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Pharmacists Perception of Physicians and Patients Responses towards Suggested Drug Alternative

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Authors' contributions

This work was carried out in collaboration between all authors. Author RA designed the study, authors RA and AAN performed the statistical analysis, wrote the protocol, and wrote the first draft of the manuscript. Authors FAA and NA managed the analyses of the study. Author FAA managed the literature searches. All authors read and approved the final manuscript.

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ABSTRACT

Objective: This study aims to analyze the perceived responses from physicians and patients towards an alternative drug suggested by pharmacist in a physician prescription and to observe the reasons for rejection from physicians as well as patients.
Methods: A cross sectional study in retail and hospital pharmacists was performed. The data gathered was analyzed through Statistical package for Social sciences software (SPSS v 22) through descriptive statistics and Chi-square tests for association between variables ($P<0.05$).
Results: A response rate of 87.5% was observed. The response of physicians towards pharmacist

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suggested alternative was observed high in retail pharmacies i.e. accepted most of the times (>50%) as compared to an acceptance rate of sometimes (25% to 49%) in hospital pharmacies. Similarly an acceptance rate of most of the times (>50%) was observed in patients visiting retail pharmacies as compared to hospital pharmacies i.e. accepted sometimes (25% to 49%). The reasons for physicians low acceptance rate or rejection were; time constraints and physician lack of trust on pharmacists, respectively. Whereas the reasons for patient low rate of acceptance or rejection were; tendency to stick to physicians prescription and patients lack of trust on pharmacists, respectively.

Conclusion: Lack of proper collaboration and trust among the two professions as well as due to more workload and job stress a lower rate of acceptance was observed among physicians and patients.

Keywords: Acceptance rate; patients; physicians; reason rejection; suggested alternative.

1. INTRODUCTION

Pharmacists is an integral part of health care services, such as patient counseling, decision making, therapeutic monitoring and intervening, in order to accomplish the goal of therapy via appropriateness of the regimen [1]. Generally the role of pharmacist may be represented in three ways as; first: directions such as how to use, side effects, and precautions about medications in chronic ill patients as they are talking medicine at home as well as taking care of medication itself, second: as a source of drug information for the prescribed drugs as the number, potency and complexity of prescribed drugs has increased now-a-days, third: a source of reducing the risk for adverse effects via proper counselling, therapeutic monitoring and suggesting a safe alternative [2].

In old systems of hospitals, physician were the sole authority to diagnose and prescribe medications whereas pharmacists had limited duties i.e. dispense and compound already prescribed medications [3]. Currently, moving towards pharmaceutical care model (PCM), it has been observed that pharmacist plays an important role to achieve the goal of PCM i.e. better patient care. Being an integral part of PCM, the role of pharmacist is improving and becoming more patient centered [4] as well as more relation and connection has resulted for pharmacist with physician and patients [5].

Pharmaceutical care needs pharmacist as well as physician to take responsibility about patient regarding their clinical role and sharing their expertise. Although physicians carry a main role for effective and safe prescription writing, the role of pharmacist i.e. effective and safe drug therapy is also complementary to that of physician [2]. Together both can achieve patient's care thus cooperation is required on behalf of each profession [3] however not all the physicians are comfortable with decision making process and involvement of pharmacists hence may lead to an inappropriate prescription [6].

The intervention of pharmacists are more necessary for the PCM goal to achieve and lessen as well as avoid any medication related undesirable problems such as drug interaction, adverse drug reactions and drug allergy. Studies report; patients with poor counselling, escaping the medication follow up, as well as undesirable dosage regimen results in poor patient adherence thus leading to more complications and ultimate death [7] hence pharmacist intervention is very important. Pharmacists typically intervene when prescribers instructions are incorrect, unclear, incomplete or when drug allergies are detected. The pharmacist with sound clinical background intervene in such conditions to change dosage or dosage form and suggest a good alternative however this intervention is taken as threat by some physicians as pharmacists tend to expand their clinical role [8]. Also, this clinically expanded role of pharmacists may positively change the perception and attitudes of patients towards pharmacists which is mostly unwelcomed by some of the physician's [5].

This study aims to evaluate the pharmacists perceived physician and patients response towards suggested alternative and its reasons for any rejection, if observed. The theme of the study is to observe the professional relationship and trust among two professions as well as with patients. To the best of our knowledge, current study is a first time report regarding acceptance as well as reasons for rejection from physicians and patients regarding an alternative drug suggested in a prescription.

2. METHODS

The STROBE guidelines were followed for research methodology in the study. A cross sectional study was conducted among retail and hospital pharmacists in Eastern province Saudi Arabia.

2.1 Duration and Venue of the Study

The study started in February 2017 and was completed in May 2017 with a four (04) months duration and was conducted in three major cities of the Eastern province i.e. Dammam, Khobar and Qatif Saudi Arabia.

2.2 Target Population and Exclusion Criteria

The target population for the study were only pharmacist with eligibility criteria of; holding B. Pharm (bachelor of pharmacy) or Pharm-D (doctor of pharmacy) degree and working in retail or hospital pharmacies located in the aforementioned regions. Any unemployed pharmacists and those working in retail or hospital pharmacies outside of the Eastern region were excluded from the study. Furthermore, pharmacist with lack of time, no consent to participate as well as incomplete questionnaire were excluded from the study.

2.3 Research Instrument, Piloting and Validation

A survey questionnaire in English language was developed for this study which was distributed among pharmacists working in retail and hospital pharmacy. The questionnaire consisted of ten (10) close ended questions divided in to four sections as; first section dealt with the demographic information of the respondents, second section dealt with the level of education and work place alongwith work experience of the pharmacists, third section was related to the prevalence of drug alternative suggested by pharmacists, whereas fourth section was actual aim of the study i.e. pharmacist perceived responses of physician and patient towards a suggested drug alternative alongwith reasons for rejection from physicians and patients, if any. The research instrument was piloted in ten professor and pharmacists from relevant field. It took approximately two minutes to fill the survey. Overall, the questionnaire was easy and no difficulty was faced by the respondents. However the only item subjected to change after piloting was the age variable. The respondent were confused regarding the age limits classification defined as 1 to 2 and 2 to 3. The classification was modified as; 1 to 2 and 3 to 5 in order to remove any confusion.

2.4 Sampling Size and Procedure

For sample size calculation, the total number of pharmacists working in private sectors of Eastern region as per ministry of health (MOH), Kingdom of Saudi Arabia (KSA) report 1436 (2014/2015) i.e. 456 was considered as total population [9]. An online calculator (Raosoft, Inc.) using confidence level CI=95%, was used for final sample size i.e. 209. For sampling procedure, the researcher approached pharmacists in their free timing.

2.5 Data Analysis

The data was entered and analyzed with the help of Statistical package for the Social Sciences (SPSS v 22) software. Frequency analysis was used for sample counts (N) and percentages (%) whereas chi square test was used for association between variables and P values.

2.6 Ethical Approval and Consent

Before filling of the survey form, all the pharmacists were briefed about aim of the study and those with consent to participate were handed over the questionnaire. The study was subjected to ethical approval and was granted exemption by the ethical committee of Imam Abdulrahman Bin Faisal University (formerly known as University of Dammam).

3. RESULTS

3.1 Response Rate

To achieve the target population of 209, a total of 240 questionnaire were distributed in the respective selected regions for the study. The questionnaire received from respondents were 210 out of which 12 questionnaire were excluded from the study due to incomplete filling whereas four questionnaire, filled by pharmacists registered in other regions, were exempted from the study too. The study completed gathering 194 responses with 87.5% response rate.

3.2 Demographics of the Respondent

The total number of responses collected were 194 where almost two third of the population was Saudi (N=128/194, 66%) national followed by

Egyptians (N=44/194, 22.7%). Although the responses were observed from both gender i.e. male (N=118/194, 60.8%) and female pharmacist (N=76/194, 39.2%) however the major pool of respondent were seen working in hospital pharmacy (N=130/194, 67%) followed by retail pharmacy (N=64/194, 33%). Contrastingly, almost all the female pharmacist were working in hospital and male pharmacist in retail pharmacy. The higher qualification as observed for two third of the pharmacist was a bachelor degree of pharmacy (N=140/194, 72.2%), with a work experience of > 5 years for almost half of the pharmacists (N=82/194, 42.3%). The summary for demographics characteristics is presented in Table 1.

Table 1. Respondents demographics characteristics

Variable	No (N)	% age
Gender		
Male	118	60.8
Female	76	39.2
Total	194	100.0
Nationality		
Saudi	128	66.0
Egyptian	44	22.7
Indian	16	8.2
Sudanese	6	3.1
Total	194	100.0
Qualification		
Doctor of Pharmacy (PharmD)	34	17.5
Bachelor of Pharmacy (B-Pharm)	140	72.2
Masters in Pharmacy degree	20	10.3
Total	194	100.0
Work place		
Retail Pharmacy	64	33.0
Hospital Pharmacy	130	67.0
Total	194	100.0
Work experience		
1 to 2 Years	36	18.6
3 to 5 Years	76	39.2
More than 5 Years	82	42.3
Total	194	100.0

3.3 Frequency of Alternative Suggestion by Pharmacists

In response to the frequency of alternative suggested, almost one third of the pharmacists pool (N=66/194, 34%) answered a rare suggestion. Similarly, almost half of the pharmacists were suggesting the alternative often i.e. several prescriptions per day (N=50/194, 25.8%) and very often i.e. several prescriptions per day (N=38/194, 19.6%) whereas the pharmacist with a practice of frequent (several prescriptions per month) suggested alternative were (N=34/194, 17.5%). Furthermore the pharmacist who never suggested an alternative were very less in number i.e. Never (N=6/194, 3.1%). Summary of alternative suggested frequency is presented in Table 2.

3.4 Physician Response and Reasons of Rejection towards Pharmacist Suggested Alternative

Almost half of the pharmacists (N=84/194, 43.3%) stated that their suggested alternative is accept sometime (25% - 49%) whereas almost one third of the pharmacist (N=52/194, 26.8%) revealed that their alternative is accepted most of the time (more than 50%). Apart from pharmacists (N=42/194, 21.6%) who answered a rare acceptation (less than 25%) of the suggested alternative, few of the pharmacists (N=16/194, 8.2%) never made any contact with physicians. The major reason for rejection highlighted by these pharmacists was physician lack of trust on pharmacist (N=66/194, 34%) and time constraints (N=58/194, 29.9%). In addition, non-cooperative behavior of physicians (N=38/194, 19.6%) was also one of the reason for rejection of pharmacist suggested alternative. The summary for physicians response as well as reason for rejection towards pharmacist suggestive alternative is presented in Table 3.

3.5 Patient Response and Reasons of Rejection towards Pharmacist Suggested Alternative

Regarding patient response towards pharmacist suggested alternative, the highest response (N=92/194, 47.4%) observed was for, acceptance of alternative sometimes (25% - 49%). Only one third of the pharmacists (N=58/194, 29.9%) answered that their alternative is accepted most of the time (more than 50%). The major reasons for rejection of alternative by patients was due to, tendency to stick to physician prescription (N=60/194, 30.9%) and patient lack of trust on Pharmacist (N=48/194, 24.7%). Furthermore, unawareness about pharmacist role (N=46/194, 23.7%) and non-cooperative behavior of the patient (N=22/194, 11.3%) were also found as reason of rejection by patients. The summary for response and rejection of suggested alternative by patients is presented in Table 4.

Table 2. Frequency of alternative suggested in a prescription

Variable	No (N)	% age
Very often (several prescriptions per day)	38	19.6
Often (several prescription per week)	50	25.8
Frequently (several prescriptions per month)	34	17.5
Rarely	66	34.0
I never suggested any Alternative	6	3.1
Total	194	100.0

Table 3. Pharmacist perception of physicians response and reason of rejection towards suggested alternative

Variable	No (N)	% age
Physician response to suggested alternative		
My alternative is accepted most of the time (More than 50% time)	52	26.8
My alternative is accepted sometime (25% to 49% time)	84	43.3
My Alternative is accepted rarely (Less than 25% time)	42	21.6
No Concern/Contact with Physician at all	16	8.2
Total	194	100.0
Physician reason for rejection towards suggested alternative		
Physicians non-cooperative behavior	38	19.6
Physician lack of trust on Pharmacist	66	34.0
Time constraints	58	29.9
Not Applicable	32	16.5
Total	194	100.0

Table 4. Pharmacist perception of patients response and reason of rejection towards suggested alternative

Variable	No (N)	% age
Patient response to suggested alternative		
Alternative is accepted most of the time (More than 50% time)	58	29.9
Alternative is accepted sometime (Between 25% to 49% time)	92	47.4
Alternative is accepted rarely (Less than 25% time)	44	22.7
Total	194	100.0
Patient reason for rejection towards suggested alternative		
Patient non-cooperative behavior	22	11.3
Patient lack of trust on Pharmacist	48	24.7
Tendency to stick to physician prescription	60	30.9
Unaware about Pharmacist role	46	23.7
All of the above reasons	18	9.3
Total	194	100.0

3.6 Cross Tabulation between Demographic Variables and Suggested Alternative

The alternative suggested by pharmacist, the perception perceived from physicians and patients regarding the suggested alternative and its reason for rejection were cross tabulated against gender, work experience and work place. Regarding the frequency of alternative suggestion, female pharmacist (N=22 observed, N=14.9 expected) were observed to suggest alternative very often (several prescriptions per day) whereas male pharmacist suggested the alternative either rarely (N=52 observed, N=40.1 expected) or often (several prescription per week) i.e. (N=34 observed, N=30.4 expected), which was statically significant (P=0.00) with chi square value of 23.01 and moderate phi value of 0.34. The pharmacist perceived physician

responses to suggested alternative were also observed significant (P=0.00) with chi square value of 26.22 and moderate phi value of 0.37 as majority of male pharmacists (N=58 observed, N=51.5 expected) as well as female pharmacists (N=28 observed, N=17 expected) reported an acceptance rate of sometimes (25% to 49%) and rare (less than 25%), respectively. The reason for physician non-acceptance/rejection towards pharmacists suggested alternative, highlighted by male pharmacist (N=44 observed, N=35.3 expected) was time constraints of physicians along with physician lack of trust on pharmacists as reported by female respondents (N=36 observed, N=26 expected) with P=0.00, chi square value=15.81 and phi value=0.30. Whereas the reason for patients non-acceptance/rejection, towards female (N=30 observed, N=18.8 expected) and male pharmacist (N=44 observed, N=36.5 expected) suggested alternative observed due to patient lack of trust on pharmacists and tendency to stick to physician prescription, respectively was statistically significant with P value=0.00, chi square value=20.64 and moderate phi value=0.32. In addition, unawareness about pharmacists role was also reported by one fifth of the male pharmacists (N=34 observed, N=28 expected). Based on work experience, the reasons for physician non-acceptance/rejection was found significant at P value=0.00, chi square value=24 and phi value=0.35 with the most common reason of rejection as; physician lack of trust (N=20 observed, N=12.2 expected), physician non-cooperative behavior (N=16 observed, N=15 expected) and time constraints (N=28 observed, N=24.5 expected) as highlighted by pharmacists with work experience of 1 to 2 years, 3 to 5 years and >5 years, respectively. A statistically significant (P value=0.00, X^2=22.52, Phi value=0.34) patient response towards suggested alternative was observed whereby pharmacists with an experience of 1 to 2 years (N=18 observed, N=17.1 expected) and 3 to 5 years (N=40 observed, N=36 expected) reported an acceptance of sometime (25% to 49%) however an acceptance with most of the time (>50%) was observed in pharmacists with a work experience of >5 years (N=32 observed, N=24.5 expected). The reasons for non-acceptance/rejection observed in patients were also statistically significant with P value=0.00, chi square value=38.31 and phi value=0.44 as; patient non-cooperative behavior (N=12 observed, N=4.1 expected), lack of trust on pharmacist (N=26 observed, N=19 expected) and unawareness about pharmacist role (N=26 observed, N=19.4 expected) as reported by pharmacists with a work experience of 1 to 2 years, 3 to 5 years and >5 years, respectively. With respect to work place, most of the pharmacists in this category (N=26 observed, N=22 expected) were rarely suggesting an alternative drug in a prescription whereas in contrast, most of the hospital pharmacists (N=32 observed, N=25.5 expected) were suggesting an alternative very often (several prescription per day) reported as significant with P value=0.03, X^2=10.45 and phi value=0.23. A small proportion (N=18 observed, N=17.2 expected) of the retail pharmacists reported a physician acceptance for most of the times (>50%) whereas at the same time, a similar proportion (N=16 observed, N=5.3 expected) of retail pharmacist also mentioned no concern or contact with physician. On the other hand most of the female hospital pharmacist (N=60 observed, N=56.3 expected) reported an acceptance rate of sometimes (25% to 49%) with a significance P value=0.00, chi square value=40 and phi value=0.45. The reason for physician rejection towards suggested alternative as observed by retail pharmacists (N=28 observed, N=19.1 expected) and hospital pharmacists (N=58 observed, N=44.2 expected) was time constraints of physicians and physician lack of trust on pharmacists, respectively (P value=0.00, X^2=34.18, Phi value=0.42). Similarly a significant result (P value=0.01, X^2=8.76, phi value=0.21) with an acceptance of most of the times (>50%) was observed in retail pharmacies (N=18 observed, N=19.1 expected) alongwith an acceptance of sometimes (25% to 49%) in hospital pharmacies (N=68 observed, N=61.6 expected) whereas the reason for patient rejection of suggested alternative in retail pharmacy and hospital pharmacy was, tendency to stick to physician prescription (N=34 observed, N=20 expected) and patient lack of trust on pharmacist (N=44 observed, N=32.2 expected), respectively which was also significant with P value=0.00, chi square value=35.23 and phi value=0.42. The summary for cross tabulation of demographics against suggested alternative is presented in Table 5.

4. DISCUSSION

The expanded clinical role of pharmacist in the shape of safe alternative drug provider, enhances the outcomes of PCM by reducing undesirable affects and complications related to some drugs. This intervention of pharmacists may have a positive impact upon patients

perception and attitude however it has been observed that most of the physicians generally unwelcome these encroachments. A study was designed to see the professional relationship between pharmacists and physicians as well as the level of trust from physicians and patients towards pharmacist suggested alternative. This study was conducted in retail and hospital pharmacists in the Eastern region of Saudi Arabia. The majority of the population working in Eastern region were Saudi pharmacist with bachelor of pharmacy (B. Pharm) degree mostly. Male pharmacist were dominant in this study however almost all of the female pharmacist found were working in the hospital pharmacies only. This may be better explained with the fact that mostly the female pharmacists are not allowed to work in retail pharmacies within the kingdom as reported [10,11] however this rule has been changed and currently female are allowed to work in any organization. Still no female were observed in retail pharmacies. Though the expatriates i.e. other than Saudi pharmacists are less in number as compared to local pharmacist however still the majority of pharmacists observed in retail pharmacies were Egyptians origin with B. Pharm qualification. A previous such study, with a dominancy of Egyptian pharmacists holding B. Pharm degree in the kingdom, have been reported [12,13] . In order to observe the pattern of alternative suggested in a prescription by a pharmacist, a frequency level of very often (several prescription per day), often (several prescription per week), frequently (several prescription per month), rarely and never suggested an alternative was formulated. It was observed that most of the male pharmacist were suggesting an alternative drug in a prescription very rarely whereas female pharmacists were suggesting the alternative in a prescription very often i.e. several prescription per day. As mentioned earlier, the female pharmacists were observed working in hospital pharmacies and the trend of suggesting the alternative drug very often may be due to close proximity of practitioner i.e. pharmacist working closer to physician. The more the practitioner are in closed proximity, the more opportunities for interaction are there hence both the practitioner can experience and understand easily each other's approach towards better patient care [14]. Generally, an overall acceptance rate of sometimes i.e. 25% to 49% was reported by most of the pharmacists (43.3%) however a different acceptance rate for male i.e. accepted most of the time (25% to 49%) and female pharmacists i.e. rare acceptance (less than 25%) was observed. This less acceptance rate towards a pharmacist suggested alternative in a physician prescription as highlighted by male and female pharmacists was due to time constraints of physicians as well as physicians lack of trust on pharmacist, respectively. The fact is best described by the low and weak cooperation level between pharmacist and physician in a prescribing process, as reported [15]. The lack of cooperation and collaboration between pharmacists and physicians towards a suggested alternative may be a source of inappropriate prescription too [16]. The reason for low collaboration may be attributed to the absence of proper literature for guidance, how a pharmacists may develop collaborative working relationships [14]. In addition, physician lack of trust on pharmacists have been reported previously [14]however it's a fact that trust on pharmacist is a key driving factor in order to improve pharmacist-physician collaboration for better health outcomes [17,18,19]. A positive collaboration is much needed for optimal prescription and patient care [20]. Regarding time constraints of physicians, it has been reported that different screening procedures for each patient alongwith a large number of patients in a practice settings poses the time constrains and hence limits a physician ability to properly provide a recommended clinical service to a patient. Thus in these circumstances, even a small interventions may require physician time and add to the workload of a physician [21].

Furthermore, both male as well as female pharmacists reported an acceptance rate of sometimes i.e. 25% to 49% from patients. The reason, for patients low acceptance towards pharmacists suggested alternative, reported by most of the male pharmacists was patient tendency to stick to physician prescription whereas female pharmacists reported again the lack of trust on pharmacists. Both of these reasons may be viewed as a scenario of lack of trust. The pharmacists working in retail pharmacies were male whereas in hospital they were female and the patients visiting either retail or hospital pharmacist come with a prescription from an authentic professional i.e. physician. The studies have already reported patients lack of trust as well as less preference for pharmacists to make a medication decision [22,23]. In addition patients have more likeness and tendency towards physicians as reported in various physician-patient relationship literatures [24,25,26].

Table 5. Cross tabulation for demographics against alternative suggested and reason of rejection

Cross tabulation			N=194 Observed (Expected count)				*P*-value
Gender			**How often you suggest an alternative in a prescription?**				
		Very often (Several prescriptions per day)	**Often (Several prescription per week)**	**Frequently (Several prescriptions per month)**	**Rarely**	**I never suggested any alternative**	0.00
	Male	16 (23.1)	34 (30.4)	14 (20.7)	52 (40.1)	2 (3.6)	
	Female	22 (14.9)	16 (19.6)	20 (13.3)	14 (25.9)	4 (2.4)	
Gender			**What is physician response to your suggested alternative?**				
		Accepted most of the time (>50%)	**Accepted sometime (25% to 49%)**	**Accepted rarely (Less than 25%)**	**No Concern or Contact with physician**		0.00
	Male	30 (31.6)	58 (51.1)	14 (25.5)	16 (9.7)		
	Female	22 (20.4)	26 (33)	28 (17)	0 (6.3)		
Gender			**What is the reason for rejection by Physician?**				
		Physicians non-cooperative behavior	**Physician lack of trust on pharmacist**	**Time constraints**	**Not applicable**		0.00
	Male	20 (23.1)	30 (40.1)	44 (35.3)	24 (19.5)		
	Female	18 (14.9)	36 (26)	14 (22.7)	8 (12.5)		
Gender			**What is patient response to your suggested alternative?**				
		Accepted most of the time (>50%)	**Accepted sometime (25% to 49%)**	**Accepted rarely (Less than 25%)**			>0.05
	Male	38 (35.3)	60 (56)	20 (26.8)			
	Female	20 (22.7)	32 (36)	24 (17.2)			
Gender			**What is the reason for rejection by Patient?**				
		Patient non-cooperative behavior	**Patient lack of trust on Pharmacist**	**Tendency to stick to physician prescription**	**Unaware about Pharmacist role**	**All of them**	0.00
	Male	10 (13.4)	18 (29.2)	44 (36.5)	34 (28)	12 (11)	
	Female	12 (8.6)	30 (18.8)	16 (24)	12 (18)	6 (7.1)	
Work experience			**How often you suggest an alternative in a prescription?**				
		Very often (Several prescriptions per day)	**Often (several prescription per week)**	**Frequently (Several prescriptions per month)**	**Rarely**	**I never suggested any alternative**	>0.05
	1 to 2 years	6 (7.1)	6 (9.3)	4 (6.3)	20 (12.2)	0 (1.1)	
	3 to 5 years	12 (15)	20 (20)	14 (13.3)	28 (26)	2 (2.4)	
	>5 years	20 (16.1)	24 (21.1)	16 (14.4)	18 (28)	4 (2.5)	

Work experience	**What is physician response to your suggested alternative?**					
		Accepted most of the time (>50%)	**Accepted sometime (25% to 49%)**	**Accepted rarely (Less than 25%)**	**No Concern or Contact with Physician**	>0.05
	1 to 2 years	8 (10)	16 (15.6)	12 (8)	0 (3)	
	3 to 5 years	18 (20.4)	32 (33)	16 (16.5)	10 (6.3)	
	>5 years	26 (22)	36 (36)	14 (18)	6 (7)	
Work experience	**What is the reason for rejection by physician?**					
		Physicians non-cooperative behavior	**Physician lack of trust on pharmacist**	**Time constraints**	**Not applicable**	0.00
	1 to 2 years	10 (7.1)	20 (12.2)	6 (11)	0 (6)	
	3 to 5 years	16 (15)	26 (26)	24 (22.7)	10 (12.5)	
	>5 years	12 (16.1)	20 (28)	28 (24.5)	22 (13.5)	
Work experience	**What is patient response to your suggested alternative?**					
		Accepted most of the time (>50%)	**Accepted sometime (25% to 49%)**	**Accepted rarely (Less than 25%)**		0.00
	1 to 2 years	16 (11)	18 (17.1)	2 (8.2)		
	3 to 5 years	10 (22.7)	40 (36)	26 (17.2)		
	>5 years	32 (24.5)	34 (39)	16 (18.6)		
Work experience	**What is the reason for rejection by Patient?**					
		Patient non-cooperative behavior	**Patient lack of trust on pharmacist**	**Tendency to stick to physician prescription**	**Unaware about pharmacist role**	**All of them**	0.00
	1 to 2 years	12 (4.1)	8 (9)	10 (11.1)	6 (8.5)	0 (3.3)	
	3 to 5 years	6 (8.6)	26 (19)	26 (23.5)	14 (18)	4 (7.1)	
	>5 years	4 (9.3)	14 (20.3)	24 (25.4)	26 (19.4)	14 (7.6)	
Work place	**How often you suggest an alternative in a prescription?**					
		Very often (Several prescriptions per day)	**Often (several prescription per week)**	**Frequently (Several prescriptions per month)**	**Rarely**	**I never suggested any Alternative**	0.03
	Retail Pharmacy	6 (12.5)	20 (16.5)	12 (11.2)	26 (22)	0 (2)	
	Hospital Pharmacy	32 (25.5)	30 (33.5)	22 (23)	40 (44.2)	6 (4)	
Work place	**What is physician response to your suggested alternative?**					
		Accepted most of the time (>50%)	**Accepted sometime (25% to 49%)**	**Accepted rarely (Less than 25%)**	**No Concern or Contact with Physician**	0.00
	Retail Pharmacy	18 (17.2)	24 (27.7)	6 (14)	16 (5.3)	
	Hospital Pharmacy	34 (35)	60 (56.3)	36 (28.1)	0 (10.7)	

Work place	**What is the reason for rejection by Physician?**					
		Physicians non-cooperative behavior	**Physician lack of trust on Pharmacist**	**Time constraints**	**Not Applicable**	0.00
	Retail Pharmacy	8 (12.5)	8 (21.8)	28 (19.1)	20 (10.6)	
	Hospital Pharmacy	30 (25.5)	58 (44.2)	30 (39)	12 (21.4)	
Work place	**What is patient response to your suggested alternative?**					
		Accepted most of the time (>50%)	**Accepted sometime (25% to 49%)**	**Accepted rarely (Less than 25%)**		0.01
	Retail Pharmacy	28 (19.1)	24 (30.4)	12 (14.5)		
	Hospital Pharmacy	30 (39)	68 (61.6)	32 (30)		
Work place	**What is the reason for rejection by Patient?**					
		Patient non-cooperative behavior	**Patient lack of trust on Pharmacist**	**Tendency to stick to physician prescription**	**Unaware about Pharmacist role**	**All of them**	0.00
	Retail Pharmacy	2 (7.3)	4 (15.8)	34 (20)	16 (15.2)	8 (6)	
	Hospital Pharmacy	20 (14.7)	44 (32.2)	26 (40.2)	30 (31)	10 (12.1)	

Regarding work place, this study was conducted in three regions of Eastern province namely Dammam, Khobar and Qatif. The more frequency, for suggesting an alternative in a prescription i.e. very often (several prescription per day) was observed in hospital pharmacy whereas in retail pharmacy the frequency for alternative suggestion is very rare. The reason for this wide difference may be more work load, long working hours and shifts as well as rush hours in a retail pharmacy whereby a pharmacist doesn't find sufficient time for patient counselling, avoiding drug interactions and suggesting an alternative [27,28,29]. On the other hand, pharmacists in hospitals get more time and are allowed freely to expand and utilize their clinical role hence more patient counselling and prescription related measures i.e. avoiding drug-drug interactions, suggesting a safe and alternative drug in collaboration with physician etc. [30,31]. Another study by Cruthirds et al. supports this fact as; hospital pharmacists have more chances to practice disease management, drug monitoring, consultation regarding drug utilization as well as patient counselling hence it allows hospital pharmacists to be more closer to patients [32].

With respect to acceptance of the suggested alternative, the perceived responses from physicians as well as patients showed an acceptance of most of the times (>50%) in retail pharmacy only whereas for hospital pharmacies, the acceptance rate of suggested alternative was sometimes i.e. 25% to 49%. As the study included different regions of Eastern province hence it may be assumed that the more acceptance rate for suggested alternative in retail pharmacies only, is due to responses collected from less populated region of the province i.e. Qatif [11]. Thus the number of pharmacies and hospitals are less as compared to other regions. Same fact may be better supported by the study which states; more chances of pharmacist-physician collaboration exists in rural area (since both practitioner can share the same patient) as compared to metropolitan area where a less diverse patient mix alongwith more chances of utilization of different pharmacies is possible [14]. After observing the reason for rejections towards suggested alternative; physician lack of trust on pharmacist and time constraints were reported by retail and hospital pharmacy whereas patient tendency to stick to physician prescription (retail pharmacy) and patient lack of trust (hospital pharmacy) were also reported in the case of pharmacist perceived patients responses towards a suggested alternative. The same facts have been reported in different literatures as mentioned above. Furthermore, the same reasons for rejections were also observed in cross tabulation of work experience against suggested alternative.

5. CONCLUSION

In order to achieve the goals of PCM successfully a strong and close professional relationship between pharmacist and physician is necessary. To establish a successful relationship, the need for a systemic model of collaboration is highly required. For this collaborative model to be achieved certain factors needs to be focused more such as close proximity of physician and pharmacists, and more time for interaction. The main outcome of the study for rejection of pharmacists suggested alternative was physicians and patient lack of trust on pharmacists. In order to develop trust, pharmacist as well as physician should be receptive for a positive collaboration. Moreover, both the profession should develop a trust for patient through showing respect to each other, taking interest in professional responsibility of other professions as well as accepting the competency of other health professionals.

CONSENT

As per international standard or university standard, Pharmacist's written consent has been collected and preserved by the authors.

ETHICAL APPROVAL

As per international standard or university standard, written approval of Ethics committee has been collected and preserved by the authors.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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