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ORIGINAL RESEARCH

Assessing Patient Satisfaction with Community Pharmacy Services: A Large Regional Study at Punjab, Pakistan

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Purpose: Patient satisfaction can be used to assess the quality of services provided at pharmacies. Our aim was to determine the level of patient satisfaction with pharmacy services and related factors at community pharmacies located in Punjab, Pakistan.

Methods: A questionnaire-based cross-sectional study was conducted from May 2021 to July 2021 by administering the questionnaire to the patients using stratified random sampling method. Survey instrument comprised 4 sections including demographics, satisfaction towards provision of facilities, the provision of information, their accessibility to patients, the relationship between pharmacists and patients and the continuity of care provided. Categorical data were represented by percentages. Descriptive statistics were calculated for satisfaction scores. Simple and multiple logistic regression models were used to find the odds ratios. A *p*-value of less than 0.05 was considered statistically significant.

Results: Response rate of the survey was 92%. Only 30% of patients agreed that the pharmacist was available for counseling on their visit. About 52% agreed that the counseling time provided by pharmacist was enough. Most of the pharmacy patients (61%) trusted the pharmacist regarding any query about medicine and were satisfied with the way the pharmacist resolved issues. Mean satisfaction score of the pharmacy patients was 45.75 with a range of 25 (highly satisfied) to 66 (highly dissatisfied).

Conclusion: The provision of community pharmacy services to patients was not satisfactory. Furthermore, the absence of pharmacist in the pharmacy and the lack of provision for counseling time raised concerns.

Keywords: pharmacies, pharmacists, community pharmacy services

Introduction

The transition of pharmacist's role from product to patient orientation has necessitated the assessment of patient satisfaction.[1] Patient satisfaction or dissatisfaction is a complex issue that is linked to expectations of patients, personal characteristics, health status and health systems.[2] Patient satisfaction regarding pharmacy services is essential for the implementation of pharmaceutical care.[3] Evaluating patient care is an important tool for enhancing strategic decision-making, providing cost-effective therapy, monitoring the effectiveness of healthcare plans and optimizing the strategies of different healthcare institutes. Patient satisfaction has also been shown to depend on pharmacists' involvement in patient care.[4–6] Health-related behavior and communication are key markers of patient satisfaction.[7] Consequently, the best information about health care services is generally obtained from patients and their views are of prime importance in determining their satisfaction levels.[8]

13

Patient satisfaction is a measure of the extent to which a patient is content with the health care which they received from their health care provider. It is important for the implementation of pharmaceutical care.[9] Many studies have been conducted worldwide to evaluate patient satisfaction toward community pharmacy services. As this indicator become pivotal marker in developed countries, interest in patient satisfaction assessment is growing in developing countries to analyze the services of community pharmacies.[10] The quantitative approach offers precise methods to measure patient satisfaction. Standardized questionnaires (either self-reported or interviewer administered or by telephone) are some of the most common assessment tools for conducting patient satisfaction studies.[11] Various factors have also been shown to affect patient satisfaction. Socio-demographic variables (age, gender, and marital status), expectation of patients, health status, pharmacy location, waiting time, cost and the availability of medications generally affect the satisfaction of patients.[12–15] Poor access to quality medicine, lack of access for skilled health professionals and unaffordable cost of drugs are the major hurdles for a better healthcare service.[16] Similarly, the structure and operating standards of pharmacies are at an early transition state in Punjab, Pakistan. About 80% of medicines are distributed to patients through these pharmacies. The concept of pharmaceutical care at community pharmacies has not been acknowledged yet in Pakistan. The process of prescription handling is poor, and patients are often treated without a proper prescription. Prescription validation, drug labeling and patient counseling are the missing components in effective patient management at the community pharmacies.[17] Most of the patients are generally not aware about the role of pharmacists in the pharmacy services.[18,19] Our aim was to assess patient satisfaction with pharmacy services, in Punjab, Pakistan, to help the health care personnel identify the extent of problem and plan different strategies for improvement.

Methodology
Study Design and Sample
A questionnaire-based cross-sectional study was conducted by administering the questionnaire to the pharmacy patients of Punjab, Pakistan. The study was carried out from May 2021 to July 2021. The sample was selected using a stratified random sampling method. First, we selected 5 large populated cities (Lahore, Faisalabad, Rawalpindi, Gujranwala and Multan) in Punjab, Pakistan, and then randomly selected 10 pharmacies in each city and received 195 responses from each city. Thus, we had 975 respondents. Of these, 39 respondents refused to participate, and 36 incomplete questionnaires were not included.

Those who were >20 years of age, took at least one regularly scheduled medication, and had adequate command of the Urdu or English language were included. Before the study began, the Government College University Faisalabad Institutional Review Board issued permission to conduct it (Approval number: 22508-S). Since the study did not require any clinical intervention and the patient's involvement in the study was clearly below minimal risk, all patients gave informed verbal consent rather than written consent.

Questionnaire Development
The questionnaire was constructed after a review of the literature to identify existing instruments.[3,20] The questionnaire was initially developed in English and was distributed to community pharmacists (n = 7) for the content, relevance, clarity and ease of understanding of the questions. The English and Urdu versions of the questionnaire were then distributed to lay people (n = 30) in the community for input into the selection of items under each dimension, wording of the items, and feedback on the adequacy and completeness of the items. The questionnaire was pilot tested among 30 non-professionals, after which further fine adjustments were made to produce the final version. Cronbach's alpha was used to estimate the reliability of the items assessed using Likert scales. The Cronbach's alpha was 0.72 indicating good internal consistency.

This draft of the questionnaire comprised 4 sections including demographics, satisfaction towards provision of facilities, the provision of information, their accessibility to patients, the relationship between pharmacists and patients and the continuity of care provided.

The dependent variables of this study were facilities available on pharmacy, satisfaction of patients regarding information provided about medicine, accessibility of pharmacist, relationship with pharmacist and continuity of care. Facilities available on pharmacy were checked by 10 questions each to be answered with "yes" or "no". Information provided about medicines

was assessed by 4 questions each to be answered with "highly satisfied", "satisfied", "neutral", "dissatisfied" or "highly dissatisfied". Accessibility to pharmacist was determined using 5 questions on a 5-point Likert scale from "strongly agree", "agree", "neutral", "disagree" and "strongly disagree". Strongly agree was given 1 score and strongly disagree 5 score. Relationship with pharmacist was determined using 7 questions on a similar scale. Continuity of care was checked by 5 questions each to be answered with yes or no. Mean satisfaction score of 45 or above was considered good satisfaction.

Independent variables consisted of pharmacy patients' demographics such as age, gender, level of education, marital status, occupation, frequency and purpose of visit to pharmacy.

Data Collection
Research assistants approached potential patients in various pharmacies located in five large populated cities of Punjab, Pakistan, to assess their eligibility for inclusion in the study. The purpose of the study was also explained to them, and an informed consent was obtained describing the purpose of the study. Participants who agreed to participate completed the anonymous questionnaire on the spot. The participants were then asked to place their completed questionnaires in a collection box. Alternatively, patients provided a telephone number at which they could be contacted at a mutually agreed time to complete the questionnaire. Research assistants interviewed only illiterate respondents with the questionnaire. Five to ten minutes were given to the participants to fill the questionnaire. The patients were told that they could withdraw from the study at any time. Incomplete or duplicate responses were excluded.

Statistical Analysis
Data were analyzed by using Statistical Package for Social Sciences (IBM SPSS Statistics for Windows, version 21.0, Armonk, NY: IBM Corp.). Demographic variables were analyzed by frequencies and percentages. Descriptive statistical measures were calculated for satisfaction score. Also, crude odds ratio (COR) and adjusted odds ratios (AOR) were calculated using univariate and multiple logistic regression models to measure the impact/association of different factors on satisfaction levels. A *p*-value of less than 0.05 was considered statistically significant.

Results
Demographics
A total of 900 pharmacy patients (76% males and 24% females) completed the survey (response rate of 92%). Nearly half of the pharmacy patients were of age group 18–27 (49%) and had higher education (48%). Among the pharmacy patients, 41% were students, 22% were merchants and 12% were Government employees. About 59% visited the pharmacy once in a week and 31% visited once in a month. Fifty-five percent of the pharmacy patients were purchasing the medication for themselves, while 45% were purchasing for another person. Table 1 represents the demographic characteristics of the pharmacy patients.

Table 1 Demographic Characteristics of the Pharmacy Patients

Variables	Categories	n (%)
Gender	Female	216 (24)
	Male	684 (76)
Age	18–27	441 (49)
	28–37	225 (25)
	38–47	99 (11)
	48–57	54 (6)
	58–67	81 (9)

(*Continued*)

Table 1 (Continued).

Variables	Categories	n (%)
Level of education	Higher education	432 (48)
	Intermediate	153 (17)
	Secondary education	270 (30)
	Illiterate	45 (5)
Marital status	Married	387 (43)
	Unmarried	513 (57)
Occupation	Farmer	9 (01)
	Government employee	108 (12)
	Merchant	198 (22)
	Others (house wife, retirement, not working)	216 (24)
	Student	369 (41)
Frequency of visit	First	90 (10)
	Once in a month	279 (31)
	Once in week	531 (59)
Purchase for	Another person	405 (45)
	Self	495 (55)

Pharmacy Patients' Response Towards Facilities Available in Pharmacy Units

About 80% of the pharmacy patients mentioned that the location of pharmacy was convenient, the dispensary was clean and the label on the medication supplied to them was clear and legible. Nearly 70% pharmacy patients revealed that the waiting area was comfortable and clean and the service waiting time in the pharmacy was fair. The problem of overcrowding was faced by 62% of the pharmacy patients. Three-quarter of the pharmacy patients indicated that pharmacist did not provide equal service to all patients. About 45% said that the sitting arrangement was not good for the patients and attendants and the staff number was not enough for service. Figure 1 represents the satisfaction of pharmacy patients regarding pharmacy services. Table 2 represents the measure of association between facilities available and satisfaction level.

Patients' Satisfaction Towards Pharmacist's Advice

Satisfaction of Patients Regarding Information of Medicine

Most of the pharmacy patients were satisfied on their information regarding the purpose of medication prescribed (93%) and information about the storage, precautions and side effects of medicine (88%). About three-quarters of the pharmacy patients were satisfied on their information regarding how to take medications while about half of them (54%) were satisfied on their information regarding drug interactions.

Satisfaction of Patients Regarding the Accessibility of Pharmacist

About half of the pharmacy patients (52%) were satisfied with the duration of counseling time provided by pharmacist and that the counseling was conducted at an acceptable time (45%). A large number of pharmacy patients (61%) agreed that all the prescribed medications were available. Only 30% agreed that the pharmacist was available for consultation on their visit.
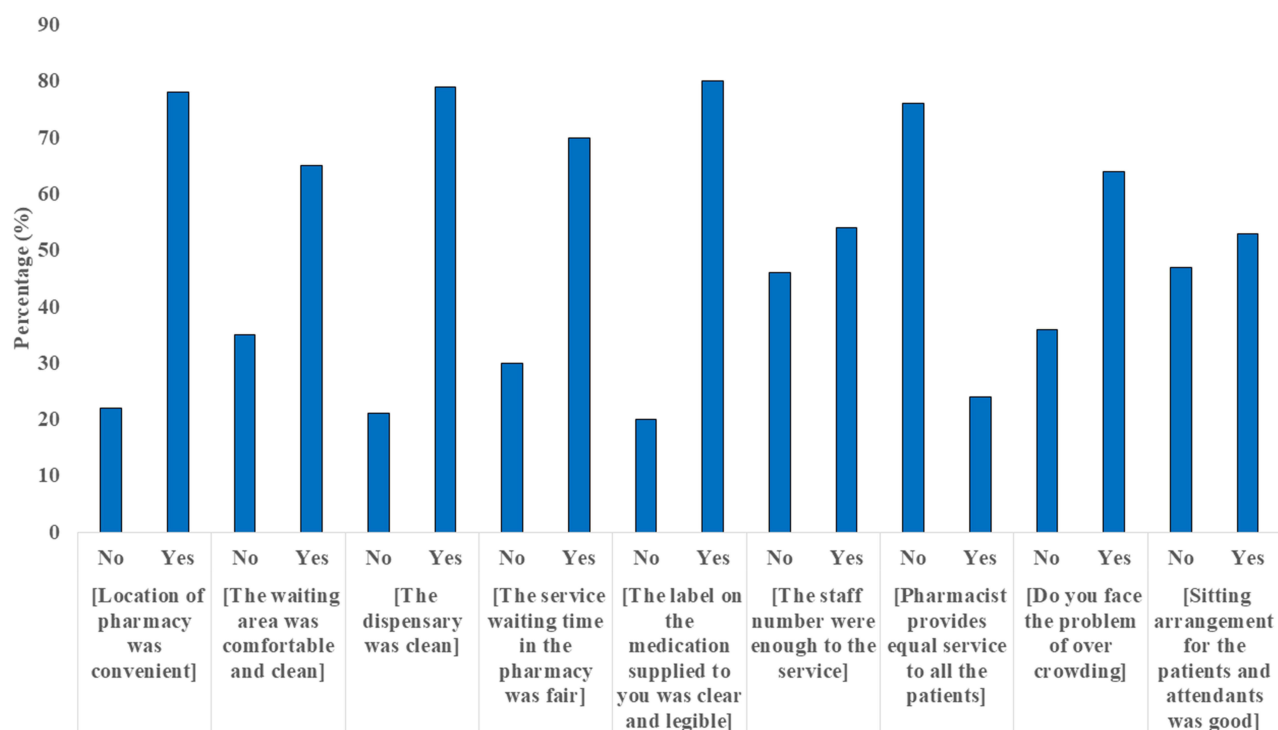
16

Patient Preference and Adherence 2023:17

Figure 1 Satisfaction of patients regarding facilities available on pharmacy.

Satisfaction of Patients Regarding Their Relationship with Pharmacist

Table 3 represents the satisfaction of patients regarding information, accessibility, relationship and continuity of care. Majority of the pharmacy patients agreed that they could trust the pharmacist (78%) and were satisfied with the politeness and interest of pharmacy personnel (73%). Most of the pharmacy patients (61%) trusted the pharmacist regarding any query about medicine and were satisfied with the way the pharmacist resolved any issue. Sixty percent of the pharmacy patients indicated that the instructions given by the pharmacist regarding administration of drug were in an understandable language. Less than half of the pharmacy patients (46%) agreed that the pharmacy personnel provided

Table 2 Odds Ratios for Facilities Available and Satisfaction Level

Variables	Categories	Frequency n (%)		COR [95% C.I]	p-value	AOR [95% C.I]	p-value
		Dissatisfied	**Satisfied**				
Location of pharmacy was convenient	No	99 (11)	97 (10.8)				
	Yes	390 (43.3)	305 (33.9)	0.8 [0.58–1.1]	0.164	0.78 [0.52–1.17]	0.232
The waiting area was comfortable and clean	No	171 (19)	141 (15.7)				
	Yes	318 (35.3)	261 (29)	1 [0.75–1.31]	0.974	1.02 [0.67–1.57]	0.92
The dispensary was clean	No	106 (11.8)	82 (9.1)				
	Yes	383 (42.6)	320 (35.6)	1.08 [0.78–1.49]	0.642	1.25 [0.85–1.85]	0.262
The service waiting time in the pharmacy was fair	No	138 (15.3)	130 (14.4)				
	Yes	351 (39)	272 (30.2)	0.82 [0.62–1.1]	0.183	0.83 [0.6–1.14]	0.247

(Continued)

Table 2 (Continued).

Variables	Categories	Frequency n (%)		COR [95% C.I]	p-value	AOR [95% C.I]	p-value
		Dissatisfied	Satisfied				
The label on the medication supplied to you was clear and legible	No	98 (10.9)	82 (9.1)				
	Yes	391 (43.4)	320 (35.6)	0.98 [0.7–1.36]	0.895	0.98 [0.69–1.4]	0.921
The staff number were enough to the service	No	223 (24.8)	185 (20.6)				
	Yes	266 (29.6)	217 (24.1)	0.98 [0.75–1.28]	0.901	1.11 [0.7–1.74]	0.663
Pharmacist provides equal service to all the patients	No	369 (41)	306 (34)				
	Yes	120 (13.3)	96 (10.7)	0.96 [0.71–1.31]	0.819	1.03 [0.72–1.48]	0.873
Do you face the problem of overcrowding	No	172 (19.1)	151 (16.8)				
	Yes	317 (35.2)	251 (27.9)	0.9 [0.69–1.19]	0.461	0.97 [0.7–1.34]	0.836
Sitting arrangement for the patients and attendants was good	No	233 (25.9)	185 (20.6)				
	Yes	256 (28.4)	217 (24.1)	1.07 [0.82–1.39]	0.628	1.18 [0.84–1.66]	0.35
Drinking water facility was good	No	204 (22.7)	178 (19.8)				
	Yes	285 (31.7)	224 (24.9)	0.9 [0.69–1.18]	0.442	0.82 [0.52–1.29]	0.392

Note: 95% CI is the 95% confidence interval.

Table 3 Satisfaction of Patients Regarding Information, Accessibility, Relationship and Continuity of Care

Variables	Response n (%)		
Information	**Dissatisfied**	**Neutral**	**Satisfied**
Rate your satisfaction level regarding purpose of medication prescribed	9 (1)	54 (6)	837 (93)
Rate your satisfaction regarding information on how take your medication	189 (21)	45 (5)	666 (74)
Rate your information regarding the proper storage of medications, precautions and side effects	36 (4)	72 (8)	792 (88)
Rate your information regarding Drug- drug and drug-food interactions	342 (38)	72 (8)	486 (54)
Accessibility	**Disagree**	**Neutral**	**Agree**
The counselling provided by the pharmacist was conducted at an acceptable time for you	189 (21)	306 (34)	405 (45)
The counselling provided was conducted in such a manner that your privacy was maintained	36 (4)	486 (54)	378 (42)
The counselling time provided by pharmacist was enough	180 (20)	243 (27)	468 (52)
Pharmacist was available for consultation at your visit	414 (46)	216 (24)	270 (30)
All the prescribed medications were available	9 (1)	342 (38)	549 (61)
Relationship	Disagree	Neutral	Agree
Pharmacist was approachable	9 (1)	450 (50)	441 (49)
Did you satisfy with the politeness and interest of pharmacy personnel If you have any query about medication, you can ask the pharmacist	36 (4)	198 (22)	657 (73)
If you have any query about medication, you can ask the pharmacist	180 (20)	171 (19)	549 (61)

(Continued)

18
Patient Preference and Adherence 2023:17

Table 3 (Continued).

Variables	Response n (%)		
Information	**Dissatisfied**	**Neutral**	**Satisfied**
You can trust the answers provided by the pharmacist	27 (3)	171 (19)	702 (78)
The pharmacy personal provides enough understanding of the possible side effects and precautions of your medication	342 (38)	144 (16)	414 (46)
The instructions given by the pharmacist regarding administration of drug was in an understandable language	27 (3)	333 (37)	540 (60)
I was satisfied with the way the pharmacist resolves any issue that I had	18 (2)	333 (37)	549 (61)
Continuity of care	**No**	**Yes**	
I would come back to pharmacy to collect my subsequent medication refill	171 (19)	729 (81)	
The subsequent date given to me to collect my medication refill was acceptable	189 (21)	711 (79)	
Cost of medication is fair	270 (30)	630 (70)	
Overall pharmacy services were good	252 (28)	648 (72)	
The verbal information provided to you was sufficient	126 (14)	774 (86)	

enough understanding of the possible side effects and precautions of medication. Regarding the satisfaction of the pharmacy patients on these services, more than half of them (about 54%) were dissatisfied with the facilities available on pharmacy unit. Description analysis of satisfaction score is also mentioned in Table 4.

Satisfaction of Patients Regarding the Continuity of Care

A large number of pharmacy patients mentioned that they would come back to pharmacy to collect their medication refill (81%) and the subsequent date given in this regard was acceptable (79%). Majority of them (86%) also agreed that the verbal information provided to them was sufficient. The pharmacy patients were also satisfied with the cost of medications (70%) and overall pharmacy service (72%). Mean satisfaction score of the pharmacy patients was 45.75. Table 5 represents the multivariate logistic regression model for satisfaction level and demographic variables. Male pharmacy customers had significantly higher satisfaction ($p < 0.01$) than females (C.I. = 1.38–2.61). Higher odds of having good satisfaction were also observed in illiterate people ($p = 0.003$), married people ($p = 0.004$) and students ($p = 0.026$).

Table 4 Descriptive Analysis of Satisfaction Scores

Descriptive Statistic	Value
Range	25–66
Mean (SD)	45.75 (6.53)
Median (IQR)	45.5 (8)
Skewness (S.E of Skewness)	0.59 (0.08)
Satisfied (Score<45)	405 (45%)
Dissatisfied (Score≥45)	495 (55%)

Table 5 Odds Ratios for Satisfaction Level and Demographic Variables

Variables	Categories	COR [95% C.I]	p-value	AOR [95% C.I]	p-value
Gender	Female				
	Male	1.9 [1.38–2.61]	<0.01	3.04 [1.89–4.91]	<0.01
Age	58–67				
	18–27	0.94 [0.58–1.51]	0.791	0.04 [0.01–0.11]	<0.01
	28–37	1.35 [0.81–2.26]	0.244	0.26 [0.1–0.62]	0.003
	38–47	0.71 [0.39–1.3]	0.272	0.18 [0.07–0.46]	0
	48–57	1.25 [0.63–2.49]	0.526	0.37 [0.14–0.96]	0.041
Education	Higher education				
	Illiterate	0.32 [0.15–0.68]	0.003	0.08 [0.03–0.27]	<0.01
	Intermediate	1.14 [0.79–1.65]	0.479	1.1 [0.65–1.87]	0.73
	Secondary education	1.29 [0.95–1.74]	0.106	1.46 [1.01–2.1]	0.042
Marital status	Unmarried				
	Married	0.68 [0.52–0.88]	0.004	0.2 [0.09–0.43]	<0.01
Occupation	Others (house wife, retirement, not working)				
	Farmer	0 [0–0]	0.999	0 [0–0]	0.999
	Government employee	1 [0.63–1.6]	1	0.38 [0.17–0.81]	0.013
	Merchant	0.97 [0.66–1.43]	0.876	0.66 [0.38–1.15]	0.138
	Student	1.47 [1.05–2.06]	0.026	1.07 [0.58–1.97]	0.822
Visit	Once in a month				
	First	0.81 [0.5–1.31]	0.391	0.84 [0.45–1.57]	0.582
	Once in week	1.02 [0.77–1.37]	0.87	0.81 [0.52–1.25]	0.333
Purchase for	Another person				
	Self	0.88 [0.68–1.15]	0.363	1.04 [0.71–1.52]	0.837

Note: 95% CI is the 95% confidence interval.

Discussion

Patient satisfaction towards the pharmacist services is an essential tool to measure the level of pharmacy services offered to patients. In the current study, few patients agreed that the pharmacist was present at the time of the visit. More than half were satisfied with the counseling time provided by the pharmacist and trusted the pharmacist regarding any query about medications.

The mean satisfaction score in the present study was 45.75. It was lower than the findings of other study conducted in South Korea where the score was 34.2.[14] This might be due to the better pharmacy services available in South Korea. Most of the patients in our study were satisfied on the information provided to them by the pharmacist about the purpose of medication prescribed, related precautions and storage. These numbers were higher than those reported in an Ethiopian study where less than half of the pharmacy patients were satisfied.[3] Our data showed that about half of the pharmacy patients were satisfied with the information regarding drug interactions. These findings are comparable to that reported by Abebe et al, who also highlighted the need for the improvement in the medication guidance area of the pharmacy

service.[21] Similarly, about half of the pharmacy patients were not satisfied on the counseling time provided to them by the pharmacist. This should be taken under consideration by the pharmacist and provide sufficient time to resolve all the queries of the patients at their pharmacies. A similar study was also conducted in the UAE where patients needed more information on medications for their satisfaction.[22] The lack of information could lead to irrational use of medications.

Patients' satisfaction was assessed for possible determinants. All socio-demographic variables were not found to be associated with the patient satisfaction unlike other studies conducted in Qatar and Ethiopia where these variables were significantly associated.[13,23–25] Nearly half of the pharmacy patients were not satisfied with the waiting area and the staff of the pharmacy which was a matter of concern. The frequency of visits was also not associated with the satisfaction of the patients. Our findings are supported by the study conducted in University of Gondar and Hiwot Fana Specialized Referral Hospital where no significant association between the frequency of visit and patient satisfaction was found.[14] In the current study, males had higher satisfaction towards pharmacy services than females unlike the study conducted in Ethiopia, where gender was not significantly associated with the satisfaction of the patients.[21] Less satisfaction of females might be due to the hesitation in asking about the medication information due to cultural variation. In few regions or countries, females hesitate in communicating to the male healthcare workers, which could be the reason for their less satisfaction.[26] Pharmacy patients with higher education were less satisfied with pharmacy services. Educated patients wanted to know more about medications and to look at different aspects of pharmacy services that might have caused less satisfaction.[12]

The findings of this study could help healthcare providers, especially pharmacists, to assess patient satisfaction in their community pharmacies. This would lead to better development of strategies for improving community pharmacy services for better healthcare.

Limitations

Firstly, this study shows only the views of agreed and selected patients from selected pharmacies. Minor dissimilarities in the selection of different patients from different pharmacies in different localities may be possible. To overcome such type of exaggeration of respondent, we applied a 5-point Likert scale. Furthermore, the responses might also be subjected to potential bias from the respondents.

Conclusion

Our study concluded that the patient satisfaction was not satisfactory. The majority of patients reported that the pharmacist was not present at the pharmacy most of the time. Patients were also not satisfied with the counseling time provided by the pharmacist. However, the trust of patients in the pharmacist who was available for any query about medication was satisfactory. Pharmacists must ensure their presence during patient visits and must provide sufficient counseling time to improve patient satisfaction and thus improve the quality of life.

Disclosure

The authors report no conflicts of interest in this work.

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