

RESEARCH ARTICLE

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Patient satisfaction of pharmaceutical care of primary care centers at Ministry of Health in Saudi Arabia

Yousef Ahmed Alomi^{1*}, Lina Kurdy², Zainab Aljarad², Hamid Basudan², Banan Almekwar², Sharefia Almahmood²

¹General Administration of Pharmaceutical Care, Past General Manager of General Administration of Pharmaceutical Care Head, National Clinical Pharmacy and Pharmacy practice, Head, Pharmacy R & D Administration Ministry of Health, Riyadh 11392, Kingdom of Saudi Arabia.

²General Administration of Pharmaceutical Care, General Administration of Pharmaceutical Care, Ministry of Health, Riyadh-11392, Kingdom of Saudi Arabia.

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*Correspondence to:

Dr. Yousef Ahmed Alomi, Bsc. Msc., BCPS, BCNSP, DiBA, CDE
Past General Manager of General Administration of Pharmaceutical Care Head, National Clinical pharmacy and pharmacy practice Head, Pharmacy R & D Administration Ministry of Health, Riyadh 11392, SAUDI ARABIA.
Email: yalomi@gmail.com

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Abstract

Objective: The study examined patient satisfaction with pharmaceutical care of selected domains at primary care centers of Ministry of Health in Saudi Arabia as a pilot study. **Methods:** It is a cross-sectional self-administered survey of pharmaceutical care at selected primary care centers. The survey contains two parts; the first part was demographic data about the patients, the second part was several domains about various pharmaceutical care services. This survey had distributed to three primary care centers at the east providence, middle region, and east providence. The 5-point Likert response scale system used with Arabic and English language. All data and variables analyzed by Microsoft Excel program version 10 and statistical package of social science (SPSS) version 20. **Results:** The study sample size was 862 with response rate 45.85%, Of that 77.3% were male, 22.62% were female. The average age was 39.6. The majority of patients were in very good health 319 (37%) and good health status 338 (39.21%). The highest score of patient satisfaction with domains was Medication Availability, patient counseling, and Pharmacist and Patient Relationships. The lowest score of patient satisfaction with domains was pharmacy communication and medication reconciliation. The patients showed overall satisfied with pharmaceutical care at primary care center pharmacies with average score 4.01 of the maximum score of 5, without any difference between three centers ($p > 0.05$). **Conclusion:** Patient satisfaction with pharmaceutical care was very goods. It reflected good pharmacy services offered to the patients with emphasis to patient counseling to patients and pharmacist patient relationships. The pharmacy communication and medication reconciliation should be reviewed to prevent drug-related problems and improve pharmaceutical care at MOH primary care centers in Saudi Arabia.

Key word: Satisfaction, Patient, Pharmaceutical Care, Primary Care Center, Ministry of Health, Saudi Arabia.

INTRODUCTION

General Administration of Pharmaceutical Care at Ministry of Health in Saudi Arabia released the strategic plan of pharmaceutical care in early 2012, with five strategic goals and seventeen initiatives and 83 projects. The plan contains assessment and follow-up indicators, one of the major indicators elements was a patient satisfaction of pharmaceutical care.^[1] Most of the previous literature around the world studied general patient satisfaction at



community pharmacies,^[2-12] some literature discussed patient satisfaction measurement with an emphasis of special clinical pharmacy program at community pharmacies.^[13-16] Other studies addressed patient satisfaction at hospital pharmacies,^[17-19] and some literature emphasized on specialized clinical pharmacy program at the hospital.^[20-25] In Saudi Arabia and the United Arab Emirates, few studies had been conducted at community pharmacies or hospital pharmacies as showed in Table 1.^[26-29] There is one study at Kuwait carried out to measure patient satisfaction with health care services and the pharmacy services among them.^[30] The authors are not familiar with any research around the world to measure patient satisfaction at primary care centers or inpatient discharge from the hospital as a point of care, either with or nor without specialized clinical pharmacy program. In literature, the time of conduction patient survey as cross-sectional while at out hospital every six months and annually, most of the queries made through self-administration, telephone calling, face interview, website link and you do not find through application program up to now. The patient satisfaction surveys consisting of demographic information, health and diseases status, pharmacy location, pharmacy communication, pharmacy waiting time, pharmacy waiting area. Medication availability, patient counseling, medication reconciliation, pharmacist and patient relationship, pricing of prescription, medication adherence, overall patient satisfaction pharmacy services, the pharmacy recommended to other patients, and general open-ended question. Patient satisfaction surveys differ from study to another in the type of domain based on several criteria such as law indicators, standard indicators, policy indicators, medication safety indicators, patient outcome indicators, customer needs indicators, cost indicators, and individual things related to the program, etc.

The general Patient satisfaction of pharmacy services 50-96.9% at community pharmacies, and 0.2-100% hospital pharmacies in international studies. While 6-27% of community pharmacies, and 18.5-41.2% hospital pharmacies in Saudi and Gulf region studies, our goal of this study is to measure patient satisfaction with pharmaceutical care selected domains at primary care centers of Ministry of Health in Saudi Arabia as a pilot study.

METHODS

The self-survey of distributed to 1880 patients with three primary care centers (PCC). The three primary care centers located in Hail region, Alqunfatha Region and Alqateef Region. PCC1 was Alkhalidia Primary Center at Alqunfatha region it was established 2008; it provides health care services

to 13 villages, covers 27,000 people, and gets accreditation from Saudi Central Board of Accreditation for Health Care Institutions (CBAHI) in 2015. PCC2 was a group of 30 Primary Center at Alqateef region, it provides health care services to 10 villages, covers more than 45,000 people, and two of getting the full accreditation from CBAHI in 2015, and four of them under the process of certification. PCC3 was in Sharaf Primary Center at Hail region. It established in 2008; it provides health care services to one city, covers 10,000 people, and gets accreditation from CBAHI in 2014.

The study was a cross-sectional self-administered survey during a one-month period in February 2014. The self-administered of patient satisfaction of pharmaceutical care was designed based on previous literature with twenty questions. It consisted of two parts; the 1st part contains demographics data and health status of the patient. The 2nd part was including general pharmaceutical care satisfaction questions. The 5-point Likert response scale system used in self-survey from 5 main excellent, 4=very good, 3=good, 2=poor, and 1=very poor. The self-administered survey was in two languages Arabic and English.

Three authors distributed and collected from the patients during morning working hours 7:30 am to 4:30 pm. The authors circulated to each patient after dispensing the medications and wait for collecting survey from patients, and if there is any unclear or any inquiries from the patient All self-administered survey received from all three centers and entered in Microsoft Excel program version 10. The analysis was frequencies of variables, cross-tabulation, differential analysis of the variables in Statistical Package of Social Science (SPSS) version 20. This study revised and approved by pharmacy research and development administration at General Administration of Pharmaceutical Care at Ministry of Health (MOH) in Saudi Arabia; the final results should report to higher management of MOH.

RESULTS

The self-survey distributed to 1880 patient with three primary centers; the total response rate was 862 (45.85%) who filled the survey as showed in Table 2. Of those 667 (77.38%) were male, 195 (22.62%) were female as total among three centers, while there is differences between them ($p < 0.001$). The majority of them were Saudi 855 (99.19%). The average age of three centers was 39.6 +/- 15.01 years (mean +/-SD), with a statically difference between three centers ($p < 0.001$), the highest age category was 18-40 as percentage 47.1 %, followed by 40-60 group 37.7 %. The education level of the patients were 352 (40.83%) had Less than Diploma followed by

317 (36.77%) were none educated, with the statically difference between three centers ($p < 0.001$). The common type of visiting was first time visit to primary care centers 484 (56.15%) as while 378 (43.85%) were follow-up visit with a statically difference between three centers ($p < 0.001$). The majority of patients were in very good health 319 (37%), and good health status 338 (39.21%) without any difference between three centers ($p > 0.05$) as showed in Table 3. The patients showed satisfied of pharmaceutical care providers by primary care center pharmacies with average score 4.01 (3.37-4.45) of the maximum score of 5, without any difference between three centers ($p > 0.05$). Except the element of reach patient pharmacy by phone with score 1.91 and getting the copy of the prescription with score 1.59 with the statically difference between three centers ($p < 0.001$) as showed in Table 3. Moreover, the patients suggested several thing to improve pharmacy services at primary care centers as listed in Table 4.

The pharmacy should be near to patients and at a precise place. The average score of pharmacy at primary care center position was 3.91 with statistical difference all three primary care centers ($p < 0.05$). The patients easy to communicate with pharmacy, and the pharmacy has communication equipment; telephone land line number or fax, and Internet location, or email account. The connection with pharmacy over the phone was poor score as 1.91 without significant difference ($p > 0.05$). The last stage of pharmacotherapy process at primary care center is dispensing medications, the patient may reach the pharmacy with extremely exhausted, the pharmacy should dispense the medication in proper time manner without delay. The average score pharmacy waiting time of three primary care centers was 3.99 without any difference between all centers ($p > 0.05$). All primary care centers pharmacies responsible for bringing medications, and it should be available for working duties at the centers. The average of score of medicines availability with question 5 was 4.6 total of 5 with a statistically significant difference at all three centers ($p < 0.05$). The pharmacist at Primary care centers should education the patient about their medications, and should receive any medication-related questions, and give enough time to all patients if there are any things non-understandable, the average score result of this domain was 4.13 without any significant difference between all three primary care centers ($p > 0.05$). The pharmacist or physician or nurses should double check the own medication during emergency admission or transfer from more up or lower unit level or discharge from hospitals, visiting ambulatory care or primary care centers clinics visiting, or even community pharmacy visiting. The medications list should be with patients by either manual

or electronic to verify the medications. Maybe the easiest method to leave a copy of the prescription with patients. That is may be easy to double check with medications patients. The average score of receiving a patient copy of prescription was 1.59 out of 5 at ll three centers without significant difference ($p > 0.05$). The pharmacist should have excellent communications with all patients, and high competency knowledge of drug information, with perfect courtesy to all population, the average score of this domain was 4.15 and 4.13 respectively with a significant difference between all three centers ($p < 0.05$). At the end of each patient visit, we try to measure overall visit patient satisfaction with an emphasis on pharmaceutical care. The average score was 4.01 without significant difference between all three centers ($p > 0.05$)

DISCUSSION

The study is the first cross-sectional study had done in Saudi Arabia, Middle East countries and even in the global world, the authors are not familiar with any study published discussed this issues. The number of subjected is fair enough despite the response rate, the number of patients answered the survey within the range of previous international and national studies.^[2-29] The majority of our patients were Saudi; this is normal because all MOH primary care centers are not receiving any Non-Saudi patients. Most of our patients were male at all three center with the difference between them due to our male more compliance with appointment than female especially in rural area, the female are not highly educated, this very clear from our one-third of them not educated. Age distribution differs from area to another with unknown pre season while a high percentage of young age.

In Pharmacy location domain results within range results of community pharmacies international studies^[2-11] and better than results of hospital pharmacies study conducted by Surur AS *et al*^[19] and range results of community pharmacies national and Gulf region studies.^[26,27] Most hospitals the pharmacy located at basement while at primary care center located near the clinics and some community pharmacies at our region found in not good position. In Pharmacy communication domain; our score results lower than range results of community pharmacies with particular program international studies.^[13-16] This result expected, most of the pharmacies of primary care centers telephone number not available also, the contact number was not announced at centers while the contact number is available anywhere including medications label and package plastic of the community pharmacies.

Table 1: Summary of pharmacy patient satisfaction studies

Content	Community Pharmacy	Community Pharmacy with speciazed program	Hospital Pharmacy (Ambulatory Care or outpatients)	Hospital Pharmacy (Ambulatory Care or outpatients) with speciazed program	Hospital Pharmacy (Discharge Pt)	Hospital Pharmacy (Discharge Pt) with speciazed program	Primary Care Center Pharmacy	Primary Care Center Pharmacy with speciazed program
Internatinal Studies [2- 11,13-16, 19-25]								
Refences Number	2-11 (%)	13-16	19 (%)	20-25 (%)				
Demographic Information	✓	✓	✓	✓	NA	NA	NA	NA
Health and Disaeses Status	✓	✓	✓	NA	NA	NA	NA	NA
Pharmacy Location	22.1-93.2	NA	0.5- 28.2	NA	NA	NA	NA	NA
Pharmacy Communication	NA	84-86	NA	86	NA	NA	NA	NA
Pharmacy waiting time	26-92.7	NA	0.2 -11.8	44	NA	NA	NA	NA
Pharmacy waiting area	20.9-30.6	NA	2.8	76	NA	NA	NA	NA
Medication Availability	25.4-86.8	NA	0.2 - 20	NA	NA	NA	NA	NA
Medication history	82	NA	NA	NA	NA	NA	NA	NA
Patient counseling	42-91	64-91.1	1.8 -14.8	32-96	NA	NA	NA	NA
Medication Reconciliation	24	NA	NA	NA	NA	NA	NA	NA
Pharmacist and Patient Relationship	28-90	73.2-74.8	19.5 - 21	30-100	NA	NA	NA	NA
Prescription Pricing	26.6-87.2	83.2	0.5 – 18	NA	NA	NA	NA	NA
Medication adherence	NA	NA	NA	NA	NA	NA	NA	NA
Overall Patient satisfaction pharmacy services	50-96.9	70.8-95	0.2 - 14.8	93.6-100	NA	NA	NA	NA
The pharmacy recommended to other patients	90	71.6-90.4	NA	67.8-89.5	NA	NA	NA	NA
General Open ended question	NA	✓	NA	✓	NA	NA	NA	NA
National and Gulf area Studies [26-29]								
Refernces number	26-27 (%)	NA	28-29 (%)					
Demographic Information	✓	NA	✓	NA	NA	NA	NA	NA
Health and Disaeses Status	NA	NA	✓	NA	NA	NA	NA	NA

Table 1: Continued

Content	Community Pharmacy	Community Pharmacy with speziazed program	Hospital Pharmacy (Ambulatory Care or outpatients)	Hospital Pharmacy (Ambulatory Care or outpatients) with speziazed program	Hospital Pharmacy (Discharge Pt)	Hospital Pharmacy (Discharge Pt) with speziazed program	Primary Care Center Pharmacy	Primary Care Center Pharmacy with speziazed program
Pharmacy Location	31-40	NA	NA	NA	NA	NA	NA	NA
Pharmacy Communication	NA	NA	NA	NA	NA	NA	NA	NA
Pharmacy waiting time	10-23	NA	NA	NA	NA	NA	NA	NA
Pharmacy waiting area	13-19	NA	NA	NA	NA	NA	NA	NA
Medication Availability	18-35	NA	NA	NA	NA	NA	NA	NA
Medication history	38%	NA	28%	NA	NA	NA	NA	NA
Patient counseling	10-38	NA	17.5% - 58.4%	NA	NA	NA	NA	NA
Medication Reconciliation	NA	NA	NA	NA	NA	NA	NA	NA
Pharmacist and Patient Relationship	61.	NA	15.8% -54.9%	NA	NA	NA	NA	NA
Prescription Pricing	3-11	NA	NA	NA	NA	NA	NA	NA
Medication adherence	40%	NA	NA					
Overall Patient satisfaction pharmacy services	6-27	NA	18.5% - 41.2	NA	NA	NA	NA	NA
The pharmacy recommended to other patients	NA	NA	NA	NA	NA	NA	NA	NA
General Open ended question	NA	NA	NA	NA	NA	NA	NA	NA

Table 2: Patient response rate

	Region in Saudi Arabia	Name of primary care center	Population served	No Patients	No of Responders	Rate of Response
PCC1	West	Alqunfetha	27,000	1345	567	42.15%
PCC2	East	Alqateef	45,000	234	197	84.18%
PCC3	Middle	Hail	10,000	304	98	32.23%
Total	-	-	-	1880	862	45.85%

	PCC 1		PCC 2		PCC 3		Total		P value
No Patients	567		197		98		862		
Sex	F	M	F	M	F	M	F	M	P<0.001
	17	550	95	102	83	15	195 (22.62%)	667 (77.38%)	
Nationality	Saudi	N-S	Saudi	N-S	Saudi	N-S	Saudi	N-S	P>0.05
	560	7	197	0	98	0	855 (99.19%)	7 (0.81%)	
Age	Mean	SD	Mean	SD	Mean	SD	Mean	SD	P<0.001
	43	15.56	35.23	11.48	28.7	8.86	39.6	14.95	
	n		n		n		n	Total	
< Or = 12 Y	0		0		0		0	0	
12-18	24		14		18		56	6.5%	
18-40	216		117		73		406	47.1%	
40-50	148		47		7		202	23.43%	
50-60	105		18		0		123	14.27%	
> 60	74		1		0		75	8.7%	
Education Level	Less than Diploma	273	44		75		392 (40.83%)		P<0.001
	Diploma	67	61		16		144 (9.59%)		
	Bachelor and above	92	48		6		146 (12.18%)		
	Non Educated	135	44		1		180 (36.77%)		
Type of visiting	First Visit	Follow up visit	First Visit	Follow up visit	First Visit	Follow up visit	First Visit	Follow up visit	P<0.001
	395	172	82	115	7	91	484 (56.15%)	378 (43.85%)	
Health Status	Very Good	175	54		63		319 (37%)		P>0.05
	Good	264	71		30		338 (39.21%)		
	Acceptable	128	57		4		189 (21.92%)		
	Bad	0	15		1		16 (1.87%)		

In the pharmacy waiting time domain our results within range results of community pharmacies international studies.^[2-11] and better than results of hospital pharmacies studies by Surur AS *et al*^[19] and range results of community pharmacies national and Gulf region studies.^[26,27] The primary care center pharmacy normally dispenses very simple medications; it does not take much time to prepare or dispense like hospitals, some hospital pharmacies do not have a waiting area, this may lead patient un-satisfy with pharmacy services. In Medication Availability domain our results within range results of community pharmacies international studies^[2-11] and better than results of hospital pharmacies studies by Surur AS *et al*^[19] and rage results of community pharmacies national and Gulf region studies.^[26,27] The number of medications at hospital pharmacies is huge list reach to sometimes more than

800 items, it does not look like primary care medication not exceeding more 120 items, maybe it is easier to follow up the medication availabilities than hospitals.

In Patient counseling domain our results with results range of hospital pharmacies with special program international studies.^[20-25] It was near to results range of community pharmacies in other countries^[2-11] and community pharmacies with special program international studies.^[13-16] It was better than range results hospital pharmacies international studies by Surur AS *et al*,^[19] and community and hospital pharmacies national and Gulf region studies.^[26-29] Although there is no structured patient medication education program during that study period, the patients feel very good about receiving instructions from the pharmacist and proper counseling. The patient medication

Table 4: Patient Satisfaction about Pharmaceutical care

S. No.	Questions	PCC1 n=567	PCC2 n=197	PCC3 N=98	Average n=862	P value
Q1	Is the pharmacy conveniently located?	3.97	3.69	4.01	3.91	< 0.05
Q2	Getting through to the pharmacy by phone?	1	3.59	3.86	1.91	< 0.05
Q3	Enough time spent with the person you saw?	3.96	3.65	4.29	3.92	> 0.05
Q4	Length of time spent waiting for your prescription to be filled?	4.02	3.75	4.32	3.99	> 0.05
Q5	I have received all my medication prescribed to me	4.94	3.71	4.41	4.6	< 0.05
Q6	All medications I received were excellent packaging with instruction label with my name	3.23	3.65	4.61	3.49	< 0.05
Q7	When I am buying my prescription medications, the pharmacist hands me my prescriptions, provides me with thorough medication counseling, and encourages me to ask questions	4.2	3.74	4.49	4.13	> 0.05
Q8	I have received copy of prescription contains all medications prescribed to me, and may use during outpatient clinic or emergency when necessary	1	3.57	1	1.59	< 0.05
Q9	Explanation of what was done for you?	2	3.73	4.41	2.67	< 0.05
Q10	The technical skills (thoroughness, carefulness, competence) of the person you saw?	4.25	3.7	4.51	4.15	< 0.05
Q11	The courtesy of the person you saw?	4.25	3.62	4.50	4.13	< 0.05
Q12	The visit overall?	4.02	3.82	4.50	4.03	> 0.05
Q13	I am satisfy with Pharmaceutical care provided to me	4.01	3.74	4.56	4.01	> 0.05
Q14	Would you say any suggestion to improve Pharmaceutical care provided to you					
	Apply e-prescription in Primary care center Apply communication method by finding telephone and The Internet There is no child resistance container Some medications are not available Provide useful and efficient medication from international companies Increase the number of staff Provide medication label instructions Bring active medications					

teaching and counseling is essential at most of the hospital providing special clinical pharmacy program like medication therapy management.

Our primary care center pharmacy was providing excellent drug information while community pharmacy at our region do not had structured patient counseling program, and even sometimes the general education about medication was not exciting. In Medication Reconciliation services are not existing, and normally we found very low score out of score five. This program so critical to prevents medication errors, and to start applying to all health sectors at MOH. Also, this services is not providing by a majority of studies except one study with a low score.

In pharmacist and patient relationship domain our result within range results of community pharmacies international studies.^[2-11] The results from hospital pharmacies studies by Surur AS *et al.*^[19] Also, results from hospital pharmacies with special program international studies.^[20-25] It was better than results range of community pharmacies with special program international studies.^[13-16] The range results from hospital pharmacies international studies by Surur AS *et al.*^[19] and community and hospital pharmacies national and Gulf region studies.^[26-29] The pharmacist and patient relationship are excellent at privates sectors like community pharmacies or private hospitals they maybe had a good system to follow up the pharmacist of this domain

through applying patient satisfaction of pharmacy services system while other institutions are not applying this system especially at locally it does not exist at all.

The results of Patient satisfaction pharmacy services domain within range results of community pharmacies international studies,^[2-11] out results better than other studies at hospitals Surur AS *et al.*^[19] and results range of hospital pharmacies with special program international studies.^[20-25] It was better than community and hospital pharmacies national and Gulf region studies.^[26-29] Most of the previous parameter results in our study were good to very good scores, this raise percentages value of patient satisfaction of pharmacy services at primary care centers. It is normal to find our results looks like international results due high level of providing pharmacy services, while our local at community or hospital setting were not providing or low-level pharmacy services lead lower score of patient satisfaction.

Limitations

This study is a pilot study with newly applying of patient satisfaction of pharmaceutical care at all MOH institutions, some patient was not responding to the survey, it was a first time for a patient to get his opinion and recommendations through an official survey.

CONCLUSION

Patient satisfaction with pharmaceutical care system is an essential tool to follow up the implementation of strategic planning of General Administration of Pharmaceutical Care in Saudi Arabia. Applying this system is potential at primary care centers to meet customer needs. Expanding the system to cover all point of care areas including but not limited to Hospital Pharmacies (Ambulatory Care or outpatients) and Hospital Pharmacies (Discharge Pt) with or without specialized clinical pharmacy program, in addition to all Community Pharmacies in Saudi Arabia.

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CONFLICT OF INTEREST

There is no conflict of interest with any financial/research/academic organization, with regards to the content/research work discussed in the manuscript.

ABBREVIATION USED

MOH: Ministry of Health; GAPC: General Administration of (CBAHI) Pharmaceutical Care Saudi Central Board of Accreditation for Health Care Institutions; PCC: Primary care centers; SPSS: Statistical Package of Social Science.

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