

# Perception, experience, and practice of Iraqi community pharmacists towards customers with substance use disorder

SAGE Open Medicine

Volume 12: 1–8

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DOI: 10.1177/20503121241275472

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## Abstract

**Background:** Pharmacists are healthcare professionals who frequently encounter individuals struggling with addiction in their day-to-day practice. Studies critique pharmacists' competence in the detection, prevention, and management of substance use disorder.

**Objective:** This study aimed to get in-depth information about the perception, experience, and practice of Iraqi pharmacists towards substance use disorder.

**Methods:** A qualitative-study was performed through face-to-face individual-based interviews with community pharmacists in Baghdad/Iraq. Interviews were conducted from July 2023 till the saturation point (September 2023). Data analyzed by thematic-analysis approach.

**Results:** Interviews were conducted with 21 pharmacists. Most participants reported that substance use disorder is common among young males. Pregabalin is the most commonly requested drug. Availability, euphoric-effect, and low cost are the main reasons for favoring a drug by persons with substance use disorder. Moreover, poverty and social problems are the main reasons for substance use disorder. Drug intoxication signs are the main clues in recognizing substance use disorder. Most participants refuse dispensing drugs without prescription and reported that the barriers for implementing regulations on drugs with high potential for dependence are related to the limited follow-up to pharmacists, presence of outsiders, and fear from reactions of persons with substance use disorder. Pharmaceutical services to persons with substance use disorder were performed by few pharmacists and limited to patient education about the risks of misusing drugs. Most participants reported that enhancing pharmacists' competence in substance use disorder is necessary.

**Conclusion:** Substance use disorder is common among young Iraqi males. Pregabalin is a commonly requested drug. The current Iraqi regulations are not sufficient to prevent substance use disorder. Pharmaceutical services to persons with substance use disorder are weak and limited to patient education. Enhancing pharmacists' knowledge through educational courses is necessary to improve their role in facing substance use disorder.

## Keywords

Substance use disorder, pharmacists, Iraq

Date received: 18 May 2024; accepted: 30 July 2024

## Introduction

Substance use disorder (SUD) is a significant health concern that causes adverse health consequences and elevates the economic burden on the healthcare system.<sup>1</sup> It is thus an important issue for public health worldwide. Available data propose that the number of people who use drugs increased globally by 30% from 2009 to 2017.<sup>2</sup> Using drugs with a high potential for dependence (DHPD) nonmedically is a common noxious behavior that causes the expansion of

SUD.<sup>1</sup> Many studies found an increase in SUD in Iraq, especially in Baghdad, through the use of diverted prescription

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drugs such as benzhexol, tramadol, benzodiazepines, and codeine.<sup>3-6</sup> Indeed, most of the prescription-only medications can be purchased easily from Iraqi pharmacies without a prescription.<sup>7</sup> By far the most crucial factor leading to this problem is the weakness of the pharmaceutical system in Iraq, besides, the lack of governmental control over sources of sale and distribution of medications.<sup>8</sup> In addition, there is widespread medication supply leakage from health centers and hospitals, especially of analgesics, hypnotics, and narcotics. Furthermore, illegal sales of medicines by unqualified persons also occur in the street.<sup>5</sup> Pharmacists, specifically community pharmacists are the most accessible healthcare professionals who encounter individuals struggling with addiction in their day-to-day practice.<sup>9-12</sup> Therefore, community pharmacists need to have the ability to recognize customers with SUD.<sup>1</sup> On the other hand, community pharmacists are well positioned to help detect, prevent, and treat SUD, and thus should prepare themselves to perform these functions.<sup>9</sup> However, some studies conducted in both developed and developing countries critique the pharmacists' competence in conducting these functions.<sup>2,11</sup> In Iraq, pharmacists are allowed to manage minor ailments, while prescribing medications for patients with serious diseases such as SUD is forbidden; yet, pharmacists can play an important role in the management of these diseases by referring cases with alarming features to the physician,<sup>13</sup> helping physicians in choosing appropriate treatment, and educating patients about their prescribed treatment.<sup>14</sup> To the best of our knowledge, no previous studies assessed the real role of Iraqi community pharmacists in the recognition, prevention, and treatment of SUD. Therefore, the current study aimed to get in-depth information about the perceptions, experience, and practice of Iraqi community pharmacists toward SUD and persons with SUD (PSUD); such a deeper insight aim necessitates conducting the study with a qualitative design.<sup>15</sup>

## Methods

### Study design

A qualitative study with content analysis approach was performed through face-to-face individual-based interviews with community pharmacists to get an in-depth understanding of their perception, experience, and practice toward SUD.

The interview was guided by semistructured open-ended questions. The interview guideline (Supplemental material, Appendix A) was prepared based on previous literature.<sup>1,2,4,11,12</sup> Probes were used to elicit further comments when necessary. The interview guide was prepared by study authors and validated by three academic pharmacists with PhD degree in Clinical Pharmacy and good experience in conducting qualitative studies.

The current study was ethically approved by the ethical committee at the College of Pharmacy/University of Baghdad (approval number RECAUBCP2620236). The ethical committee accepted waiving written informed consent

due to cultural issues and the potential fear of signing documents by most Iraqi individuals. Thus, it was requested that the authors obtain verbal informed consent from study participants.

### Setting and participant recruitment method

The study sample included pharmacists working in community pharmacies in Baghdad, Iraq. A combination of purposive and convenience strategies was used to enroll the participants in this study.<sup>16</sup> The recruitment strategy was based on the participant's gender (aiming to include both male and female pharmacists) and pharmacy location (aiming to include pharmacists working on both sides of Baghdad Al-Karkh and Al-Rusafa) to get information from different perspectives. Participants with at least 1 year of working experience in community pharmacies were considered eligible to participate in this study. Eligible participants (22 pharmacists) were informed about the study and only those who gave their verbal informed consent (21 pharmacists; 1 pharmacist refused to participate due to the need for audio recording) were enrolled in this study (response rate 95.5%). Those who consented to participate were allowed to choose the date and time of the interview according to their busy schedule. All participants were interviewed in their pharmacies after ensuring no other persons were nearby.

### Data collection

The interviews were conducted in Arabic by the last author (A female instructor at the College of Pharmacy/University of Baghdad with a Bachelor's in pharmaceutical sciences) after being trained in conducting interviews. The interviews were translated into English by the first author (PhD in Clinical Pharmacy). The whole interview was audio-recorded. Each interview took approximately 15 to 30 min. Interviews were conducted till reaching the point of saturation (the point at which it appeared there would be no new information). To reach this point, the study needs about 2 months to be completed from July to September 2023.

All interviews were coded manually and used for the qualitative data sorting. Codes were grouped to generate themes. The coding procedure was established by the first study author and started with a thorough reading of each interview transcript.

### Thematic analysis

Unlike the statistical analyses of quantitative data, the thematic analysis relies on participants' quotes, codes, and themes instead of numbers. The first author generated themes and subthemes from the participants' responses. The first author (expert in qualitative studies) followed Braun and Clarke's six steps for thematic analysis. These steps include getting to know the comments, generating codes, searching

**Table 1.** Demographic characteristics of study participants.

Variables	Frequency (%)
Age	
25–34 Years	18 (85.7)
35–44 Years	1 (4.8)
45–54 Years	2 (9.5)
Gender	
Male	7 (33.3)
Female	14 (66.7)
Working experience	
1–5 Years	15 (71.4)
6–10 Years	4 (19.1)
More than 10 years	2 (9.5)
Location of pharmacy	
Al-Karkh	10 (47.6)
Al-Rusafa	11 (52.4)

for themes, assessing themes, defining and labeling themes, and finally writing the results.<sup>17</sup>

## Results

This study involved in-depth interviews with 21 community pharmacists. Fourteen of the participating pharmacists were females, and seven were males. Participants' age ranged from 25 to 54 years and their working experience ranged from 1.5 to 25 years. Eleven participants were working in community pharmacies located in Baghdad Al-Rusafa (East of the Tigris River) and 10 were working in Baghdad Al-Karkh region (West of the Tigris River) (Table 1). Three general themes were generated from study codes; these are (1) pattern of SUD, which focuses on patterns and cues of SUD; (2) DHPD, which provides insights on the commonly requested DHPD and the reasons for favoring such drugs, besides current regulation on these drugs; and (3) pharmacists' role in the diagnosis, prevention, and management of SUD, which shed light on the current practices of pharmacists and ways to improve them in facing SUD. The themes generated in this study are shown in Table 2.

### Patterns of SUD

Based on the answers of the study participants, "Patterns of SUD" was selected as a title for this theme. The details in this theme can provide an overview for readers about the most common individuals who struggle with SUD and the reasons for SUD.

### Most common individuals who struggle with SUD

All participating pharmacists ( $n=21$ ) reported that males are the most common customers who request DHPD. Most pharmacists ( $n=16$ ) reported that DHPD are mostly requested by

young adults. Two pharmacists mentioned that the request for DHPD is more common among adolescent customers, whereas other pharmacists found that the request for such drugs is more common among middle-aged persons ( $n=2$ ), or the elderly ( $n=1$ ). On the other hand, seven pharmacists reported that customers with certain jobs such as taxi driver ( $n=3$ ), policeman ( $n=2$ ), or soldier ( $n=2$ ) are the most likely ones requesting DHPD:

Most persons who request DHPD are young poorly educated males who work as Tuk Tuk drivers may be because the SUD is very common in their community. (Female, 28 years, with 5 years of experience)

The majority of customers requesting DHPD are males in their middle age. Most of them are soldiers. They try to force us to dispense the drug by showing us their ID and their military uniform. (Female, 25 years, with 2 years of experience)

### Reasons for developing SUD

Poverty ( $n=15$ ), being not married ( $n=10$ ), having social problems ( $n=5$ ), having bad friends ( $n=4$ ), having a low educational level ( $n=4$ ); being not employed ( $n=2$ ); religious beliefs of some persons who consider alcohol to be forbidden while drugs are not ( $n=2$ ) are the main perceived reasons that reported by participating pharmacists for developing SUD by pharmacy customers:

Poverty and limited education, besides social problems are the main reasons for SUD. In addition, bad friends especially among adolescent males are another reason for enhancing SUD. (Female, 25 years, with 2 years of experience)

Most PSUD are singles. The religious beliefs play an important role because most PSUD believe that alcohol is forbidden but drugs are not. (Female, 26 years, with 2 years of experience)

### Drugs with high potential for dependence

Based on the questions of the interview guide and answers of the study participants, "drugs with high potential for dependence" was selected as a title for this theme. This theme can complement the details in the first theme (patterns of SUD) by focusing on the commonly requested DHPD by PSUD, the reasons for favoring a specific drug, the frequency of requesting such drugs, and the current regulations regarding DHPD.

### Commonly requested DHPD

Regarding the most commonly requested DHPD, anticonvulsants were reported by 18 pharmacists: Pregabalin ( $n=16$ ); Gabapentin ( $n=5$ ); and/or Carbamazepine ( $n=1$ ), benzodiazepines by 11 pharmacists (diazepam ( $n=4$ );

**Table 2.** The study themes.

Theme	Subtheme
Pattern of SUD	Most common individuals who struggle with SUD
DHPD	Reasons for developing SUD
	Commonly requested DHPD
Pharmacists' role in the diagnosis, prevention, and management of SUD	Reasons for favoring a specific drug
	Frequency of requesting DHPD
	The current regulations regarding DHPD
	Clues to detect PSUD
	Dealing with customers requesting DHPD
	Pharmaceutical services provided to PSUD
	Recommendations to improve pharmacists' role in facing SUD

DHPD, drugs with high potential for dependence; PSUD, persons with substance use disorder; SUD, substance use disorder.

alprazolam ( $n=4$ ); lorazepam ( $n=2$ ); and clobazam ( $n=1$ ), codeine-containing products by 12 pharmacists (Pulmocidin<sup>®</sup> ( $n=9$ ); Tussiram<sup>®</sup> ( $n=1$ ), Cocodamol<sup>®</sup> ( $n=1$ ); and Algesic<sup>®</sup> ( $n=1$ )), diphenhydramine by 7 pharmacists, and other products by 7 pharmacists (procyclidine ( $n=2$ ); dextromethorphan ( $n=1$ ); tramadol ( $n=1$ ); nefopam ( $n=1$ ); Denaxit<sup>®</sup> ( $n=1$ ); and zolmitriptan ( $n=1$ );

The most commonly requested drugs for use among PSUD are Lyrica<sup>®</sup> and Pulmocodin syrup<sup>®</sup>. (Female, 25 years, with 2 years of experience)

Lyrica<sup>®</sup> and Valium<sup>®</sup> are the most commonly requested drugs by PSUD. (Female, 30 years, with 5 years of experience)

### Reasons for favoring a specific drug

The availability of the product ( $n=13$ ), its high euphoric effect ( $n=13$ ), low cost ( $n=12$ ); low risk of side effects ( $n=8$ ), sedating effect ( $n=5$ ), strong analgesic effect ( $n=1$ ), and usually used by elderly patients with chronic diseases ( $n=2$ ) are the main reasons reported by participating pharmacists for requesting a specific product by PSUD:

The main reason for requesting Lyrica<sup>®</sup> is its availability in most pharmacies, the low cost of its generic products, and its minimal side effects. (Male, 36 years, with 3 years of experience)

The customers with SUD usually request drugs that are cheap and have a high euphoric effect. (Female, 28 years, with 5 years of experience)

### Frequency of requesting DHPD

Ten participating pharmacists reported that DHPD are requested from them less than 7 times/week. Seven pharmacists reported that the request of DHPD by their pharmacy customers is about 7 to 14 times/week. On the other hand, four pharmacists reported that the request for such drugs by their pharmacy customers is more than 14 times/week:

Every day nearly 2 customers request DHPH. (Female, 54 years, with 24 years of experience)

It may be one time per week when I find someone who requests drugs. (Male, 24 years, with 4 years of experience)

### The current regulations regarding DHPD

Regarding the current regulations on DHPD, 20 pharmacists reported that the dispensing of any DHPD should be documented in a specific register. However, only five of them mentioned that this documentation must be accompanied by keeping a copy of the prescription for that drug. However, only a few pharmacists ( $n=6$ ) reported that these regulations are beneficial to reduce the risk of misusing drugs. On the other hand, one pharmacist was unaware of these regulations:

The Syndicate of Iraqi Pharmacists mandate documentation for the dispensing of any DHPD in a specific register while keeping a copy of the prescription for that drug. (Male, 28 years, with 6 years of experience)

Regarding the barriers for implementing the current regulations on DHPD, the limited follow-up to pharmacists by the Syndicate of Iraqi Pharmacists ( $n=15$ ), the presence of outsiders ( $n=4$ ), fear from the reactions of PSUD ( $n=3$ ), old-dated paper-based regulations ( $n=6$ ), lack of clear information about DHPD in these regulations ( $n=1$ ), and finally selling DHPD can increase the income of pharmacy ( $n=1$ ) were the main reported barriers for implementing the current regulations on DHPD:

The main barrier in implementing the regulations on DHPD is the very weak follow up to pharmacists by the inspectors of the Ministry of Health and the Syndicate of Iraqi Pharmacists. (Female, 48 years, with 25 years of experience)

Most pharmacists can't refuse requests of PSUD for DHPD because of the fear of their reaction. Some pharmacists dispense such drugs because it has a high impact on the pharmacy

business. These are the main barriers for implementing the current regulations. (Female, 25 years, with 2 years of experience)

The regulations regarding DHPD are old-dated; I do not find them reliable because of the nature of prescriptions in Iraq (handwritten and paper-based); so, the PSUD can modify it and/or add the name of other drugs. So, the register of these drugs in the pharmacy will be filled with incorrect information. (Female, 25 years, with 2 years of experience).

### *Pharmacists' role in the diagnosis and prevention of SUD*

Knowing the patterns of SUD and details about DHPD can be useful for healthcare providers to enhance their role in the prevention, detection, and management of SUD. The last theme generated based on the answers of study participants was entitled "Pharmacists' role in the diagnosis and prevention of SUD." This theme encompasses many subthemes such as clues to detect PSUD, dealing with customers requesting DHPD, pharmaceutical services provided to PSUD, and recommendations to improve pharmacists' role in facing SUD.

#### *Clues to detect PSUD*

Sixteen pharmacists reported that they know customers who have SUD through observing signs of drug intoxication such as being not oriented ( $n=4$ ), with hand tremor ( $n=3$ ), abnormal gait ( $n=2$ ), slurred speech ( $n=2$ ), disorganized speech ( $n=1$ ), red eyes ( $n=2$ ), and small eyes ( $n=2$ ). Five pharmacists mentioned that they detect PSUD through drug withdrawal signs and symptoms such as agitation ( $n=2$ ), itching ( $n=1$ ), sweating ( $n=1$ ), and anxiety ( $n=1$ ). Six pharmacists reported that they can detect PSUD through the general appearance of the individual by being pale ( $n=1$ ), underweight ( $n=1$ ), and with limited self-care ( $n=4$ ). On the other hand, sixteen pharmacists reported that they detect PSUD through their abnormal behaviors such as insisting on DHPD and refusing any alternative ( $n=4$ ), giving a lot of excuses for using the drug ( $n=6$ ), daily requesting the same product ( $n=2$ ), and asking for large quantities from the DHPD ( $n=4$ ). On the other hand, three pharmacists reported that they detect customers with SUD by their use of fake and old-dated prescriptions to request DHPD. Finally, one pharmacist mentioned that the potential for misusing a drug is simply detected when such a drug is requested by a child:

A person with SUD usually mentions many reasons for the need of the drug for example the drug (Valium®) is not for him but it is for his mother or father who has hypertension and insomnia. Also, such customers are usually agitated. (Female, 26 years, with 2 years of experience)

With time and experience you can know PSUD because they usually have slurred speech, hand tremors, and red eyes. Such

persons are usually giving many excuses for the need for such drugs. (Male, 26 years, with 1.5 years of experience)

### *Dealing with customers requesting DHPD*

Regarding a customer who requests DHPD without a prescription, 17 pharmacists use indirect ways to refuse the dispensing of such drugs, in which 9 of them tell their customers that they do not have the requested product, while 8 pharmacists tell the customer that the requested product is just finished. Eight pharmacists ask the customer to bring a prescription. On the other hand, one pharmacist reported that he usually dispenses the requested drug while advising the customer to go to the psychiatrist:

I don't want to show him directly that I don't want to give him treatment instead I tell him I don't have the drug or the stock is just finished. (Male, 36 years, with 3 years of experience)

For those who request Lyrica, I usually ask them to bring a prescription to be able to dispense this drug. (Female, 54 years, with 24 years of experience)

For customers who ask to re-dispense a prescription for a DHPD, nine pharmacists reported that they refuse to do so; meanwhile, only four of them provided an excuse (e.g. the product stock is just finished) to customers for their action. Five pharmacists reported that they refer any customer who asks to re-dispense a prescription to the physician. On the other hand, six pharmacists reported that they re-dispense such prescriptions especially if the patient is suffering from chronic disease ( $n=4$ ) and if the patient is a regular pharmacy customer ( $n=2$ ):

I do not re-dispense any prescription that contains DHPD because most of these prescriptions are old-dated or fake. (Female, 27 years, with 2 years of experience)

If I already know the customer and I dispense this prescription previously, I re-dispense it especially if the drugs are needed for chronic diseases. (Male, 32 years, with 9 years of experience)

Regarding the pharmaceutical services provided to PSUD, most pharmacists ( $n=11$ ) reported that they have nothing to provide to customers who suffer from SUD. Eight pharmacists reported that they educate PSUD about the risks of misusing drugs. Only five pharmacists reported that they usually advise PSUD to use a safer alternative ( $n=3$ ) or to go to a recovery center ( $n=2$ ):

Unfortunately no services are given because in Iraq we do not have sufficient resources. In addition, in developed countries, it is acceptable to refer the customer to a psychiatrist but here in Iraq, it is a big dilemma and unacceptable to ask the customer to go to the psychiatrist. The customer will refuse and be upset. (Male, 27 years, with 4 years of experience)

The only service that I can provide to my customers who have SUD is their education. I advise them about the side effects of using such drugs at high doses and for long periods. I also educate them about withdrawal symptoms. (Female, 25 years, with 2 years of experience)

### *Recommendations to improve pharmacists' role in facing SUD*

Eleven pharmacists reported that enhancing pharmacists' knowledge about SUD and how to deal with PSUD through meetings, educational courses, and lectures is necessary to improve their role in facing drug dependence and misuse. Six pharmacists reported that there is a need to increase pharmacists' awareness about the regulations of DHPD. Meanwhile, four pharmacists thought that there is a need to legislate regulations to protect pharmacists from PSUD as the most necessary point to enhance pharmacists' role in facing the SUD dilemma. One pharmacist reported that pharmacists must make awareness programs about SUD to their pharmacy customers. On the other hand, three pharmacists did not report any recommendations:

I recommend making mandatory educational courses for pharmacists to educate them on how to deal with persons struggling with addiction. (Male, 26 years, with 1.5 years of experience)

I recommend doing legislation to protect pharmacists who deal with persons struggling with addiction. I think this step is the first one to improve the role of pharmacists in facing SUD in the Iraqi community. (Female, 25 years, with 2 years of experience)

### **Discussion**

The results of this study revealed the perceptions of pharmacists toward the patterns of SUD, their experience in detecting PSUD, and their practice in dealing with persons struggling with addiction.

For the pattern of SUD, the results of this study showed that most participants reported that SUD is more common among young adults. Similarly, Iraqi psychiatrists also reported that SUD is common among Iraqis aged 18 to 40 years.<sup>4</sup> Moreover, all participating pharmacists in the current study agreed that the use of DHPD is more common in males. This finding was consistent with a nationwide cross-sectional study in Iraq that showed a greater prevalence of SUD among males which mostly related to cultural gender norms in Iraq.<sup>18</sup> Meanwhile, the current report of SUD being more common among young Iraqi males is similar to what is found in other studies conducted in both developed and developing countries.<sup>19,20</sup> According to the reports of pharmacists participating in the current study, SUD is common among Iraqi forces (soldiers and policemen). An article published in the *New York Times* newspaper in 2010 also raised the same problem.<sup>21</sup> This problem may be expected because of the workload on Iraqi forces and the unstable

situation they live in. Meanwhile, the negative consequence of such a problem on the country's security mandates further research to discover the real reasons behind this problem and find suitable ways to manage it. On the other hand, the results of this study showed that most participating pharmacists reported that poverty is the main reason for requesting DHPD and developing SUD. This report is also linked with the perception of other pharmacists who thought that the lack of employment is a good reason for developing SUD. Indeed economic problems are considered as a source of stress and hopelessness, besides their effect to decrease self-esteem.<sup>22</sup> To escape from all these burdens, some individuals seek drugs, and thus poverty and lack of employment are the main reasons for requesting DHPD in Iraq.<sup>5</sup> Other factors reported in this study that encourage persons to develop SUD include social problems, low educational level, being unmarried, and having bad friends. These reasons were very close to the results of a study conducted in Iran, a neighboring country to Iraq, among men in rehabilitation center, and women in prison.<sup>23</sup> A final reason for SUD among Iraqi individuals from the perspective of pharmacists is the religious beliefs of some persons who consider alcohol to be forbidden while drugs are not. This is because most people in Iraq are Muslims, and according to the Quran, alcohol consumption is not allowed while there is no clear statement about drug consumption in the Quran.<sup>24</sup> Moreover, the same reason for the increasing demand for drugs by Iraqis was mentioned in Al-Hasnawi Report in 2005.<sup>25</sup>

Regarding the DHPD, the current study results showed that anticonvulsants (pregabalin and gabapentin), followed by codeine, and benzodiazepines are the most commonly requested drugs by PSUD. This pattern of SUD is not different from what is observed in other countries.<sup>19,26</sup> However, it is different from the previous studies conducted in Iraq, in which benzhexol was the most commonly misused drug followed by benzodiazepines and codeine.<sup>3,4</sup> This difference may be attributed to (1) the current regulations that ban the availability of benzhexol in Iraqi community pharmacies; and (2) the cunning of PSUD by requesting certain drugs that are less likely known to cause dependence by pharmacists. According to the report of pharmacists participating in this study the above drugs are commonly misused because they are available, cheap, with strong euphoric, analgesic, and sedating effects, and with minimal side effects. All these reasons were also cited in a recent review article as the main driver for choosing a specific drug by PSUD.<sup>27</sup> Most participating pharmacists reported that they were subjected to at least one daily request for DHPD. This finding may give a signal that SUD is a common problem in Iraq. In line with the current expectation, a recent retrospective study on the records of the Iraqi Ministry of Health and the Iraqi Judicial system found that SUD is a common problem and the number of its victims has been increasing in Iraq in the last decade.<sup>28</sup> Therefore, it seems necessary to adopt a national educational program to increase the awareness of Iraqi people about the risk of misusing drugs. This idea was in line with that reported by some of the pharmacists participating in this study

in which they recommended conducting pharmacist-led awareness programs to pharmacy customers.

Pharmacists play a pivotal role in recognizing persons struggling with addiction through specific signs and behaviors. The results of this study showed that most pharmacists can detect PSUD by observing drug intoxication signs rather than withdrawal symptoms such as disorientation, abnormal gait, disorganized and slurred speech, tremors, and red and small eyes. This finding may indicate that PSUD can easily obtain these drugs from pharmacies and consume them in excess. Multiple reasons are behind the easy accessibility to DHPD in Iraq; these reasons include (1) the weak pharmaceutical system<sup>5,8</sup> in which most pharmacies in Iraq were managed by outsiders<sup>29</sup>; (2) the limited follow-up of pharmacists (as shown in this study results) to check their adherence to the regulations with the dispensing of DHPD; and (3) the fear from the actions of PSUD especially the agitated ones (as shown by the results of the current study). On the other hand, nearly 80% of the study participants reported that they detect PSUD through their abnormal behaviors such as insisting on the DHPD and refusing any alternative, giving a lot of excuses for using the drug, daily requesting the same product, and asking for large quantities of the DHPD. All these suspicious behaviors are typical among PSUD worldwide, and thus can be used to detect them by healthcare professionals.<sup>30</sup> Regarding the dealing of pharmacists with persons requesting DHPD, most study participants refuse to dispense these drugs; however, a large proportion of those pharmacists do so in a diplomatic way by telling the addict that the stock of the product is just finished or they do not have such product in their pharmacy. Meanwhile, this action is reasonable to avoid any unexpected action from the agitated customers especially in the lack of legislation to protect the pharmacists from persons struggling with addiction. On the other hand, 1/4 of participating pharmacists reported that they re-dispense a prescription of DHPD especially if the patient is suffering from chronic disease and if the patient is a regular pharmacy customer. This behavior of pharmacists may indirectly aggravate the problem of SUD and must be quickly addressed by educating pharmacists about this dangerous action. In addition, there is an urgent need for legislation of strong regulation to follow up with pharmacists while they dispense any prescription involving DHPD. All these recommendations were already reported by pharmacists participating in this study.

Regarding the services provided by pharmacists to PSUD, the current study results showed that services are limited mainly to education about the risks of DHPD. Even this type of education was reported to be done by only 1/3 of participating pharmacists which signals a great gap in the role of Iraqi pharmacists in the prevention and management of SUD. Therefore, most participants recommended enhancing pharmacists' knowledge about SUD and how to deal with persons struggling with this problem through meetings, educational courses, and lectures to improve their role in facing SUD.

This study was limited by its small sample size. In addition, the results of the current study may exaggerate the pharmacist's role in managing SUD due to the social desirability of

pharmacists during interviews.<sup>31</sup> Both of the aforementioned limitations were related to the qualitative nature of the current study. Translation of the interview quotations from Arabic to English by study authors may be another source of bias, which is common in studies conducted in countries with nonnative English speakers. Despite all these limitations, the current study provides a lot of details that can be useful for the decision-makers in the Iraqi Ministry of Health and the Syndicate of Iraqi Pharmacists to change their policies and adopt educational programs for pharmacists to improve their role in prevention, detection, and management of SUD.

## Conclusion

SUD is common in Iraq, especially among young adults. Anticonvulsants especially pregabalin are the most commonly requested DHPD. The current Iraqi regulations on SUD are limited by a lack of pharmacists' follow-up, the presence of outsiders, and the fear of the actions of PSUD. Pharmaceutical services to PSUD are weak and limited to patient education. Enhancing pharmacists' knowledge through educational courses is necessary to improve their role in facing SUD.

## Acknowledgements

None.

## Author contributions

EMM: Concept, study design, coding the interviews, data analysis, and revising the whole article. NJJ: Writing the drafted article. MYJ: Writing the drafted article. TAH: Data collection.

## Declaration of conflicting interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

## Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

## Ethics approval

Ethical approval for this study was obtained from the ethical committee at College of Pharmacy/University of Baghdad (approval number RECAUBCP2620236 at May 2, 2023).

## Informed consent

Verbal informed consent was obtained from all subjects before the study. The ethical committee accepted waiving written informed consent due to cultural issues and the potential fear of signing documents by most Iraqi individuals. Thus, it was requested that the authors obtain verbal informed consent from study participants.

## Trial registration

Not applicable.

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## Supplemental material

Supplemental material for this article is available online.

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