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Original Article

Satisfaction with Pharmacy Services among Patients Visiting Community Pharmacies at Anuradhapura Municipality Area in Sri Lanka

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ABSTRACT

Background: Patient satisfaction with pharmacy services reflects the type and quality of the pharmacists' services and the extent to which patients' expectations are met. It enhances adherence and contributes to better health outcomes. **Objectives:** Our study aims to determine satisfaction with pharmacy services and associated factors among patients attending the Anuradhapura municipal council area community pharmacies. **Materials and Methods:** An analytical cross-sectional study was conducted among 411 adult patients, attending the community pharmacies in the Anuradhapura municipal council area of Sri Lanka. Data collection was performed using an interviewer-administered questionnaire via the Kobo Collect app. Data was analyzed using SPSS version 25. The association of sociodemographic and health-related factors on the satisfaction of pharmacy services was determined by the Chi-square test at a 95% confidence interval and a *p*-value less than 0.05 was considered as statistically significant. **Results:** The response rate was 98.78%. The mean age of patients was 41.58±15.91 years. Less than half of patients only (46.1%) had good satisfaction with the pharmacy services. Age (p=0.027), educational qualification (p=0.027), employment status (p=0.042), monthly income (p=0.004), and number of medications used (p=0.037) had significant associations with satisfaction with pharmacy services. **Conclusion:** More than half of the patients' satisfaction was poor. Identified unsatisfactory services and associated factors in this study could be considered to improve satisfaction among patients visiting the community pharmacies.

Keywords: Patients, Satisfaction, Community Pharmacy, Services, Sri Lanka.

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INTRODUCTION

Satisfaction is a mental state. It may be said because of the consistency between a man's or woman's expectancies and facts.[1-3] The satisfaction of patients arises from the patient's appraisal of experience in hospital/pharmacy services. It is described as the personal assessment of health care services. Patient satisfaction acts as a link between the services provided and the patient's expectations, allowing for an evaluation that directly reflects the patient's perspective on the quality of service.[4]

Care services offered by pharmacists, such as medication therapy adherence and disease management, have an impact on patient satisfaction.[2] It is a growing body of interest that drives healthcare practice today. However, its miles are hard to measure.[5] Patients who are satisfied with the pharmacy services are much more likely to take their medication as prescribed.[6] Community pharmacy services are frequently poorly integrated with other primary care services, and patient awareness and utilization of these services have been low.[7] The availability of pharmacy service and satisfied patients are vital to boosting the quality of pharmacy service contributed.[8]

The pharmacist works in harmony with other health professionals to achieve optimal medical outcomes and enhance patients' quality of life. Additionally, the pharmacist is expected to demonstrate a caring attitude and apply their pharmacotherapy knowledge and skills to improve patients' health and well-being.[6,9] The pharmacist identifies the medication problems during the conversation with the patient and discusses them with the prescriber and solves it.[10,11] Pharmacists are responsible for enhancing patients' adherence to medication, offering guidance on treatment regimens, and providing information about common side effects of both prescription and over-the-counter medications.[12] Community pharmacists have a vital role in optimizing the use of medication. This will be of an advantage in improving the quality of health care and help to minimize the overall cost of health care.[13]

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Pharmacy services should satisfy the patients to maintain the quality of healthcare. Therefore, our study aims to determine satisfaction with pharmacy services and associated factors among patients attending the community pharmacies at the Anuradhapura municipal council area in Sri Lanka.

MATERIALS AND METHODS

Study design

An institutional-based cross-sectional analytical study was conducted on 411 patients who visited community pharmacies in the Anuradhapura Municipal Council area. Patients aged above eighteen years, including both males and females, were selected for the study. However, patients with hearing or understanding difficulties, as well as those with mental impairments, were excluded. The study was carried out from September 2021 to November 2022.

The sample size was calculated by using the following formula:

$$n = \frac{Z^2 p(1-p)}{d^2}$$

Here,

n=sample size; z=critical value of specific confidence (95%); p=Preliminary estimation of the proportion of given characteristics; d=0.05 (acceptable amount of absolute error); Z=1.96 (Critical value of specific confidence (95%)); p=0.594 (preliminary percentage of the level of satisfaction on outpatient pharmacy service).

According to the previous study,[8] 59.4% of patients were satisfied with outpatient pharmacy services.

$$n = \frac{(1.96)2 \times 0.594(1 - 0.594)}{(0.05)2}$$

n=370

A 10% non-respondent rate was expected and therefore the sample size was 411.

Study procedure

There were 25 community pharmacies located in the Anuradhapura Municipal Council area. Sixteen patients from each pharmacy were selected. The convenient sampling was used to select patients from each pharmacy. The patients were selected as depicted in Figure 1. An interviewer-administered questionnaire was used to collect data through the mobile version of the Kobo Collect app. First information sheet and consent form were given to patients. If patients agreed to participate in this study, he/she was taken to a comfortable place and interviewed by the investigator. The questionnaire was prepared in English and was translated into Tamil and Sinhala by a bilingual expert using forward and backward translation methods. The final questionnaire consists of two sections, which include sociodemographic and patient-related information and satisfaction with pharmacy services.

A pre-test was conducted at community pharmacies in the Trincomalee area among 30 selected patients. Based on the results, some alterations were made to the questionnaire to improve the understandability and clarity of the questionnaire.

Satisfaction score

A 24-item questionnaire was used to determine the satisfaction of pharmacy services among the patients. All questions contained five statements with the answering options of "very good", "good", "neutral", "poor" and "very poor" for which the scores were given 5,4,3,2, and 1 respectively. The total satisfaction score for each participant was obtained by the summation of the points of their responses. The highest and lowest attainable scores for satisfaction with pharmacy services are 120 and 24 respectively. Overall satisfaction level was categorized as good and poor based on the median as a cut-off value.

Statistical Analysis

The data were analyzed using the SPSS (Statistical Package for the Social Sciences) version 25. The Chi-square test assessed the association between the satisfaction level and variables at the 95% confidence interval and a *p*-value less than 0.05 was considered statistically significant.

RESULTS

The response rate was 98.78% (*n*=406). Sociodemographic and patient-related information are depicted in Table 1.

Less than half of the participants were satisfied with pharmacy services according to Figure 2. According to Table 2, more than 80% of patients satisfied with cleanliness and maintenance of pharmacy, availability of medications and alternative generic substitutes, adequate information on medications, not disclosing patients' information to others, giving information on understandable way, guiding patients to other pharmacies for unavailable medications and good rapport with patients.

More than half of patients are dissatisfied with pharmacy services on home delivery services, providing information on the side effects of medications and communicating with pharmacists over the phone.

Table 3 shows factors associated with satisfaction. Age, educational qualification, employment status, monthly income, and number of medications used were significantly associated with satisfaction with pharmacy services while sex, marital status, type of family, disease condition, or medication expenditure were not associated with satisfaction with pharmacy services.

DISCUSSION

According to the current study, 46.1% of respondents only reported good satisfaction with pharmacy services. Our study found significant associations with satisfaction with pharmacy

services showed by age (p=0.027), educational qualification (p=0.027), employment status (p=0.042), monthly income (p=0.004), and the number of medications used (p=0.037). However, no significant associations were observed for sex, marital status, type of family, disease condition, or medication expenditure.

The satisfaction rate of our study is similar to a study conducted in Ethiopia.[3] However, some other studies showed a higher rate of satisfaction: 65.37% in Bahir Dar, Ethiopia;[14] 59.4% in North-East Ethiopia[8] and 74.6% in South Korea.[15] Different rate of satisfaction in these studies due to usage of different data collection tools, characteristics of the population, community pharmacy settings, and their regulations, which likely affected the results.[3]

According to a Korean study, family income and health insurance status were significant predictors for patient satisfaction with pharmacy services, which is consistent with our results. However, the Korean study did not find a significant association between satisfaction and education level, age[15] which were significant in our study.

Another study in Ethiopia supported our findings by highlighting significant associations between age, educational qualification, employment status, and monthly income with patient satisfaction in which unemployed participants have a higher level of satisfaction, and participants with a higher level of educational qualification have significantly lower levels of satisfaction, which supports our findings. In contrast to our study, the above study shows an association between gender and the satisfaction of patients.[16] Romanian study also showed that higher education level has lower satisfaction, and the higher the age, the more satisfaction, which was inconsistent with our study.[17] A study from Eastern Ethiopia also revealed that the age of the participants and education level were significantly associated with patient satisfaction with pharmacy service.[3] A survey done in Sudan says a significant association exists between gender and patients' satisfaction with pharmacy services, which was not

Table 1: Socio-demographic and patient-related factors among patients (n=406).

Variable	Category	Frequency (n)	Percentage (%)	Mean±SD
Age (in years)	Up to 44	240	59.1	41.58±15.91
	44-59	96	23.6	
	60	70	17.2	
Sex	Male	204	50.2	
	Female	202	49.8	
Marital status	Single	124	30.5	
	Married	273	67.2	
	Other	9	2.2	
Educational Qualification	Up to O/L	191	47	
	A/L	171	42.1	
	Graduate	44	10.8	
Employment status	Housewife	66	16.3	
	Employed	221	54.4	
	Unemployed	97	23.9	
	Retired from services	22	5.4	
Monthly income (LKR)	Below 50,000	242	59.6	
	Above 50,000	164	40.4	
Type of family	Live alone	9	2.2	
	Nuclear	332	81.8	
	Extended	65	16	
Disease condition	Chronic disease	164	40.4	
	Absence of chronic disease	242	59.4	
Expenditure of medication (LKR)	0-2500	306	75.4	
	2500	100	24.6	
Number of medication usage	Polypharmacy	123	30.3	
	Non-poly pharmacy	283	69.7	

Table 2: Satisfaction on pharmacy services among patients (*n*=406).

Statement	Very good N (%)	Good N (%)	Neutral N (%)	Poor N (%)	Very poor N (%)
Convenience of pharmacy location	113(27.8)	203(50)	36(8.9)	43(10.6)	11(2.7)
Availability of waiting area	118(29.1)	205(50.5)	59(14.5)	18(4.4)	6(1.5)
Pharmacy is clean and well maintained.	146(36)	201(49.5)	50(12.3)	8(2)	1(0.2)
Pharmacy is easily accessible from your home.	86(21.2)	182(44.8)	56(13.8)	50(12.3)	32(7.9)
Pharmacy was always air conditioned.	87(21.4)	198(48.8)	58(14.3)	55(13.5)	8(2)
Pharmacy has availability of parking facilities.	81(20)	184(45.3)	66(16.3)	64(15.8)	11(2.7)
The medication for the prescription is available in the pharmacy.	139(34.2)	218(53.7)	31(7.6)	15(3.7)	3(0.7)
Service time is reasonable	82(20.2)	242(59.6)	54(13.3)	23(5.7)	5(1.2)
Provision of home delivery services.	28(6.9)	51(12.6)	71(17.5)	156(38.4)	100(24.6)
Medication is available in a reasonable price.	49(12.1)	191(47.0)	75(18.5)	84(20.7)	7(1.7)
Availability of alternative generic preparations for prescribed drug.	123(30.3)	207(51.0)	64(15.8)	12(3.0)	0
Medication is available with long expiry.	69(17)	244(60.1)	79(19.5)	14(3.4)	0
Pharmacist provides adequate information on usage of dispensing medications.	137(33.7)	231(56.9)	28(6.9)	8(2.0)	2(0.5)
Pharmacist mentions adequate information about side effect.	28(6.9)	149(36.7)	28(6.9)	164(40.4)	37(9.1)
Pharmacist gives medication with packages.	66(16.3)	265(65.3)	57(14.0)	12(3)	6(1.5)
Pharmacist provides label with adequate information.	69(17)	254(62.6)	63(15.2)	17(4.2)	3(0.7)
Pharmacist gives information about storage of medication.	55(13.5)	182(44.8)	52(12.8)	105(25.9)	12(3.0)
The pharmacist did not share information of other patient.	128(31.5	223(54.9)	42(10.3)	11(2.7)	2(0.5)
Pharmacist provides information in understandable way.	126(31.0)	232(57.1)	36(8.9)	10(2.5)	2(0.5)
Pharmacist treat the patient equally.	63(15.5)	258(63.5)	67(16.5)	12(3.0)	6(1.5)
The pharmacist is guiding on an unavailable medication to other pharmacies.	122(30)	228(56.2)	27(6.7)	25(6.2)	4(1.0)
Able to communicate with pharmacy staff over the phone.	25(6.2)	117(28.8)	58(14.3)	118(29.1)	88(21.7)
Pharmacists take special care in elderly patients.	38(9.4)	224(55.2)	106(26.1)	30(7.4)	8(2.0)
Pharmacist having good rapport with patient.	116(28.6)	222(54.7)	59(14.5)	5(1.2)	4(1.0)

aligned with our results. Further, no significant association was found between chronic diseases and patients' satisfaction, which is consistent with our findings.[18] Although a study indicated that patients with middle to low family incomes were more likely to be satisfied with pharmacy services, our study indicated that the patients with high incomes were more likely to be satisfied with the services.[15]

In the Ethiopian study, patients showed dissatisfaction with the advice about side effects, which is comparable to our study.[14] A study from North-East, Ethiopia showed that the majority of the patients showed satisfaction with the cleanliness, appropriateness/convenience of pharmacy location, readable label, understandable instruction, and service waiting time, which is also comparable to our findings.[8]

This study demonstrated that patients' satisfaction with community pharmacy services needs to be improved. Patients expressed low satisfaction in some services provided by community pharmacies, such as home delivery services, giving information regarding the side effects of drugs, and contacting pharmacy staff over the phone by patients, which led to overall

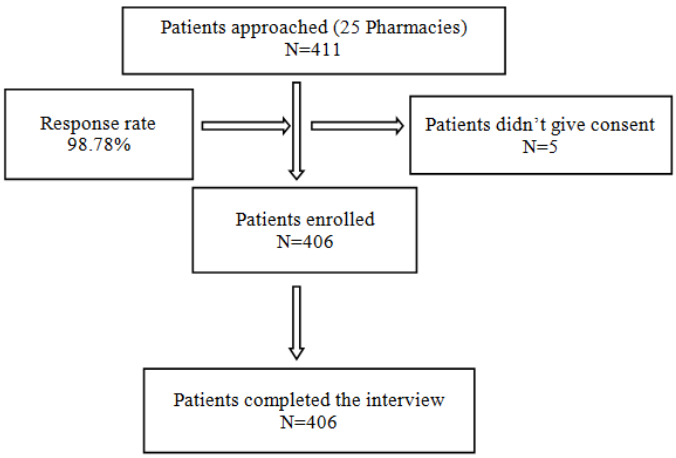

Figure 1: Consort Flowchart of patient selection.

Table 3: Association of Sociodemographic and patient-related factors on satisfaction (*n*=406).

Factor	Category	Patient Satisfaction N (%)		Statistical test
		Poor	Good	
Age (in years)	Up to 44	117 (48.8%)	123 (51.2%)	*p*=0.027
	44-59	56 (58.3%)	40 (41.7%)	
	60	46 (65.7%)	24 (34.3%)	
Sex	Male	101 (49.5%)	103 (50.5%)	*p*=0.074
	Female	118 (58.4%)	84 (41.6%)	
Marital status	Single	66 (53.2%)	58 (46.8%)	*p*=0.104
	Married	145 (53.1%)	128 (46.9%)	
	Other	8 (88.1%)	1 (11.1%)	
Educational Qualification	Up to secondary education	116 (60.7%)	75 (39.3%)	*p*=0.02
	Tertiary education	84 (49.1%)	87 (50.9%)	
	Graduates	19 (43.2%)	25 (56.8%)	
Employment status	Housewife	33 (50.0%)	33 (50.0%)	*p*=0.042
	Employed	96 (43.4%)	125 (56.6%)	
	Unemployed	59 (60.8%)	38 (39.2%)	
	Retired from services	11 (50.0%)	11 (50.0%)	
Monthly income (LKR)	Below 50,000	145 (59.9%)	97 (40.1%)	*p*=0.004
	Above 50,000	74 (45.1%)	90 (54.9%)	
Type of family	Live alone	2 (22.2%)	7 (77.8%)	*p*=0.154
	Nuclear	181 (54.5%)	151 (45.5%)	
	Extended	36 (55.4%)	29 (44.6%)	
Disease condition	Chronic disease	98 (59.8%)	66 (40.2%)	*p*=0.055
	Absence of chronic disease	121 (50.0%)	121 (50.0%)	
Expenditure of medication (LKR)	0-2500	157 (51.3%)	149 (48.7%)	*p*=0.066
	2500	62 (62.0%)	38 (38.0%)	
Number of medication usage	Non-polypharmacy	172 (51.5%)	162 (48.5%	*p*=0.037
	Polypharmacy	47 (65.3%)	25 (34.7%)	

Statistically significant at $p<0.05$; *p* values were taken from Chi-square test.

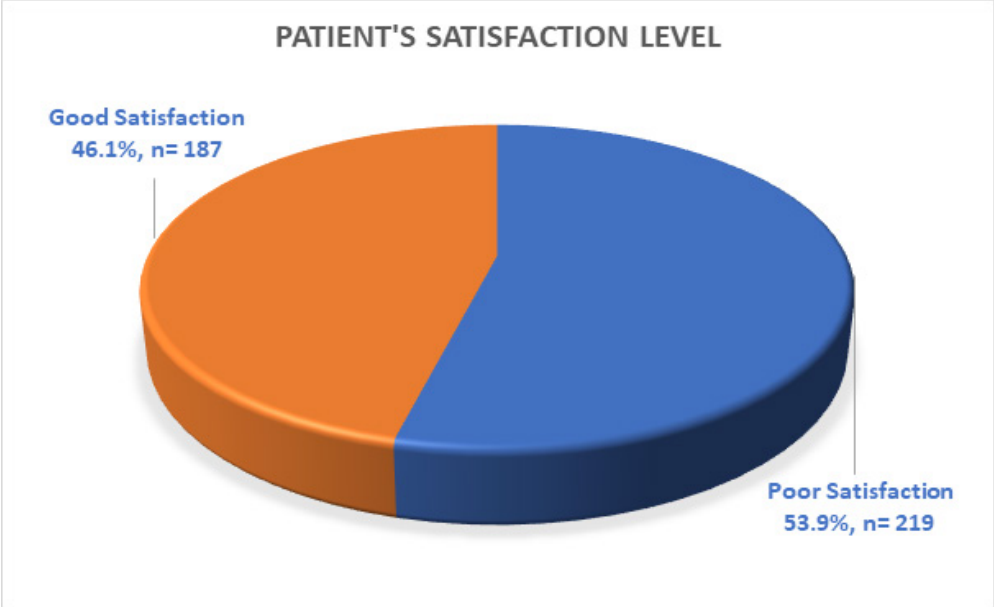

Figure 2: Satisfaction level of patients on pharmacy services (*n*=406).

poor satisfaction among patients. These services are important to ensure rational usage of drugs, and refilling of medication on time by patients. Community pharmacies should pay more attention in providing such services. Further special attention should be taken among the elderly, unemployed, low educational level, polypharmacy, and low-income patients to satisfy them on community pharmacy services and thus ensure good healthcare services. When professional development programmes are conducted among community pharmacists, the importance of patients' satisfaction should be addressed. It not only improves the rapport between pharmacists and patients, but also promotes the rational usage of drugs among patients.

Since the study was carried out in a limited area, further studies need to be conducted in other parts of Sri Lanka to get generalizable results, which could be crucial to developing strategies to improve the community pharmacy services to the patients.

CONCLUSION

More than half of the patients showed poor satisfaction with the community pharmacy services. Identified unsatisfactory services by community pharmacies and associated factors found in this study should be considered to improve the satisfaction among patients. Further studies are needed to get generalizable results by including community pharmacies from other parts of the island.

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CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

CONSENT TO PARTICIPATE

Written informed consent was obtained from the study participants.

ETHICAL APPROVAL

Ethical clearance was obtained from the Ethical Review Committee of the Faculty of Medicine, University of Jaffna, Sri Lanka.

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