



Research Article

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Customer Perceptions and Satisfaction with Community Pharmacy Services in Sulaimani City, Iraq

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Abstract

Background: Community pharmacies are essential primary healthcare access points, yet evaluating customer perception and satisfaction with pharmacy staff and services is crucial for enhancing the quality of pharmaceutical care. **Objective:** To evaluate customer perceptions, satisfaction with services and staff, and structural challenges in community pharmacies in Sulaimani City, Iraq. **Methods:** A cross-sectional study was conducted across 20 randomly selected community pharmacies in Sulaimani City from October 2025 to January 2026. Data were gathered using a self-administered questionnaire. Associations between demographic variables and satisfaction levels were analyzed using chi-square and Fisher's exact tests, with statistical significance set at a $p < 0.05$. **Results:** A total of 390 responses were retrieved. The majority of participants (60.5%) were females and aged 19–39 years (68.0%). Overall satisfaction was high, with 86.4% of respondents satisfied with pharmacy services and 91.0% satisfied with pharmacy staff. However, a critical structural limitation was identified: 70.0% of participants noted a complete lack of private counseling area. In addition, a cultural preference for doctors was noted: 76.2% agreed that society respects physicians more than pharmacists, and 68.7% preferred doctors for drug therapy consultation. **Conclusions:** Although public satisfaction with pharmacy services and staff in Sulaimani City is high, professional and structural challenges persist. Addressing these requires regulatory mandates for private consultation spaces, public awareness campaigns, and continuing education to enhance the quality of pharmaceutical care.

Keywords: Community pharmacy; Customer perception; Patient satisfaction; Pharmaceutical care.

تصورات العملاء ومدى رضاهم عن خدمات الصيدليات المجتمعية في مدينة السليمانية – العراق

الخلاصة

الخلفية: تُعد الصيدليات المجتمعية نقاط وصول أساسية للرعاية الصحية الأولية، ومع ذلك، فإن تقييم تصورات العملاء ومدى رضاهم عن خدمات الصيدلية وكوادرها يُعد أمرًا حيويًا لتعزيز جودة الرعاية الصيدلانية. **الهدف:** تمثلت الأهداف الرئيسية في تقييم تصورات العملاء، ومدى رضاهم عن الخدمات والكوادر الصيدلانية، وتحديد التحديات الهيكلية في الصيدليات المجتمعية بمدينة السليمانية، العراق. **الطرائق:** أجريت دراسة مقطعية في 20 صيدلية مجتمعية تم اختيارها عشوائيًا في مدينة السليمانية خلال الفترة من تشرين الأول 2025 إلى يناير 2026. أُجري التحليل الإحصائي باستخدام برنامج سببس الإصدار 27. وتم تحليل العلاقات بين المتغيرات الديموغرافية ومستويات الرضا باستخدام اختباري (كاي مربع) و (فيشر دقيق) مع تحديد مستوى الدلالة الاحصائية عند قيمة $p\text{-value} < 0.05$. **النتائج:** تم استرداد ما مجموعه 390 استجابة. كانت غالبية المشاركين من الإناث (60.5%)، وضمن الفئة العمرية 19-39 عامًا (68.0%). كان مستوى الرضا العام مرتفعًا، حيث أبدى (86.4%) من المشاركين رضاهم عن الخدمات الصيدلانية، و(91.0%) رضاهم عن الكوادر الصيدلانية. ومع ذلك، تم تحديد عائق هيكلي رئيسي؛ إذ أشار (70.0%) من المشاركين إلى غياب التام لغرف أو مناطق لتقديم الاستشارات الخاصة. بالإضافة إلى ذلك، أظهر تفضيل ثقافي للأطباء؛ حيث وافق (76.2%) على أن المجتمع يحترم الأطباء أكثر من الصيادلة، وفضل (68.7%) الأطباء للحصول على الاستشارات المتعلقة بالعلاج الدوائي. **الاستنتاجات:** على الرغم من ارتفاع مستوى الرضا العام بين الجمهور عن الخدمات والكوادر الصيدلانية في مدينة السليمانية، إلا أن التحديات المهنية والهيكلية لا تزال قائمة. وتتطلب معالجة هذه التحديات إصدار لوائح تنظيمية تُجبر الصيدليات على توفير مساحات خاصة للاستشارات، إلى جانب إطلاق حملات توعية جماهيرية وبرامج تعليم مستمر لتعزيز جودة الرعاية الصيدلانية.

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INTRODUCTION

In the primary healthcare system, community pharmacies play a pivotal role, particularly in developing countries like Iraq, where access to advanced medical facilities can be limited [1]. Nowadays, community pharmacies serve as the first point of contact for millions of customers seeking advice on minor ailments, medications, and health promotion [2,3]. Unlike other healthcare settings that often require appointments or involve lengthy waiting periods, community pharmacies offer immediate access to qualified healthcare professionals who can address a wide range of health concerns [4]. Despite their accessibility, client perceptions of the pharmacists' services remain underexplored, which

directly affects medication adherence, patient satisfaction, and overall public health outcomes. It is crucial to understand how locals view community pharmacy services to enhance quality, fostering trust, and aligning offerings with community needs in a post-conflict setting [5–7]. Customer satisfaction can be defined as the sum of customer perception and expectations of the pharmaceutical services or medical treatment provided to them [8–10]. It is considered an important indicator of the quality of health care services and a significant predictor of the relationship with the health care provider and adherence to a medication regimen. In addition, it is an essential tool for measuring the level of pharmacy services provided to customers and for implementing pharmaceutical care [11]. Most of the researchers use

standardized questionnaires given through interviews, by hand, or over the phone to gather precise quantitative data. The satisfied patients with pharmaceutical services are more likely to take their medications properly and less likely to change from one health care provider to another [12]. The best way of maintaining customer satisfaction is by offering a consistent high-quality pharmaceutical service [13–15]. According to the literature, cultural, economic, and regulatory factors lead to variations in customer perceptions of community pharmacy services [16]. Research shows that customer satisfaction depends on many different factors, such as personal backgrounds (gender, age, and marital status), pharmacy operations (waiting times, location, and medication availability), and health and financial factors like patient expectations, current health status, and total costs [17]. In developing countries, many obstacles still block high-quality healthcare. For instance, shortages of trained healthcare professionals, limited access to some medical products, and high drug costs remain the main barriers to better health services [17,18]. Numerous published articles worldwide have assessed patient perception of community pharmacists and satisfaction with pharmacy services [19,20]. In developed countries, customer satisfaction has established itself as a critical indicator for community pharmacy services; consequently, in developing countries, there is research interest in assessing it for evaluating pharmacy performance quality [21]. Studies have documented varied public images of community pharmacists across different cultural contexts. In certain contexts, the public primarily perceives pharmacists as medicine vendors or businesspeople focused on commercial transactions rather than healthcare providers [22]. In contrast, other populations recognize pharmacists as drug experts and accessible health advisors who balance health and business responsibilities effectively [23]. Understanding customer perception and satisfaction is vital to improve community pharmacy services and public health. Regarding these views, a research gap exists in Sulaimani city, making this study essential. Since there is insufficient data on the assessment of community pharmacy services in Sulaimani city, Iraq, we undertook this study to evaluate customer satisfaction with community pharmacy services and staff in Sulaimani city, enabling community pharmacists to identify the extent of the problem and plan different strategies for service enhancement.

METHOD

Study design and setting

A community-based, cross-sectional study was conducted from October 2025 to January 2026 in the Sulaimani City, Kurdistan region, Iraq. After reviewing different literature sources to develop, the researchers designed and developed a self-administered questionnaire based on similar previous studies [10,21,23,24]. The questionnaire items were adapted from the selected literature and subsequently modified to suit the Kurdistan healthcare context. The

final version of the questionnaire was translated into Kurdish, the official language of Kurdistan-Iraq. It comprised several sections designed to capture data on participant demographics, the perceived willingness of pharmacists to assist patients, the provision of patient education, pharmacist expertise, and overall satisfaction with pharmacy services and staff. Each survey form was accompanied by a cover letter outlining the study's objectives; specifically, it highlighted that the primary reasons driving customers to select a specific pharmacy were its proximity to medical clinics. The pilot study was conducted for testing the validity and reliability of the questionnaire as well as the question design and the length. The reliability of the questionnaire was assessed through checking the Cronbach's alpha factor (0.83), which indicated a high internal consistency.

Sample frame

Community pharmacies across Sulaimani were divided into two main geographical zones: center and peripheral zones. From these strata, a random sample of 20 pharmacies was selected using simple random sampling. A convenience sample of 20 consumers was recruited from each location, resulting in a final sample size of 400 individual consumers. The primary investigator spent approximately two hours at each designated pharmacy.

Data collection

Paper-based questionnaires were distributed to the customers attending 20 community pharmacies. The sample size was calculated to be 385 based on a 95% confidence level, a 5% margin of error, and an estimated population size of 1370000, using an online sample size calculator [25]. A larger sample size of 400 was targeted to account for potential non-response. The participants were provided with the questionnaire and were assured of the confidentiality of their responses. In the community pharmacies, male and female adults who are able to read and write in Kurdish or English and are aged ≥ 19 years and who purchase medicines or any pharmaceutical products were selected based on their consent. However, those with a lack of understanding or having difficulty in answering the questions were excluded.

Ethical considerations

This study was registered and approved by the Ethics and Research Registration Committee of the College of Pharmacy at the University of Sulaimani, with the registration number PH 162-25 on 18.09.2025.

Data analysis

Data were analyzed using the Statistical Package for Social Science (SPSS) version 27. Frequency and percentage were used to present categorical data. The association between satisfaction score and demographic variables was assessed using Fisher's

exact test or chi-square test, as appropriate. Statistical significance was set at a p -value below 0.05.

RESULTS

A total of 390 questionnaires out of 400 were completed and returned to the researchers, giving a response rate of 97.5%. More than half of respondents were female (60.5%). Table 1 shows the sociodemographic characteristics of respondents.

Table 1: Sociodemographic characteristics of the participants (n=390)

Parameter	n(%)
Age	
19-39	265(68)
40-59	119(30.5)
60	6(1.5)
Gender	
Male	154(39.5)
Female	236(60.5)
Marital status	
Single	119(30.5)
Married	266(68.2)
Divorced/widow	5(1.3)
Education level	
Primary	25(6.4)
Secondary	28(7.2)
High school level	58(14.9)
College or Diploma	275(70.5)
No formal education	4(1.0)
Employment	
Employed	266(68.2)
Unemployed	124(31.8)

Regarding the health status of the participants that visited the selected community pharmacies, slightly more than half (52.8%) reported having no underlying health conditions. However, among the chronic illnesses, hypertension was the most prevalent at 5.6%, followed by diabetes mellitus at 3.6% (Figure 1).

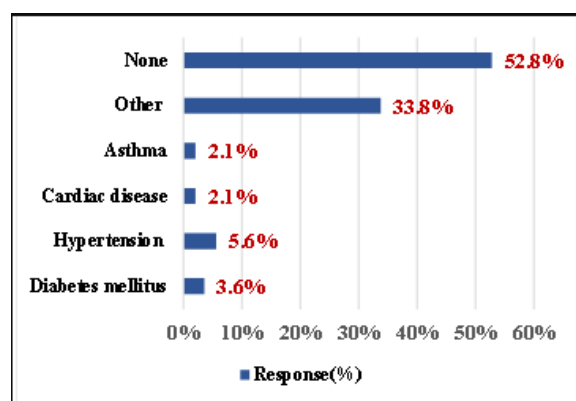


Figure 1: The health states of the study participants (n=390).

As shown in Table 2, most of the participants (88.5%) reported that the pharmacy had the drug products they needed, and 81.8% stated that a healthcare provider was available to help them at the pharmacy. However, a major problem was with privacy, as 70% of the respondents noted that there is no private area inside the pharmacy to speak with the pharmacy staff.

Table 4: Perception of participants on Community Pharmacists (n=390)

Parameters	Yes	No
The pharmacist is available in the pharmacy at the designated hours.	346(88.7)	44(11.3)
The pharmacist deals with you with respect.	371(95.1)	19(4.9)
The pharmacist spends enough time with you during consultation.	327(83.8)	63(16.2)
The pharmacist answers all your questions.	353(90.5)	37(9.5)
You trust the pharmacist's opinion regarding medical problems and related medication.	338(86.7)	52(13.3)

Values are presented as frequency and percentage.

Regarding the physical appearance of the pharmacy, the majority of the participants stated positive feedback. Table 3 illustrates that the routine visits to the pharmacy are predominantly monthly (42.3%) or occasional (40.4%). The vast majority of the participants make these visits so as to receive medication directly (65.1%) or to refill prescriptions (20.0%). When selecting a specific pharmacy, location played the most critical role; proximity to home or doctor's clinic was the primary determinant for nearly one-third of the respondents (32.3%), followed by the professional capacity of the community pharmacists (24.9%).

Table 2: Perception of the participants on the community pharmacy (n=390)

Questions	Responses	n(%)
Does the community pharmacy have the medicines you need?	Yes	345(88.5)
	No	45(11.5)
Is there any healthcare provider in the community pharmacy to serve you?	Yes	319(81.8)
	No	71(18.2)
Is there any private counselling area for speaking with the pharmacy staff in the community pharmacy?	Yes	117(30)
	No	273(70)

Table 3: Frequency, purpose, and reason of pharmacy visits among the study population (n=390)

Variable	n(%)
<i>Frequency of visiting a pharmacy</i>	
Once a day	7(1.8)
Once a week	61(15.6)
Once a month	165(42.3)
Every few months	157(40.3)
<i>Reasons for visiting a pharmacy</i>	
To purchase medicines	254(65.1)
Getting a prescription refill	78(20.0)
Buying toiletries or cosmetics	17(4.4)
Getting medical advice	15(3.8)
Something else	26(6.7)
<i>Reasons for visiting a particular community pharmacy</i>	
Pharmacy being close to home or medical clinic	126(32.3)
Pharmacist's professional knowledge	97(24.9)
Comprehensive availability of medicines	94(24.1)
Low price of products	73(18.7)

Table 4 reveals that participants hold a highly positive perception of community pharmacists. The highest level of agreement was observed regarding interpersonal interaction; the majority of participants reported that pharmacists treat them with interest and respect (95.1%) and answer all of their questions (90.5%). Furthermore, strong positive feedback was recorded for pharmacists' availability in community pharmacies (88.7%), trust in their medication opinion (86.7%), and sufficiency of time spent during the consultation process (83.8%). On the other hand, when comparing these roles to physicians, the level of agreement noticeably shifted; the majority of respondents agreed that society respects doctors more than pharmacists (76.2%), and about 68.7% still preferred doctors over community pharmacists for providing drug therapy consultation.

Table 5 shows the respondents' perception about the clinical role of the community pharmacists; the majority of the participants (n= 281, 72.1%) indicated that the pharmacist inquired about their medical condition prior to preparing their prescription.

Comparable proportions (n= 280, 71.8%) reported being asked about concurrent medication use. Fewer respondents (n= 245, 62.8%) reported receiving general non-pharmacological advice from community pharmacists.

Table 5: Perception of participants on the clinical role of community pharmacists during history taking (n= 390)

Parameters	Yes	No
The pharmacist asked about your medical condition before preparing your prescription.	281(72.1)	109(27.9)
The pharmacist asked if you are taking any other medications.	280(71.8)	110 (28.2)
The pharmacist provided you with general non-pharmacological advice.	245(62.8)	145(37.2)

Values are presented as frequency and percentage.

Table 6 summarizes the evaluation of participants for pharmacists' services while dispensing any drug products. Overall, the respondents reported a high level of satisfaction with key pharmacy services, especially regarding medication availability and clear communication. The vast majority of them (n= 354, 90.8%) reported that pharmacists provided clear

instruction about the dispensed medication and offered suitable alternatives when the requested product was unavailable (n= 345, 88.5%). In addition, a significant proportion of respondents (n= 267, 68.5%) indicated that pharmacists actively helped them avoid unnecessary prescription-related costs and address drug-related problems (n= 249, 63.8%).

Table 6: Perception of participants on pharmacist-led counselling, cost mitigation and clinical services while dispensing drug products (n= 390)

Parameters	Yes	No
The pharmacist provided you with clear instructions about the medications use.	354(90.8)	36(9.2)
The pharmacist helped you avoid unnecessary costs related to your prescriptions.	267(68.5)	123(31.5)
The pharmacist gave you alternatives when the drug you required was not available.	345(88.5)	45(11.5)
The pharmacist helped you in selecting the over the counter or the herbal medicines that you need.	213(54.6)	177(45.4)
The pharmacist addressed drug-related problems that concerned you, such as side effects, drug interactions, and adherence.	249(63.8)	141(36.2)

Values are presented as frequency and percentage.

In contrast, assistance with selecting over-the-counter drugs or herbal remedies was reported by a lower majority (n= 213, 54.6%), with 45.4% showing no intervention in this area. Figures 2 and 3 show the overall satisfaction of participants with both community pharmacy services and staff.

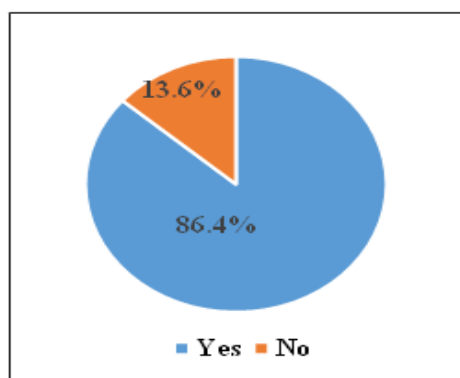


Figure 2: Satisfaction of participants with community pharmacy services (n= 390).

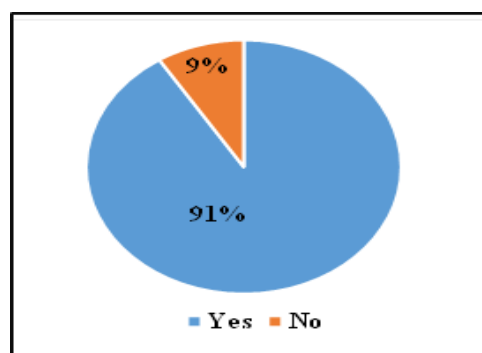


Figure 3: Satisfaction of participants with community pharmacy staff (n= 390).

So, we asked them about their general level of satisfaction with the roles of community pharmacists and the pharmacy services offered through a simple (yes/no) question. The majority of them (n= 337, 86.4%) reported satisfaction with pharmacy services provided, whereas n=53 (13.6%) expressed dissatisfaction. Satisfaction rate was even higher when study participants assessed community pharmacy staff directly; (n=355, 91%) of them showed satisfaction, while just (n=35, 9%) of the respondents reported dissatisfaction. In a total sample of n = 390 participants, overall satisfaction was exceptionally high across all demographics; female respondents comprised the majority (n= 236, 60.51%) compared to males (n= 154, 39.49%), with females showing slightly higher satisfaction with pharmacy services (n= 208, 53.3% vs. n = 129, 33.1%) and virtually equivalent satisfaction with pharmacy staff (n = 215, 55.1% vs. n = 140, 35.9%). Regarding the age of the participants, the sample was dominated by younger adults aged 19–39 (n = 265, 67.95%), followed by those aged 40–59 (n = 119, 30.51%), with staff satisfaction peaking among younger adults (n= 239, 61.3%) and also service satisfaction being highest among them (n= 234, 60.0%) (Table 7).

DISCUSSION

Community pharmacies serve as essential, accessible entry points into the primary healthcare system [3,26]. Assessing public perceptions and satisfaction is critical for identifying practice gaps and optimizing patient-centered care [21,27].

Table 7: Association between demographic characteristics (gender and age) and participant satisfaction with pharmacy services and staff (n= 390)

Demographics	Satisfaction with the pharmacy services		p-value	Satisfaction with the community pharmacy staff		p-value
	Yes	No		Yes	No	
<i>Gender</i>						
Female	208(53.3)	28(7.2)	0.24	215(55.1)	21(5.4)	0.84
Male	129(33.1)	25(6.4)		140(35.9)	14(3.6)	
<i>Age (year)</i>						
19-39	234(60.0)	31(7.9)	0.16	239(61.3)	26(6.7)	0.16
40-59	98 (25.1)	21(5.4)		111(28.5)	8(2.1)	
>60	5(1.3)	1(0.3)		5(1.3)	1(0.3)	

Values are presented as frequency and percentage. *The appropriate statistical tests that have been used are Chi-Square test and Fisher's Exact test (when expected cell counts were under 5).

In the current study, the primary reasons driving customers' selection of a specific pharmacy were proximity to medical clinics and a high level of overall satisfaction with community pharmacy services (86.4%) and pharmacy staff (91.0%), particularly among female and younger customers. These findings directly align with studies from Erbil, Iraq, where general satisfaction with community pharmacist expertise and communication remained elevated (84.2%) [24], and in Pakistan, where overall patient satisfaction exceeded 82% [21]. Furthermore, Yuliani *et al.* [28] noted a similar demographic concentration of younger female health-seekers without finding significant gender-driven disparities in core satisfaction metrics. In addition, our results are notably higher than satisfaction results reported by Naser and Abu Sbeat [16], which was 72.5%, and Gogazeh *et al.* [29], which was 68.4%, in Jordan, where administrative delays and non-paid services slightly lowered overall satisfaction scores. Similarly, El-Kholy *et al.* [10] observed a moderate satisfaction rate of 64.8% in Al-Madinah, Saudi Arabia. The higher satisfaction in Sulaimani City reflects a strong patient-pharmacist rapport and rapid point-of-sale service delivery [3]. The study population predominantly consisted of females (60.5%) and younger adults below 39 years of age (68.0%). Similar demographic characteristics were reported by other studies, such as in Erbil (58.2% female, 64.5% under 40 years) [24] and in Palestine (65.8% female respondents) [30]. In Middle Eastern community settings, younger adult females frequently assume the primary role of managing family prescriptions and purchasing household healthcare products, making them the main demographic interacting with pharmacists [16,30]. In our study the primary reasons driving customers' selection of a specific pharmacy were proximity to medical clinics or to home (32.3%) and full medication availability (88.5%). Additionally, most participants rated the physical appearance (69.0% Good/Very Good) and waiting area (69.5% Good/Very Good) favorably. These findings are consistent with the systematic review by Ababneh *et al.* [4], which identified drug stock completeness and geographic convenience as the top drivers of pharmacy patronage across primary healthcare settings, as well as findings by El-Kholy *et al.* [10] in Saudi Arabia. Furthermore, Al-Ghamdi and Ahmadi [15] similarly identified that both physical accessibility and minimal out-of-stock events are significant positive predictors of overall customer satisfaction. Conversely, the main structural limitation

identified by our respondents was the absence of private consultation spaces, noted by 70.0% of customers. This finding directly aligns with the research by Gogazeh *et al.* [29] in Jordan, where 68.2% of surveyed pharmacy customers reported a complete absence of a private counseling area in community pharmacies, as well as with El Hajj *et al.* [20] in their systematic review of Arabic-speaking Middle Eastern countries. Further studies by Naser and Abu Sbeat [16] and Hattingh *et al.* [31] also highlighted that privacy limitations are widespread across retail community pharmacies in developing healthcare systems. Lack of private consultation spaces inside community pharmacies restricts confidential discussions on sensitive medical conditions, adherence issues, or embarrassing side effects [31,32]. Interpersonally, participants reported high satisfaction with pharmacists' communication style: (95.1%) felt that they were treated with respect, (90.5%) reported that all questions were answered, and (90.8%) received clear instructions on drug usage. These results show a higher self-reported counseling engagement than previous pseudo-customer evaluations in Iraq, where active verbal counseling frequently occurred in less than 35% of the pharmacy visits [3]. While our scores compare favorably to other studies, such as 88.0% for respectful communication in Pakistan [21] and 74.2% for clear verbal instructions in Palestine [30], there are still notable differences. This disparity suggests that while customers perceive routine interactions as informative and respectful, formal clinical depth can vary during high-volume dispensing periods [3,10]. Furthermore, a notable proportion of community pharmacists in our study engaged in active history-taking prior to dispensing medication (72.1% inquired about medical conditions and 71.8% checked concurrent medications). Pharmacists also demonstrated a role in financial stewardship, with 68.5% helping patients avoid unnecessary prescription costs and 88.5% offering therapeutic alternatives during medication shortages. Cost-mitigation advice shows pharmacists' growing role in helping customers navigate economic challenges in post-conflict healthcare settings [26,33]. Despite expressing high satisfaction with community pharmacy staff, 76.2% of respondents agreed that society respects physicians more than pharmacists, and 68.7% preferred doctors over pharmacists for drug therapy consultations. Our finding directly reflects recent data by Salih and Saleh [24], where 64.6% of customers preferred physicians' therapeutic advice, and El Hajj *et al.* [20], who observed a

persistent societal trust bias toward doctors across Middle Eastern countries. Hssan and Al-Jumaili in Iraq [34] and El-Kholy et al. in Saudi Arabia [33] also documented similar results. These results indicate that although the public trusts pharmacists for friendly service, medication dispensing, and basic usage advice, deeply ingrained cultural beliefs continue to position the doctors as the sole primary clinical authority for drug therapy selection [20,34]. Addressing this gap will require targeted public awareness campaigns, regulatory support for expanded clinical roles in community pharmacies, and the integration of private counseling areas within community pharmacies [32].

Study Limitations

While this study provides important baseline insights into community pharmacy practice in Sulaimani City, it employed a convenience sampling strategy across 20 selected community pharmacies. As a result, the findings may not accurately represent the total populations or other geographical areas within the Kurdistan Region and broader Iraq. It is better to use a higher sample size in different areas of the Kurdish-inhabited region in the future to enhance the generalizability of the results.

Conclusion

This study shows a high level of public satisfaction with community pharmacy staff and services they provide in Sulaimani City, driven by clear usage instructions, respectful interpersonal communication, medication availability, and geographic convenience. However, significant professional and structural challenges persist, notably the widespread lack of private counseling areas and a continuous public preference for doctor-led drug consultations. To address these gaps and enhance the quality of pharmaceutical care in the Kurdistan Region of Iraq, professional pharmacy organizations should create standardized guidelines for community pharmacy layouts, including a mandatory private consultation area. In addition, implement targeted public awareness campaigns and continuing educational programs focused on patient communication skills, clinical consultation, and over-the-counter therapy management to advance the scope of pharmaceutical care.

Conflict of interests

The authors declared no conflict of interest.

Funding source

The authors did not receive any source of funds.

Data sharing statement

The data that supports the findings of this study are available from the corresponding author upon a reasonable request.

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