareness.

Sampling and Study Instrument

A randomized sampling technique was applied through the distribution of a structured electronic survey consisting of 14 carefully designed questions. This instrument was not merely a set of inquiries, but a means to explore four strategic dimensions of awareness:

Classification Literacy: Questions (4 and 5) tested the ability to distinguish between prohibited substances and the misuse of medical sedatives such as Lyrica and Tramadol.

Scientific and Clinical Awareness: Questions (6, 7, 8, and 9) measured knowledge regarding alterations in brain chemistry, the myth of the "first-time trial," and the risks of fatality resulting from sudden cessation.

Social and Preventive Perception: Questions (10, 11, 12, 13, and 14) investigated information sources and legal/social barriers, such as stigma, that might preclude seeking treatment.

Analysis Variables: Questions (1, 2, and 3) provided the demographic baseline for correlation analysis.

Data Analysis

Data were processed to ensure precision, and quantitative analysis was performed using descriptive statistics (frequencies and percentages). To deepen the analysis, cross-tabulation was employed to correlate participants' educational levels with their ability to identify specific risks associated with psychoactive substances. This approach allowed the study to go beyond mere numbers to understand how academic backgrounds influence the actual perception of drug-related hazards.

Results

Table 1 illustrates the demographic distribution and educational levels of the study participants. The results indicate a clear dominance of female participants (83.3%). Furthermore, the data reveal a predominantly young sample, with 82.4% of respondents falling within the 18–25 age group. Regarding educational background, undergraduate students constitute the largest segment at 71.1%, followed by university graduates at 21.9%

Table 1. Socio-demographic distribution of the study participants (n=114).

Variable	Category	Frequency (n)	Percentage (%)
Gender	Female	95	83.3%
	Male	19	16.7%
Age Group	18-21 years	47	41.2%
	22-25 years	47	41.2%
	> 25 years	20	17.5%
Education	University Student	81	71.1%
	Graduate	25	21.9%
	High school /Other	8	7.0%

Figure 1 measures the participants' understanding of the scientific mechanisms through which psychoactive substances affect the brain, as well as their awareness of the risks associated with nonprescription medications (masked drugs). The results demonstrate a high level of scientific awareness among the sample; 87.7% of participants acknowledged that psychoactive substances cause functional changes in brain neurochemistry. In parallel, 78.1% agreed that over-the-counter (OTC) medications can indeed lead to addiction. These findings indicate a solid understanding of the risks associated with medication misuse and the physiological basis of dependency.

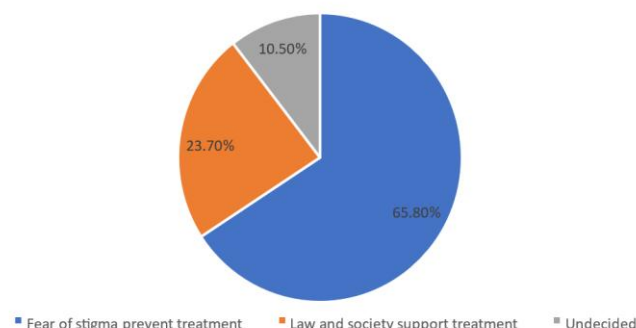


Figure 1: Participants' perceptions regarding legal and social accessibility to addiction treatment.

The data in Table 2 reveal that prescription medications ranked first as the most identified substances of abuse at 84.2%, surpassing cannabis. In contrast, awareness



regarding alcohol was notably lower, reaching only 50.9%. Regarding clinical implications, a vast majority (93.0%) acknowledged the risk of permanent psychological damage, while 71.9% recognized the life-threatening

danger of sudden withdrawal. However, a significant knowledge gap was observed; 45.6% of participants believed that addiction does not occur from a "single trial."

Table 2: Identification of substances and knowledge of clinical risks and withdrawal outcomes.

Variable	Substance or Question	Frequency (n)	Percentage (%)
Substance Classification	Prescription Drug (Lyrica / Tramadol)	96	84.2%
	Cannabis (Hashish)	90	78.9%
	Alcohol	58	78.9%
Clinical Awareness	Permanent Psychological Damage	106	78.9%
	Death due to Sudden Cessation	82	78.9%
	Addiction from a single Trial	62	78.9%

The findings in Table 3 reveal a significant dissatisfaction with current awareness programs, with 71.1% of respondents perceiving them as insufficient. This sentiment correlates directly with the identification of "peer pressure" as a leading driver for substance use (71.1%), highlighting a critical need for more engaging and youth-targeted prevention strategies. Furthermore, social and legal barriers remain a major concern; only 43.9% of participants believe that treatment can be sought without the risk of public scandal or legal pursuit. These results underscore the prevailing impact of social stigma on the recovery process and the urgent necessity for decriminalization and confidentiality in treatment pathways.

Table 3. Assessment of awareness effectiveness and social factors influencing substance use and treatment (n=114)

Social and Awareness Variables	Frequency (n)	Percentage (%)
Insufficiency of current awareness programs for youth	81	71.1%
Possibility of receiving treatment without legal or social stigma	50	43.9%
Peer pressure (bad company) as a primary catalyst for substance trial	81	71.1%

The qualitative analysis reveals a strong preference for "awareness through lived experience," with participants emphasizing the credibility of recovered individuals' narratives. Furthermore, the findings suggest a shift towards "Mental Health Awareness," proposing psychiatric support as a constructive alternative to the escapism provided by substances. Finally, the focus on "inevitable outcomes" (such as imprisonment and death) alongside religious deterrence emerged as core protective factors in the perspective of the youth.

Table 4: Thematic analysis of participants' suggestions regarding the most impactful awareness methods

Key Suggestion (Participant Quotes)	Thematic Axis (Derived from Open Responses)
"Bringing in recovered addicts to share their stories... youth only listen to those who have lived the experience."	Real-life Models & Authenticity
"Raising awareness about the importance of psychiatrists to treat depression as a healthy alternative to drugs."	Psychological & Medical Awareness
"Faith-based deterrence (fear of God) and focusing on the inevitable ends: prison and death."	Values-Based Deterrence & Consequences

Discussion

The findings of this study reveal both strengths and gaps in youth awareness regarding psychoactive substances. A notable proportion of participants demonstrated scientific literacy, recognizing the neurochemical alterations induced by psychoactive drugs and the addictive potential of prescription medications. This aligns with prior research indicating that young populations are increasingly aware of the physiological risks associated with substance misuse [10]. However, the persistence of misconceptions—such as the belief that addiction cannot occur from a single trial—underscores the need for targeted educational interventions [11].

The predominance of prescription drug misuse identified in this study reflects global trends, where tramadol and pregabalin have emerged as substances of concern due to their accessibility and perceived safety [12,13]. This highlights the necessity of integrating prescription drug awareness into prevention programs, which traditionally emphasize illicit substances such as cannabis and alcohol.



Social stigma and fear of legal repercussions were identified as major barriers to treatment-seeking behavior. These findings are consistent with evidence that stigma remains one of the most significant obstacles to recovery, often deterring individuals from accessing psychiatric or rehabilitation services [14]. Addressing stigma through community-based initiatives and policy reforms is therefore critical to improving treatment uptake.

Peer pressure was identified as a primary driver of substance initiation, echoing previous studies that emphasize the role of social networks in shaping youth behavior [15]. This suggests that prevention strategies must extend beyond individual awareness to encompass peer-group dynamics, leveraging peer-led interventions and lived experiences of recovered individuals to enhance credibility.

The dissatisfaction expressed with current awareness programs indicates a pressing need for innovative approaches. Digital platforms, narrative-based interventions, and culturally relevant deterrents—such as faith-based messaging—may offer more resonance with youth audiences [16,17]. Furthermore, integrating mental health awareness into substance prevention frameworks could provide healthier alternatives to escapism, addressing underlying psychological vulnerabilities that predispose youth to drug use [18]. Overall, the study underscores the importance of multidimensional prevention strategies that combine scientific education, stigma reduction, peer engagement, and mental health support. By bridging these gaps, awareness programs can evolve into more effective tools for safeguarding youth against psychoactive substance misuse.

Conclusion

The study concludes that youth awareness of psychoactive substances is characterized by "cognitive maturity" but lacks "preventive caution," particularly regarding the risk of sliding into addiction from the first trial. The study recommends shifting towards interactive awareness campaigns that integrate medical and psychological aspects while providing a treatment environment that guarantees confidentiality. This is essential to break the "fear of stigma" barrier revealed by the results, ensuring effective protection for this vital segment of society.

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