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# **Qualitative Exploration of the Experiences of Men who use Drugs of Obtaining Psychoactive Medicinal Products in Jordan**

Abstract:

In Jordan, almost any medication can be bought from pharmacies. This ready availability is linked with abuse. Previous literature describes medicine abuse from pharmacists' and general public perspectives. Here we investigate experiences of 17 men in addiction treatment in Amman (21-39 years) of obtaining psychoactive medicines. Alprazolam, clonazepam, bromazepam and tramadol were most commonly abused. Psychoactive medicines were obtained from street dealers, but pharmacies were preferred. Regulations appears ineffective; lack of understanding of pharmacists of the abuse potential of some medicines was perceived; 'softening rules' on supply was attributed to cultural and social norms around familiarity.

Keywords: prescription medicine, over-the-counter, misuse, pharmacy, Jordan

## **Introduction**

The use of psychoactive medicinal products for non-medicinal purposes has come into focus in recent years (e.g. Hughes et al, 2015). There is increasing concern about deaths and harm associated with dependence on prescribed and over-the-counter (OTC) medicinal products (Cooper, 2013, Fingelton et al., 2016). This is particularly of prominence in the opioid crisis in the United States (NIDA, 2020). In Europe, the European Monitoring Center for Drugs and Drug Addiction (EMCDDA) and European Medicines Agency (EMA) have issued warning information around misuse of medicinal products, with key examples including carfentanil, pregabalin, etaqualone, zopiclone, aminophenylbutyric acid, gabapentin, and tropicamide (EMCDDA & Europol, 2013; EMCDDA, 2014).

Individual countries implement various methods of regulation and control of public access to medicinal products. The access status of a chemical compound (the 'raw' medicine) or medicinal product (the compound formulated in a product for use) varies between countries. The extent to which systems are in place to enforce regulatory frameworks also varies. In Jordan, drug classification and laws controlling supply are similar to those in Europe and the United States. Medicines are supplied against a prescription or sold OTC in community pharmacies; other retail outlets such as supermarkets do not sell medicines. Controlled drugs, including opioids and opioid derivatives are classified into eight schedules. Non-opioids that have been scheduled in recent years include alprazolam in 2013 and pregabalin in 2017 (JFDA, 2012, JFDA, 2017a). According to the Narcotic Drugs and Psychotropic Substances Law, pharmacists are required to keep records of scheduled drugs to be checked by JFDA inspectors (JFDA, 2019). Therefore, community pharmacists *may* be unlikely to sell such products

without prescription, especially higher scheduled drugs which are more tightly controlled. However, for medicinal products outside of these schedules, it is common for them to be sold from pharmacies without prescription. These include most benzodiazepines and barbiturates, for which no written record of supply is required. In the Middle East, the political situation, security issues and closure of borders had led to shortages of illicit drug supplies. This had led people who use drugs to seek alternatives. Examples include ophthalmic drugs, used to disguise red eyes from cannabis smoking or are sometimes ingested in high amounts to experience high, (Al-Khalaileh, et al., 2018), pregabalin used to augment opioids or alone for sedation or anxiety (Al-Husseini et al., 2018) and oral hypoglycemic agents, used to induce euphoria or the so-called “hypoglycemic rush”, (Wazaify et al., 2019). The practice of selling prescription medicines without prescription may reflect pharmacists seeing themselves traditionally in a prescribing role, as they tended to have, prior to stricter medicines laws. The lack of systems within the Jordanian Food and Drugs Administration (JFDA) to enforce more strictly medicines regulation is also a factor (Al-Wazaify et al., 2005; Yousef et al., 2008). This lack of regulatory enforcement is not unique to Jordan, it is common to other areas in the region (Jousilahti et al., 1997; Matowe et al., 2003; Sweileh et al., 2004). The situation however likely compounds the potential for harm from prescription and OTC medicines, including the development or sustainment of harmful consumption, which can facilitate dependence.

Previous research in Jordan found that 100% (n=290) of pharmacists who completed a self-reported questionnaire suspected that some level of non-medicinal use of medicinal products occurred amongst patients of their pharmacy (Wazaify et al., 2017). The pharmacists named 156 different products as suspected of being abused, with an average of 4.9 per pharmacist (range = 1–9 products reported per pharmacist) The

psychoactive therapeutic classes most commonly implicated were decongestants, other cough and cold preparations and benzodiazepines. Pharmacists reported several methods to limit customers' access to suspected products, most commonly sale refusal and stating that the product was not available (31.0%, n= 90). Insisting on having a valid prescription for dispensing (n=43, 14.8%) was also used. Eighty-eight pharmacists (30.3%) reported that they advised the patients on the harms of inappropriate use, but 11 (3.8%) pharmacists reported that they did nothing and supplied the product(s) requested. Female pharmacists were more reluctant to 'provide advice' (24% vs. 34%,  $p = 0.037$ ), and more likely to 'do nothing' (12% vs. 6%,  $p = 0.041$ ) than males. This study, although potentially limited by recall bias and restriction to two Jordanian cities, gives insight into the beliefs and practices of community pharmacists in Jordan with regard to medicinal product misuse. Findings suggest there is scope to develop the pharmacists' role in responding to OTC and prescription misuse of medicines, for example by developing practice guidance on ways they can respond to suspected dependence. However, there is to date nothing in the literature to describe the other side of the story, that is the lived experiences of people in Jordan who use medicinal products for non-medicinal purposes. It is important to understand their experience of obtaining such products. Such a study would provide insight into access to medicinal products from the users' perspective, which in turn could inform the development of effective practice measures to control availability, support pharmacists' practice and advice to patients. Before and after study built around regulation change could also explore the impact of that regulation change from the perspective of users.

### ***Aim***

This study aims to describe the lived experiences of people in treatment for drug

dependence in obtaining prescribed or OTC psychoactive medicines in Jordan, prior to the rescheduling of alprazolam. The discussion presented here has a focus on the role of pharmacists and the impact of the regulatory systems on drug sources and availability.

## **Methods**

### ***Study Design***

This study took a qualitative approach, using semi-structured, audio-recorded interviews. This approach was taken to capture the experiences of participants who were dependent on prescribed or OTC medicines in obtaining their drugs, often in excessive quantities. The interviews followed a pre-designed semi structured interview guide, prepared by MW and JS, based on previous work and our knowledge of prescription and OTC medicine dependence literature from Jordan. JS has prior experience of qualitative research. Where judged appropriate, probes were used to explore points raised in more depth.

### ***Subjects and Setting***

Participants were recruited through the Addiction Treatment Center (ATC) in Amman, Autumn 2013 prior to the rescheduling of alprazolam. MW had prior professional knowledge of this center. The ATC provides short term residential detoxification and rehabilitation typically over a two to four-week period. The use of a gatekeeper was essential, with permission to access residents granted by the head of the center. Potential participants were identified by the head and deputy. All participants who met the inclusion criteria were provided with a written *Participant Information Sheet* which explained the study. It also explained that MW was from the University of Jordan and independent of their care. MW attended the center on subsequent days. Potential participants were then invited to opt into the study. There were no rewards for

participation or penalties for refusal. Data recordings and anonymized transcripts were kept confidential to the research team.

### ***Inclusion criteria***

- Eighteen years of age or older.
- Capacity to consent to participation in research as judged by persons involved in the provision of care at the Addiction Treatment Center.
- Experience of non-medicinal use of prescribed or OTC medicines in Jordan.

### ***Interview process, data recording and storage***

The interviews were conducted by the lead author (MW), in a private room within the Addiction Treatment Center, with only the interviewer and the participant present, except for the first interview where the center head sat in. Prior to the interview, the researcher sought written consent and permission to record the interview. Confidentiality and anonymity in reporting was assured. It was made clear that the participant could stop the interview at any time. In such cases they would be asked if the data recorded so far could be kept for use or whether they wished it to be destroyed. It was also made clear the participant could withdraw from the study for one week after their participation, prior to data being built into the analysis. No one withdrew. Interviews were conducted in Arabic then processed as described below.

After completion of the interview the participant was debriefed by MW. This was to ensure any distress or issues that raised concerns during the interview were addressed. The participant was thanked for their time and participation. Figure 1 below summarizes the flow of the participant.

[Insert Figure 1: Summary of the flow of the study participants]

### ***Ethics***

The study was approved by the Institutional Review Board, Jordan University Hospital (JUH) and two Scientific Research Committees: at the Faculty of Pharmacy and Deanship of Academic Research (DAR) at University of Jordan.

### ***Data Analysis***

Interviews were transcribed verbatim in Arabic, checked for accuracy and stored as Microsoft Word files. All files were anonymized and assigned a code number.

Transcription and translation into English language were done by the same researcher who conducted the interviews (MW). Another bi-lingual researcher (NA) compared all translated English scripts with the original Arabic ones. A third independent bilingual researcher not involved in the study back translated one transcript to validate accuracy of transcribing. Analysis was undertaken by NA and JS, with input in interpretation from MW. English language transcripts were read then reread to familiarize the analysts with the raw data. They were then imported into NVivo (v10 & 12) software. Thematic analysis was undertaken and comprised three stages. Stage one identified statements of interest that related to the aim, grouping them under key headings (codes). Codes were derived both inductively from the data and deductively from prior knowledge and literature. NA and JS both coded five transcripts to check for agreement. NA coded the rest. Stage two reduced these initial codes (axial coding), to refine them, bringing together related initial codes under second level sub-themes. Stage three further refined these by comparing axial codes, interpreting and condensing them where appropriate to



overarching themes. Deviant case analysis was also undertaken, so relevant codes that did not ‘fit’ with the emerging themes were used to identify isolated experiences and beliefs. Themes were agreed between NA and JS and then discussed with MW. Quotes were chosen to illustrate the meaning of the themes and deviant codes.

## **Results**

### ***Participant demographics***

A convenience sample of seventeen participants were interviewed. It is unknown how many were initially approached. The Center typically has about 30 residents at any one time, although not all may have met the inclusion criteria. Average length of stay at the Center prior to interview was 10 days (range 5 – 14 days), suggesting those in an acute withdrawal phase were unlikely to have been included. Interviews lasted between 10 and 44 minutes (median 16 minutes). All were male. There are no female resident facilities at the Addiction Treatment Center. Median age was 27.5 (range 21 to 39 years). All reported dependence on one or more prescription or over the counter medicine.

Alprazolam, clonazepam, bromazepam and tramadol were the most commonly used drugs. Most but not all participants used such drugs in combination with illicit drugs (e.g. heroin, Captagon (fenethylline) or hashish) to augment or modify effects.

### ***Overarching themes***

Participants described experiences of obtaining medicines from three main sources: drug dealers, from pharmacists (without or with a valid prescription) and from hospitals illegally.

*Obtaining medicines from street dealers*

Drug dealers were reported to be a source of prescription medicines, sometimes alongside the purchase of illicit substances such as heroin. Some participants compared the perceived quality of medicines obtained from dealers with those they had obtained from pharmacists. They perceived there to be a risk of obtaining counterfeited or low-quality products from dealers. Some felt the quality from pharmacy to be higher and cited this as their reason for pharmacies being their preferred source. This dialogue with participant 9 illustrates:

*Participant 9: I had to buy from people I knew and I started being introduced [to others]. I mean, these [people] would introduce me to a pharmacist, and here to [another] pharmacist. So, I started preferring to buy from pharmacies better than those [dealers] who sell.*

*Researcher: Why?*

*Participant 9: Because, if you'd excuse my saying, they [dealers] would bring things that are not fit...[pharmacy stock is]..not cheated [referring to quality and content]*

*Researcher: Counterfeited. What's in the pharmacy is not ..?*

*Patient: Not counterfeited*

The riskiness of interacting with dealers, in terms of violence and associated 'trouble' that the person could find themselves in was also highlighted as a reason to prefer to source medicines from pharmacists or doctors.

Some participants knew their dealers were supplied by pharmacists who sold in large bulk quantities without a prescription. This is illustrated by participant 2:

*It is known that they [pharmacists] sell it to one or two persons. And those persons sell it to us in higher prices even if they [pharmacists] didn't sell it to us they sell it to other people and they sell it to us. You know the black market.*

Moreover, some participants reported preferring to buy from the pharmacist rather than dealers since the latter's price is more expensive.

*Participant 13: I used to pay JD10 for the pharmacist [to buy Prazin, which normally cost JD8]*

*Researcher: Not much more than the normal price*

*Participant 13: No..no..because guys [dealers] who sell outside of pharmacy sell the 1 tablet for JD1, that is JD 30 for one packet.*

#### *Obtaining prescription/OTC medicines from pharmacies*

There were two sub themes which distinguished different mechanisms of obtaining medicines from pharmacies for non-medical use, with several intersecting factors under each theme, as described.

##### *(i) Buying medicines without providing a valid prescription*

It was common for participants to have obtained OTC/prescription medicines from pharmacists without a valid prescription. Some reported having an invalid prescription that had previously been spent, but having further supplies facilitated by the pharmacist against this spent prescription or against knowledge of this prior spent prescription

having existed. Pharmacists were seen to sometimes intentionally or accidentally not stamp prescriptions to invalidate them. Participants believed this was so the prescription could knowingly be used again or because they were being 'lazy' or 'going soft' (see below). Others reported no prescription of any kind being involved in the transaction.

*Researcher: Now you used to go and buy two of the drugs from the pharmacy, the Prazin [alprazolam] and the Revotril [clonazepam] ... .. with a prescription or without?'*

*Participant 13: Without...*

*Researcher: He never asked you for a prescription?*

*Participant 13: Not once...without any resistance, he used to give me with total comfort*

The participants perceived there to be several reasons as to why a pharmacist would give medicines without a valid prescription, including financial motives, going 'soft' on regulations and the abuse profile of the medicine being seen as low: Financial motives 'Greed' - It was perceived that in some cases, pharmacists may sell 'abusable' drugs as an extra source of income. It was reported that this is done by selling the medicine pack at a higher price than it would be sold to legitimate patients. Participant 9 explains:

*I used to buy it [Prazin (alprazolam)] for 25 JD's... 5 times more...Then I started taking Saliba [clonazepam]. The Saliba pack, I think, used to cost 4 JD's, here too I used to take it for 15 JD's*

Another way reported to persuade the pharmacist to sell medicines without a valid prescription is to buy large quantities at a time:

*Researcher: Why did he [pharmacist] used to give you the drug without a prescription?*

*Participant 7: Because I bought from him .. nearly 10 thousand JD's [worth].*

Pharmacists 'going soft' on the regulations - Some pharmacists were seen to 'go soft' on the regulations. Participants reported they knew a prescription is required every time someone buys a prescription medicine, but that pharmacist might ask for a prescription only once in a while, especially when the pharmacist knew the person had previously been in receipt of a prescription for the medicine.

*Researcher: Did you used to buy [the drug] with a prescription most of the time?*

*Participant 11: Yeah, from amongst the times, yeah....I mean, the pharmacist used to know me, yeah*

*Researcher: So even without a prescription he used to give you [the drug]?*

*Participant 11: Sometimes*

Another way of 'going soft' on the regulation is selling the 'abusable' medicine repeatedly against the same prescription. Whilst regulations require the pharmacist to stamp and return, or retain the prescription, the pharmacist was said to sometimes leave it with the patient to use it again, unstamped: As participant 7 describes, '*.... so I kept buying the medicine on the same prescription.*'

Familiarity was a factor perceived to influence the pharmacist to 'go soft' on the regulations. Personal relationships between the participant and the pharmacist were

perceived to create a social pressure where the pharmacist found it hard to refuse to sell to acquaintances.

*I used to bring him prescription for Remeron [mirtazapine], Respal [risperidone], and Stedon [diazepam] since a long time ago, and we became friends I mean, he [pharmacist] started giving me [medicines] without a prescription.* Participant 7.

Participants described unfamiliar pharmacists more likely to adhere to the regulations.

*Abuse profile of the drug seen to be low* - It was perceived by participants that the abuse potential may not always be commonly known, so the medicines were not tightly controlled by the pharmacist. Participant 8 explained:

*At the beginning I used to get it from a pharmacy, in a comfortable way, without any medical prescription.*

*Interviewer: Without any prescription?*

*Participant 8: [It was] normal, without a prescription. But not now, not now, not in these times...This medicines' status was very normal, because not many people knew about it, not many used to take it.....Do you know what I mean? Then little by little by little by little, pharmacists realized that this drug is asked for in more-than-normal quantities. So, they researched it and found that it contained a narcotic substance*

In contrast to this, one participant reported a pharmacist refusing to dispense a medication because it had abuse potential, but their decision was overruled by the prescriber. Participant 17 explains:

*The second week after my endoscopy, I saw the doctor and he asked 'So, how are you [name]?' I replied that I had a heartburn. He said: 'No way! With the Xanax?!!!' I*

*said: 'I didn't get the Xanax as the pharmacist said it may cause dependence'. The doctor got angry and said 'What!!! The pharmacist does not know better than me. Here is another prescription [for Xanax]. I am your doctor, I know what is best for you. Don't listen to the pharmacist'....I went to the pharmacist, didn't find Xanax but got Prazin [the generic] and then started my problem, I started to escalate the dose gradually, tried to stop more than once*

- (ii) *Buying prescription/OTC medicines from pharmacists via a valid prescription*

Poor practices from other health care professionals were also reported by participants. On some occasions, doctors wrote prescriptions for patients knowing or suspecting that they were using them for non-medical purposes. The perceived reasons participants believed this was done were similar to beliefs held about pharmacists: *financial gain, inadequate regulation and friendship between the doctor and the patient*. With regard to financial motives, some participants reported some private doctors having 'a price' at which they would supply valid prescriptions for medicines for non-medical purposes. Participant 7 describes:

*Then there was a private doctor in Amman, I thought I would put my mind at rest and pay 25 JD's every month and take it at my leisure, [this would be] better than going from one pharmacy to another.*

Changes in regulation where control was tightened were noted to influence prescribing practice in some cases, as illustrated by participant 8:

*It's [tramadol] prepared from opium, I mean, and it's addictive. So, it was [available] through a medical prescription only, so we turned to doctors to get medical*

*prescriptions from them. The doctor used to write it to me with much ease and get it to me [too]. They [regulations] tightened it on doctors, they tightened it on pharmacists, so it became more difficult for us to obtain it from a pharmacy.*

The influence of familiarity and friendship was again noted in this context, against the lack of confirmation of diagnosis or appropriateness of the medication: Participant 14, who was a nurse, obtained prescriptions through colleagues:

*Yeah. Let me tell you something, it becomes like fellowship...he believes me....the pharmacist didn't have a main role [in this case]....the physicians did, they didn't ask for proof.*

Nagging and insistence were reported to be used by some participants to obtain the prescription they wanted. This dialogue with participant 7 highlights:

*Researcher: Did no one [doctor] try to refuse your request? To say, no, I don't want to prescribe you this, I'm worried you might become addicted, did no one ever [say]?*

*Participant 7: Yeah, this doctor, not the [name] one, the other one, used to say this, 'you shouldn't take these, these are not for your case', I didn't listen to him, I said 'no, I want them'*

*Researcher: You kept insisting until he wrote you a prescription?*

*Patient: Yeah, I kept insisting*

#### *Obtaining medicines from hospitals illegally*

Some participants reported getting their abused drug from hospitals. In one situation, the participant was a healthcare professional who became addicted to pethidine. He (participant 14) describes that he used to collect the dose by taking some from each ampoule he was instructed to administer to patients: *'There would be a patient, we'd sometimes prescribe him 100 [mg], I'd give him 75 and hide 25, yeah...a prescription*



*and another prescription, until I take the full dose'. Although the regulations in Jordan indicate that two members of hospital staff should witness the administration of drugs scheduled like pethidine, 'softening' of this regulation, by staff themselves, was noted by this participant as enabling him to divert the pethidine 'This never used to happen [witnessed administration]... It was an issue of trust''.*

As noted with regard to doctors and pharmacists in the community, familiarity and friendship were again given as a reason to circumvent or relax regulations in the hospital context. Participant 8 explains to the researcher how his uncle facilitated his access to tramadol injections:

*Researcher: 'Tramal injections? Where do you get them from?*

*Participant: From [private hospital name]. My uncle was a nurse at [hospital name], you know, he ought to have looked into [it], and..and, for example, when they receive an accident, God forbid, they would immediately prescribe medicines and it would all be covered by the insurance company, okay. For example, he'd register it with the accident because there is no supervision over him, there is no supervision over him. Do you know what I mean? That's all, there is no one to keep an eye on, okay, it was registered on a certain accident's record, who administered it? this dose went to this accident? am sure no one follows. In our country we have so many [accidents].*

## **Discussion**

This is the first paper, to our knowledge, that has described the experiences of people from Jordan in obtaining medicinal products for non-medicinal psychoactive purposes. We found medicinal products used alongside illicit drugs and on their own. The data,

which was collected just before alprazolam was scheduled as a controlled substance (in 2013), illustrates its popularity as a medicine of abuse at that time. The paper highlights a preference for obtaining medicines from healthcare sources due to the likelihood of counterfeit medicines being sold by street dealers. Dealer-sold medicines gave concerns over both quality and safety. Participants appeared to trust pharmacists to sell genuine products. The paper also reports lower price to be a motivator to obtain medicines from pharmacists, although others reported inflated prices and ‘greed’ from pharmacists, because the purchaser was known or suspected to be dependent. We describe how the lack of enforcement of regulations around psychoactive medicines appears to facilitate purchase or access for non-medicinal use. Pharmacists and doctors were said to ‘bend the rules’ or ‘go soft’ around medicines regulation. This reflects the findings of Al-Husseini et al, (2018) who observed sales of pregabalin in community pharmacies. They found that 57.1% (n=44) of the observed sales of pregabalin (n=77) across 14 pharmacies in three months in 2016/17, were conducted without prescription, despite a prescription being required by regulation. The legitimate provision of medicines in Jordan is undertaken as a private transaction, there is no national health service/state reimbursement. This means patients pay for the cost of their medicines to the pharmacist, including a mark-up for dispensing. Pharmacies in Jordan run as private businesses. Many are independent businesses, not part of large chains, although chain pharmacies do exist. (Abu Asab et al., 2019). In this setting, pharmacists have to run a successful trade to keep the pharmacy open and make profit. Pharmacists sometimes receive incentives from manufacturers to sell medicines, a practice which happens in Jordan. In 2017, there were attempts to stop non-prescription pregabalin sales by the JFDA, by announcing that they would not grant incentives on quantities sold. Despite this, pregabalin products continued to be sold without a prescription and without fear of

legal accountability, until it was scheduled in December 2017 (JFDA, 2017a). Inspectors from the JFDA visit community pharmacies to check any violation in general and check prescriptions for medicines, such as opioids, opioid derivatives, or opioid containing preparations classified as Schedules 1–8 drugs (Jordan Pharmaceutical Association, 2013). The pharmacist is required to keep a record of these scheduled prescriptions and supply against them, for JFDA inspection. Thus, it is reported by the JFDA to be rare for a community pharmacist to sell schedule 1-8 products (JFDA, 2017c). The pregabalin case illustrates how pharmacist behavior was perceived to have been modified by legal rescheduling of the substance but not by removing financial incentives. However, the medicines used for psychoactive effects by our participants were mostly substances not subject to scheduling at the time of this work, except our participants reported tramadol use, which was scheduled in 2000. Stricter legal scheduling may promote behavior change in pharmacists non-prescription selling activity, but this needs further explored against the conflicting other motivators such as profit, social and cultural context (see below). A follow up study to investigate the impact of pregabalin and alprazolam scheduling from the perspective of people who abuse prescription/OTC medicines is advocated.

Many participants were not clear on the reasons why pharmacists they knew might intermittently request a valid prescription (enforce the rules). It was seen as practice that was ‘in between’ sale without a valid prescription and refusal to supply anything ‘abusable’. This practice requires more exploration, but it may be explained by social and cultural contexts. It is common practice for many (non-psychoactive) prescription medicines to be sold without prescription in Jordan, antibiotics being one example (Haddadin et al, 2019). It could be looked on as bad customer service or awkward to ask the patient to bring a prescription every time they want a pack of a

medicine that they are perceived to require, having had a previous valid diagnosis, as indicated by the past prescription. Such requests mean the patient has to go to the doctor and spend time and money on a consultation to obtain a prescription (Hammad et al, 2018). The pharmacist may feel this is an unnecessary expense or that the patient may not return with the prescription to their pharmacy, so they lose the sale. Another possible explanation is that some pharmacists may request intermittent prescriptions, as they feel this might protect themselves against the authorities, should they conduct any checks, suggesting a conflict between obeying rules and profit making.

Considering the ethical responsibility of the pharmacist to do no harm, in Jordan, the responsibility of getting addicted is culturally seen to lie with the patients themselves (Wazaify et al., 2017). This may explain the apparent disregard reported from some pharmacists of the potential for dependence, which threads through some of the participant accounts. Placing the cultural lens of individual responsibility as a sole reason for addiction over the reported actions of the pharmacist, modifies the impression one gets of the pharmacist's perceived implication in the person's addiction. Social pressure, especially in the Middle-Eastern region, may also play an important role in explaining why some pharmacists may not want to refuse sale. Pharmacists, like others, may feel the obligation and desire to help an acquaintance or regular patient with their needs, despite holding concerns around dependence (Wazaify and Scott, 2017).

Education of pharmacists on the dependence potential of medicines should also be explored further as a way to promote behavior change. Postgraduate education in Jordan is left to the individual with no mandatory requirement for ongoing license to practice.

We suggest that the JFDA consider exploring mechanisms for manufacturers of medicines liable to misuse to finance independent education for pharmacists on these risks and ways to support dependent persons with treatment and detoxification.

Our findings show relaxation of the rules by doctors and hospital healthcare professionals might also be due to social and cultural norms between healthcare professionals and the lack of adherence to rules as familiar practice becomes 'slack'. For example, JFDA instructions to nurses responsible for administration of narcotics and psychotropic drugs, item#8 states *'in case of using parts of the dose of the syringe, the remaining drug should not be kept in the syringe as it will be liable to pollution. Rather, it should be discarded and witnessed by the physician who should sign and date that on the prescription'* (JFDA, 2007). Clearly, our participant accounts illustrate relaxation of adherence to this guidance.

### ***Limitations of the study***

This study relied on gatekeepers to facilitate access to participants (the ATC manager and his deputy). It is possible that some patients may have been excluded due to selection biases. We did not formally collect information on people invited to take part who declined, however only two patients declined and did not state a reason. Some interviews were quite short, explained by their focus on a narrow topic and the extent to which some participants were willing to discuss issues. The richness of such short interview data was limited. Women were not represented in our sample because there was no capacity to treat women at ATC. For the first interview, the ATC head sat in, which may have limited or biased discussion in this one case. Data was collected in 2013, so the time gap must be acknowledged. However, there is no other literature of this kind from Jordan and its collection before the scheduling of alprazolam and pregabalin allows for pre-scheduling reporting. Future study could provide follow up insights after rescheduling and changes over time.

## *Conclusion*

This study is the first to explore the experiences of people in treatment for addiction in Jordan on obtaining psychoactive medicines for non-medicinal purposes. This paper has highlighted the role pharmacists and doctors play, knowingly or unknowingly, in the supply of psychoactive medicines for non-medicinal purposes in Jordan. It illustrates how the regulations as they were at the time, appeared not to control access to these medicines. The tightening of regulations would require greater level of inspection of pharmacies and greater application of regulator controls. We also identified a perceived lack of understanding by pharmacists of the misuse potential of some medicines sold. This highlights the importance of including this in the curriculum of pharmacy undergraduate education, and for postgraduate education, so pharmacists can be better informed of the risks and ways to reduce them.

The cultural and social norms of familiarity allow for softening of the rules across healthcare professionals (e.g. nurses, doctors and pharmacists). This is likely to have an intersectional relationship with the (low) risk of penalty through inspection and regulator sanctions, alongside personal responsibility being seen a key factor in dependence. This warrants further investigation. Consideration should be given to inclusion of these issues in undergraduate education, to prepare healthcare graduates to address this aspect of practice.

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Declaration of interest:

None

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