

Assessing Public Awareness, Utilization and Satisfaction with Community Pharmacy Services

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Background: The Saudi Community pharmacy sector has been changing towards patient-centred care rather than depending solely on dispensing medications. Accordingly, pharmacies can now provide many services that they previously could not offer. The aims of this study were to identify all pharmacy services provided in a community setting and to assess public awareness and utilization of and satisfaction with these services.

Methods: This was a cross-sectional study in which the authors first purposively visited community pharmacies to identify the services offered. Pharmacists were asked about pharmacy services currently provided to community. Fieldnotes were used to document pharmacists' responses. After identifying pharmacy services, a questionnaire was designed and reviewed by experts in the field, piloted and approved by the Ethics Committee at King Faisal University, then disseminated via Google Forms. The satisfaction level with pharmacy services was assessed using a five-point Likert scale. Data were collected from 24 January 2023 to 2 March 2023.

Results: Eighteen community pharmacies offering 17 different services were visited across Alahsa Governorate. The number of participants who completed the questionnaire was 350. Of those (232 [66.3%]) were female, and the majority of the sample (80.5%) were younger than 40 years old. The majority of the participants were unaware of pharmacy services. Out of 17 services, six received a score of 50% or higher regarding participant awareness. The most utilized services were the medication dispensing service "Wasfaty" (250 [71.4%]), medication counselling provided by pharmacists (232 [66.3%]) and minor ailment service (231 [66%]). The overall satisfaction score for pharmacy services was 87.2%.

Conclusion: The majority of the participants were unaware of the full range of available pharmacy services. There is a potential for community pharmacists to fill the capacity gap in the healthcare system since, overall, the participants rated the pharmacies' clinical services as satisfactory. Commissioners of pharmacy services may consider extending the scope of community pharmacies to include services that best utilize the expertise of clinical pharmacists.

Keywords: pharmacist, clinical service, attitudes, behaviors

Introduction

A community pharmacy is a health care facility in which a pharmaceutical product can be dispensed or sold to patients and customers. In the Kingdom of Saudi Arabia, the pharmacy profession is regulated by three bodies: the Ministry of Health, the Saudi Food and Drug Authority and the Saudi Commission for Health Specialties.¹⁻³ It was reported that there were around 10,374 community pharmacies across the Kingdom, employing approximately 20,900 pharmacists (67.8% of the total).⁴ Since the Saudi community pharmacy setting has several advantages, such as accessibility, convenience and staff expertise, the scope of community pharmacies was extended to include providing clinical pharmacy services.⁵ This noticeably shifted the focus of the community pharmacy towards patient-centered care rather than solely depending on dispensing medications. Accordingly, community pharmacies now are allowed to provide several services that were not previously permitted to

conduct.⁶ After meeting the service specifications, community pharmacists can provide several services that include but are not limited to administering vaccinations, medication consultation and smoking cessation.^{5,6} The community pharmacies in the Kingdom are varied in size, facilities and services provided. For example, not all community pharmacies are equipped with a consultation room, which ultimately affects the ability of pharmacists to provide the service. Thus, a service that is offered in one pharmacy might not be offered in another. Other factors that restrict the availability of pharmacy services are the qualifications and training of pharmacists.

According to the policy and regulations that regulate the pharmacy profession in Saudi Arabia, certain pharmacy services require specific qualifications (eg holding a Doctor of Pharmacy [PharmD] degree) so that it can be offered.⁷ In Saudi Arabia, most of the pharmacy colleges offer Doctor of Pharmacy programs.⁸ This will help with meeting the growing demand on pharmacy and healthcare services. More importantly, the new vision of Saudi Arabia (vision 2030) for the healthcare sector focuses on optimizing and utilizing healthcare centers and encouraging residents to use primary care facilities.⁹ Therefore, the government signed several agreements with the private sector to develop and advance pharmacy services aiming to meet public needs and help achieve the new vision's goals.^{10,11} Although the Saudi community pharmacy sector had undergone substantial reforms, several studies indicated that people were unaware of services provided in a community setting.¹²⁻¹⁴ Being unaware of the service impacts its utilization and consequently may affect patients' health outcomes.

A community pharmacist is considered a member of a healthcare team that provides pharmaceutical products and services to patients. The role pharmacists play is crucial in terms of ensuring that patients receive safe, proper and effective intervention, whether it is a therapy or service. As the role of community pharmacists have been expanded to include offering additional clinical services, meeting customers' expectations is fundamental in terms of evolving the community pharmacy. Thus, assessing beneficiaries' satisfaction with services received in community pharmacy settings will help with shaping the future of the sector.

Nonetheless, there was a need to identify all pharmacy services offered in the Saudi community pharmacies, assessing public awareness, utilization and satisfaction with the services, a gap that's still missing in the literature. This will enable commissioners of the pharmacy services and community pharmacy businesses to understand the sector better and make appropriate decisions accordingly. Therefore, the aim of the study was to assess public awareness, utilization and satisfaction with community pharmacy services in Saudi Arabia by:

- Identifying pharmacy services provided in a community setting.
- Assessing public awareness about pharmacy services.
- Assessing public attitudes and utilization of pharmacy services.
- Assessing public satisfaction with pharmacy services.

Materials and Methods

Study Design

It was an observational cross-sectional study.

Ethical Approval

The ethical approval was granted on 17 January 2023 by the Ethics Committee at King Faisal University (Ref. KFU-REC-2023-JAN-ETHICS502).

Setting and Sampling

Data about community pharmacy services were collected from community pharmacies in Al-Ahsa Governorate and available websites. The visited pharmacies were selected purposely to ensure the representation of the sample (eg independent pharmacy, small and large chain pharmaceutical businesses). The constructed questionnaire was designed using Google Forms and disseminated online.

Data Collection Tools

First of all, the researchers visited community pharmacies to identify pharmacy services provided at each location. Pharmacists were asked about pharmacy services currently provided to community. Fieldnotes were used to document pharmacists' responses. The pharmacies' websites were also visited to identify any undisclosed pharmacy services. Second, an online survey was designed based on information collected from the first step. The questionnaire was comprised of three main sections (participant demographics, participant use of community pharmacies and pharmacy services provided) with a total of 63 questions. The first section included eight closed-ended questions collecting information about gender, age, nationality, educational level, region of residence in Saudi Arabia, being a healthcare provider, having a health insurance and living with chronic diseases. The second section consisted of three closed-ended questions related to community pharmacy visits. The participants were asked about how often they visited a pharmacy, the distance of the nearest pharmacy from their homes and the reasons for visiting a pharmacy. The last section was about pharmacy services provided and consisted of 52 questions that assessed the participants' awareness and utilization of and satisfaction with pharmacy services. The questionnaire was revised by two field experts and piloted on seven individuals from the general public. Minor amendments were made to improve question comprehension and validity of the survey.

Data Collection

A data collection sheet was used to collect information about pharmacy services provided at community pharmacies and those identified through pharmacy websites. The authors decided to stop the data collection phase at community pharmacies at the 18th visit as the last two visits did not reveal new information.

The developed online questionnaire was distributed via social media (WhatsApp® application) to collect the required information. All adults (18 years and above) living in Saudi Arabia who could read either English or Arabic were qualified to participate in this study. Participants were provided with information about the study and were assured of the confidentiality of their responses (ie all this information was provided in the introduction section). The consent to take part in the study was considered to have been received by reading the introduction and agreeing to participate (ie no signed consents were received since the identities of participants were completely anonymous and no risk of harm to subjects was expected). Data were collected from 24 January 2023 to 2 March 2023.

Data Analysis

Information about pharmacy services provided at each pharmacy (ie data from the data collection sheets) were analysed manually. Responses from the online questionnaire were coded and transferred to an Excel spreadsheet. The data were checked for accuracy by at least four members of the research team and no errors were found. Then, the data were exported to SPSS software (version 29) and analysed. Frequency and descriptive functions were used to check missing information and describe the dataset. All variables were treated as categorical variables. The satisfaction level with pharmacy services was assessed using a five-point Likert scale. The scale ranges from very satisfied to not satisfied at all. To calculate the satisfaction of participants towards pharmacy services, very satisfied and satisfied responses were combined. The satisfaction level was calculated based on the actual number of participants who received each service. Those who were neutral towards the service were not included in computing the satisfaction score. A chi-square test was conducted to find the associations among the categorical variables. The conducted statistical tests were at a significance level of 5% (p value = 0.05).

Results

Eighteen community pharmacies were visited. These pharmacies indicated that they were offering a wide range of services (17 different services). These were as follows: weight and height measurement services, blood pressure measurement service, blood glucose testing, uric acid testing, C-reactive protein testing, haemoglobin A1C testing, cholesterol and lipid profile testing, the medications dispensing service "Wasfaty", pharmaceutical consultation phone service provided by pharmacists (ie contacting the pharmacy to get advice on medication use), minor ailment service, smoking cessation service, skincare service, vaccination service, medication consultation with a pharmacist, educational

sessions on how to use a new medical device purchased from the pharmacy, remote medical consultation with a physician for pharmacy visitors (ie contacting a physician via a video call while you are in the pharmacy) and home delivery of medications and pharmacy products.

The number of participants who completed the questionnaire was 350. Of those, 232 (66.3%) were females, and the majority of the sample (80.5%) were younger than 40 years old. Saudis represented the vast majority of the participants (98.6%), and more than half of the cohort (63.4%) had completed a university degree. Most of the recruited individuals were living in the Eastern region (72.6%) and not working in the healthcare field (76.3%). Table 1 shows that of the total sample of 350, 280 (80%) and 228 (65.1%) reported that they were not living with a chronic condition and did not have

Table 1 Participant Demographic Information

Variable	N (350)	%
Gender		
Male	118	33.7
Female	232	66.3
Age		
18–21	96	27.4
22–29	119	34.0
30–39	67	19.1
40–49	46	13.1
50–59	16	4.6
60–64	5	1.4
65 and above	1	0.3
Nationality		
Saudi	345	98.6
Non-Saudi	5	1.4
What is the highest level of education you have completed?		
General education	128	36.6
Diploma or equivalent	46	13.1
Bachelor's degree or equivalent	165	47.1
Master's degree or equivalent	9	2.6
Doctorate degree or equivalent	2	0.6
Where do you live in Saudi Arabia?		
Eastern Region	254	72.6
Central Region	28	8
Western Region	56	16
Northern Region	6	1.7
Southern Region	6	1.7

(Continued)

Table 1 (Continued).

Variable	N (350)	%
Are you working in the healthcare field?		
Yes	83	23.7
No	267	76.3
Are you a person with a chronic disease?		
Yes	61	17.4
No	280	80.0
I do not know	9	2.6
Do you have health insurance?		
Yes	122	34.9
No	228	65.1

health insurance, respectively. Around half of the sample (48.6%) claimed that they visited community pharmacies at least once a month. The vast majority of respondents (89.7%) were living within a 20-minute walk of a community pharmacy. Table 2 shows that the most common two reasons to visit a pharmacy were to purchase or obtain medications (291 [83.1%]) and to purchase cosmetics or personal products (203 [58%]).

Table 2 Participant Use of Community Pharmacies

Variable	N (350)	%
How often do you visit the community pharmacy?		
Once a week	21	6.0
Twice a week	13	3.7
Once to three times a month	136	38.9
Twice to 11 times a year	101	28.9
Once a year	21	6.0
I do not go to the pharmacy	17	4.9
I do not know	41	11.7
Is there a pharmacy near your home? (Within 2 km or within 20 minutes' walking distance)		
Yes	314	89.7
No	31	8.9
Why do you visit the pharmacy?		
To purchase or obtain medication		
Yes	291	83.1
No	59	16.9

(Continued)

Table 2 (Continued).

Variable	N (350)	%
To purchase cosmetics or personal care products		
Yes	203	58.0
No	147	42
To purchase medical devices		
Yes	26	7.4
No	324	92.6
To purchase baby related products		
Yes	103	29.4
No	247	70.6
To purchase other		
Yes	8	2.3
No	342	97.7

In general, participants were not well informed of services provided at community pharmacies. Only six services received a score of 50% or higher of those who were aware of the availability of the services. These were the medications dispensing service “Wasfaty” (280 [80%]), minor ailment service (260 [74.3%]), medication counselling service with a pharmacist (258 [73.7%]), educational sessions on how to use a new medical device purchased from the pharmacy (208 [59.4%]), weight and height measurement service (181 [51.7%]) and home delivery of medications and pharmacy products (181 [51.7%]). Whereas the least familiar services, shown in [Table 3](#), were uric acid testing (12 [3.4%]), c-reactive protein testing (14 [4%]) and haemoglobin A1C test (18 [5.1%]). When it comes to utilization of pharmacy services, the most utilized services were the medications dispensing service “Wasfaty” (250 [71.4%]), medication counselling service with a pharmacist (232 [66.3%]) and minor ailment service (231 [66%]), while the least utilized services were haemoglobin A1C testing (306 [87.4%]), blood glucose testing (305 [87.1%]), uric acid testing (301 [86%]) and c-reactive protein testing (297 [84.9%]) (see [Table 3](#)). Notably, the satisfaction of pharmacy services for those who received services was high. Out of the 1445 pharmacy services provided to participants included in the study, 1261 services met participants’ satisfaction (ie they were very satisfied or satisfied), resulting in a satisfaction level of 87.2%. The three pharmacy services that satisfied participants the most were the minor ailment service (90.8%), pharmaceutical consultation provided by pharmacists over the phone (90.7%) and medication counselling provided by pharmacists (89.6%), whereas the pharmacy services that satisfied participants the least were the haemoglobin A1C testing (57%), uric acid testing (60%) and c-reactive protein testing (66.6%), shown in [Table 3](#).

The assessment of associations among variables included in the study indicated that there was an association between gender and purchasing cosmetics and personal care products. Females were more likely to purchase cosmetics in comparison to males (p value = 0.02). Furthermore, an association was found between age and having a chronic condition. Older participants were more likely to have a chronic condition (p value <0.001). There was also an association between age and purchasing cosmetics and personal products. Young people were more associated with purchasing cosmetics and personal products (p value <0.001). It seemed that participants between the ages of 30 and 49 were more likely to buy baby products (p value = 0.034). Participants living with chronic conditions were more likely to visit pharmacies (p value = 0.027) and were less likely to purchase cosmetics (p value = 0.024). Participants with health insurance were also more likely to visit a pharmacy (p value = 0.003), see [Table 4](#).

Table 3 Pharmacy Services Provided

Pharmacy Service	Service Offered N(%)			Service Utilization N(%)			Satisfaction with the Service N(%)				
	Yes	No	I do not know	Yes	No	I do not know	V. satisfied	Satisfied	Neutral	Not Satisfied	Not Satisfied at All
Blood pressure measurement service	99 (28.3%)	92 (26.3%)	159 (45.4%)	40 (11.4%)	288 (82.3%)	22 (6.3%)	19 (47.5%)	12 (30%)	7(17.5%)	2(5%)	0(0%)
Blood glucose testing	56 (16.0%)	104 (29.7%)	190 (54.3%)	18 (5.1%)	305 (87.1%)	27 (7.7%)	9(50%)	5(27.7%)	4(22.2%)	0(0%)	0(0%)
Haemoglobin A1C testing	18 (5.1%)	129 (36.9%)	203 (58.0%)	7 (2.0%)	306 (87.4%)	37 (10.6%)	3(42.8%)	1(14.2%)	3(42.8)	0 (0%)	0 (0%)
Cholesterol testing	34 (9.7%)	127 (36.3%)	189 (54%)	23 (6.6%)	288 (82.3%)	39 (11.1%)	11 (47.8%)	5(21.7%)	5(21.7%)	1(4.3%)	1(4.3%)
C-reactive protein testing	14 (4%)	127 (36.3%)	209 (59.7%)	9 (2.6%)	297 (84.9%)	44 (12.6%)	5(55.5%)	1(11.1%)	3(33.3%)	0 (0%)	0 (0%)
Uric acid testing	12 (3.4%)	126 (36%)	212 (60.6%)	5 (1.4%)	301 (86%)	44 (12.6%)	3(60%)	0(0%)	0(0%)	0(0%)	2(40%)
Weight and height measurement service	181 (51.7%)	68 (19.4%)	101 (28.9%)	115 (32.9%)	217 (62%)	18 (5.1%)	61 (53%)	41 (35.6%)	10 (8.6%)	1(0.8%)	2(1.7%)
Vaccination service	80 (22.9%)	125 (35.7%)	145 (41.4%)	30 (8.6%)	293 (83.7%)	27 (7.7%)	14 (46.6%)	12 (40%)	3(10%)	1(3.3%)	0 (0%)
Medication counseling with a pharmacist	258 (73.7%)	40 (11.4%)	52 (14.9%)	232 (66.3%)	103 (29.4%)	15 (4.3%)	68 (29.3%)	140 (60.3%)	22 (9.5%)	1(0.43%)	1(0.43%)
Minor ailment service	260 (74.3%)	39 (11.1%)	51 (14.6%)	231 (66%)	102 (29.1%)	17 (4.8%)	75 (32.4%)	135 (58.4%)	17 (7.3%)	3(1.3%)	1(0.4%)
Educational sessions on how to use a new medical device purchased from the pharmacy	208 (59.4%)	33 (9.4%)	109 (31.1%)	147 (42%)	172 (49.1%)	31 (8.9%)	61 (41.5%)	67 (45.5%)	13 (8.8%)	1(0.7%)	5(3.4%)
Home delivery of medications and pharmacy products	181 (51.7%)	66 (18.9%)	103 (29.4%)	125 (35.7%)	202 (57.7%)	23 (6.6%)	68 (54.4%)	42 (33.6%)	12 (9.6%)	2(1.6%)	1(0.8%)
Medications dispensing service “Wasfaty”	280 (80%)	26 (7.4%)	44 (12.6%)	250 (71.4%)	84 (24%)	16 (4.6%)	123 (49.2%)	100 (40%)	11 (4.4%)	9(3.6%)	7(2.8%)

(Continued)

Table 3 (Continued).

Pharmacy Service	Service Offered N(%)			Service Utilization N(%)			Satisfaction with the Service N(%)				
	Yes	No	I do not know	Yes	No	I do not know	V. satisfied	Satisfied	Neutral	Not Satisfied	Not Satisfied at All
Pharmaceutical consultation phone service provided by pharmacists	99 (28.3%)	82 (23.4%)	169 (48.3%)	65 (18.6%)	251 (71.7%)	34 (9.7%)	31 (47.7%)	28 (43%)	5(7.7%)	0(0%)	1(1.5%)
Remote Medical consultation with a physician for pharmacy visitors	63 (18%)	86 (24.6%)	201 (57.4%)	42 (12%)	270 (77.1%)	38 (10.9%)	20 (47.6%)	16 (38%)	5(12%)	0(0%)	1(2.4%)
Smoking cessation service	32 (9.1%)	91 (26%)	227 (64.9%)	14 (4.0%)	286 (81.7%)	50 (14.3%)	7(50%)	5(35.7%)	2(14.3%)	0(0%)	0(0%)
Skincare service	145 (41.4%)	61 (17.4%)	144 (41.1%)	92 (26.3%)	228 (65.1%)	30 (8.6%)	34 (37%)	39 (42.3%)	19 (20.6%)	0(0%)	0(0%)

Table 4 Association Between Demographic Characteristics and Participant Use of Community Pharmacies

Characteristic	To Obtain Medications	To Purchase Medical Devices	To Purchase Baby Products	To Purchase Cosmetics	Pharmacy Visits
Gender Male Female	p-value 0.383	p-value 0.232	p-value 0.191	p-value 0.02*	p-value 0.254
Education General education Diploma Degree Bachelor Degree Master Degree Doctorate Degree	p-value 0.549	p-value 0.769	p-value 0.219	p-value 0.403	p-value 0.152
Age 18–21 years 22–29 years 30–39 years 40–49 years 50–59 years 60–64 years 65+ years	p-value 0.087	p-value 0.143	p-value 0.034*	p-value < 0.001*	p-value 0.476
Chronic conditions Yes No	p-value 0.068	p-value 0.361	p-value 0.372	p-value 0.024*	p-value 0.027*

Notes: *Chi-square indicated there was a statistically significant difference between the categorical variables (p-value<0.05).

Discussion

The results of the current study show that a considerable percentage of participants were unaware of pharmacy services and therefore were not utilizing them. The same finding was observed in other studies.^{12–14} The low level of awareness of pharmacy services was consistent with prior research findings. Alghamdi et al noted that most participants were unaware of pharmacy services provided at community pharmacies, which ranged from 29–79% across different services. However, services that were enforced by the government (eg the medications dispensing service “Wasfaty”) or related to the essence of the pharmacy (eg medication counselling service) received a high percentage of awareness^{15,16} Pharmacy services are supposed to be advertised better so people can make the most out of them. This can be done via posting signs inside the pharmacies offering the services and utilizing technology effectively in addition to conducting awareness-raising campaigns on social medias and sending text advertisements to the target population. For example, those who visit the pharmacy to refill antidiabetic medications may receive text message alerts advertising the blood glucose testing service. More importantly, having one patient medical file that is accessible for health care providers regardless of their workplace types (eg governmental or private healthcare facilities) will help with improving the uptake of the service. Limited awareness of community pharmacy services and promotion reflects the need for more effective promotional strategies. There has been a significant shift towards digital marketing in the Saudi Arabian pharmaceutical sector. A recent study found that the majority of healthcare websites incorporated digital marketing tools, with 80.32% of participants acknowledging their existence, while social media marketing was also considered highly prevalent and effective, with 61.20% of respondents acknowledging its role in promoting pharmacy services.¹⁷

It seems that the beneficiaries of pharmacy services were happy with the quality of services provided. More than 87% of pharmacy services met participants’ expectations. Similar research conducted in Saudi Arabia and elsewhere reported the same finding.^{18–20} The three services that most satisfied participants were clinical in nature: minor ailment service (90.8%), pharmaceutical consultation provided by pharmacists over the phone (90.7%) and medication counselling provided by pharmacists (89.6%). As pharmacists excelled in providing these services, the healthcare model could be

changed to allow community pharmacists to contribute more to people's health. Most of the pharmacy students studying in Saudi universities are enrolled in PharmD programs.⁸ Providing more clinical services in a community setting will allow the best utilization of community pharmacists. Additionally, the results of this study indicate that community pharmacies were very accessible to the vast majority of the sample with around 90% of the participants living within a 20-minute walk of a pharmacy, which resulted in approximately 50% of participants visiting a pharmacy at least once a month. Offering more clinical services at pharmacies located in rural areas where people have limited access to healthcare facilities would increase accessibility to health care services, which may improve patient health outcomes and relieve pressure on other healthcare facilities. For instance, during the outbreak of COVID-19, several countries, including Saudi Arabia, enacted laws that enabled community pharmacies to administer COVID-19 vaccinations.^{21,22} This not only increased the service uptake but also improved public health outcomes.²³

Strengths and Limitations

This is the first exploratory study assessing the general public's awareness, utilization and their satisfaction with community pharmacy services in Saudi Arabia. Conducting the study in two phases (ie conducting pharmacy visits to identify services offered to the public and surveying the general public) elicited thoughtful understanding of the topic. Although participants were recruited across the Kingdom, the sample might not accurately represent the whole population since most of the participants were from the Eastern region. Moreover, collecting data via an online questionnaire may have reduced the number of older people included in the study and may have affected the accuracy of information collected (report bias).

Conclusion

Overall, most of the participants were unaware of the pharmacy services offered in community pharmacies. This contributed to low utilization of pharmacy services and therefore may have impacted the ability of pharmacists to contribute to people's health. There was a potential for community pharmacists to fill the capacity gap in the healthcare system since their clinical services were rated satisfactory. Commissioners of pharmacy services may consider extending the scope of community pharmacies to include services that best utilized the expertise of clinical pharmacists.

Ethical Considerations

This study complies with the Declaration of Helsinki and was conducted according to ethics committee approval.

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Disclosure

The authors report no conflicts of interest in this work.

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