

Original Research

The Role of Patient Satisfaction and Pharmacy Performance: The Current Scenario in Saudi Arabia

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Abstract

Objective: The main aim of the study is to inspect the impact of pharmacy services features and its association with the consumer satisfaction visiting community pharmacies in Riyadh, Saudi Arabia. **Methods:** A descriptive analytical methodology was used, together with a quantitative approach based on a survey strategy. Riyadh's whole population was represented in the research population. An online questionnaire was used to collect data. A suitable quota sample of 500 respondents was chosen, and 396 valid questionnaires were returned, providing a 79.2% effective response rate. Path analysis was used to test the study hypotheses. SPSS 21® version was utilized to perform descriptive and inferential statistical. Alpha value < .05 was deemed statistically meaningful. **Results:** Results of this study has shown that customer satisfaction is impacted by the type and quality of services offered by the community pharmacy, pharmacist attitude (C.R.=15.011, P<0.001) was found as the primary factor influencing patients as the key indicators of consumer satisfaction, followed by the medication teaching (C.R.=14.086, P<0.001), pharmacy location (C.R.=9.792, P<0.001), and service promptness (C.R.=5.337, P<0.001). In addition, the study establishes statistical evidence that patient satisfaction has a positive and significant effect on pharmacy performance (C.R.= 4.317, P<0.001). **Conclusion:** This study is exploring a very import aspect of the community pharmacy practice in Saudi Arabia. hence filling up the gaps in the research and emphasizing the elements linked to the implications of consumer satisfaction for the pharmaceutical industry in Riyadh. It is also among the first to investigate the relationship between community pharmacy performance and patient satisfaction.

Keywords: consumer satisfaction; community pharmacies; saudi arabia

INTRODUCTION

Community pharmacy are drug dispensing and health care centers that play a vital role in promoting community health and illness prevention and treatment.¹ In addition to being easily accessible for outpatients.² Customers visit the community pharmacy (CP) first since it is conveniently accessible.³ Millions of individuals visit CP every day, either to buy drugs or to seek medical advice.⁴ These figures increased during the 2019 coronavirus pandemic.⁵ According to Azhar et al.⁶, the pharmacist's obligation has evolved from the conventional role of drug compounding and dispensing (i.e. fill and bill) to contact clients about their health condition and prescriptions. To enhance services and increase customer satisfaction, these significant changes entail understanding consumers' expectations, perceptions, and resolving unmet needs. Determining consumer perception is an important step in assessing the quality of service provided by CP and identifying deficiencies.

Though the literature has substantial research published on various pharmaceutical service elements that might influence patient satisfaction; nevertheless, the researcher views are divided and varies on patient satisfaction regionwide,⁷⁻¹⁰

however, there is a scarcity in the Saudi Literature on this specific topic. Existing research yields contradictory results when it comes to the predicted influence of pharmacy service on patient satisfaction. For instance, various researches conducting on the similar topic reported that patient satisfaction is directed correlated to the counselling time,¹¹ delivery process,¹² medication teaching¹³ and service promptness,^{14,15} whereas others illustrated contradictory results.^{16,11} However, identifying one factor that is directly associated with patient satisfaction is difficult. Several elements may play a role in the patient satisfaction process.¹⁷ There is also a gap in the literature regarding the influence of patient gratification on community pharmacy overall service delivery, particularly in the setting of an emerging nation.

Patient satisfaction is one of the main performance indicators of today's health-care system. Patient satisfaction with health-care services has emerged as an essential indication of service quality. Patient satisfaction may be used to predict the quality of services.¹⁸ Currently, the health-care industry is working hard to improve client satisfaction. This allows one to identify gaps to improve patient satisfaction and overall health services.¹⁹ According to current research, using a structured approach assessment for the pharmacies was conducted based on the type of services and their characteristics to estimate patient contentment. However, experts cannot agree on the elements that most substantially influence patient satisfaction. According to Bonna and Moinier²⁰, patient satisfaction is impacted by a variety of characteristics, including listening skills, competency, and medicine on hand. Patients were happier with pharmacy accessibility, availability of drugs, cost, convenient operation hours, quick delivery of prescription and services, trust in value

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of therapy, and short distance.²¹ According to,²² pharmacist abilities, as well as secrecy and patient support, have a beneficial impact on patient satisfaction. According to,²³ the top factor affecting their choice of a specific pharmacy is pharmacy location, followed by complete product range, quick response time, competence of the staff of on duty and convenient working hours. Merks et al.²⁴ discovered that consumer services is the primary element that patients evaluate when selecting a pharmacy in the United Kingdom. As for⁷ patients when pharmacist/ pharmacy staff and give them cost effect options for the consumers felt more satisfied.

Patient satisfaction

According to Schommer,²⁵ satisfaction may be defined as the “ability to carry out a desired behavior because of a service”. Consumer satisfaction is further described as an emotional response versus the expectations or services that are provided that are associate to the product.²⁶ According to Desta et al.²⁷ “patients’ satisfaction is a health-care recipient’s reaction to salient aspects of the contexts, process, and result of their service experience.” Customers are the product or services ambassador, and they share their experience with other therefore to maintain a reputé in the community its vital to provide better services to the patients.²⁸

Pharmacy performance

Modern business concept has become the heart of today’s community pharmacies performance.^{29,30} Thus, those community pharmacies who are valuing their customers are aiming high to maintain patient trust and reliability.⁷ Otherwise, the buyer may seek other options or replacements for the services they are seeking.³¹ In this competition those outlets that are offering better service, care and respect may win the competition. Specifically at community pharmacy recurrent pattern to acquire medication, willingness to pay more, advocacy, faithfulness, and identification are some of the key indicators of the pharmacy performance.⁸

Medication teaching and patient satisfaction

Pharmacist and community pharmacies are the heart of the community health, patients’ preference for filling in prescriptions and seeking medical advice is always pharmacist.²² Consumer awareness and health literacy is another factor that impact the nature of pharmacy education services, if patients they are well informed UH, they may ask less information from the community pharmacist and if they are not well informed, they may inquire more information from the pharmacist. Therefore, many consumers they may perceive that pharmacists only answer the information which is inquired from them. However, it’s a two-way traffic. If the patient they ask more, the pharmacist will tell more.²¹ That’s patient education about the medication is considered as a vital parameter for the consumer or patient satisfaction. Various African Studies they outline that the consumers they were more satisfied when they are educated more about their medications.⁷ How about some of the earlier studies they have reported are lower or moderate level of satisfaction when the consumers they were educated about the drug and additional information about how to

consume that, what is their pharmacological purpose and other information? That are associated with the consumption of drug.^{7,15} Considering all this data, the following hypothesis is proposed for exploration in Saudi health care setting:

H1. Patient Counselling about Medication has a significant effect on patient fulfillment.

Service promptness and patient satisfaction

In various regions are excellent services or prompts services in prescription filling are considered as a one of the key parameters in patient satisfaction.^{32,7,15} In contrast, in some of the geographic setting, the promptness in the service is not considered as an important parameter of patient satisfaction.³³ Specifically in Spain long dispensing process was not a significant cause of low patient satisfaction.²² Nonetheless, based on the findings of the bulk of investigations, the following hypothesis is proposed for the Saudi community pharmacy setting:

H2. Service swiftness has an encouraging effect on patient satisfaction.

A professional attitude is one of the main pillars of success for any business. Specifically for community pharmacy setting professional attitude is one of the main parameters that most of the patient consider while assessing or gauging level of satisfaction with pharmacy services.^{7,14} It is the prime will of any consumer/ patients to be tackled with care and respect on community pharmacy by the staff and pharmacist.³³ Keeping in view the recommendation of literature we may postulate the following hypothesis for Saudi pharmacy setting.

H3. Pharmacist Behavior has an affirmative effect on patient satisfaction.

Patients’ satisfaction is proven to be directly associated with the location of pharmacy and its approachability.^{7,21,13,34} Taking all of this into account, the following hypothesis is postulated:

H4. Pharmacy location has a positive effect on patient satisfaction.

According to Barghouth,⁷ client satisfaction can impact the long-term success of health-care providers. Satisfied customers will become the ambassador of the community pharmacy and they may share a high rating and level of satisfaction within their community or peers, which may assist in improving pharmacy business as well.⁷ Keeping in view this concept the final hypothesis of this research will be;

H5. Patient satisfaction has a positive effect on pharmacy performance.

Based on all the developed hypotheses, the research model (see Figure1) has been proposed.

METHOD AND MATERIAL

Study design

A cross-sectional study was devised to attain the aims of this study. The data collection was done using a structured questionnaire using a survey that contained construct-



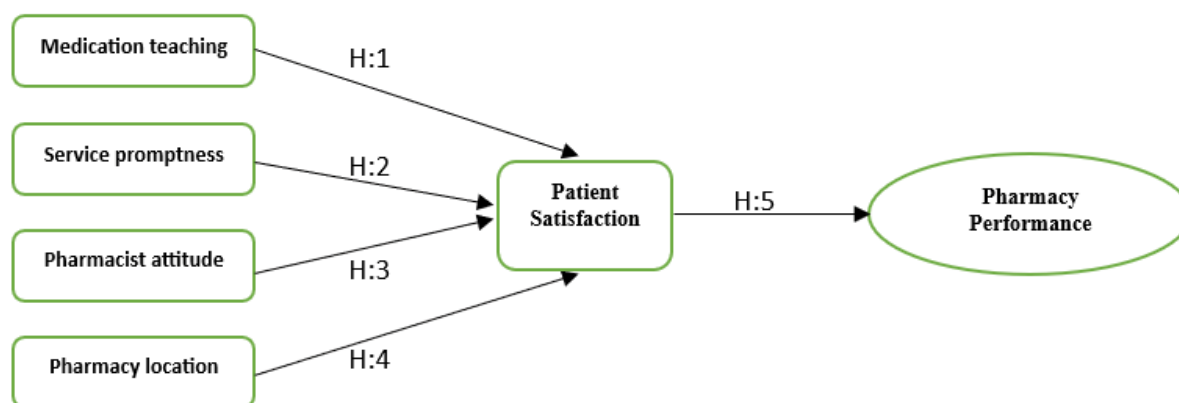


Figure 1. Conceptual model

measurement items. Personal interviews with a few clients were conducted to assess the study instrument's content validity and appropriateness. The questionnaire began with a categorization questions, which asked potential respondents whether they personally buy from community pharmacies; only those who answered in the affirmative completed the questionnaire after reading the cover letter, which specified the main objectives of the study, confirmed the confidentiality of the information provided, and asserted.

Study tool

The first segment covered the patients' socio-demographic characteristics and general information. While the core section that was aiming to prove the hypothesis was comprise of 28-items. The questionnaire looks at four aspects of patient satisfaction: medication instruction, service promptness, pharmacist attitude, and drugstore location convenience. In all the items, a five-point Likert scale was employed, with ranks ranging from 5 (strongly agree) to 1 (strongly disagree). Table 1 lists the items, as well as the research from which each construct is formed, as well as the most current studies for evaluating these scales.

Pilot study

As this survey was executed in Saudi Arabia, it was therefore necessary to translate the questionnaire from English to Arabic, and to ascertain that the translation used equivalent language. The questionnaire was translated into the Arabic language by two bilingual Arabic (Arabic/English) lecturers at the KFU language center. The double-translation method was

employed to ensure the proper translation of this survey to avoid confusion or misinterpretation, and also to ensure that the Arabic questionnaire adequately represented the English version on which it was based.³⁵ Before using the Arabic version of the questionnaire in the main survey, the questionnaire was pre-tested in July 2023 by four experts in the pharmacy school. They were also asked to identify any ambiguities or awkwardness in the wording of questions. Based on the pretest results, three items were refined or deleted due to ambiguities and/or possible cultural incompatibilities. Then, the questionnaire was validated for the validity of its content validity by "panel judges-lecturers". Experts in this field at the pharmaceutical science school of KFU were chosen to evaluate the questionnaire. The items were found to be acceptable and appropriate. Subsequently, the questionnaire was piloted using a sample size of 30 respondents. Any ambiguities that were reported by the consumers were considered for the medication of study tool before collecting the main study sample.

Data collection

A convenient sampling method was adapted, and eligible participants were participated from the 1st August 2023 till 30th November 2023. QR codes to participate in the online survey and various social media platforms were used to approach potential respondents.

Study sample

Customers in Riyadh, Saudi Arabia's capital, that are regular buyer from community pharmacies. Individual customers visiting community pharmacies on a regular basis in Riyadh,

Variable	No. of Items	Items Source	Recent Validation
Medication teaching	5	Khudair and Raza, ¹⁴	Barghouth. ⁷
Service promptness	5	Khudair and Raza, ¹⁴	Narayanan, 2014; Barghouth. ⁷
Pharmacist attitude	4	Marquez-Peiro and Pérez-Peiro, ²²	Khudair and Raza, ¹⁴ ; Barghouth. ⁷
Pharmacy location	4	Oparah and Kikanme, ²⁶	Khudair and Raza, ¹⁴ ; Barghouth. ⁷
Patient satisfaction	5	Oparah and Kikanme, ²⁶	Barghouth. ⁷
Pharmacy performance	5	Oparah and Kikanme, ²⁶	Barghouth. ⁷

Saudi Arabia’s capital, make up the study’s population. In 2023, Riyadh had a population of 7,682,000 people (Saudi General Authority for Statistics). Using an automated software program with a confidence interval of 95% and a margin of error of 5%, we determined that 384 was the appropriate sample size.³⁵ We issued 500 electronic copies of the questionnaire to account for the predicted response rate. Table 2 shows the demographics of the respondents.

Table 2. Demographics Information of respondents (n=396)			
Variables	Valid	Frequency	Percentage %
Gender	Male	155	39.2
	Female	241	60.8
Total		533	100%
Education Level	High school	130	32.8
	Bachelor Degree	237	59.9
	Master Degree	26	6.5
	Doctoral Degree	3	0.8
Total		533	100%
Age	20 – 25	88	22.2
	26 – 35	209	52.8
	36 – 45	85	21.5
	46 and above	14	3.5
Total		533	100%
Income	Less than 5000 SAR	21	3.9
	5000-less 10000 SAR	214	40.1
	10001-less 14999 SAR	209	39.2
	15000 SAR and over	89	16.6
Total		533	100%

Analysis

Upon completion of the data. It was coded into different variables in with the hypothesis generated. The structural equation modelling (SEM) technique was used for analysis, coupled with a two-step approach, utilizing AMOS 20.0 software. Confirmatory Factor Analysis (CFA) CFA was also done using goodness and badness indices, with the model fit summary being used. Standardized regression weights assigned to variables and their items are known as factor loadings. Although loadings beyond 0.70 are considered ideal, loadings exceeding 0.60 are also permissible. (Hair et al., 2010). All components underwent concurrent exploratory factor analysis (EFA) to ensure construct validity. Table 3 displays the EFA results for the study constructs. The Cronbach’s coefficient was employed to assess the study constructs’ reliability. The dependability of every construct was higher than the minimally necessary value of 0.70, indicating the trustworthiness and credibility of the study’s measurements.³⁵

RESULTS

Four hundred and eight (408) people responded, accounting

for 80.4% of the total response rate. Because they did not complete most of the questionnaire sections, 3.47% of the questionnaires (9) were excluded from the study. The response data was examined, and three replies were identified as useless or outliers. As a result, the final total usable response rate was 396 (79.2%), which was deemed acceptable because the margin of error (accuracy) was set at 5% and the confidence interval was set at 95% (Sekaran, 2003). Table 2 demonstrates this. The majority of the 241 respondents (60.8%) were females between the ages of 26 and 35 (52.8%). Graduates made up the bulk of respondents (237 (59.9%)), with high school students accounting for 130 (32.8%). Table 2 summarizes the total response for this investigation.

Reliability Test

The construct was evaluated using the Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) score, which had to be more than 0.50.³⁵ Furthermore, a high Cronbach alpha value represents scale reliability and suggests scale item coherence. According to,³⁵ there is adequate evidence to show that the reliability of the constructs was satisfactory based on the data reported in table 3, given that the Cronbach Alpha value is >0.80.³⁵

Table 3. Reliability Analysis of the items			
Construct	Mean	St. Deviation	Cronbach Alpha α
Medication teaching	3.45	0.891	0.971
Service promptness	3.98	0.864	0.923
Pharmacist attitude	4.01	0.764	0.972
Pharmacy location	4.13	0.719	0.959
Patient satisfaction	4.11	0.707	0.941
Pharmacy performance	3.69	0.779	0.971

Confirmatory Factor Analysis (CFA)

The CFA was carried out using SEM methods. AMOS software was used to determine if the proposed factor solutions and model fit the data. Following CFA on each variable Table 4, all goodness-of-fit (GOF) indices indicate a satisfactory fit. For example, the CMIN/df rotation is 2.0, and the root mean square error of approximation (RMSEA) is 0.080), which takes the complexity of the model into account when judging fit.³⁵ The GFI is more than 0.90; the adjusted-GFI (AGFI) is greater than 0.90; the normed-fit index (NFI) is greater than 0.90; the Tucker-Lewis index (TLI) is greater than 0.90; and the comparative fit index (CFI) is greater than 0.90. The CFI is an incremental fit measure that compares the model to a null model, and CFI values greater than 0.90 have typically been regarded acceptable.³⁵

Discriminant Validity Results

Table 5 demonstrates that the square correlation between the latent variables does not surpass the variance extracted for each variable [AVE > correlation²], indicating that DV exists.



CFA Model	Original Items	CFA Items	CMIN/df	TLI	NFI	GFI	AGFI	CFI
Medication teaching	5	4	1.742	0.996	0.990	0.994	0.935	0.982
Service promptness	5	3	1.471	0.997	0.995	0.995	0.949	0.990
Pharmacist attitude	4	3	1.328	0.998	0.996	0.993	0.981	0.989
Pharmacy location	4	3	1.078	0.997	0.997	0.999	0.994	0.991
Patient satisfaction	5	4	1.119	0.998	0.998	0.998	0.979	0.999
Pharmacy performance	5	3	1.325	0.998	0.997	0.997	0.984	0.999

Note: CMIN/df = ratio of the chi square minimum to the degree of freedom; TLI = Tucker-Lewis index (TLI); NFI = Bentler-Bonett normed fit index; GFI = goodness-of-fit index; AGFI = adjusted goodness-of-fit index; CFI = Bentler's comparative fit index

	Medication teaching	Service promptness	Pharmacist attitude	Pharmacy location	Patient satisfaction	Pharmacy performance
Medication teaching	1					
Service promptness	0.521*	1				
Pharmacist attitude	0.537*	0.732*	1			
Pharmacy location	0.601*	0.498*	0.498*	1		
Patient satisfaction	0.622*	0.539*	0.681*	0.617*	1	
Pharmacy performance	0.598*	0.681*	0.588*	0.691*	0.637*	1

Hypothesis Testing

According to Hair,³⁵ regression weights are shown for each parameter's un-standardized estimate, (S.E.), and (C.R.), where critical ratio estimation (C.R.) is separated into S.E. If the result is more than +/-1.96, the (Null hypothesis): C.R is 0" hypothesis is rejected. Table 6 displays the Estimate, ES, and C.R. for each parameter.

Based on the analysis of the result shown in Table 6, may illustrate the outcomes of each hypothesis through C.R. values if it is accepted or rejected based on the findings. Based on the result of this study, pharmacist attitude (C.R.=15.011, $P<0.001$) was found as the primary factor influencing their choice of a particular pharmacy, followed by the medication teaching (C.R.=14.086, $P<0.001$), pharmacy location (C.R.=9.792, $P<0.001$), and service promptness (C.R.=5.337, $P<0.001$). Finally, research results also indicate that patient satisfaction has a positive and significant effect on pharmacy performance (C.R.=4.317, $P<0.001$). This finding indicated all factors investigated in this research are important in effecting patients' satisfaction.

This result showed support for the conceptual framework in Figure 1.

DISCUSSION

Comparing our results to most of the Asian research, we found a high degree of satisfaction.^{7,8,9,11} Nearly one-third of respondents in many of these studies expressed satisfaction with the patient care received.³⁶ However, research conducted in the North American region has shown that study participants had a partial degree of satisfaction.³³ Furthermore, the nature of the pharmacy's environment and offerings was found to be another indicator of patients' happiness.³³ However, a variety of factors, including location, demography, the variety of research instruments used for the evaluation, and the sociodemographic of the patients, have resulted in a lack of consistency in the information given in the published literature. Given that varied definitions, measuring techniques, and hospital service types were used to gauge patient satisfaction, care must be used when interpreting these disparate results.

Hypothesis	Estimate	ES	Critical ratio	Result
H ₁ : Medication teaching (MT) → Patient satisfaction (PI)	0.679	0.048	14.086***	Supported
H ₂ : Service promptness (SP) → Patient satisfaction (PI)	0.226	0.042	5.337***	Supported
H ₃ : Pharmacist attitude (PA) → Patient satisfaction (PI)	0.811	0.054	15.011***	Supported
H ₄ : Pharmacy location (PL) → Patient satisfaction (PI)	0.358	0.037	9.792***	Supported
H ₅ : Patient satisfaction (PS) → Pharmacy performance (PP)	0.222	0.051	4.317	Supported

Goodness of fit indices: CMIN/df = 3.38; CFI = 0.976; GFI = 0.967; AGFI = 0.903; NFI = 0.965; IFI = 0.976; TLI = 0.942; RMSEA = 0.07; SRMR = 0.04. *** $P < 0.001$ and ** $P < 0.01$.



This study indicated that the positive influence of pharmacist outlook on patient gratification was the most important factor, which is consistent with the findings of prior empirical investigations. Several research^{23,17,7,8,11} have evaluated patients' satisfaction and attitudes towards community pharmacy services. In contrast, Ala'Eddin³⁷ discovered that there is no significant impact of staff views on patient satisfaction using 333 people as a representative sample rather than the entire population. This study suggested that pharmacy services offer training sessions to enhance staff abilities and attitudes towards patients. This suggests that pharmacists who advance specialized, reciprocally beneficial relationships with their patients while keeping a compassionate attitude, encouraging their patients' quality of life, and improving their medication therapy have better levels of patient satisfaction.

Greater expectations for healthcare services provided at the pharmacy may be correlated with higher literacy, and when those expectations are not fulfilled, dissatisfaction may result. However, prior research^{38,26} have not explored association with in these two variables therefore remained an issue for exploration in the current setting. This highlights the need to develop a good patient-pharmacist connection based on communication, confidence, and communal respect to create patient satisfaction and assure marketing. Furthermore, it has been noted that a higher frequency of visits to pharmacies by patients or consumers is another element linked to patient satisfaction. The research makes it clear that patients with chronic illnesses who visit pharmacies frequently receive regular education and counselling, which greatly enhances their quality of life. Medication education has also been demonstrated to improve patient satisfaction. This is similar with previous research,^{23,17,7,8,11} which found that pharmacists who give counselling to their customer or patients had higher satisfaction toward the services offered by the pharmacists inside the pharmacy. This conclusion shows that pharmacists should offer their patients with the essential pharmacological information on a continuous basis, assist them with their drugs, properly explain quantities and methods of administration, and clarify any adverse effects. The placement of the pharmacy was discovered to have a favourable influence on patient satisfaction. This conclusion is consistent with;¹¹ where also this point has also been expressed by¹⁵ who found high ratings among factors effecting pharmacy selection was the pharmacy's location. On the contrary,^{7,13} who showed that geographical convenience had no effect on patient satisfaction in Saudi Arabia. Riyadh's traffic is becoming worse by the year, and rush hour is a 24-hour affair. Traffic congestion in Riyadh has numerous detrimental effects on the life of Riyadh inhabitants; drivers and passengers alike experience excessive tension on the roads, which affects their temperament. In fact, many people would rather travel to the nearest drugstore to their home or workplace than walk a considerable distance to another pharmacy.

Patient satisfaction was found to be positively impacted by service promptness. This outcome is in line with earlier studies^{7,9,11} it is at odds with¹⁶ findings, which found that patient satisfaction was unaffected by service promptness.

Still, this highlights how important it is to keep patient wait times for pharmacy visits and prescription fills to a minimum. It is imperative that chemists put out every effort to provide their clients with timely, high-quality pharmaceutical services; this is because satisfied patients are more likely to make repeat purchases and recommend their services to others. Consistent with previous studies,^{7,9,11} and as predicted by this study model and asserted in hypothesis H5, it was found that patient satisfaction has a significant and positive influence on pharmacy performance. More satisfied customers are more likely to show positive behaviors towards their local pharmacy, such positive word-of-mouth and increased volume and frequency of purchases, all of which eventually support the long-term viability of the company.

CONCLUSION

Findings of this study has shown that pharmacist attitude had the biggest effect on patient satisfaction, followed by medication instruction, location, and service promptness. Patient satisfaction significantly improved pharmacy performance. The study's findings have significant consequences for pharmacists and pharmaceutical decision-makers. Community pharmacies may only increase their performance and gain a competitive edge if they have loyal and pleased consumers. In nutshell there is a room for improvement in the current pharmacy services in kingdom and the stakeholders should develop suitable policies to rectify the factors resulting in lower customer satisfaction.

LIMITATIONS

This study has several limitations that need to be acknowledged. One of the main limitations of this research is that it focuses only on the metropolitan population of Saudi Arabia, Riyadh city, therefore the generalizability of these results for the entire kingdom may not be possible. Bias cannot be eliminated for the self-completed questionnaire, despite all steps taken to minimize it. Due to time and financial constraints, the online poll was circulated through major social media platforms. Using the social media to collect the data in Saudi Arabia, it was restricted for patients who can access this kind of technology which excluded some of the targeted audience, particularly older residents, and might be better served by personally administered questionnaires.

As a result, more studies that may employ individually administered questionnaires and a bigger sample to support the current study's findings. Additional studies are currently being planned to examine the following areas further. It would be interesting to work with inpatients in Saudi Arabia different cities, which have not been adequately addressed in earlier studies. Any further studies should include more variables that can predict patients' satisfaction toward community pharmacy, of which the results described in this thesis would be of use.

CONFLICTS OF INTEREST:

The authors have no conflicts of interest to declare.



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AUTHORS CONTRIBUTIONS:

Amal Suleiman: Study design and development, conceptualization, literature review, data collection, results interpretations, final draft of the manuscript; Abbas Albarq: Statistical analyses, Validation, results interpretation and review of the manuscript; and review of the manuscript.

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