

## The Role of Pharmacists in Patient Counselling for OTC Medication in Jordan: A Cross-Section Study

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### ABSTRACT

**Background:** Community pharmacists represent the easiest-to-access medical experts for drugs. They play a major part in educating and counselling patients, especially regarding over the counter (OTC) medications.

**Purpose:** This study aims to explore the role of pharmacists in patient counselling for OTC medication in Aqaba, Jordan.

**Methods:** A cross-sectional survey was conducted with community pharmacists in Aqaba. An online self-administered survey was launched for the study sample via a social media platform (i.e. WhatsApp). The responses were imported into the Statistical Package for the Social Sciences (SPSS) for statistical analysis.

**Results:** About half of pharmacists started their counselling by asking about the patient's history. More than 70% of pharmacists advised patients in terms of their dosage regimen, the proper indications for the OTC medication, and any possible food-drug interactions. However, approximately one-third of pharmacists suggested there were many challenges in the counselling process. These included limitations in counselling time, work overload, more patients than the pharmacist's capacity and a lack of counselling area.

**Conclusion:** This study illustrates that community pharmacists are highly committed to pursuing their pharmaceutical care role through proper counselling for OTC medication in Aqaba. Moreover, our study highlights some challenges that pharmacists could face, which may interfere with the efficacy and safety of the drugs they provide.

**Keywords:** Community pharmacy, Counselling, Jordan, OTC medications.

### INTRODUCTION

Worldwide, pharmacists are part of the healthcare workforce and have a trusted role, in which patients are counselled directly, with the pharmacist providing any advice and information they need [1]. Thus, the pharmacist is a key professional in provision of patient education and counselling, as the health professional who is easiest to access [2]. The American Society of Health-System

Pharmacists (1997) defines counselling patients as "providing information orally or written form to the patient or his/her representative on direction of use, advice on side effect, precaution, storage, diet, and lifestyle modification" [3]. Appropriate counselling from pharmacists has resulted in patients adhering to their treatment more closely, helped to prevent health issues, improved patient satisfaction, and enhanced outcomes clinically and in terms of life quality, as well as improving people's general understanding of medicines and diseases [4].

Within the Jordanian healthcare system, the community pharmacy is the primary care facility which is simplest for patients to access. However, the role of

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community pharmacists is mostly to dispense drugs, and these professionals tend to interact with patients only in a limited way [6]. While the legal framework regarding the dispensing of drugs in this setting is closely related to Western frameworks, in practice, regulations are not subject to strict enforcement [7]. A typical patient visits the community pharmacy in order to buy products, and consults a pharmacist as a cheaper way to diagnose or treat their conditions than visiting a physician's clinic [8].

Recently, patients have tended increasingly to self-medicate using over the counter (OTC) drugs which are available without a prescription from a pharmacy [9]. Moreover, deregulation of increasing numbers of medications has contributed to this trend [10]. The American Pharmacists Association estimates that OTC treatments are used to treat two billion health conditions annually, out of a total of 3.5 billion health problems treated yearly, an estimated 2 billion health problems are treated with the use of OTC products [11]. The World Health Organization (WHO) has defined non-prescription medicines as medicines which the health regulators have authorised for use in treating non-serious symptoms and conditions. OTC drugs can be accessed without being prescribed, based on evidence that they are effective and safe when patients take them correctly as described on their label or accompanying information leaflet [12].

However, these medications are not a without risk, which places pharmacists and their staff in a position of greater responsibility to conduct their role in pharmaceutical care properly [8]. These duties include providing essential information to the patient to allow appropriate selection of medications and encouraging patients to read all relevant information on the labelling of these drugs, as well as asking for help where they are unsure if a product is appropriate, or how to use it [13,14]. Aqaba is in the southernmost area of Jordan, and it is a non-capital coastal city with a population of 203,200, as per the estimated Population at End-year 2018 [15, 16]. In Aqaba, there are 75 community pharmacies, and among

these there are 4 chains, with approximately 16 branches, while the others are independently run.

#### **Aim of the study**

The main aim of this study was to examine the knowledge of pharmacists regarding OTC medications, and reports the differences in patient counselling, with a view to provide the best ways to improve pharmacies. As far as the authors could ascertain, this project is the first conducted in Aqaba to explore pharmacists' role in counselling patients for OTC medication in Aqaba, Jordan.

#### **Ethics approval**

Ethical approval to carry out the research was given by Al-Balqa' Applied University in June 2019. Patient information was confidential.

#### **Methods**

##### *Design and Context*

This study uses a cross-sectional and descriptive study design, where data were collected in a self-completed questionnaire accessed through Survey Google Drive. The survey was carried out in Aqaba, Jordan.

##### *Data collection*

A cross-sectional online survey was distributed to every pharmacist who was registered with the Jordan Pharmacists Association (JPA) – Aqaba and to the assistant pharmacists within the community pharmacies via 'WhatsApp' messages.

The survey used a self-administered questionnaire written in Arabic, as Jordan's official language, and was carried out from June -August 2019.

##### *Study tool*

The questionnaire consisted of 43 questions over 4 parts. In part 1, the following socioeconomic variables were included: gender, age, duration of experience in community pharmacy, educational level and they type of pharmacy they worked in. The second section dealt with the pharmacists' perception of basic OTC-pharmaceutical care aspects, including history of administration and counselling (implication and challenges). Here, respondents had a choice of responses as "never", "rarely",

“sometimes”, “often” or “always”. The third section was designed to measure the score of pharmacists’ perceptions of the importance of certain counselling points (1-5, least - most important). To establish the score of the pharmacists’ perceptions of the importance of some of the counselling points, points were allotted for the responses, in which 1 was “least important” and 5 “most important”. The last section was an open-ended question to pharmacists to give any suggestions for other pharmacists when providing advice about drugs without a prescription.

The collection of data using these data collection forms was validated by conducting a pilot study in four pharmacies. The data collection form was reviewed by two PhD holders in clinical and pharmacy practice to ensure validity.

#### *Data analysis*

Coding of the data took place for all completed surveys, entering this data into the Statistical Package for the Social Sciences (SPSS, version 24, Chicago, IL, USA) software, which was used for statistical analysis. Descriptive statistics, including percentages and frequency distribution, were calculated for each of the questions. Scores were calculated using Microsoft Excel.

### **Results**

A total of 125 pharmacists (corresponding to 63% of the total 180 registered community pharmacies within Aqaba) and 46 assistance pharmacists in Aqaba participated voluntarily in the online survey.

#### *Sociodemographic characteristics*

Out of the total completed questionnaires (n= 125), the majority of the participants were females (n=90, 72.0%), and had a wide age-range, with the highest percentage (n=83, 66.4%) aged 20-30 years. Two thirds of the participants (n=55, 44.0%) had 1 to 5 years of experience and n=59, 47.2% had a BSc in pharmacy, followed by a diploma in pharmacy (n=46, 36.8%). Half of the participants worked in chain community pharmacies (n=64, 51.2%) (Table 1).

#### *Pharmacist perceptions of basic OTC-pharmaceutical*

#### *care aspects*

It was found that pharmacists “always” ask about age (n=71 (56.8%), pregnancy or/and breastfeeding (n=79, 63.2%), the purpose of the medication (n=61, 48.8%), and allergy (n=50, 40.0%) while dispensing OTC medication. One-third of pharmacists “often” asked about family history of known diseases (n=39, 31.2%), the patient’s current use of certain prescribed medication (n=51, 40.8%), current use of certain OTC medication (n=43, 34.4%), and history of any experienced side effects related to the medication (n=42, 33.6%) (Table 2).

More than half of the study participants always counsel patients about their dosage regimen (n=110, 88.0%), the duration of medication use (n=65, 52.0%), the proper administration method for the nebulizer, suppositories, etc. (n=73, 58.45%), the proper indications of the OTC medication, such as antipyretic, vitamin, etc. (n=93, 74.4%), the effects of administration regarding meals after eating or before eating (n=94, 75.2%).

When asked about the challenges that can hinder the pharmaceutical counselling process, the following was reported. About one-third of the pharmacists confirmed “often” for limitations in counselling time (n=42, 33.6%), shortage in drug-related knowledge (n=27, 21.6%), shortage in disease-related knowledge (n=29, 23.2%), work overload, number of patients exceeding the pharmacy’s capacity (n=41, 32.8%), and a lack of counselling area (n=30, 24.0%).

The average score of pharmacist perception of the importance of some counselling was  $3.84 \pm 2.55$  out of 5 (points (1-5, least -most important)), which included “*the explanation of the proper storage conditions of the medication, the proper duration of treatment and use of the medication, contraindications of the medication, the proper administration method of the medication, and the common side effects of the medication and how to deal with it*” (Table 3).

Writing the instructions on the package (83.2%), followed by a conversation (76.0%), pasting ready-made

labels on the package (51.2%), and asking the patient to read the method from the leaflet (13.6%) are the most common counselling methods used among the pharmacists (Figure 1). In addition, the majority of pharmacists reported that self-learning by using the internet and published articles (84.0%), attending specialized lectures (82.4%), attending training courses (70.4%), and attending specialized conferences (57.6%) are the sources of information that they preferred in order to enrich and update their knowledge about OTC medications (Figure 2).

### **Discussion**

Currently, there is an increasing tendency towards self-medication with OTC drugs in Jordan. The need to wait before being examined by physicians, fees for physician appointments and having a condition which is not sufficiently serious are the most common reasons behind self-treatment in Jordan [7, 17]. Accordingly, pharmacists running community pharmacies in Jordan play an essential role in providing patients with adequate counselling regarding correct and safe self-treatment using OTC products. As far as can be ascertained, this study is unique in Jordan in evaluating pharmaceutical counselling of OTC drugs at community pharmacies from the point of view of pharmacists. This study shows that about half of pharmacists ask about age, pregnancy or/and breastfeeding and the purpose of the medication. This helps in the prescription of the correct OTC medication.

Ensuring that recommended patient counselling practices are followed is challenging, involving altering practice at pharmacies and the need to effectively audit and train pharmacists [3]. Therefore, in order for pharmacists to give suitable counselling to patients when dispensing OTC drugs and to enhance service quality at community pharmacies, pharmacists need to have information available to them regarding medications, and need to participate in continued learning [18].

Our study results have revealed that the majority of pharmacists always counsel patients about their dosage

regimen (>80.0%), provide drug administration instruction with regards to meals (75.2%), and give information about the proper indications of OTC medications (74.4%). These results indicate an overall good response of pharmacists, since many previous studies have concluded that pharmacists and doctors are patients' main providers of information about over the counter drugs [19]. However, based on the conducted survey only about half of the pharmacists always asked patients about their age, the purpose and duration of taking the medication and only 58.45% offered advice on the proper administration method of the nebulizer, suppositories, etc. Moreover, less than one-third of the pharmacists "often" asked about family history of known diseases, and 33.6% asked about the history of any side effects related to the medication, while unfortunately, one-third of pharmacists report "rarely" asking patients about family history for a known disease. Accordingly, the aforementioned numbers reflect suboptimal counselling among pharmacists regarding the safety of prescribing OTC medication, which is arguably putting patients at high risk of serious medication side effects, contraindications, or allergic drug reactions.

A lack of proper patient counselling in Jordan has been confirmed by other studies. Hammad et al. (2018) conducted a patient simulated study to evaluate the management of headaches by OTC analgesics in 50 community pharmacies, distributed in Amman, Zarqa and Al-Salt. They found that for most visits, the pharmacists did not question patients about their medical history. In another study performed at a Jordanian teaching hospital, the researcher observed a shortage of proper patient counselling regarding the safety of drug prescription in most cases [21].

Barriers to proper pharmaceutical counselling processes reported in our study are that there are "often" limitations in counselling time (33.6%), work overload beyond the pharmacist capacity (32.8%), lack of counselling area (24.0%), a shortage in disease-related knowledge (23.2%) and a shortage in drug-related

knowledge (21.6%). Likewise, other studies [22, 23] in Jordan reported the same counselling barriers with some variations in the frequency of reported problems.

Although the majority of participants reported that they conduct their self-learning using the internet and published articles to enrich their counselling information, a substantial number of pharmacists reported a shortage of knowledge as a limitation. Therefore, we suggest increasing the number of pharmacists per shift as a solution to minimize working overload, thereby, each pharmacist will have more time for patient education and counselling. More importantly, we believe that a comprehensive training program during the undergraduate period focusing mainly on pharmacology and pharmacotherapy should be implemented and students should pass a strict training exam provided by their educational institution to ensure pharmacy students have a sufficient scientific background.

This study has resulted in a number of suggestions to make the counselling of OTC medications better. The respondents highlighted the importance of learning more than one language, as Aqaba is a city based on tourism. Moreover, some pharmacists suggest making OTC counselling a paid service.

The present study has several limitations. It was not possible to determine the response rate because of the electronic distribution method. In addition to this, more than 85% of the pharmacists who took part were  $\leq 40$ . This may be due to a lower interest level among the older age group (>40 years), or potentially due to lower engagement in social media platforms. The fact that the majority of respondents were women (>70%) may be due to a lower level of interest amongst males in participating in the study. However, it should be noted that the majority of Jordanian pharmacists are women, and until February 2019, women accounted for 64.4% of pharmacists registered in the country, as reported by the pharmacists' association [24].

## **Conclusion**

Counselling regarding OTC drugs is an everyday task for Jordanian pharmacists in Aqaba. In general, our study shows that most pharmacists counsel patients properly in OTC medications. Moreover, this research uncovers an issue in the low-quality counselling from some pharmacists about side effects that the patient could experience after using the medication and how they can deal with them may interfere with the efficacy and safety of drugs.

The long-standing duties of the pharmacist, including tasks in relation to medications and dispensing prescriptions, need to be improved and extended so that the pharmacists can provide their best expertise and knowledge to help patients as much as they can. Thus, there is a need for a broad framework specifying appropriate actions to be taken to improve knowledge levels among pharmacists and equip them to perform effectively across different conditions [25]. It is suggested here that team working, communications channels and training courses should be considered an effective tool to improve and keep pharmacists up to date with new drug developments.

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## **Funding Statement**

No external funding was needed to conduct and complete the study.

## **Conflicts of interest**

All authors stated that there was no conflict of interest regarding the study design and publication of the manuscript.

Figures

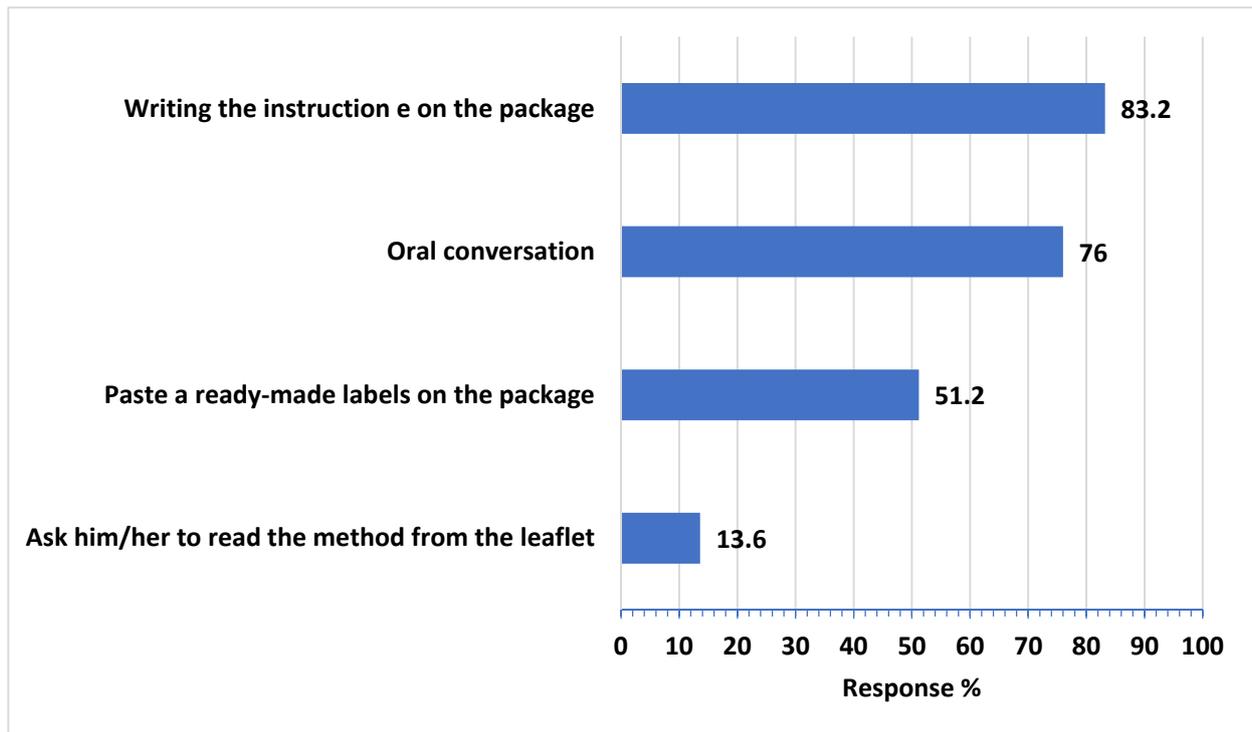


Figure 1. The percentage of the most common counselling methods used among the pharmacist.

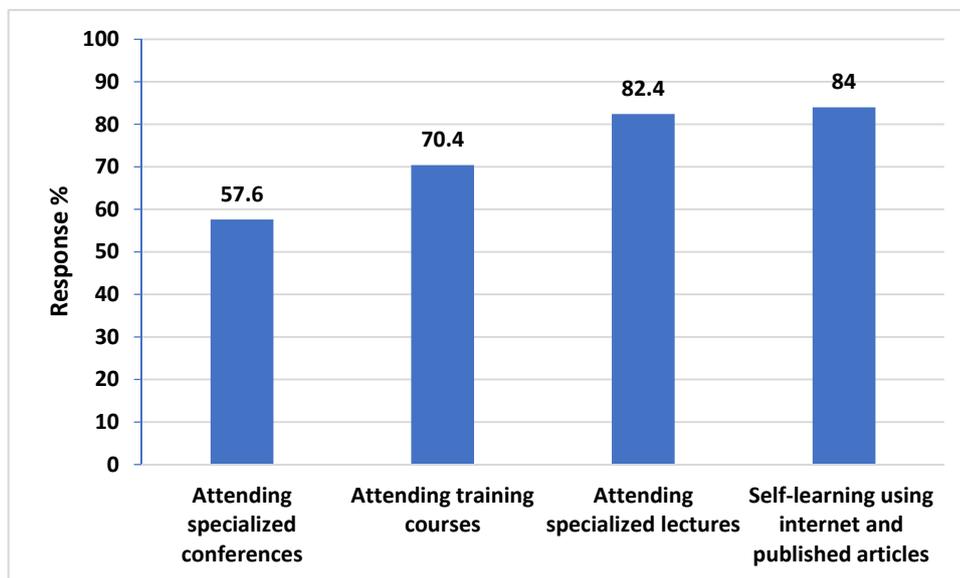


Figure 2. Sources of information that pharmacist preferred to use to enrich his scientific background.

Tables

**Table 1. Sociodemographic data for the study participants (n=125)**

Variable	n	%
<b>Gender</b>		
· Female	90	72
· Male	35	28
<b>Age</b>		
· 20-30 years	83	66.4
· 31-40 years	25	20
· 41-50 years	13	10.4
· 51-60 years	3	2.4
· More than 60 years	1	0.8
<b>Duration of experience in Community pharmacy</b>		
· Less than one year	24	19.2
· 1 to 5 years	55	44
· 6 to 10 years	18	14.4
· 11 to 15 years	12	9.6
· More than 16 years	16	12.8
<b>Educational level</b>		
· Diploma in pharmacy	46	36.8
· BSc in pharmacy	59	47.2
· Pharm D	13	10.4
· MSc in pharmacy	6	4.8
· PhD in pharmacy	1	0.8
<b>Type of pharmacy working in</b>		
· Individual community pharmacy	61	48.8
· Chain community pharmacy	64	51.2

**Table 2. Pharmacist perception for basic OTC-pharmaceutical care aspects including history administration and counselling (implication and challenges)**

Question	n (%)				
	Always	Often	Sometimes	Rarely	Never
<b>Upon dispensing OTC medication, do you ask the patient about it?</b>					
· Age	71 (56.8)	40 (32.0)	14 (11.2)	0.0	0.0
· History of chronic diseases	61 (48.8)	33 (26.4)	27 (21.6)	4 (3.2)	0.0
· The purpose of purchasing the medication	58 (46.4)	49 (39.2)	15 (12.0)	3 (2.4)	0.0
· Pregnancy or breast feeding	79 (63.2)	32 (25.6)	13 (10.4)	1 (0.8)	0.0
· Any allergy to certain foods or medicines	50 (40.0)	34 (27.2)	28 (22.4)	13 (10.4)	0.0
· Current Use of certain prescribed medication	35 (28.0)	51 (40.8)	29 (23.2)	10 (8.0)	0.0

Question	n (%)				
	Always	Often	Sometimes	Rarely	Never
· Current Use of certain OTC medication	36 (28.8)	43 (34.4)	33 (26.4)	13 (10.4)	0.0
History of any experienced side effects related to the medication	28 (22.4)	42 (33.6)	37 (29.6)	16 (12.8)	2 (1.6)
<b>Upon dispensing an OTC medication, do you provide counselling about?</b>					
· Dosage regimen	110 (88.0)	15 (12.0)	0.0	0.0	0.0
· The proper storage conditions	60 (48)	43 (34.4)	14 (11.2)	8 (6.4)	0.0
· The shelf life post-opening	41 (32.8)	45 (36)	22 (17.6)	16 (12.8)	1 (0.8)
· The duration of medication use	65 (52.0)	39 (31.2)	16 (12.8)	5 (4.0)	0.0
· The proper administration method for (nebulizer, suppositories, etc.)	73 (58.4)	41 (32.8)	11 (8.8)	0.0	0.0
· The proper Indications for the OTC medication (such as antipyretic, vitamin, etc.)	93 (74.4)	26 (20.8)	4 (3.2)	2 (1.6)	0.0
· The effect administration regarding the meals (after eating, before eating)	94 (75.2)	28 (22.4)	3 (2.4)	0.0	0.0
When to stop using it and refer to the doctor	42 (33.6)	39 (31.2)	38 (30.4)	6 (4.8)	0.0
· Any specified precautions regarding drug-drug or drug-food interactions	46 (36.8)	57 (45.6)	20 (16.0)	2 (1.6)	0.0
· Any specified side effects that could the patient experience after using the medication and how to deal with it	32 (25.6)	40 (32.0)	36 (28.8)	15 (12.0)	2 (1.6)
<b>Upon dispensing an OTC medication, what are the challenges that you counteract the proper pharmaceutical counselling process?</b>					
· Limitations in counselling time	26 (20.8)	42 (33.6)	29 (23.2)	16 (12.8)	12 (9.6)
· Shortage in the drug related knowledge	2 (1.6)	27 (21.6)	36 (28.8)	35 (28.0)	25 (20.0)
· Shortage in the disease related knowledge	1 (0.8)	29 (23.2)	41 (32.8)	39 (31.2)	15 (12.0)
· Non-cooperated patients	8 (6.4)	26 (20.8)	49 (39.2)	26 (20.8)	16 (12.8)
· Dealing with patients under 18 years old	12 (9.6)	32 (25.6)	44 (35.2)	25 (20.0)	12 (9.6)
· Work overload, patients more than the pharmacist capacity	30 (24.0)	41 (32.8)	26 (20.8)	22 (17.6)	6 (4.8)
· Lack of counselling area	28 (22.4)	30 (24.0)	24 (19.2)	17 (13.6)	26 (20.8)

**Table 3. The score of pharmacist perception for the importance of some counselling points (1-5, least -most important)**

Counselling points	Mean±STD
· Explain the proper storage conditions of the medication	3.78±2.12
· Explain the proper duration of treatment and use of the medication	3.94±2.12
· Explain the contraindications of the medication	3.91±2.83
· Explain the proper administration method of the medication	3.98±2.83
· Explain the common side effects of the medication and how to deal with it	3.58±2.83
<b>An overall score (out of 5)</b>	<b>3.84±2.55</b>

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## دور الصيدالة في تقديم المشورة للمرضى بشأن الأدوية التي لا تستلزم وصفة طبية في غير العاصمة: دراسة مقطعية

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### ملخص

**الخلفية:** يمثل صيدالة المجتمع الخبراء الطبيين الأسهل للوصول إلى الأدوية. يلعبون دورًا رئيسيًا في تثقيف وإرشاد المرضى، خاصة فيما يتعلق بالأدوية التي لا تستلزم وصفة طبية (OTC).  
**الغرض:** هدفت هذه الدراسة إلى استكشاف دور الصيدالة في إرشاد المرضى للأدوية التي لا تستلزم وصفة طبية في العقبة، الأردن.

**الطريقة:** تم إجراء مسح مقطعي مع صيدالة المجتمع في العقبة. تم إطلاق استبيان عبر الإنترنت لعينة الدراسة عبر منصة التواصل الاجتماعي مثل (WhatsApp) تم استيراد الردود إلى الحزمة الإحصائية للعلوم الاجتماعية (SPSS) للتحليل الإحصائي.

**النتائج:** بدأ حوالي نصف الصيدالة استشاراتهم بالسؤال عن تاريخ المريض. نصح أكثر من 70% من الصيدالة المرضى من حيث نظام الجرعات، والإشارات المناسبة للأدوية التي لا تتطلب وصفة طبية، وأي تفاعلات محتملة بين الغذاء والدواء. ومع ذلك، أشار ما يقرب من ثلث الصيدالة إلى وجود العديد من التحديات في عملية الاستشارة. وشملت هذه القيود وقت الاستشارة، وعبء العمل الزائد، ومرضى أكثر من قدرة الصيدلي ونقص منطقة الاستشارة.

**الخلاصة:** توضح هذه الدراسة أن صيدالة المجتمع ملتزمون بشدة بمتابعة دورهم في الرعاية الصيدلانية من خلال تقديم المشورة المناسبة للأدوية التي لا تستلزم وصفة طبية في العقبة. علاوة على ذلك، تسلط دراستنا الضوء على بعض التحديات التي يمكن أن يواجهها الصيدالة، والتي قد تتداخل مع فعالية وسلامة الأدوية التي يقدمونها.

**الكلمات الدالة:** صيدلية المجتمع، الإرشاد، الأردن، الأدوية التي تصرف بدون وصفة طبية.

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