

Original Research

# Assessment of community pharmacists' knowledge, attitudes, and beliefs toward drug misuse and abuse in Jordan: A Cross-sectional study

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## Abstract

**Background:** Community pharmacists are often the first point of contact for patients seeking medications, positioning them as key stakeholders in addressing drug abuse and misuse. However, limited data exist on their readiness and perspectives in this area, particularly in Jordan. **Aims:** This study aimed to assess the knowledge, attitudes, and beliefs of community pharmacists regarding drug abuse, to identify potential pharmacy-based initiatives to address the issue, to examine the barriers they encounter, and to highlight opportunities for enhancing pharmacist-led interventions in controlling medication misuse. **Method:** A reliability-validated online survey was created and sent out through social media to the community pharmacists to fill out and gain the knowledge and practice about drug abuse and misuse. **Results:** Most pharmacists (90.7%) reported encountering cases of drug misuse in their workplace, with over half (51.9%) facing ten or more incidents. While some claimed to know the difference between "misuse" and "abuse," only a certain percentage had received formal training on the topic. Despite ethical concerns, 30.6% admitting to treat suspected abusers differently, most pharmacists (92.9%) recognized their preventive role and expressed high willingness (93.8%) to receive future training. Knowledge levels were generally moderate, but practical preparedness and confidence in regulatory frameworks varied. **Conclusion:** In conclusion, the research highlights the need to monitor prescription and distribution processes properly; Jordanian community pharmacists demonstrate a moderate awareness of drug abuse issues and a clear willingness to engage in prevention. However, gaps in training and inconsistent attitudes highlight the need for enhanced education.

**Keywords:** addiction, community pharmacist, drug abuse, misuse, pharmacy practice.

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## INTRODUCTION

Drug misuse and abuse represent growing public health concerns globally, with increasing trends observed not only in illicit drug use but also in the misuse of prescription and over-the-counter (OTC) medications<sup>1</sup>. Drug misuse has been described as the use of drugs in an incorrect manner for an extended duration and larger doses than are recommended, using unsafe approaches<sup>2</sup>. Abuse and misuse of drugs affect individuals of all ages, including children, adults, and the elderly. It is prevalent in both developed and developing countries and among the public, physicians, as well as medical students. Abuse and misuse encompass all types of drugs, such as prescribed, non-prescribed, in addition to restricted drugs<sup>3</sup>. Over-the-counter drugs such as antihistamines, cough remedies containing codeine or dextromethorphan, and decongestants are reportedly the most commonly misused<sup>4</sup>. Loperamide, and nonprescription opioid analgesics such as codeine and hydrocodone are among

the misused drugs<sup>5</sup>. In addition to analgesics, antipsychotics, antibiotics, and cardiovascular drugs, Khat chewing was reported to be abused and misused in the Yemeni community<sup>6</sup>.

These days, social media plays a vital role in marketing and distributing many trending medications, such as GLP-1 agonists (Ozempic<sup>®</sup>, Saxenda<sup>®</sup>, and Mounjaro<sup>®</sup>), melatonin supplements, Phentermine, and Bimatoprost. Ozempic<sup>®</sup> is arguably the most high-profile example of social-media-driven drug misuse, with off-label cosmetic use, unsupervised microdosing, and counterfeit forms being widely shared and normalized online<sup>7</sup>.

Several pharmacovigilance studies reported the misuse of certain antidiabetic drugs. Liraglutide was approved for the treatment of diabetes mellitus, but it was misused for other purposes, such as weight loss<sup>8</sup>. Bimatoprost is designed as an eyedrop for glaucoma, but it induces eyelash growth as a side effect. It has legitimate medical cosmetic use (Latisse<sup>®</sup>), but it is commonly misused off-label, carrying risks such as skin pigmentation changes, eye irritation, and orbital fat loss<sup>9</sup>.

In addition, the misuse and abuse of second-generation antipsychotic drugs (SGAPs) were reported by an analysis of international data. Several studies confirmed the misuse of SGAPs drugs such as quetiapine, olanzapine, and ziprasidone among men and women<sup>10</sup>.

Moreover, unconventional medications have emerged for abuse throughout the past several years, which include synthetic



cannabinoids, salvia, and bath salts. These medications are called designer drugs, which have a similar structure or psychoactive characteristic to existing substances<sup>11</sup>.

Drug abuse issues affect approximately 10% of the American population, with approximately one-third of them having alcohol abuse at some point in their lives<sup>12</sup>. Misuse of prescription drugs has become an increasingly common cause of death in the United States during the last 30 years, with 52 million Americans having misused or abused prescription drugs according to the report of the National Institute on Drug Abuse in 2011<sup>13</sup>.

According to the Centers for Disease Control and Prevention (CDC), an 11.4% increment in deaths from 2014 to 2015 was due to accidental overdosing of drugs, of which more than 60% was related to opioids, as well as the availability of heroin in the United States between 2007-2014 increased its abuse<sup>14</sup>.

A variety of undesirable social situations are linked to drug abuse, including family issues, financial problems, loss of productivity, failure in college, and harm to children. It is associated with several adverse health effects involving sexually transmitted diseases, pregnancy problems, suicide, residential harm, human immunodeficiency virus, and injuries<sup>15</sup>. Also, the abuse of drugs has many oral health issues, such as severe caries, gum diseases, poor dental hygiene, as well as general malnutrition<sup>16</sup>.

In Jordan, as in many countries, community pharmacists are uniquely positioned at the front line of healthcare, offering accessible medication counseling and playing a critical role in monitoring and preventing drug misuse. However, the extent of their knowledge, attitudes, and beliefs concerning this issue remains underexplored.

Pharmacists play a vital role in addressing drug-related issues. By 2023, most of the pharmacy services could be delivered through community pharmacies, where pharmacists apply their expertise to enhance patient safety. Their specialized knowledge enables them to ensure the safe and effective use of medications, which is essential in patient care due to the complexity and risks associated with drug misuse. They are instrumental in preventing adverse events and addressing improper pain management by detecting issues early, monitoring prescriptions, and educating patients about the dangers of drug misuse<sup>17</sup>.

Pharmacy technicians collaborating alongside pharmacists can help reduce prescription drug abuse. They assist by handling prescriptions, entering patient information, and ensuring the accurate delivery of medications at the checkout counter, promoting safe and responsible medication use<sup>18</sup>.

The main objective of the study was to assess the knowledge, attitudes, and beliefs of community pharmacists in Jordan regarding medication misuse and to identify potential pharmacy-based initiatives to address this issue. To the best of our knowledge, this is the first study conducted to explore the role of community pharmacists in Jordan in preventing drug abuse and misuse. It also examines the barriers they encounter and highlights opportunities for enhancing pharmacist-led interventions in controlling medication misuse.

## METHOD

### Study Design and Participants

A cross-sectional study was undertaken on community pharmacists from all governorates of Jordan from November 2024 to January 2025. Google Form, developed and owned by Google (Menlo Park, CA, USA), was created and disseminated as an online survey. Furthermore, all individuals who took part in the research did so voluntarily. The poll was enhanced to reach a wider range of pharmacists using social media channels such as Facebook and WhatsApp.

### Inclusion and Exclusion criteria

The study included only the licensed pharmacists who are currently practicing in community pharmacies, and excluded pharmacy students as well as other pharmacists who are working in hospital or non-community settings.

### Sample Size

According to statistics from the Jordan Pharmacists Association, there are over 32727 licensed pharmacists in Jordan<sup>7</sup>. The Raosoft online sample size calculator<sup>19-21</sup> was used to establish a minimum representative sample size of 96, with a 10% error margin, a 95% confidence interval, and a 50% response distribution.

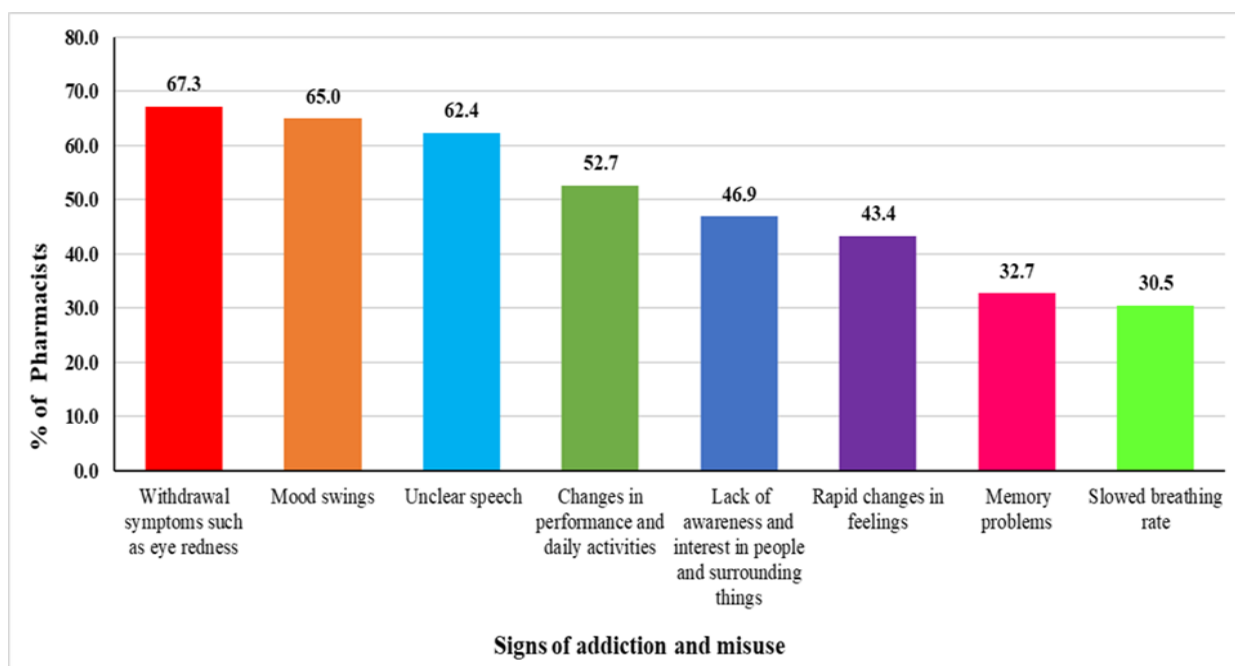
### Questionnaire

A validated, anonymous, self-administered questionnaire was adapted and modified from previous studies to be suitable for Jordan<sup>22-23</sup>. It was translated into Arabic and then back-translated into English to ensure accuracy. Additionally, two academics specializing in pharmaceutical sciences and clinical pharmacy assessed the questionnaire for face validity.

Cronbach's alpha was calculated for the awareness and attitude items to assess the internal consistency of the survey. Cronbach's alpha was 0.75 for the awareness domain and 0.70 for the attitude domain, indicating acceptable to good internal consistency of the questionnaire.

The survey consisted of 33 questions, structured into an introductory section and five main sections. The introduction outlined the study's objectives and reassured participants about data confidentiality. The first section collected demographic information, while the second





**Figure 1:** Signs and Symptoms of Drug Abuse and Misuse

one focused on participants' experiences with drug abuse and misuse among customers. The third section explored the knowledge of community pharmacists, their attitudes, and beliefs concerning drug abuse and misuse. The fourth addressed strategies employed by community pharmacists to mitigate drug abuse and misuse in pharmacies. Finally, the fifth section gathered community pharmacists' perspectives on existing approaches to reduce drug misuse and abuse.

### Ethical Considerations

The research followed all ethical requirements and was authorized by the Ethical Review Committee (IRB) of Al-Balqa Applied University (2379/2/3/26). The online survey included an informed consent form and emphasized voluntary participation. The privacy of all information gathered was guaranteed.

### Statistical analysis

Data collected from the online survey were entered into Microsoft Excel and then imported into the Statistical Package for Social Sciences (SPSS) version 22 (SPSS Inc., Chicago, IL, USA). Descriptive analysis was conducted using means and standard deviations (SD) for continuous variables, and percentages for categorical variables. The normality of the data was assessed using the Shapiro-Wilk test, with a p-value of less than 0.05 indicating that the continuous variables were normally distributed. Differences between the various groups were evaluated using the Chi-square test, and a p-value of less than 0.05 was considered statistically significant.

## RESULTS

### Sociodemographic Characteristics of the Study Participants

A total of 226 pharmacists participated in the study, with a female-to-male ratio of 74.3% to 25.7%. The average age of participants was  $34.96 \pm 12.4$  years. Among participating pharmacists, 53.1% had a bachelor's degree in pharmacy, and 9.3% had postgraduate degrees. Almost half of the participants who responded to the survey resided in Jordan's north. The average experience of participants as community pharmacists was  $5.55 \pm 1.50$  years (Table 1).

### Pharmacists' Knowledge, Perspectives, and Beliefs on Drug Misuse and Abuse

Of all participants, more than half identified the signs and symptoms of drug abuse, including withdrawal symptoms (67.3%), mood swings (65%), unclear speech (62.4%), and changes in performance and daily activities (52.7%) (See Figure 1).

Almost all participants (92.9%) believe that community pharmacists play a crucial role in preventing drug misuse and abuse, and 77.4% reported that they are prepared to advise people suspected of misusing or abusing drugs, either written or verbally, about the risks or ways to address the risks of their behavior. Among all participants, 81.9% viewed selling controlled drugs that can be abused as unethical. However, more than half (60.2%) perceived dispensing controlled drugs without a prescription as a significant financial source for the pharmacy (Table 2).



**Table 1. Socio-Demographic Characteristics of Participants (N=226)**

Parameter	Mean (±SD)	N (%)
<b>Age in years</b>	34.96 ± 12.45	
§ 20-30		117 (51.8%)
§ 31-40		38 (16.8%)
§ 41-50		47 (20.8%)
§ > 50		24 (10.6%)
<b>Gender</b>		
§ Female		168 (74.3%)
§ Male		58 (25.7%)
<b>Education level</b>		
§ Diploma		51 (22.6%)
§ Bachelor Pharmacy		120 (53.1%)
§ Bachelor Pharm D		34 (15.0%)
§ Postgraduate		21 (9.3%)
<b>Workplace</b>		
§ Middle area		83 (36.7%)
§ North area		116 (51.3%)
§ South area		27 (11.9%)
<b>Nature of position in pharmacy</b>		
§ Pharmacist assistant		57 (25.2%)
§ Staff pharmacist		142 (62.8%)
§ Pharmacy owner		27 (12.0%)
<b>Nationality</b>		
§ Jordanian		220 (97.3%)
§ Non-Jordanian		6 (2.7%)
<b>Experience as community pharmacists (years)</b>	5.55 ± 1.50	

**Experience, observations, and perceptions of pharmacists regarding drug abuse and misuse**

When the participating pharmacists were asked about their experience regarding drug abuse and misuse, the majority (90.7%) reported encountering persons in their workplace who were abusing or misusing medications. The vast majority (93.4%) knew the difference between drug abuse and misuse. Although half of the participants received either courses or training on drug abuse and misuse, the majority (93.8%) desire to receive training in the future regarding drug abuse and misuse. Table 3 displays the participants' experience, observations, and perceptions about drug abuse.

**Approaches used by participants for the reduction of abuse and misuse of drugs in community pharmacies**

As explained in Table 4, 99.6% of participants advise drug misusers and abusers about the expected side effects of certain drugs, and 95.6% recommend safer alternatives. In the section that asked about the views of pharmacists on approaches utilized to reduce drug abuse, more than three-quarters of responders agreed that all pharmacy staff should be trained in how to recognize drug abusers, how to deal with them, as well as to know the drugs liable to abuse and misuse. In addition, the participants agreed strongly that all suspected abusers and misusers should be referred to a doctor Table 5.

Interestingly, the younger (< 30 years) and the responsible pharmacists are more likely they are to believe that pharmaceutical legislation and the level of drug control enforced by governmental authorities are sufficient in reducing the misuse of medications and preventing their abuse (p < 0.027, p < 0.001, respectively).

Moreover, the new responsible pharmacists (with less than 5 years of experience) noticed more than experienced pharmacists that they encountered patients in their workplace who are taking medications or abusing prescribed medications (p < 0.001) and believe that dispensing of controlled medications should be via a pharmacy rather than a central clinic (p < 0.022). For more correlation between participants' characteristics, observations, practices, and advice regarding misuse and abuse Table 6.

**DISCUSSION**

To our knowledge, this is the first study in Jordan to evaluate the knowledge, attitudes, and beliefs of community pharmacists toward drug abuse and misuse. The study was conducted because community pharmacists play a vital role in addressing drug abuse and misuse.

The findings highlight a moderate level of awareness among community pharmacists regarding drug misuse in Jordan. While pharmacists generally acknowledged their ethical and professional role in curbing misuse, their actions were often limited by a lack of confidence, training, and institutional support.

These findings align with similar studies in neighboring countries, where community pharmacists face increasing pressure to balance patient access with misuse prevention in the absence of clear guidelines or collaborative support systems.

This study reported that community pharmacists are knowledgeable about the differences between drug abuse and misuse, their symptoms, and signs. Although the participants reported receiving courses and training about drug abuse and misuse, they prefer to take additional



<b>Table 2.</b> The participants' Knowledge, Attitudes, and Beliefs regarding Drug Abuse and Misuse (N=226)								
<b>Variables</b>		<b>Scale responses</b>					<b>Statistical Significance</b>	
<b>(Statements of questionnaire)</b>		<b>Strongly agree</b>	<b>Agree</b>	<b>Uncertain</b>	<b>Disagree</b>	<b>Strongly disagree</b>	<b>Mean ± SD</b>	<b>% Correct Answer*</b>
1.Community pharmacists play a vital role in preventing drug abuse and misuse	N	116	94	7	6	3	4.39 ± 0.79	92.9
	%	51.3	41.6	3.1	2.7	1.3		
2.It is appropriate to advise people suspected of misusing medicines (in writing or verbally) at the pharmacy about the risks or how to address the risks of their behavior	N	87	99	11	21	8	4.04 ± 1.06	82.3
	%	38.5	43.8	4.9	9.3	3.5		
3.I am prepared to advise people suspected of using drugs (in writing or verbally) about the risks or ways to address the risks of their behavior	N	71	104	27	17	7	3.95 ± 1.01	77.4
	%	31.4	46	11.9	7.5	3.1		
4.Controlled medications should be dispensed through a pharmacy not a central clinic	N	45	62	22	53	44	3.05 ± 1.45	**43
	%	19.9	27.4	9.7	23.5	19.5		
5.It is unethical to sell controlled drugs that can be abused	N	101	84	12	22	7	4.11 ± 1.08	81.9
	%	44.7	37.2	5.3	9.7	3.1		
6.Dispensing controlled drugs without a prescription is an important source of money for the pharmacy	N	27	40	23	58	78	2.47 ± 1.42	60.2
	%	11.9	17.7	10.2	25.7	34.5		
7.I treat a suspicious drug abuser in the same manner I do with other clients	N	73	59	25	18	51	2.65 ± 1.30	**30.6
	%	32.3	26.1	11.1	8	22.6		
8.Pharmaceutical legislation and the level of drug control by official authorities are enough to reduce the misuse of medications and to prevent their abuse.	N	18	59	25	73	51	4.49 ± 1.04	34.1
	%	8	26.1	11.1	32.3	22.6		
9.I believe that control procedures for monitored drugs help prevent the abuse and misuse of these drugs.	N	129	9	24	41	23	4.47 ± 1.15	61.1
	%	57.1	4	10.6	18.1	10.2		

% correct answer \*, % Strongly agree + % agree, \*\* % strongly disagree + % disagree.



training in the future.

Incorporation of courses regarding abuse and misuse of drugs within pharmacy curriculum will improve knowledge, skills, and attitudes of pharmacists toward drug abusers<sup>22</sup>.

The findings from this study indicated that approximately 82% of responders believed that selling controlled drugs liable to abuse is unethical. Despite that, one-third of participants agreed that dispensing controlled drugs liable to abuse is an important financial source for pharmacies. Close and similar results were reported in a previous study by M. Mobrad et al<sup>22</sup>.

Although this finding may shed light on an ethical issue that community pharmacists may raise through managing their business alongside providing healthcare services, the law of drug and pharmacy practice in Jordan, which includes visits of community pharmacies by inspectors from the Ministry of Health to check the prescriptions of certain drugs that should be kept in special records, decreases the opportunity of selling these products<sup>23</sup>.

These ethical issues may be reduced by pharmacists' understanding of pharmacy ethics through continuing education courses and training, which expand their knowledge in pharmaceutical ethics,<sup>24</sup> as well as controlling the dispensing patterns and placement of prescription restrictions according to the physician's specialities and licence categories<sup>25</sup>.

Regarding the strategies used by participating pharmacists in the study to prevent drug abuse and misuse, the findings were similar to those reported in previous studies, where most community pharmacists stated that they counsel drug abusers about the potential adverse effects of medications prone to abuse and suggest alternatives<sup>22-23</sup>. These results emphasize the role of pharmacists and their responsibilities in reducing harm caused by drug misuse. Pharmacists are among the most accessible healthcare providers; they frequently interact with patients. This helps improve the assessment and management of drug misuse<sup>26</sup>.

There are many studies conducted on specific medications to determine the extent of their abuse and misuse. For example, a study by Wazaify. et al. (2014) updated a national survey, revealing that community pharmacists identified 727 OTC and 372 prescription items suspected of misuse. Notable additions included ophthalmic drops (13.4%) and pregabalin (Lyrica) (6.5%). This marked a shift from earlier years and suggested evolving misuse trends<sup>27</sup>.

In 2015, a study was done by Almaaytah. et al. that simulated patient visits to Jordanian pharmacies found that 74.3% of patients dispensed antibiotics without a prescription, even for viral symptoms such as the common cold. Only 16.7%

of patients were provided with correct treatment durations or education about antibiotics, and almost none suggested consulting a doctor<sup>28</sup>.

Also, the study done by Al-Husseini. et al (2017) conducted a qualitative study in Jordanian addiction centers involving male patients (ages 21–30) found widespread pregabalin misuse, often linked with tramadol, Captagon, synthetic cannabinoids, and marijuana. Key issues included dependence, withdrawal, and non-prescribed sourcing from pharmacies. An observational survey in Amman (2016–2017) noted frequent pharmacy (45.5%) requests for pregabalin without prescriptions, with only partial pharmacist refusal to supply<sup>29</sup>.

Between 2016 and 2017, a study of 16 pharmacies in Amman recorded 140 requests for eye drops, 14.6% of which were suspected to be for non-medical purposes (e.g., psychoactive effects), according to Al-Khalayleh et al. (2019). Many of the requests were for anticholinergic drops such as Pentolite®, and while 84.2% of these requests were without a prescription, pharmacists refused to sell them in only 63% of cases<sup>30</sup>.

In a 2024 cross-sectional survey of 209 community pharmacists, 72.7% were asked to dispense gabapentin without a prescription, and 75.7% encountered individuals suspected of misusing it, according to Abu Farha et al. (2024). Pharmacists observed behaviors such as frequent refill requests and inconsistent medical records. Most believed that gabapentin misuse was increasing and expressed strong support for additional training<sup>31</sup>.

Al-Shawabkeh (2024) conducted a study in Jordan on 395 pharmacists to assess their awareness of Liraglutide injections and their practice in providing counseling regarding obesity and its side effects. The study revealed that many pharmacists (62.3%) agreed to dispense the medication without a prescription and were unaware of the risks and side effects associated with Liraglutide injections<sup>7</sup>.

In 2025, Al-Shawabkeh. et al. conducted a study in Jordan of 350 pharmacists. The most common form of prescribing and dispensing melatonin supplements was sublingual 5 mg, without a prescription. However, the study revealed that many pharmacists who dispense melatonin supplements believe they are safe and are unaware of their side effects, and there is abuse of this drug<sup>32</sup>.

Many of the studies mentioned above highlight the need for strict monitoring of prescribing and dispensing practices to prevent misuse and educational gaps in many medications. There is an urgent need for structured educational programs, national reporting systems, and pharmacy-specific legislation to enable pharmacists to play an effective role in preventing misuse. Also, the community pharmacists need to collaborate strongly with healthcare professionals to facilitate the chance of working together to provide the best healthcare services and to reduce the harm to the patients<sup>33-34</sup>.



**Table 3.** Experience, observations, and perceptions of pharmacists regarding drug abuse and misuse (N=226)

Questions	N (%)
Have you ever encountered patients in your workplace who are taking medications or abusing prescribed medications?	
•Yes	205 (90.7%)
•No	21(9.3%)
How many times have you encountered cases of drug use and misuse in your workplace?	
• 0	26 (11.5%)
• 1-3	33 (14.6%)
• 4-6	46 (20.4%)
• 7-9	6 (2.7%)
• 10 or more	115 (51.9%)
Has anyone contacted you to take medications, or have you had any doubts regarding the method of dispensing some types of medications?	
•Yes	167 (73.9%)
•No	59 (26.1%)
Can you identify the difference between the terms "drug abuse" and "drug misuse"?	
•Yes	211 (93.4%)
•No	15 (6.6%)
Did you take any courses on drug abuse or misuse during your studies?	
•Yes	126 (55.8%)
•No	104 (44.2%)
Have you ever received training about drug abuse or misuse?	
•Yes	118 (52.2%)
•No	108 (47.8%)
In the future, do you like to obtain training on drug misuse?	
•Yes	212 (93.8%)
•No	14 (6.2%)

**Table 4.** Participants' Approaches of reduction misuse and abuse of drugs in community Pharmacy (N=226)

Questions	N (%)
Counsel patients about the anticipated adverse side effects related to certain medications	
•Yes	225 (99.6%)
•No	1 (0.4%)
Recommend safer alternatives to the medication of abuse	
•Yes	216 (95.65%)
•No	10 (4.4%)
I contacted nearby pharmacies to report a person suspected of taking medications	
•Yes	160 (70.8%)
•No	66 (29.2%)

This study has several limitations. Because of its cross-sectional design and questionnaire-based study, the self-reported data from responders may be subject to potential biases, such as recall bias. The small sample size may affect the generalizability of findings.

### Recommendations

Different procedures in different aspects are recommended to be taken into consideration for the control of drug misuse and abuse:

- Education: drug misuse prevention modules may be integrated into pharmacy education curricula, as well as offering continuing education and practical workshops on identifying and managing substance abuse.
- Policies/Regulations: national guidelines and protocols may be developed for managing suspected drug misuse in pharmacies. In addition to establishing secure and anonymous reporting systems for suspicious cases.
- Collaboration: Foster collaboration between pharmacists, physicians, and regulatory settings regarding addiction services.

### CONCLUSION

In conclusion, community pharmacists have moderate knowledge and positive attitudes toward drug abuse and misuse. The findings of this study provide insightful information to assist in the development and implementation of strategies to address drug misuse, use, and abuse in Jordan. Educational interventions should focus on filling the gap among community pharmacists in knowledge, attitudes, and beliefs. Community



**Table 5.** Views of participants regarding approaches utilized to reduce drug abuse and misuse (N=226)

Variables		Scale responses					Statistical Significance	
		Strongly agree	Agree	Uncertain	Disagree	Strongly disagree	Mean ± SD	% correct answer*
1.All pharmacy staff should be trained to recognize drug abusers	N	179	9	15	11	12	3.80±1.51	83
	%	79.2	4	6.6	4.9	5.3		
2.All employees must be trained in how to deal with drug abusers	N	209	9	4	0	4	4.85±0.61	96.4
	%	92.5	4	1.8	0	1.8		
3.All employees must be informed of medications that are subject to abuse	N	211	10	3	0	2	4.89±0.48	97.8
	%	93.4	4.4	1.3	0	0.9		
4.All people suspected of misusing medications should be referred to a doctor	N	214	6	1	2	3	4.88±0.57	97.4
	%	94.7	2.7	0.4	0.9	1.3		

% correct answer \*, % Strongly agree + % agree.

**Table 6.** Correlation between participants' characteristics, observations, practices, and advice regarding drug abuse and misuse

Statement	Gender	Age	Education level	Pharmacy location	position in pharmacy	Experience as pharmacists	Nationality
	p- value						
1.Dispensing controlled drugs without a prescription is an important source of money for the pharmacy	0.39	0.42	<b>0.024</b>	0.22	<b>0.002</b>	<b>0.001</b>	0.48
2.It is unethical to sell controlled drugs that can be abused	0.39	0.07	0.18	0.54	0.83	0.09	<b>0.011</b>
3.I treat a suspected drug abuser in the same manner I deal with other clients	0.14	0.31	0.027	0.14	0.15	0.49	0.93

4. Pharmaceutical legislation and the level of drug control by official authorities are sufficient to reduce the misuse of medications and to prevent their abuse.	0.18	<b>0.027</b>	<b>0.006</b>	<b>0.01</b>	<b>0.001</b>	<b>0.03</b>	0.94
5. Controlled medications should be dispensed through a pharmacy not a central clinic	0.06	0.36	0.07	0.84	<b>0.009</b>	<b>0.022</b>	0.34
6. Have you ever encountered patients in your workplace who are taking medications or abusing prescribed medications?	0.21	0.24	0.86	0.07	0.33	<b>0.001</b>	0.43
7. Has anyone contacted you to take medications, or have you had any doubts regarding the method of dispensing some types of medications?	0.08	0.59	0.25	0.86	0.25	0.019	0.14
8. All staff of pharmacy should be trained to recognize drug abusers	0.69	0.49	0.83	0.44	0.29	<b>0.04</b>	0.77
9. Can you identify the difference between the terms "drug abuse" and "drug addiction"?	0.25	0.54	0.32	<b>0.012</b>	0.71	0.59	0.51
10. All employees must be informed of medications that are subject to abuse	0.63	0.85	0.72	<b>0.02</b>	0.94	0.09	0.93
11. Community pharmacists play a vital role in preventing drug abuse and misuse	0.49	0.81	0.57	0.93	<b>0.001</b>	0.75	<b>0.008</b>
* Based on chi-square calculation. ** Statistically significant differences between gender (p = 0.05).							

pharmacists play a vital role as healthcare providers; their responsibility is beyond the prescription toward addressing and controlling drug abuse & misuse. This study provides basic data that directs researchers to assess the influence of pharmacists on addressing drug misuse and abuse.

## CONFLICT OF INTEREST

The authors declared no conflict of interest.

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