



Research Article

Satisfaction of the General Public Toward Community Pharmacists-Patients Education Concerning Over the Counter Medicines in Baghdad/Al-Rusafa: A Cross-Sectional Study

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Abstract

Background: Community pharmacies are considered the first contact point between patients and healthcare professionals. Pharmacists have an important role in advising patients and delivering pharmaceutical services to the community. Investigating the satisfaction of the public with this service is essential. **Objective:** To determine the satisfaction of the general public concerning OTC medicine dispensing in Baghdad, Rusafa region. **Methods:** This cross-sectional study used a modified, adapted self-administered questionnaire given to patients visiting pharmacies and a Google form online administration that focused on their satisfaction with community pharmacists and pharmacy services. It was conducted from September 2023 to April 2024 on a randomly selected population (n=891). Descriptive statistics were used to analyze the data. **Results:** Of 891 patients, only 843 completed the questionnaire. 73% of respondents believed that pharmacists have enough information just like physicians, 72% were satisfied that pharmacy is a good place to get advice; only 24.2% showed that pharmacists gave them the needed instructions, and only 13.5% wrote instructions. 91.1% found pharmacies appearance good, but the overall satisfaction with pharmacy services is only 59.2% among educated and non-educated respondents. **Conclusions:** There is a positive perception about pharmacists as a source of instruction, education, and professional care givers to customers, but the overall satisfaction is low as pharmacists did not use their scientific knowledge and background information to serve patients in addition to the need for good communication skills and pharmacy ethics.

Keywords: Community pharmacist, Over the counter drug, Pharmacy services, Satisfaction.

رضا الجمهور العام عن تثقيف الصيادلة المجتمعيين والمرضى بشأن الأدوية التي لا تستلزم وصفة طبية في بغداد الرصافة: دراسة مقطعية

الخلاصة

الخلفية: تعتبر الصيدليات المجتمعية نقطة الاتصال الأولى بين المرضى والمتخصصين في الرعاية الصحية. يلعب الصيادلة دوراً مهماً في تقديم المشورة للمرضى وتقديم الخدمات الصيدلانية للمجتمع. من الضروري التحقق من رضا الجمهور عن هذه الخدمة. **الهدف:** تحديد رضا عامة الناس عن صرف الأدوية التي تصرف بدون وصفة طبية في بغداد، منطقة الرصافة. **الطرائق:** استخدمت هذه الدراسة المقطعية استبياناً معدلاً ومكيفاً ذاتياً يتم إعطاؤه للمرضى الذين يزورون الصيدليات وإدارة نموذج Google عبر الإنترنت والتي ركزت على رضاهم عن صيادلة المجتمع وخدمات الصيدلية. تم إجراؤه من سبتمبر 2023 إلى أبريل 2024 على مجموعة سكانية تم اختيارها عشوائياً (العدد = 891). تم استخدام الإحصاءات الوصفية لتحليل البيانات. **النتائج:** من بين 891 مريضاً، أكمل 843 فقط الاستبيان. يعتقد 73% من المستجيبين أن الصيدلة لديهم معلومات كافية تماماً مثل الأطباء، و72% كانوا راضين عن أن الصيدلة مكان جيد للحصول على المشورة؛ و24.2% فقط أظهروا أن الصيدلة أعطوهم التعليمات اللازمة، و13.5% فقط كتبوا التعليمات. وجد 91.1% أن الصيدليات تبدو جيدة، لكن الرضا العام عن الخدمات الصيدلية هو 59.2% فقط بين المجيبين المتعلمين وغير المتعلمين. **الاستنتاجات:** هناك تصور إيجابي حول الصيدلة كمصدر للتعليم والتثقيف ومقدمي الرعاية المهنية للعلاء، لكن الرضا العام منخفض حيث لم يستخدم الصيادلة معرفتهم العلمية ومعلوماتهم الأساسية لخدمة المرضى بالإضافة إلى الحاجة إلى مهارات الاتصال الجيدة وأخلاقيات الصيدلة.

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INTRODUCTION

Community pharmacies, commonly referred to as retail pharmacies, are the most common type of pharmacies. They serve the public by providing medicines and health advice [1]. Each pharmacy typically serves a specific area, dispensing physician prescriptions and selling over-the-counter (OTC) drugs, along with the necessary education on their use [2]. Community pharmacists provide a variety of services, particularly in counseling patients on the proper use of medications, which includes guidance

on preventing drug interactions and side effects [3]. As they often directly engage with patients, they occupy a position of trust and are readily available to offer advice and information [4]. Community pharmacists generally maintain a positive attitude towards providing pharmaceutical care for OTC medicines. However, several barriers hinder their ability to deliver comprehensive care, including lack of professional roles, lack of scientific evidence, and time constraints [5]. Additionally, pharmacists face challenges in managing OTC medicine abuse due to inadequate information about customers, easy access

to medicines, and poor communication between pharmacies. These factors affect their capacity to provide effective support and education to patients. Pharmacists recognize the importance of earning the trust of their patients and consider patient preferences when recommending self-management strategies. However, they experience challenges like language obstacles and differing patient expectations, which can influence the effectiveness of their educational program. [6]. OTC medicine, also known as nonprescription medicine, includes drugs that can be dispensed without a prescription. These medicines are safe and effective when used as directed on their labels and by healthcare professionals [7]. Nonetheless, misuse can pose risks, making counseling from pharmacists essential at the time of purchase to ensure safe and effective use [8]. OTC medicines can lead to adverse effects if not used properly, and many patients are often unaware of these risks [9]. Additionally, misunderstandings of OTC medicine labels are common, resulting in preventable medication errors [10]. Pharmacists are uniquely positioned to provide individualized recommendations and self-care education to patients, thus ensuring optimal health outcomes [11]. It is essential that pharmacists ensure patients comprehend the information provided on OTC labels, offering additional counseling as required [12]. In Iraq, as stipulated by the Practicing Pharmacy Profession Law No. 40 of 1970, only licensed Iraqi pharmacists approved by the Syndicate of Iraqi Pharmacists can practice pharmacy [13]. Pharmacists must follow the OTC drug list from the Ministry of Health (MOH); however, this list has not been updated in the last 20 years due to the circumstances in the country. Nevertheless, the majority of community pharmacists in Iraq have an optimistic perception regarding patient counseling [14]. This study aims to explore public perceptions and satisfaction with community pharmacists and pharmacy services in the Baghdad-Rusafa region of Iraq.

METHODS

Study design and setting

A cross-sectional study was carried out for eight months, from September 2023 to April 2024, in the Baghdad-Rusafa region of Iraq. This study utilized a modified questionnaire adapted from previous research and received approval from the Scientific Committee of Baghdad College of Medical Sciences. To select a suitable questionnaire tailored to the Iraqi context, a literature search was performed using Google Scholar with keywords such as “over the counter,” “OTC,” “pharmacy services,” and “patient satisfaction.” Thirteen articles were chosen for this purpose [6,15-20].

Study tool

The questionnaire underwent an expert review by the Scientific Committee of Baghdad College of Medical Sciences, which provided guidance and modifications during the validation phase. The items of the selected questionnaire were modified and translated to Arabic. Paper copies of the questionnaire were distributed to both male and female patients visiting 89 pharmacies in Baghdad-Rusafa, who were asked to complete them. Additionally, an online version was shared via Google Forms. All questionnaires were provided in Arabic, the official language of Iraq, and participants were assured that their responses would remain confidential. The questionnaire comprised sections on demographics, pharmacists' willingness to assist patients, patient education, pharmacists' expertise, and satisfaction with the services provided by pharmacists, as detailed in Table 1.

Table 1: Response of the participants to each question of the survey (n=843)

NO.	Question	Yes n(%)	No n(%)	p-value*
Q1	Is the pharmacist available at your visit time?	811(96.2)	32(3.8)	<0.0001
Q2	Is the pharmacist a mere dispenser of OTC drug?	501(59.4)	342(40.6)	<0.0001
Q3	Does he offer counseling without asking?	30(3.5)	813(96.5)	<0.0001
Q4	Does he extract information about your experience in this OTC drug?	392(46.5)	451(53.5)	<0.0001
Q5	Does he enquire about the related health problems and any other medication used in the past?	357(42.4)	486(57.6)	<0.0001
Q6	Do you satisfy in the appearance of the pharmacy?	760(90.1)	83(9.9)	<0.0001
Q7	Do you need time to be served in the pharmacy?	112(13.3)	731(86.7)	<0.0001
Q8	Do you perceive a pharmacist as an indispensable and effective part of the health care system?	701(83.2)	142(16.8)	<0.0001
Q9	Does the Pharmacist educate and instruct you about using this OTC drug administration?	204(24.2)	639(75.8)	<0.0001
Q10	Are you a regular visitor to the pharmacy?	700(83)	143(17)	<0.0001
Q11	Do you visit only this pharmacy to take any OTC drug?	507(60.1)	336(39.9)	<0.0001
Q12	Do you prefer pharmacy to get your health advice and daily lifestyle change?	607(72)	236(28)	<0.0001
Q13	Do you think that the pharmacist has good information like physician?	617(73)	226(27)	<0.0001
Q14	Does the pharmacist sell you any amount of OTC drug you request?	788(93.5)	55(6.5)	<0.0001
Q15	Does the pharmacist educate you that this is not an OTC drug when you request a prescription only medicine?	520(61.7)	323(38.3)	<0.0001
Q16	Does the pharmacist offer you all the types or substitutes of your requested OTC drug?	674(80)	169(20)	<0.0001
Q17	Does the pharmacist give you written instructions about your OTC drug?	114(13.5)	729(86.5)	<0.0001
Q18	Does the pharmacist respect your needs and requests even if they are very simple things?	523(62)	320(38)	<0.0001
Q19	If the pharmacist gives you all the need instructions!! Does he give You a time for your feedback?	104(12.3)	739(87.7)	<0.0001
Q20	In general, are you satisfied with the pharmacy services?	499(59.2)	344(40.8)	<0.0001

Values are expressed as frequency and percentage. * Fische's exact test.

Sample selection and outcome measurements

Out of 891 participants, 843 successfully completed the questionnaires, while those left incomplete were excluded from the study. Descriptive statistics and

percentages were employed for the analysis. Results were presented as counts and percentages for categorical variables. A pilot study conducted in 18 pharmacies helped refine the questionnaire, and the data from this pilot study were not included in the

results. A validation test was performed, and Cronbach's alpha was found acceptable (0.76).

Statistical analysis

The exact Fisher's test was used to investigate the significant differences between respondents answering with "YES" and those answering "No" for the questionnaire 20 questions. Chi-square was used as a statistical method to derive the results of the comparison between the group of educated and uneducated respondents, in addition to comparing only the group of educated individuals to determine the impact of the level of education on the respondents in terms of their satisfaction with the pharmaceutical service.

RESULTS

Concerning the percentage of respondents, it was about 95% since the number of respondents was 843 out of 891 participants (48 non-respondents which represents around 5%). The demographic in addition to socioeconomic data of all respondents were illustrated in Table 1. Respondents answers with YES or NO were shown in Table 1. Those respondents were patients and clients representing people (patients and clients) visiting pharmacies in Rusafa region of Baghdad, seeking for an OTC drug as shown in Table 2.

Table 2: Demographic and socioeconomic data of 843 respondents

Age (year)	n(%)
11-20	100 (11.9)
21-30	245 (29.0)
31-40	275 (32.5)
41-50	98 (11.7)
51-60	79 (9.4)
61-70	30 (3.6)
71-80	16 (1.9)
<i>Gender</i>	
Male	412 (48.9)
Female	431 (51.1)
<i>Marital status</i>	
Single	361 (42.8)
Married	482(57.2)
<i>Education</i>	
Educated	645 (76.5)
Not educated	198 (23.5)

All the respondents stated that they are visiting the pharmacy for buying one of the known OTC drugs, shown in Table 3.

Table 3: OTC types requested by patients

OTC type	Requests
Analgesic and antipyretic	377 (44.7)
NSAIDs	201 (23.8)
Anti tussive	102 (12.1)
Anti histamine	79 (9.4)
Laxative	49 (5.8)
Antacids	21 (2.5)
Vitamins	14 (1.7)

Any request for buying a prescription only medicine (POM) without physician prescription was not listed in study data. Tables 4 and 5 showed the number and percentage with statistical *p*-value for educated and

non-educated respondents that preferred and did not prefer to visit pharmacies for health advice, respectively.

Table 4: Patient education and their willingness to visit pharmacy (Q-12)

Answer type	School educated	University educated	Post graduated	Total	<i>p</i> -value (Chi square)
Yes	250	267	32	549(85)	0.103
No	40	53	3	96(15)	
Total	290	320	35	645	

Table 6 shows the statistical *p*-value for educated and non-educated respondent's preference to visit pharmacies for health advice.

Table 5: Non-educated respondents and their willingness to visit pharmacy (Q-12)

Answer type	Non-educated	<i>p</i> -value Fisher's exact test
Yes	58(30)	<0.001
No	140(70)	
Total	198	

Table 6: Educated and non-educated respondent's preference *p*-value

Answer type	Non-educated	Educated	Total	<i>p</i> -value*
Yes	58	549	607(72)	<0.001
No	140	96	236(28)	
Total	198	645	843	

* Fisher's exact test

DISCUSSION

Community pharmacies and pharmacists are in a strong position to enhance patient access to care, allowing patients to easily seek advice and manage their medications. [21]. OTC drugs serve as legal self-medication for simple diseases that patients themselves can identify [22]. It is important to note that community pharmacists in Iraq and other Middle Eastern countries tend to view the pharmacy as a business, rather than as a service that guides patients in the proper and ethical use of medicines [23]. Additionally, the accessibility and availability of over-the-counter (OTC) medications in community pharmacies in countries such as Iraq highlight the importance of this study, which aims to examine the pharmacist's role in dispensing these products. We collected data from 89 pharmacies, with 843 participants visiting these pharmacies. The demographic data showed the percentage of female participants (51.1%) is slightly higher than that of male participants (48.9%). This distribution aligns with the statistics from the Central Statistics Organization in Iraq [24]. Moreover, women, especially mothers, are more attentive to this responsibility, whereas men, including husbands and fathers, are generally more focused on their jobs and do not have enough time. This scenario is a reality in countries like Iraq. Concerning customers, participants, and age distribution, it was found that the major age range is between 20 and 40 years. This agrees with the findings of Braun et al., in which a total of 1,121 pharmacy customers completed

questionnaires (response rate 62%), of which 65% (n = 728) were from metropolitan Melbourne, 27% (n = 307) from the Gold Coast region, and 8% (n = 86) from Wagga Wagga [25]. People between the ages of 20-40 are considered active. In this study, although around 97% of pharmacists are present in pharmacies, only about 60% of them function as dispensers of over-the-counter (OTC) medications. This finding is compatible with that of Inas et al. [26], in which the war and political instability pose a difficult challenge to the community pharmacy career in this country. Today, patient satisfaction is considered one of the most important factors that indicate the quality of healthcare services, particularly pharmacy services. [27]. Knowing that different factors can affect patient satisfaction with community pharmacy services [28], this study aimed to identify the most significant factor influencing patient satisfaction in the context of the local situation. Regarding participants answers for questions 3, 4, and 5, it was found that the patient education offered by pharmacists concerning the over-the-counter (OTC) medications requested by patients does not meet the scientific and practical standards outlined in pharmacy textbooks and regulations. Only 3.5% of dispensers in pharmacies, whether they are licensed pharmacists or non-pharmacists present (dispensing medications outside the regulations of the Pharmacists' Syndicate), provide instructions on how to use the OTC drug without a request from the patient. In addition, around 50% of pharmacists are interested in giving patient education about any previous problem with this medicine and any other experience. Regarding the questions and answers of respondents, for questions 6 to 15 in Table 1, it is clear that even though participants were happy with the look of the pharmacy, its ability to provide healthcare, and the pharmacists' knowledge, and even though they regularly visit pharmacies (sometimes more than one), the pharmacists still do not provide the necessary healthcare services (only 24.2% of pharmacists taught patients how to use over-the-counter drugs when asked). Although the OTC drug is considered a safe drug, it requires conditions and restrictions in dispensing [29,30]. So, it is not accepted to sell the OTC drug in any quantity required by the patient due to abuse, misuse, adaptation, and toxicity (93.5% of pharmacists dispense any quantity of OTC drugs requested). Concerning the Iraqi Ministry of Health regulations and the Iraqi Pharmacist Syndicate laws mentioned in the Official Gazette of Iraq, it is not authorized to dispense medicines without prescriptions from the list shown in that legislation [31]. Although this survey found that 38.8% of pharmacists or dispensers did not teach the patients that some requested medicines were forbidden from being sold without a prescription. Autonomy, one of the codes of ethics in pharmacy practice, states the patient has the right to choose [32], but the results of this study showed that 20% of pharmacists did not follow the autonomy code of ethics in giving the patients the freedom to choose among different substitutes of drug requests, like different brands or generic substitutes. New tactics in health care involve giving patient input and importance to enhance

services; therefore, allowing an appropriate time for patients to provide feedback plays an important role in reaching the effective and safest use of medications [33]. Results of this survey showed that just 12.3% of pharmacists gave the patients feedback time. This is not permitted because such feedback gives a chance for pharmacists to know if the patient understands the correct usage of medicine to prevent bad adherence and adverse effects. Education (level of education and no education) was taken as an example in this study to show if it affects the preference to visit pharmacies for health advice and satisfaction level in pharmacy services. Tables 4, 5, and 6 revealed that the p-value relating education levels to the preference for seeking advice at the pharmacy was 0.10327; this result indicates that education level does not have a significant effect on the preference to visit a pharmacy for health advice. The "Yes" responses for all education levels accounted for 85% of the total responses, suggesting a general preference across all educational groups to visit pharmacies for health advice, while the non-educated group had a much lower preference (30%) for visiting a pharmacy for health advice compared to the educated group (85%). It was found that there is a significant association between education and the preference to visit a pharmacy for health advice, with non-educated individuals being less likely to seek pharmacy services. When analyzing satisfaction with pharmacy services, it was observed that a higher percentage of educated individuals (58%) were satisfied with them compared to non-educated individuals (42%). When it comes to satisfaction, the p-value for the satisfaction responses based on education level is again significant. People who aren't educated were less satisfied with the pharmacy services, which is one reason why 54% of the non-educated group was unhappy compared to 46% of the educated group. This finding suggests that educational background may influence one's perception of pharmacy services, with the educated group being more satisfied with the services provided. These results were contrary to previous studies that showed that education positively influences satisfaction with pharmaceutical services [34,35]. Overall, only 59.2% of patients were satisfied with pharmacy services. In general, this percentage is deemed inadequate for pharmacy services in Baghdad-Rusafa. This suggests that not all pharmacists participated in patient education, which could result in medication errors, poor patient adherence, and adverse effects.

Conclusion

Pharmacy practice is considered preferable and easily accessible health care for patients, so pharmacists must be engaged in offering all the services in a perfect manner to improve community health. Concerning education as an example of a factor that may affect the satisfaction of people in pharmacy services, while education level does not significantly influence the preference to visit pharmacies for health advice across all groups (except for non-educated individuals), it does have a substantial impact on

satisfaction with pharmacy services. Further studies could explore the reasons behind these differences, particularly examining how non-educated individuals perceive and utilize pharmacy services. In Al-Rusafa/Baghdad and according to results the results of this study, pharmacists need further education in communication skills and pharmacy ethics to improve their patient services, regardless of whether they are providing prescription medications or over-the-counter (OTC) drugs, since all medications can result in errors and side effects.

Conflict of interests

No conflict of interest was declared by the author.

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Data sharing statement

Supplementary data can be shared with the corresponding author upon reasonable request.

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