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Measurement of Contentment of Patients Regarding Delivered Services By Pharmacist in The Primary Health Care Centers

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Abstract

Background: Patient satisfaction is one of the most significant factors that influence the patients' perception of the value of services, their continued use, and coverage by the payers and the clinics

Methods: A 33- item questionnaire was developed to measure patient satisfaction and perceived value of healthcare services rendered by a pharmacist in primary health care centers *MakkahSaudi Arabia*. It comprised of general items from the previously standardized patient satisfaction surveys such as PROMIS®, CAHPS and the pharmacist-specific items that were developed from the literature review. It was distributed to all the patients who were due to see the pharmacist for a new, exclusive visit at the medical clinic between May 2024 and April 2024.

Results:

Out of 66 patients, 66 agreed to take the survey (RR = 100%) and the responses were positive. But, male respondents tended to report having a higher satisfaction than female respondents ($X2(1, n = 920) = 0.67$, $p = 0.027$), and new patients reported having a higher satisfaction than the existing patients ($X2(1, n = 1211) = 1.698$, $p = 0.037$). (4)

Conclusions: The results of this study show that patients are satisfied with the healthcare services received from pharmacists in the primary care setting.

Keywords: patient contentment ; pharmacist; primary care.

Introduction

The emphasis on patient care experience and patient's participation in the assessment of the healthcare has been on the rise in the last 15 years with the help of patient reported outcomes (PROs) and patient reported outcome measures (PROMs). Patient satisfaction is one of the most important international indicators of healthcare quality and is used to determine the perceived value of healthcare services to patients, patients' usage of the services and the extent of coverage by insurers. A happy patient will also keep on using the service that he or she highly values and also comply with the suggested treatment plans thus leading to improved health status. Other studies have examined the relationship between the various facets of patient satisfaction on the quality of health care services, such as, satisfaction with providers, satisfaction with interactions with clinicians, satisfaction with the medical facility and satisfaction with leadership.

The services provided by the pharmacist are the clinical health services which can help to satisfy an unmet primary care need especially in the rural and other underserved areas as well as during disasters [8-11]. In particular, in such contexts, many pharmacists are now delivering a number of non-dispensing clinical services (e. g. medication therapy management, disease state management, care transitions, and preventive care services) and help to increase the accessibility and appropriate use of the healthcare services, patient's health and quality of life, and the healthcare system's quality [12,13]. For the rural patients pharmacists are usually the most approachable and easily reachable health care contact. However, there is very limited research that has looked at how patients perceive the care they receive from pharmacists in the primary care setting for certain diseases [14-16]. Although the existing literature provides a solid foundation for the role of pharmacists in management of patients, the literature is lacking when it comes to the link between patient satisfaction and pharmacist-cared services in primary care setting especially in the rural areas. It is thus important to examine this relationship, yet more so given the changes that are being made in the healthcare systems with regard to the quality of care. Therefore, the authors aimed at extending the available information regarding the satisfaction of the rural patients in the primary care units. The aim of this study is to assess patients' perception on the pharmacist's non-dispensing general health care in the primary care setting.

Materials and Methods

A data collection survey to determine patients' satisfaction and perceived value of the healthcare services received from a pharmacist as the main point of contact in a primary care facility was conducted between May 2024 and April 2024.. Also, the

pharmacist is enrolled and credentialed as a rendering provider with state and commercial insurance plans. The clinic was a Patient-Centered Medical Home model with care teams made of physicians, nurse practitioners, physician assistants, pharmacists, nurses and behavioral health specialists. The scheduled patient encounters with the selected patients were conducted by the clinical pharmacist as part of their care plan developed by other clinic providers for various reasons such as management of chronic diseases (diabetes, hyperlipidemia, anticoagulation, preventive health, osteoporosis); prescribing and adjusting of medications; medication therapy management, administration and counseling; and delivery of preventive care like smoking cessation and vaccinations. The survey was given only to the patients who were seeing the pharmacist for the first time to set up care; this convenience sampling was deemed relevant for the study because of the availability of resources and limitations that were pertinent to the particular practice. The following were excluded from participation in the survey: patients who also had an appointment with another clinic provider in the same day and patients who were to see the same pharmacist again. All the visits were made, coded and billed in the clinic's electronic health record similarly toother primary care providers.

The investigators searched for existing patient satisfaction or perception surveys in the literature and the institution to guide on the survey to develop. The final survey design involved the following: Fifteen questions that were related to demographics and service utilization and eighteen questions that were focused on patient satisfaction. The patient satisfaction questions were divided into four key domains: (1) Patient Experience, (2) Self-Efficacy for Managing Medications and Pharmacist-Provided Treatment, Health (3) Services, Perceived and Value (4) of Willingness to Pay for those services.

The survey items used to measure Self-Efficacy for Managing Medications were changes made from the PROMIS Self-Efficacy for to Managing their Medications relevance and to Treatment, pharmacist and healthcare other services, items recommendation were by chosen the and clinic modified pharmacist, according and face validity from patients and colleagues. The survey was filled out by the respondents and the answers were given in a Likert type of scale that had five points which ranged from the 'Strongly negative agree'. 'Strongly

disagree' For to the the purpose positive of analysis the researchers chose the following 18 survey items that would represent the four domains of patient satisfaction (see Table 1):

Table1. Domains and factors of patientsatisfaction.

Domain	Factors*
PatientExperience	(a) easeofmakinganappointmentwithpharmacistcomparedtootherhealthcareproviders (b) timeallottedtoaskpharmacistquestions (c) pharmacistwasapproachable (d) pharmacistaddressedmyconcerns (e) providerknewimportantinformationaboutmedicalandtreatmenthistory (f) pharmacistusedwordsIcouldunderstand (g) pharmacistprovidedinstructionsonhowtotakemedications (h) pharmacistprovidedinformationonsideeffectsofmymedications
Self-Efficacy for ManagingMedicationsand Treatment[1]	(a) whenandhowtotakemedication (b) managingmedicationswithouthelp (c) rememberingtotakemedications (d) participationinmedicationdecisions (e) confidenceinabilitytomanagehealthcondition (f) abilitytofollowamedicationtreatmentplan
PerceivedValue	(a) Thepharmacistisanessentialandeffectivepartofmyhealthcareteam. (b) ThepharmacistservicesIreceivedtodayareavaluablepartofmyhealthcare. (c) Myhealthcarewouldbediminished(reduced)ifIdidnotreceivetheseservicestoday. (d) Iwouldhavetroubletakingcareofmyconditionwithouttheservices Ireceivedtoday.
WillingnesstoPay	(a) Iwouldbewillingtopay(out-of-pocket)fortheservicesIreceivedtodayiftheywerenotcoveredbymyhealthinsuranceplan.

*(Ratedon5-ptLikertscale(1=Stronglydisagree,5=Stronglyagree).

The Likert responses were scored based on the four survey categories. The outcomes were calculated using statistical techniques and compared for each of the domains and the overall patient satisfaction index. A chi-square test of independence was conducted in order to examine whether or not there was a relationship between certain patient characteristics [r1] (i. e. gender, patient status, age, and type of insurance) and patient satisfaction. For the chi-square analysis the responses '1' and '2' were collapsed to show as 'unsatisfied' while the responses '4' and '5' were combined to show as 'satisfied' and the neutral responses were removed.

Results

Out of 66 participants, 100% agreed to participate in the survey and 59 participants completed the survey (response rate for complete surveys was 89.4%). Out of seven participants who did not fully complete the survey, all the responses are taken into consideration and are used in the data analysis and for the calculation of the percentages as well. By gender, thirty-six participants were female (35.4%), twenty-three were male (35.4%) and six chosen the other option (9.2%). Nineteen patients were new to the clinic (29. 2% while 46 patients were classified as 'existing' patients who were already recipients of care at the clinic (70. 8%). Most of the participants were 65 years old or older (72. 6 %, n=45), followed by those aged between 45-64 years (14. 5 %, n=9), 30-44 years (8. 1 %, n=5) and the youngest group was made up of people aged between 18-29 years (4. 8 %, n=3).

The average duration of the visits was 38 minutes (std dev: 19.15 minutes). These visits consisted (62%), of comprehensive medication teaching management (94%), (55%), disease care teaching coordination (42%), medication start (37%), and medication take (34%). Diabetes was the most common purpose of the visit followed by lipid management, hypertension management, anticoagulation, osteoporosis and other preventive health services.

Using the aggregate of patient satisfaction scores, it is evident that the satisfaction was high as majority of the responses were 'Strongly Agree' or 'Agree' (85. 6%), while 6. 4% of the patients' responses were 'Disagree' or 'Strongly Disagree' (n=71). According to the patient satisfaction by the survey domains, the participants' most preferred response was for the 'Patient Experience' domain which was agreeable to 71% while for the 'Self-Efficacy' domain, 51. 8% of the participants responded. The 'Perceived Value' domain was also positive. The 'Willingness to Pay' domain had the most equalized response distribution and had the highest percentage of 'strongly disagree' (10. 2%) and 'disagree' (28. 8%) than any of the other survey domains (Figure 1).

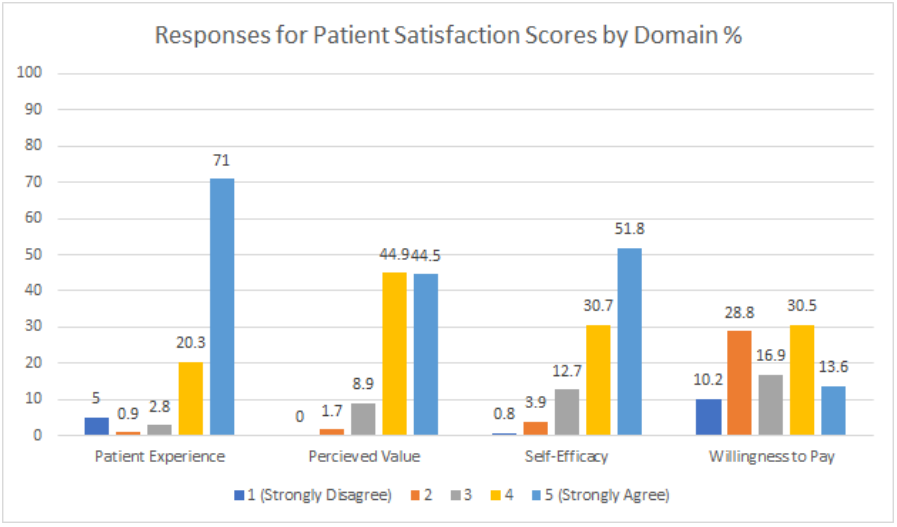

Figure1. Aggregatepatientsatisfactionscoresbydomain.

While there was no statistically significant relationship between overall patient satis-faction with payor type, it is notable that of all respondents marking 'strongly disagree' or'disagree' in the 'Willingness to Pay' domain (n = 22) had Medicare or Medicaid (38%). Theresponses to the 'Willingness to Pay' domain broken down by payer type are presented inFigure2.

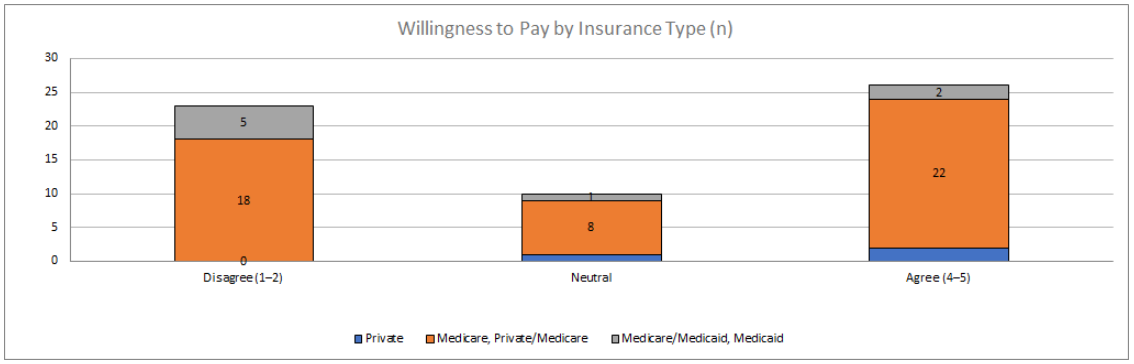

Figure2. Aggregate Likert responses for 'Willingness to Pay' by insurance type.

There was no statistically significant relationship between survey responses and a georpayortype(seeTable2).

Table2. Overallpatientsatisfactionscorebydemographicfeature.

Demographics.	**StronglyDisagree/Disagree**	**StronglyAgree/Agree**
Gender		
Male	3.0(13)	97.0(421)
Female	8.9(65)	91.1(669)
Other	0(0)	100(43)
PatientStatus		
New	4.9(16)	95.1(309)
Existing	7.0(62)	93.0(824)
Age		
18–29	0.0(0)	100(45)
30–44	1.3(1)	98.7(77)
45–64	4.6(7)	96.4(145)
65andOlder	7.4(19)	92.6(874)
Payor		
PrivateOnly	0.0(0)	100(2)
Medicare,Private/Medicare	45(18)	55(22)
Medicare/Medicaid,Medicaid	71.4(5)	28.6(2)

ProportionofLikertresponsewithinselectdemographicfeature.Resultsreportedaspercentageof Likertresponse‘Stronglydisagree’and’Disagree’or’Agree’and’Stronglydisagree’(n).

However, men were more likely than women to report higher satisfaction (X2(1,N =920) = 0.67, p = 0.027), and new patients reported higher satisfaction than existing patients(X2(1,N=1211)=1.698,p=0.037).

Discussion

Patient satisfaction is one of the most often used parameters which characterizes the quality of healthcare and, to some extent, defines the perceived value of services [2, 18-21]. This study incorporated the use of patient satisfaction survey tools such as the PROMIS® in conjunction with pharmacist-related items that were derived from the literature review and showed that patients were very satisfied with the general chronic disease and medication management services received from primary care pharmacist. In particular, the respondents felt more confident and self-efficient in managing medications and/or treatments, and this can be seen from the high level of satisfaction with the experience. These results are consistent with other satisfaction metrics (such as timeliness and efficiency) of the specialty care services provided by pharmacists and other healthcare practitioners in various care settings [21].

The survey has several limitations. First, the population from which the study subjects were drawn may not be representative of the population of interest (i. e., patients of primary care) and may only capture the experiences of a single health system and a single clinical pharmacist. Further research is needed in order to extend the findings of this study and to make more theoretical links with the SOHO and patient satisfaction relation to healthcare quality and results. Next, we did not contrast the patient satisfaction with other providers, clinics or health results. However, this does not detract the fact that the patients who received care from a primary care pharmacist were satisfied with the care they received – this data may be of use to other rural clinics considering the integration of pharmacist- delivered healthcare services as well as to researchers focusing on the effect of pharmacists on patient satisfaction. Last, we did not compute the influence that the kind of service rendered might have had on patient satisfaction. This information would be helpful to further differentiate and understand the value of particular health care services provided by clinical pharmacists.

Conclusions

This study also showed that the patients were very satisfied with the general chronic disease and medication management services provided by the primary care pharmacist. Further research is needed to examine how the satisfaction of the patients is comparable with other healthcare professionals, care teams or health status. The findings of this study also help to support the existing literature that the clinical pharmacist services improve the patient experience.

InformedConsentStatement: Patientconsentwasnotapplicable.

DataAvailabilityStatement: Thisdoesnotapply.

References

1. Weldring, T.; Smith, S.M.S. Patient-Reported Outcomes (PROs) and Patient-Reported Outcome Measures (PROMs).*Health Serv.Insights***2003**,*6*,61–68.[CrossRef]
2. Cella, D.; Riley, W.; Stone, A.; Rothrock, N.; Reeve, B.; Yount, S.; Amtmann, D.; Bode, R.; Buysse, D.; Choi, S.; et al. The Patient-Reported Outcomes Measurement Information System (PROMIS) developed and tested its first wave of adult self-reported healthoutcomeitembanks:2005–2008.*J.Clin.Epidemiol.***2010**,*63*,1179–1194.[CrossRef]
3. Garman, A.N.;Garcia, J.;Hargreaves, M. Patient satisfaction as a predictor of return-to-provider behavior:Analysis andassessment of financial implications.*Qual.Manag.Healthc.***2004**, *13*, 75–80.[CrossRef]

4. Oluwole, E.; Osibogun, O.; Adegoke, O.; Adejimi, A.; Adewole, A.; Osibogun, A. Medication adherence and patient satisfactionamong hypertensive patients attending outpatient clinic in Lagos University Teaching Hospital, Nigeria. *Niger. Postgrad. Med. J.***2019**,*26*,129.[CrossRef]
5. Jameel, A.; Asif, M.; Hussain, A.; Hwang, J.; Bukhari, M.H.; Mubeen, S.; Kim, I. Improving patient behavioral consent throughdifferent service quality dimensions:Assessing the mediating role of patient satisfaction.*Int.J. Environ.Res.Public Health* **2019**,*16*,4736.[CrossRef][PubMed]
6. Asif, M.; Jameel, A.; Sahito, N.; Hwang, J.; Hussain, A.; Manzoor, F. Can leadership enhance patient satisfaction? Assessing theroleofadministrativeandmedicalquality.*Int.J.Environ.Res.PublicHealth***2019**,*16*,3212.[CrossRef]
7. Hussain, A.; Asif, M.; Jameel, A.; Hwang, J. Measuring OPD patient satisfaction with different service delivery aspects at publichospitalsinPakistan.*Int.J. Environ.Res.Public Health* **2019**,*16*,2340.[CrossRef][PubMed]
8. Murphy, P.A.; Frazee, S.G.; Cantlin, J.P.; Cohen, E.; Rosan, J.R.; Harshburger, D.E. Pharmacy provision of influenza vaccinationsinmedically underserved communities.*J.Am.Pharm.Assoc.***2012**, *52*, 67–70.[CrossRef] [PubMed]
9. Como, M.; Carter, C.W.; Larose-Pierre, M.; O'Dare, K.; Hall, C.R.; Mobley, J.; Robertson, G.; Leonard, J.; Tew, L. Pharmacist-ledchronic care management for medically underserved rural populations in Florida during the COVID-19 pandemic. *Prev. ChronicDis.***2020**,*30*,E74.[CrossRef][PubMed]
10. Le, L.D.; Paulk, I.R.; Axon, D.R.; Bingham, J.M. Comprehensive medication review completion in medically underserved areasand populations.*J.HealthCarePoorUnderserved***2021**, *32*, 1301–1311.[CrossRef]
11. Blazejewski, L.; Vaidya, V.; Pinto, S.; Gaither, C. Pharmacists' perceived barriers providing non-dispensing services to underservedpopulations.*J.CommunityHealth***2013**,*38*,812–822.[CrossRef]
12. Pande, S.; Hiller, J.E.; Nkansah, N.; Bero, L. The effect of pharmacist-provided non-dispensing services on patient outcomes, healthservice utilisation and costs in low- and middle-income countries.*Cochrane Database Syst. Rev.* **2013**, *2*, CD010398.[CrossRef][PubMed]
13. Nkansah,N.;Mostovetsky,O.;Yu,C.;Chheng,T.;Beney,J.;Bond,C.M.;Bero,L.Effectofoutpatientpharmacists'non-dispensingrolesonpatientoutcomesandprescribingpatterns.*CochraneDatabaseSyst.Rev.***2010**,*2010*,CD000336.[CrossRef]
14. Sherrill, C.H.; Cavanaugh, J.; Shilliday, B.B. Patient satisfaction with Medicare annual wellness visits administered by a clinicalpharmacistpractitioner.*J.Manag.CareSpec.Pharm.***2017**,*23*,1125–1129.[CrossRef][PubMed]
15. Martin, M.T.; Faber, D.M. Patient satisfaction with the clinical pharmacist and prescribers during hepatitis C virus management. *J.Clin.Pharm.Ther.***2016**,*41*,645–649.[CrossRef][PubMed]
16. Hatton,J.;Chandra,R.;Lucius,D.;Ciuchta,E.Patientsatisfactionofpharmacist-providedcareviaclinicalvideoteleconferencing. *J.Pharm.Pract.***2018**,*31*,429–433.[CrossRef]
17. ConsumerAssessmentofHealthcareProvidersandSystems(CAHPS)HomePage.Availableonline:https://www.ahrq.gov/cahps/index.html(accessedon19July2021).
18. Chen,Q.;Beal,E.W.;Okunrintemi,V.;Cerier,E.;Paredes,A.;Sun,S.;Olsen,G.;Pawlik,T.M.Theassociationbetweenpatientsatisfactionand Patient-Reported HealthOutcomes.*J.PatientExp.***2019**,*6*, 201–209.[CrossRef]
19. Agosta,L.J.Patientsatisfactionwithnursepractitioner-deliveredprimaryhealthcareservices.*JAANP***2009**,*21*,610–617.[CrossRef]
20. Hooker,R.S.;Moloney-Johns,A.J.;McFarland,M.M.Patientsatisfactionwithphysicianassistant/associatecare:Aninternationalscopingreview.*Hum.Resour.Health* **2019**,*17*,104.[CrossRef]
21. Ismail,A.;Gan,Y.N.;Ahmad,N.Factorsassociatedwithpatientsatisfactiontowardspharmacyservicesamongout-patientsattendingpublichealthclinics:Questionnairedevelopmentanditsapplication.*PLoSONE***2020**,*15*,e0241082.[CrossRef]
22. Nguyen,E.;Walker,K.;Adams,J.L.;Wadsworth,T.;Robinson,R.Reimbursementforpharmacist-providedhealthcareservices:Amultistatereview.*J.Am.Pharm.Assoc.***2021**,*61*,27–32.[CrossRef][PubMed]