

Original article

# Libyan Pharmacy Employees' Knowledge, Attitude, and Practice toward Re-dispensing of Unused and Unwanted Medicines Returned by Patients

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## Abstract

*Pharmacies dispensing of returned medicines by another patient could be risky to other patients especially if the drug was damaged. This study aimed to assess pharmacy employees' knowledge, attitude, and practice toward re-dispensing unused and unwanted medicines returned by patients in Tripoli, Libya. A cross-sectional survey was conducted in September 2021 targeting a total of 47 community pharmacies in Tripoli, Libya. Data were collected by face-to-face interview using self-designed questionnaire containing queries about refunding and re-dispensing unused and unwanted medicines in community pharmacies. Data were presented as descriptive statistics. Results showed that, out of 47 visited pharmacies, a total of 41 (87.1%) pharmacists were participated in the study, with one pharmacist being interviewed in each pharmacy. About 51% of participants had a pharmacy education certification, while 49% had either Medical or English language certification. Approximately 92.7% of the participants didn't know about the presence of any guideline related to returning unused and unwanted medicines, whereas 3(7.3%) participants said that they know about these guidelines. Additionally, only 1(2.5%) of participant properly explained the WHO instruction of accepting returned medicines. About 80.5% of the participants accept medicines returned from patients while 19.5% did not, and approximately 80.5% re-dispense those medicines to other patients. Meanwhile, 36.6% accepted the unwanted medicines, and 61% re-dispense those medicines. In conclusion, a substantial proportion of pharmacy personnel lack the knowledge and attitude toward return unused and unwanted medicines, suggesting that training may be helpful.*

**Keywords:** Electricity Blackout, Pharmacy, Practice, Storage.

## Introduction

Most retail stores allow customers to return products they buy within a conventional time for a full refund or exchange. However, this policy is not a proper practice for safe drug dispensing, because detecting not cracked packages and observing the medicines is still unopened are not the only evaluation to ensure the quality of the medicine is preserved [1]. As a result, the WHO precaution to pharmacy employees that, return medicines by patients should not be accepted otherwise for disposing them [2].

In 2020, through a circumstance of recurrent blackouts in Libya, a previous study reported that over than a half of total 46 participants in community pharmacies accepted returned medicines from patients and re-dispensed to other patients, and with an evidential decline in appropriate storage conditions and proper facilities in pharmacies, which affects the quality of the therapeutic of the drug [3]. Furthermore, there is no official reports about medical storage in households, and it didn't happen that the health specialists provided general seminars or other procedures to educate people about proper storage, transport, and disposing homes medicines in Libya which make this an educational health issue.

Another research in Netherland in 2019 assessed patient willingness to use medicines refund by another patient, found that, re-dispensing medicines could contribute to optimal use of health sectors, however, the study shows that a substantial proportion of participated patients are willing to use medication refund to the pharmacy by another patient if the quality is guaranteed [4]. Therefore, the objective of this study was to evaluate pharmacy employees' knowledge, attitude, and practice toward re-dispensing unused and unwanted medicines returned by patients. The data gathered may shed light on refunding medicine practices in Libyan community pharmacies. We utilized the term unused medicine to refer to unopened

medicines returned by patient to pharmacy full refund, credit, or exchange, while the term unwanted medicines used to refer opened and used medicine returned by patient to pharmacy and usually re-dispensed for free or as charity for destitute.

## Methods

### *Study design*

This was a descriptive cross-sectional study conducted in September 2021. Samples were collected randomly and targeted a total of 47 community pharmacies in Tripoli, Libya. Information was collected via face-to-face interview using self-designed questionnaire containing queries about refunding and re-dispensing unused and unwanted medicines in community pharmacy. This study was approved by the research committee of faculty of medical technology, the University of Tripoli, Libya.

### *Questionnaire content and data collection*

Forty-one of the total forty-seven pharmacy personnel included in this study completed an administered questionnaire. The distributed questionnaires contained four sections: The first section collected socio-demographic characteristics regarded pharmacy personnel; gender, educational certification (pharmacist/not pharmacist) and length of practice. The second section contained four questions designed to evaluate their knowledge and attitude toward unused and unwanted medicines returned from patients to pharmacies; the first two questions evaluate their knowledge toward WHO precaution and guideline of return medicines, the followed two questions aimed to assess their attitude about the precaution from WHO which said not accept returned medicines from patient for disposing unless it is certain that their quality is satisfactory [7]. The third section with four questions aimed to assess their practicing toward returned, refund and re-dispense unused medicines and the transparency of telling patients these medicines were return from other patients. The last section consists of seven questions contain queries whether they accept from patients return unwanted medicines to their pharmacy, if they merely discard these medicines, and if there were facilities and instructions to prevent infection during COVID-19.

### *Statistical analysis*

Data was completed and descriptive analyzed using IBM SPSS Statistics for Windows, Version 22.0. Armonk, NY: IBM Corp. All data was presented as counts and percentages.

## Results and Discussion

### *Demographics*

Out of the total 47 visited pharmacies, only 41 pharmacies accepted to participate in this study and filled-in questionnaires, the response rate of questionnaire was 87.1%. Majority of pharmacy personnel working in daylight were females 61% and the others 39% were males. About 51% of participants had a pharmacy education certification, while 49% had either medical or English language certification. Approximately 63.4% of the personnel have more than 3 years of practice while 36.6% have less than 3 years of practicing (Table 1).

**Table 1.** Demographics of the visited pharmacists

Items	Number	Percentage
<b>Gender</b>		
Male	16	39
Female	25	61
<b>Length of practice</b>		
Less than 3 years	15	36.6
More than 3 years	26	63.4
<b>Certification</b>		
Pharmacist	21	51
Non pharmacist	20	49

### *Pharmacy personnel's knowledge and attitude toward returned medicines*

Approximately 92.7% of the participants didn't know about presence of any guideline related to returning unused and unwanted medicines, whereas 3(7.3%) participants said that they know about these guidelines. The second question enquires about the WHO instruction of accepting returned medicines, found that only 1(2.5%) of participants properly explained

the instruction. When we explore the participant's attitude about accepting and practicing the WHO guideline, we found that about 95% of the participants didn't know the guideline and 5% of them practice the returning medicines based on WHO criteria.

**Table 2.** Knowledge and attitude of pharmacy personnel toward returned medicines

Items	Yes	No
<b>Pharmacy personnel's knowledge and attitude toward returned medicines</b>		
Do you know that there were WHO guidelines of return unused and unwanted medicines?	3 (7.3%)	38 (92.7%)
Can you explain what are the instructions provided by WHO for unused medicines?	40 (97.5%)	1 (2.5%)
Do you obtained the instruction of return unused and unwanted medicines from WHO?	2 (5%)	39 (95%)
Do you practicing the obtaining of return medicines based on WHO guidelines?	2 (5%)	39 (95%)
<b>Pharmacy personnel practices toward unused medicines</b>		
Do you accept unused medicines returned from patients to pharmacy?	33 (80.5%)	8 (19.5%)
Do you re-dispense these medicines?	33 (80.5%)	8 (19.5%)
Do you say to patients that these medicines have returned from another patient?	31 (75.6%)	10(24.4%)
Do you think transparency make patients willingness to take medication returned by another patient or not?	17 (41.5%)	24 (58.5%)
<b>Pharmacy personnel' practices toward unwanted medicines</b>		
Do you accept unwanted medicines returned from patients?	15 (36.6%)	26 (63.4%)
Do you re-dispense those medicines?	25 (61%)	16 (39%)
Do you discard these medicines?	17 (41.5%)	24 (58.5%)
Is there a guideline you utilize to discard unwanted medicines during COVID-19?	15 (36.6%)	26 (63.4)
Is the manager of the pharmacy having a special instruction for discarding unwanted medicines during COVID-19	17 (41.5%)	24 (58.5)
Does the manager of the pharmacy prepare adequate facilities to deal with returned unwanted and unused medicines to prevent infection during COVID-19?	26 (63.4%)	15 (36.6%)
Is there a medicine waste bin?	15 (36.6%)	26 (63.4)

#### ***Pharmacy personnel practices toward unused medicines***

About 80.5% of the participants accept medicines returned from patients, and approximately 80.5% re-dispense those medicines to other patients. About 75.6% told patients that these medicines were returned from other patients, whereas 24.4% did not, and 41.5% believe that the transparency make patients willingness to take returned medicines.

Earlier studies conducted in Oman [5] and the United Kingdom [6] directly addressed whether the medication returned could be reused. The majority of the returned medicines appeared to be in good condition for reuse and were still in their original containers, according to these studies, with only a few having changed in color, consistency, or odor, and thus being deemed unsuitable for reuse. The findings of these studies are also significant because unused medicines from the developed world are frequently sent to developing countries for reuse.

#### ***Pharmacy personnel' practices toward unwanted medicines***

About 36.6% accepted the unwanted medicines, 61% re-dispense those medicines to other patients, and 41.5% of the participants discard these medicines. Moreover, approximately 36.6% of the participants used a guideline to discard medicines during COVID-19. Moreover, 58.5% of pharmacy' manager did not provide his/her pharmacy personnel instructions to discard medicines, and 63.4% respond positively about the availability of adequate facilities to prevent infection in pharmacy and respond that there is no medical waste bin for drug disposing.

A previous study with 19 participants from the United Kingdom found that people would generally agree to use re-dispensed medication if the safety and quality of the product were guaranteed [8]. Other surveys conducted in the United Kingdom and the Netherlands

revealed that people would accept re-dispensed medication [8,9]. Moreover, another study found that more than 90% of returned medications were eligible for re-dispensing, but this study did not apply the criterion that the original outer package must be unopened and intact [10].

### Conclusion

The current study identified a substantial proportion of pharmacy personnel lack to the knowledge and attitude toward return unused and unwanted medicines, suggesting that training may be helpful. The lack of knowledge may reflect the prevalence of drug misuse, prompting policymakers to consider whether medicine reuse is cost-effective or poses a risk to patients' health. Over and above the pharmacists' visual checks, any medicines reuse scheme would need to consider quality and safety checks of returned medicines.

### References

1. Bettington E, Spinks J, Kelly F, Wheeler AJ. Returning unwanted medicines to pharmacies: prescribing to reduce waste. *Aust Prescr.* 2018;41(3):78-81. doi:10.18773/austprescr.2018.015.
2. Guide to good storage practices for pharmaceuticals. WHO Technical Report Series, No. 908, 2003. Available from; <https://medbox.org/document/guide-to-good-storage-practices-for-pharmaceuticals-gsp#GO> (Last accessed Dec 24, 2021).
3. Omar N, Atia A. Adherence of Libyan Community Pharmacies to Optimal Drug Storing Conditions during the Condition of Recurrent Electricity Shutdowns. *Indian Journal of Pharmacy Practice*, in-press.
4. Bekker C, van den Bemt B, Egberts TC, Bouvy M, Gardarsdottir H. Willingness of patients to use unused medication returned to the pharmacy by another patient: a cross-sectional survey. *BMJ Open.* 2019;9(5):e024767. doi: 10.1136/bmjopen-2018-024767.
5. Al-Siyabi K, Al-Riyami K. Value and Types of Medicines Returned by Patients to Sultan Qaboos University Hospital Pharmacy, Oman. *Sultan Qaboos Univ. Med. J. [SQUMJ]* 2007;7:109–115.
6. Mackridge AJ, Marriott JF. Returned medicines: Waste or a wasted opportunity? *J. Public Health.* 2007;29:258–262.
7. Annex 3. WHO good manufacturing practices for pharmaceutical products: main principles. WHO Technical Report Series, No. 961, 2011. Available from; [https://www.who.int/medicines/areas/quality\\_safety/quality\\_assurance/GuideGoodStoragePracticesTRS908Annex9.pdf](https://www.who.int/medicines/areas/quality_safety/quality_assurance/GuideGoodStoragePracticesTRS908Annex9.pdf) (Last accessed Dec 24, 2021).
8. Hendrick A, Baqir W, Barrett S, Campbell D. Prescribing Mrs Smith's medication to Mr Jones: the views of patients and professionals on the reuse of returned medicines. *Pharm Manag.* 2013;29(4):25-6.
9. de Jong MJ, Pierik MJ, Peters A, Roemers M, Hilhorst V, van Tubergen A. Exploring conditions for redistribution of anti-tumor necrosis factors to reduce spillage: A study on the quality of anti-tumor necrosis factor home storage. *J Gastroenterol Hepatol.* 2018;33(2):426-430.
10. oh MR, Chew L. Turning waste medicines to cost savings: a pilot study on the feasibility of medication recycling as a solution to drug wastage. *Palliat Med.* 2017;31(1):35–41.