

Original Research

Dispensing Practice of Non-Prescribed Medications in Community Pharmacies in Jordan: A Simulated Patient Study

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Abstract

Objectives: In Jordan, community pharmacies play a critical role in the healthcare system, often serving as the first point of contact for patients seeking medical advice and medication. As most antibiotics and oral contraceptive pills (OCPs) are available over the counter, it is the pharmacist's professional duty to verify and advise patients about all aspects of using these medications. However, the lack of stringent regulatory oversight and adherence to dispensing guidelines has led to concerns about the inappropriate dispensing of medications, posing significant risks to patient safety and contributing to the growing problem of antibiotic resistance. **Methods:** This was a descriptive cross-sectional study between October 7th and December 19th, 2023, employed simulated patient (SP) methodology to evaluate medication dispensing practices in community pharmacies across four Jordanian governorates. Eight study members were trained for three common scenarios: common cold, urinary tract infection (UTI), and oral contraceptives. Data were collected anonymously using Google Forms. **Results:** The study assessed medication dispensing practices across 103 pharmacies in Jordan using simulated patients. Dispensing without a prescription occurred in 90.3% of visits, with the highest rates observed for common colds (100%), followed by UTIs (97.1%) and contraceptive pills (73.5%). The most common inquiry was 'Who is the medicine for?' (85.3%), with variations across scenarios. Notably, antibiotics were prescribed in 51.4% (n = 18) of common cold cases and 73.5% (n = 25) of UTI cases. While guidance on dosage was provided in 82.3% of interactions, side effects were mentioned in only 17.7%. Communication skills among pharmacists were limited, with only 15.9% (n = 14) checking patient understanding. **Conclusion:** Strict regulatory measures and guidelines are needed to improve the quality of pharmacist consultations on OCPs and over-the-counter pharmaceutical usage in order to ensure patient safety.

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INTRODUCTION

Community pharmacies in Jordan have a crucial role in the health care system and are considered the first place to go for lots of Jordanian people when they feel unwell^{1,2}. They play an essential role in primary healthcare services, including minor ailment management and ensuring the quality use of drugs³. However, medications provided by pharmacists are only safe if used appropriately. Medication dispensing errors among Jordanian pharmacists are common, the overall medication dispensing error was 24.6%, of which 11.5% were prescription-related errors and 13.1% were pharmacist counseling errors⁴. Those results are higher compared to results from studies done in the UK, the USA, and Denmark⁵⁻⁷. Therefore, it is vital to ensure a high level of knowledge, ethics, and adherence to national and international guidelines while dispensing



medications to patients. Antibiotics are among the most drugs that are dispensed without a prescription or detailed history taken from the patients⁸. Antibiotic resistance is considered one of the biggest threats to global health, food security, and development today. As it makes certain infections such as Pneumonia, Tuberculosis, Gonorrhea, and Salmonellosis harder to treat as the antibiotics used to treat them become less effective⁹. According to the Jordanian Drug and Pharmacy Law, it is illegal to dispense antimicrobial drugs of any formulation without a prescription. However, pharmacist counseling is the second most common cause of self-medication with antibiotics in Jordan¹⁰. Furthermore, combined oral contraceptive pills can be bought from community pharmacies without a prescription¹¹. A tight policy regarding the prescription of OCPs should be utilized, as the use of oral contraceptives is linked to an increased occurrence of events such as venous thromboembolism (VTE), ischemic stroke, and myocardial infarction. The simulated patient (SP) method has been considered the gold standard for evaluating performance and quality of care and pharmacy practice¹². SP is an individual who undertakes a covert visit to a pharmacy to enact a scenario that evaluates a specific behavior without the object being aware of being evaluated¹³. This methodology has been applied in the area to evaluate the content and counseling practice and has revealed persistently inadequate counseling in responding to symptom situations such as headache, sleeplessness, and cough. However, they require a high level of training and practicing. This study aims to explore and examine to what level the riskiness of medication dispensing behavior would reach by using the simulated patient method and three different scenarios, including urinary tract infection, common cold and oral contraceptive pills, depending on international guidelines and checklists.

METHODOLOGY

Study design

This study utilized a descriptive cross-sectional design that took place between October 7th, 2023, until December 19th, 2023, using a simulated patient (SP) methodology to investigate the practices of community pharmacists regarding dispensing medications without a prescription using three different common scenarios: common cold, urinary tract infection (UTI), and oral contraceptives. The SP method was used to avoid the Hawthorne effect (changing behavior upon awareness of observation), reflecting a natural response from the community pharmacists. The study was conducted in accordance with the Declaration of Helsinki and approved by the institutional review board of the institute, as well as the scientific research committee of the medical faculty at the Hashemite University.

Before we visited the pharmacies, we obtained approval from the pharmacies via a phone call to participate in our study and to inform them of the existence of a simulation process, which consists of visiting a simulated patient who will come to the pharmacy during the following month. We explained to them about this study and its importance and asked for permission to include this simulation in the study. However,

no information was provided to them about the time of the visit, the name of the research member who will simulate the patient, details of the scenarios. The pharmacy that rejected the idea was excluded. After visiting the pharmacies, highest levels of privacy were maintained about the name of the pharmacy, the name of the employee, or the detailed location of the pharmacy.

The visit was about a simulated patient visiting the pharmacy and complaining about some symptoms related to the chosen scenarios. This process and representation were carried out by eight study members. These visits were practiced and acted out before visiting the pharmacy by presenting them and applying them among the member, and training was provided on how to enter and act out the scenario and how to answer the pharmacist's questions related to the scenario. The data collection was performed through Google Forms that were filled out, and the form questions were answered after leaving the pharmacy.

Study Tool

Google form was used to fill out information after visiting pharmacies. This form consisted of five parts: the first part related to the pharmacy and the time and date of the visit; the second part related specifically to medical history; the third part related to information about the scenario; and the fourth part related to the medication dispensed by the pharmacist. The last part is related to the pharmacist's communication skills. An expert panel at the Hashemite University assessed the content validity of the form in order to confirm that it adequately includes the information required to evaluate different parts of three selected scenarios.

Study population

The study was conducted in two central governorates with a large population: Amman and Zarqa, and two peripheral governorates with a small population: Al-Tafila and Mafraq. Therefore, the study includes different regions in terms of population, the number of pharmacies in that governorate, and the services they provide, making it comprehensive in all aspects and circumstances that pharmacies deal with.

In this study, 103 pharmacies of different types were visited, including independent pharmacies or chain pharmacies, on different days of the week, during weekends and workdays, and different work shifts and different age groups and genders.

Among the 103 pharmacies we visited, 52 were in Amman and 27 were in Zarqa. These two cities are the most populated and are in the center of Jordan. We visited 13 pharmacies in Al-Tafilah, which is in southern Jordan, and 11 in Mafraq, which is in northern Jordan.

Scenarios details

In this study, three scenarios: common cold, UTI, and oral contraceptives (Table 1). The scenarios were developed based on previously published studies¹⁴⁻¹⁶. These three scenarios were chosen because they are the most common among the population in Jordan. Therefore, the first scenario is one of the



Table 1: Clinical scenarios

Case	Additional information
The Common cold scenario started by reported that he has been suffering from a runny nose (clear mucus) and sore throat. The symptoms started three days ago. Requested medicine to relieve the condition.	1. No known allergies. 2. No concurrent medicine 3. No co-morbidities.4. No difficulties in breathing. 5. No headache. 6. No cough 7. Not visited a physician.
The UTI scenario started by antibiotic request for simulated patient himself. Reported symptoms are discomfort on urination with a burning sensation and the need to urinate more frequently. He has been drinking more water than usual to alleviate the symptoms. He also has a slight fever. The symptoms started two days ago.	1.No known allergies. 2.No concurrent medicine. 3.No co-morbidities.4.Not trying anything. 5.Low grade fever. 6.No back pain. 7.No genital ulcer. 8.Not visited a physician. 9.Last time had the same problem about 12 months ago. 10.single and sexually inactive
A simulated patient, 23 years old man entered the pharmacy with a request I need a contraceptive pill for my wife, can you recommend one, please?	1.no breastfeeding 2.she didn't give birth. 3.no smoke cigarette 4.no headache, nausea 5.no breast lump or cancer 6.no previous stroke, heart attack or DVT 7. No concurrent medicine 8.no hypertension 9.no diabetes or rheumatic disease

most common diseases among people of all ages, especially in the winter. Therefore, people resort to the pharmacy without resorting to the doctor to save time and money, and because of the mistakes committed by most pharmacies in Jordan, for these reasons, antibiotics were dispensed without a prescription. The second scenario, which is urinary tract infection, was chosen due to the pharmacies' errors in diagnosing the disease without information and performing tests that help confirm the disease and the speed of prescribing antibiotics without the appropriate diagnosis for the patient. As for the third scenario, it is an oral contraceptive, so it was chosen because of its spread and the demand for it without visiting a doctor, and because of its many side effects, as well as the pharmacist's mistakes in dispensing these contraceptives without taking the woman's sufficient information and her medical history, which helps in choosing the appropriate contraceptive, which leads to exposing her to the many and dangerous side effects of some medical conditions related to it.

Statistical analysis

All data were entered into Microsoft Excel software (version 2016; Microsoft, Redmond, WA), where they were cleaned, polished, and analyzed. SPSS version 28.0 (Chicago, USA) was used in our analysis. Variables were described as the mean count (frequency). The figure was created on Python version 3.11.8.

RESULTS

In total, we conducted a comprehensive examination of medication dispensing practices in 103 pharmacies across Jordan, utilizing a simulated patient approach to assess the drug dispensing by pharmacists. The scenario for common colds was 34.0% (n = 35), 33% (n = 34) for UTI, and 33% (n = 34) for contraceptive pills.

Pharmacy Characteristics

The pharmacies visited varied in type, with 84.5% (n = 87) being independent pharmacies and 15.5% (n = 16) chain pharmacies. The day of the week for the visits was most commonly 74.8% (n = 77) on weekend and 25.5% (n = 26) were on working days. The majority of interactions occurred during the evening hours (66.0%, n = 68). The most common (50.5%, n = 52) location

of the pharmacies visited was the capital city Amman. Table 2 summarizes the demographic for the whole sample and each scenario.

Pharmacist Interactions

In terms of pharmacist interactions, our simulated patients encountered a majority of female pharmacists (63.1%, n = 65), with most (61.2%, n = 63) being in the estimated age group 22-30 years old. The dispensary load at the time of visits was observed to be most commonly quiet in 48.5% (n = 50) of the visits, low in 37.9% (n = 39), and moderate in 13.6% (n = 14) of the cases.

Pharmacist Inquiry Patterns

In general, the most commonly asked question was 'Who is the medicine for?', observed in 85.3% of interactions and 'symptoms' with a prevalence of 44.1%, which is also the case in common cold and UTI scenario. However, in contraceptive pills scenario 'Who is the medicine for?' was followed by 'did she took the medication before?'. Notably, no questions were asked in only one case in the scenario of contraceptive pills. Table 3 demonstrates the question asked in all the three scenarios.

In the exploration of diagnostic questions, pharmacists asked for common cold, UTI, and contraceptive-related scenarios. For common cold presentations, queries regarding fever (86.7%) sore throat (83.3%) were most prevalent among pharmacists. UTI-related questions showed a high frequency question about fever (75%) and abdomen or flank pain (71.4%). The most questions regarding contraceptive pills included breast feeding as the primary question (79.3%) followed by previous OCP intake in 51.7%. Table 4 demonstrate the frequency of diagnostic questions by pharmacists for the three scenarios.

Dispensing Practices

Our findings reveal high prevalence of dispensing practices in the Jordanian pharmacies. In 90.3% (n = 93) of the visits, medications were dispensed without drug prescription. Specifically, for scenarios involving common colds, UTIs, and contraceptive pills, 100% (n = 35), 97.1% (n = 34), and 73.5% (n = 25) of the visits, respectively. Figure 1 demonstrate the comparison of the main pharmacist questions and behaviors patterns by health scenario.



Table 2: Demographic and operational factors in pharmacies across different scenarios.

Variables		Total	Scenario		
		(n = 103)	Common cold (n = 35)	UTI (n = 34)	Contraceptive pills(n = 34)
Estimated Age of Pharmacist	22-30	63 (61.2)	21 (60)	23 (67.6)	19 (55.9)
	30-50	36 (35)	12 (34.3)	10 (29.4)	14 (41.2)
	>50	4 (3.9)	2 (5.7)	1 (2.9)	1 (2.9)
Gender of pharmacist	Female	65 (63.1)	20 (57.1)	20 (58.8)	25 (73.5)
	Male	38 (36.9)	15 (42.9)	14 (41.2)	9 (26.5)
Type of pharmacy	Independent	87 (84.5)	29 (82.9)	29 (85.3)	29 (85.3)
	Chain	16 (15.5)	6 (17.1)	5 (14.7)	5 (14.7)
Dispensary Load	Quiet	50 (48.5)	17 (48.6)	12 (35.3)	21 (61.8)
	Low	39 (37.9)	12 (34.3)	17 (50)	9 (26.5)
	Moderate	14 (13.6)	6 (17.1)	5 (14.7)	4 (11.8)
Time of visit	Morning	35 (34)	13 (37.1)	10 (29.4)	12 (35.3)
	Evening	68 (66)	22 (62.9)	24 (70.6)	22 (64.7)
Day of visit	Working days	26 (25.2)	11 (31.4)	8 (23.5)	7 (20.6)
	Weekends	77 (74.8)	24 (68.6)	26 (76.5)	27 (79.4)
Location	Amman	52 (50.5)	17 (48.6)	18 (52.9)	17 (50)
	Zarqa	27 (26.2)	8 (22.9)	9 (26.5)	10 (29.4)
	Al-Tafilah	13 (12.6)	5 (14.3)	4 (11.8)	4 (11.8)
	Mafraq	11 (10.7)	5 (14.3)	3 (8.8)	3 (8.8)

Note: UTI, urinary tract infection.

Table 3: General questions of pharmacist following patient medication request.

General questions asked by the pharmacist	Total (n = 102)	Scenario		
Who is the medicine for	87 (85.3)	27 (77.1)	31 (91.2)	29 (87.9)
Symptoms	45 (44.1)	23 (65.7)	19 (55.9)	3 (9.1)
Duration of symptoms	43 (42.2)	22 (62.9)	19 (55.9)	2 (6.1)
Frequency of symptoms	15 (14.7)	6 (17.1)	8 (23.5)	1 (3)
Associated symptoms	17 (16.7)	9 (25.7)	7 (20.6)	1 (3)
Took the medicine before	35 (34.3)	4 (11.4)	6 (17.6)	25 (75.8)
Any medication recently	22 (21.6)	5 (14.3)	7 (20.6)	10 (30.3)
Allergies of medication or food	27 (26.5)	14 (40)	8 (23.5)	5 (15.2)
Visited a doctor	14 (13.7)	0 (0)	3 (8.8)	11 (33.3)
Age	33 (32.4)	16 (45.7)	12 (35.3)	5 (15.2)
Weight	1 (1)	1 (2.9)	0 (0)	0 (0)
Past medical or surgical history	11 (10.8)	2 (5.7)	1 (2.9)	8 (24.2)

Note: In one of the cases of contraceptive pill the patient was not asked anything.

The most common medications that were given in case of the common cold were chlorpheniramine maleate (57.1%, n = 20) and amoxicillin with clavulanic acid (37.1%, n = 13). In the scenario of UTI, the most drugs given were colicidal effervescent (51.5%, n = 17) and ciprofloxacin (48.5%, n = 16). The COCP were prescribed in 88.0% of the cases of the contraceptive pill's scenario and ethinylestradiol in 12% (n = 3). Moreover, 51.4% (n = 18) of the common cold cases and 73.5% (n = 25) of the

UTI cases were prescribed antibiotics. Table 5 summarizes the different drugs given for the patients in the different scenarios.

Pharmacist Medication Information

In evaluating of the information regarding the medication given by pharmacists to patients in the 93 cases, it was found that guidance on how much to take was provided in 82.3% (n = 65) of interactions. Meanwhile, details on 'when to take' the



Table 4: Pharmacist diagnostic question for patient regarding each scenario		
Specific question asked by pharmacist	Count	%
Common cold (n = 30)		
Fever	26	86.7
Sore throat	25	83.3
Fatigue	12	40
Headache	5	16.7
Cough	4	13.3
Chest pain	3	10
Runny nose	3	10
Neck swelling	1	3.3
UTI (n =28)		
Fever	21	75
Abdomen or flank pain	20	71.4
Problems urinating	10	35.7
Back pain	6	21.4
Genital ulcers	3	10.7
Amount of water drinking	2	7.1
Contraceptive pills (n = 29)		
Breast feeding	23	79.3
Previous OCP	15	51.7
Previous birth	11	37.9
Smoking history	6	20.7
Hypertension	8	27.6
Diabetes	8	27.6
Last menstrual period	5	17.2
Headache	4	13.8
Nausea and vomiting	4	13.8
DVT	4	13.8
Previous stroke or heart attack	4	13.8
Breast lump/ cancer	3	10.3
Rheumatic disease	1	3.4

Note: In some of the cases no questions were asked to the patients.

medication were conveyed less frequently, observed in 75.9% (n = 60) % of cases. The 'duration of using' the medication was discussed in 48.1% (n = 38) of interactions. Pharmacists informed patients of 'side effects' in only 17.7% (n = 14) of consultations and 'how the drug works' was explained in 29.1% (n = 23) of encounters. Lastly, in 25.8% (n = 24) no any information about the medication were give.

Communication and Information Provision

Regarding communication among the 93 who were given medication, 15 of the cases the communication skills could not be assessed due to the absence of interaction. Among the remaining cases, pharmacists introduced themselves in only 34.1% (n = 30) of the visits and checked the patient's understanding of the medication recommendations in 15.9%

(n = 14) of the interactions. However, 81.8% (n = 16) of the pharmacists did not consider patient preferences and 77.3% (n = 68) did not inquire if additional information was required. In addition, almost in all the cases (97.7%, n = 86) the pharmacists avoided the use of inappropriate language (e.g., jargon, medical terms for a h.).

DISCUSSION

The results from this study underscore a significant concern regarding the dispensing practices in Jordanian pharmacies, with a remarkably high prevalence of medication being dispensed without proper prescriptions. This trend is evident in the management of common ailments such as colds, urinary tract infections (UTIs), and the dispensing of oral contraceptive



Table 5: Dispensed medication for each scenario.

Medications	Total (n = 93)	Scenario		
		Common cold (n = 35)	UTI (n = 33)	Contraceptive pills (n = 25)
Combined oral contraceptive pills	22 (23.7)	-	-	22 (88)
Chlorpheniramine maleate	20 (21.5)	20 (57.1)	-	-
Coli Urinal Effervescent Granules	17 (18.3)	-	17 (51.5)	-
Ciprofloxacin	16 (17.2)	0 (0)	16 (48.5)	-
Amoxicillin+ calvunate	14 (15.1)	13 (37.1)	1 (3)	-
Paracetamol	8 (8.6)	8 (22.9)	-	-
Cetirizine	6 (6.5)	6 (17.1)	-	-
Azithromycin	3 (3.2)	3 (8.6)	0 (0)	-
Cefuroxime	3 (3.2)	1 (2.9)	2 (6.1)	-
Ethinylestradiol	3 (3.2)	-	-	3 (12)
Ibuprofen	3 (3.2)	3 (8.6)	-	-
Xylometazoline	3 (3.2)	3 (8.6)	-	-
Combination of sodium bicarbonate-tartaric acid-citric acid anhydrous-tri sodium citrate	2 (2.2)	-	2 (6.1)	-
Levofloxacin	2 (2.2)	0 (0)	2 (6.1)	-
Cefadroxil	1 (1.1)	0 (0)	1 (3)	-
Cefalexin	1 (1.1)	1 (2.9)	0 (0)	-
Fosfomycin	1 (1.1)	-	1 (3)	-
Minocycline	1 (1.1)	0 (0)	1 (3)	-
Trimethoprim / Sulfamethoxazole	1 (1.1)	-	1 (3)	-

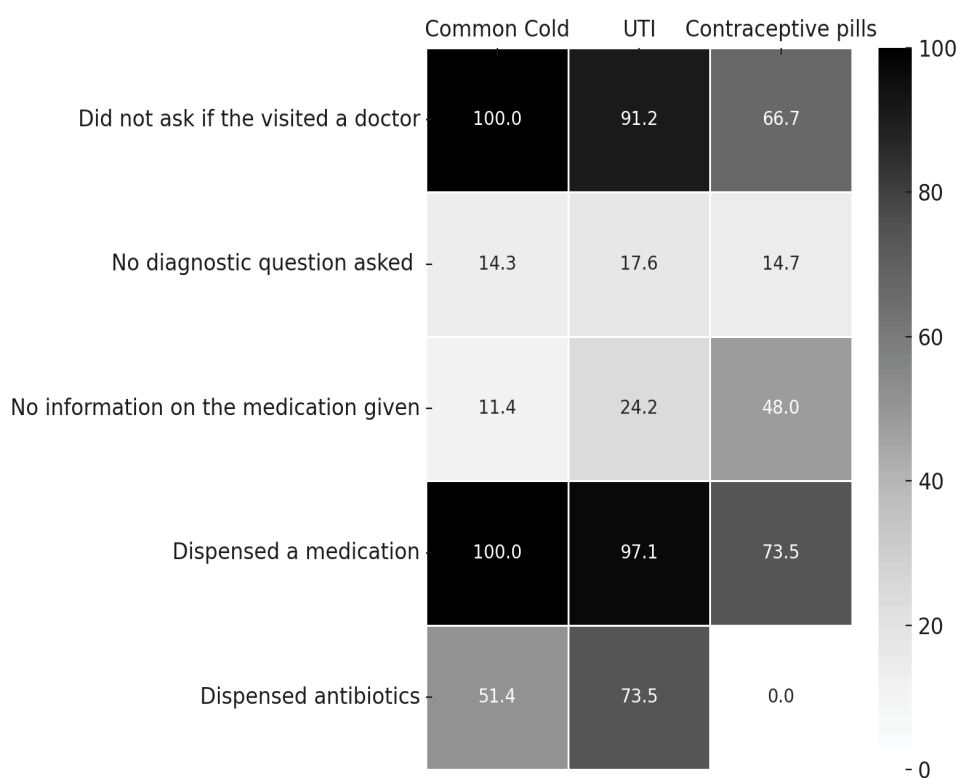


Figure 1. Heatmap on the pharmacist behaviors across scenarios.

pills (OCPs), where non-prescription dispensing rates were exceedingly high. This pattern raises substantial concerns about the safety and appropriateness of pharmaceutical care provided to patients in Jordan. A staggering 90.3% of the visits resulted in the dispensation of medications without a prescription, highlighting a critical oversight in adherence to national and international pharmaceutical guidelines. This rate is alarmingly high. Although distributing antibiotics without a prescription is officially illegal in many developing countries, the lack of adequate government regulation and oversight often allows this practice to continue¹⁷⁻²⁰.

The first and second parts of the study comprised assessment of dispensing practice using a URTI and UTI stimulated clinical scenarios. Antibiotics were easily acquired without a prescription from nearly all pharmacies. Pharmacists in Jordan are typically limited to dispensing over-the-counter (OTC) medications and advising patients to consult a doctor if symptoms continue. However, this study indicated a prevalent practice of antibiotic dispensation with minimal questioning regarding potential drug allergies and often without adequate guidance on possible adverse effects. Similar studies around the world have found that antimicrobial medications can be easily purchased from pharmacies, despite laws prohibiting such malpractices²⁰⁻²². In consideration of these results, it is imperative to implement an effective intervention, as the increasing resistance to commonly prescribed antibiotics will inevitably affect treatment outcomes in the near future. Especially when considering the general population's limited awareness of antibiotic resistance⁴.

The third part of our study included a stimulated oral contraceptive pill clinical scenario. In our study, oral contraceptives were prescribed in 73.5% of the visits. Minimal to none of the pharmacists conducted a comprehensive review of the patients' medical, medication histories or medication side effects, which could lead to considerable health risks for the patients. Our findings are similar to other studies that address the same topic. For instance, in a similar study conducted in Iran, it was found that approximately 41.43% of pharmacists did not ask the simulated patient any questions²³. Furthermore, a study from Brazil concluded that over 90% of the pharmacists did not ask any questions before dispensing oral contraceptives²⁴.

According to the result of the present study, 87.9% asked "who is the medicine for" and 75.8% asked if she took the medicine before. But it lacked appropriate questions about other or recent medications that the patient takes. As OCPs can interact with many other medications. This is similar to findings reported in previous studies, in a study conducted in Brazil from June to October 2012, the simulated patients were taking carbamazepine, which can reduce the effectiveness of oral contraceptive pills²⁵. However, none of the pharmacists mentioned this significant interaction. Previous research has shown that women find it more convenient to have oral contraceptive pills available without a prescription^{24,26}. This could explain our findings, as it could be more cost effective and accessible.

Our study demonstrated a low communication among pharmacists as only 34.1% introduced themselves and only 15.9% checked the patient's understanding of the medication recommendations. However 97.7% of pharmacists avoided using jargon as Using simple language and speaking clearly are important because they help patients understand the information better^{27,28}. Previous study also demonstrated communication deficiency, a Cross-sectional data collection was conducted from March to July 2010 in Aracaju in Brazil using SP method and it showed that the pharmacists had low scores in measures of non-verbal communication and poor communication skills²⁸.

In this study, we utilized the SP method, which can be an effective approach for evaluating the professional level of pharmacies, while avoiding the Hawthorne effect¹³. After obtaining approval from the pharmacies and informing them that a simulated patient would visit at some point within a month, we withheld specific details such as the SP's personal information, exact visit time, or scenarios to prevent behavioral changes if the SP was suspected. In our study, the pharmacists did not detect any of the SP visits, demonstrating that our SPs were well-trained and reliable. To ensure the quality of SP visits, the recruited SPs received training on how to interact with and respond to the pharmacists. Additionally, the scenarios were rehearsed before the formal visits to ensure consistency across all SPs. However, our study has some limitations. Since there was no specific deadline for the SP to fill out the Google form after leaving the pharmacy, there is a potential for recall bias. The SP might have forgotten some details from the interaction. Additionally, our study population was drawn from four governmental regions in Jordan, with more than half of the participants from the capital, Amman. Consequently, the practice behaviors of pharmacists observed in our study may not be generalizable to other regions in Jordan. A larger, more randomized sample would be more representative.

CONCLUSION

The findings of this study suggest significant concerns regarding medication dispensing practices in Jordanian community pharmacies. The simulated patient (SP) approach revealed that a substantial majority of medications were dispensed without a prescription or proper medical history, with rates alarmingly high across all scenarios: common cold, urinary tract infection (UTI), and oral contraceptive pills (OCPs). Antibiotics were frequently dispensed without a prescription or sufficient diagnostic questioning or patient history review, posing substantial risks to patient safety and contributing to the broader issue of antibiotic resistance and misuse. Communication skills among pharmacists were generally poor, which can significantly impact patient adherence and understanding of their treatment. The study underscores the urgent need for strict regulatory measures, enhanced pharmacist training, and public awareness campaigns to ensure adherence to pharmaceutical guidelines and improve the quality of healthcare services provided by community pharmacies in Jordan. While over-the-counter dispensing of



OCPs in Jordanian community pharmacies can be more efficient and cost-effective for women, especially in underserved areas, there is a crucial need for better regulations and guidelines for prescription practices.

CONFLICT OF INTERESTS

The authors declare that they have no known competing financial or personal interests that could have influenced the work reported in this paper.

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