Original Article

Evaluation of Current Community Pharmacist Practice in Saudi Arabia: A Cross-sectional Study from Patients' Perspective (PART I)

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ABSTRACT

Objective: This study aimed to evaluate the current practice of community pharmacists from patients' and pharmacists' perspectives in Saudi Arabia. This paper presents the patients' perspective. **Methods:** A self-administered cross-sectional survey was developed to collect responses from patients in Saudi Arabia from February to April 2021. The questionnaire comprised several statements related to the best practice in community pharmacy. Patients' responses to each statement were scored using a 5-point Likert scale. Higher scores represented the greater extent to which the pharmacists perform the best practice in a community pharmacy setting and vice versa. **Findings:** The data of 233 participants were included in the analysis. The majority of the participants were female (67%) and Saudi nationals (96%). The minimum mean score was related to the statement: pharmacist discusses with you about herbal medications or vitamin supplements. The maximum mean score was related to the statement: Pharmacist explains to you about the dose of medications and when to take them. Participants who were <20 years old had a significantly highest mean score, whereas those above 40 years old had the least mean score, $P = 0.001$. Participants from the Eastern region had a significantly highest mean score, compared to South region participants who had the least mean score, $P = 0.009$. **Conclusion:** A gap in the current practice and the best practice of community pharmacists was found. The policymakers can utilize these findings to provide targeted professional development opportunities for the practicing community pharmacists to improve the overall service and care for the patients.

KEYWORDS: *Community pharmacy, healthcare service evaluation, patient perspective, pharmaceutical care, Saudi Arabia*

INTRODUCTION

Community pharmacies are widely regarded as the primary point of access for patients to obtain their medication and health services with ease. Pharmacists in community pharmacies are capable of providing numerous pharmacy services to a large number of patients throughout the day, with or without prior appointments. Professional pharmacy services are defined as "an action or set of actions undertaken in or organized by a pharmacy, delivered by a pharmacist or other health practitioner, who applies their specialized health knowledge personally or via an intermediary, with a patient/client, population or other healthcare professionals, to optimize the process of care, with the aim to improve health outcomes and the value of healthcare."[1] These services range from seeking advice and reassurance to treatment, or even a combination of all these.[2]

The role of community pharmacists is multifaceted and includes the recommendation of suitable nonprescription

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products and detecting and minimizing any side effects that may harm the patients who are taking prescription medicines. Patient counseling is an integral part of this process.[3] This can be linked to several factors that contribute to patient satisfaction. Health-care consumers worldwide frequently visit community pharmacies for various reasons, making these pharmacies an important point of access for primary health-care services. This trend can be attributed to several factors such as the low costs of services offered by the pharmacies, less waiting time, and more time spent with the pharmacist. The situation is similar in Saudi Arabia. There is extensive evidence that suggests that people in Saudi Arabia frequently visit their community pharmacies for various reasons.[4-8] Given this increased public demand for utilizing community pharmacy services and the opportunity for community pharmacies to contribute to the country's Vision 2030, which promises public-private partnerships for effective primary health care,[9,10] it is imperative to provide good quality and standardized community pharmacy services. This study aimed to evaluate the current practice of community pharmacists from patients' and pharmacists' perspectives in Saudi Arabia to identify the potential areas for improvement that can ultimately be used to develop recommendations for policymakers. This paper presents the methods, results, discussion, and conclusions related to the patients' perspective. The pharmacist perspective is presented in Part II of our study.

Methods

This study adopted a quantitative methodology and employed a self-administered cross-sectional survey to collect the patients' responses.

All the people who had experienced at least one visit to the community pharmacy for prescription medicines and living in Saudi Arabia were eligible to attempt the survey. The sampling procedure used in this study was a convenience sample. Participants were recruited from social media accounts and WhatsApp groups in Saudi Arabia. The survey was distributed on these platforms via an online link using Google Forms. The data were collected from February 2021 to April 2021.

The survey instrument (questionnaire) was developed based on the relevant literature and personal observations and practices of the researchers. The questionnaire consisted of two parts. Part I consisted of demographic characteristics of the patients such as gender, age, and the geographical location where they were residing, nationality, and marital status. PART II comprised numerous statements related to the best practice in community pharmacy. The 5-point Likert scale was used with each statement to record patients' responses. Patients' responses on each statement were scored to assess the extent to which the pharmacists adhere to best practices in the community pharmacy, based on patients' experiences (Never = 1, Rarely = 2, Sometimes = 3, Often = 4, and Always = 5). Higher scores represented the greater extent to which the pharmacists perform the best practice in a community pharmacy setting and vice versa.

To detect the patients who may randomly select the options on the Likert scale, we included a statement in the questionnaire with Likert scale: *Pharmacist asks you for extra money.* As opposed to the other statements, the "always" option for this statement would illustrate the worst practice by the pharmacist. It was decided to delete all the data of the patient from the analysis, who may have selected "always" for all the statements (including this one), assuming that it would indicate random responses to the statements by the patient. The questionnaire was developed and administered in English and Arabic languages. The questionnaire was piloted with five patients, and minor amendments were made following the piloting.

Face validity of the questionnaire was established by the researchers, two community pharmacists, and two expert academic researchers to ensure the relevance and reasonability of the questions and that there was no ambiguity. The same personnel checked the content of the questionnaire to ensure that the content of the instrument was logical and easy to understand to establish content validity. Reliability analysis of Part II of the questionnaire revealed Cronbach's alpha value of 0.92 which indicates strong internal consistency.

Data were downloaded from Google Forms as an Excel file and then imported into exported to SPSS (Version 24, IBM Corp., Armonk, NY, USA) for descriptive. The data analysis methods used in this study were descriptive and inferential statistics. Descriptive statistics were used to summarize the data, and inferential statistics were used for the comparisons. The descriptive analysis illustrated patients' demographic characteristics and responses in terms of frequencies, percentages, and means with standard deviations. Inferential statistics included Mann–Whitney *U*-test *t*-test and Kruskal–Wallis test that was employed to determine the effect of independent variables (gender, age, geographical location, nationality, and marital status) on dependent variables (mean score of all the statements), and $P < 0.05$ was considered statistically significant.

The current Saudi population is estimated to be 35,230,458.[11] The sample size determined by an online

sample size calculator (SurveyMonkey), keeping 95% confidence interval and 5% margin error, was 385 for patients.

This study was reviewed and approved by the Institutional Review Board of Umm Al-Qura University (approval number: HAPO-02-K-012-2021-04-655). The survey introduction informed the patients about their voluntary participation, anonymity, and confidentiality of the collected data, and their right to withdraw their responses at any time by contacting the researchers. By participating in the survey, respondents implicitly granted their consent for their responses to be included in the study.

Results

A total of 237 patients responded to the survey. The data of four participants were deleted as it was deemed random responses (explanation in the methods section). The data of 233 participants were included in the analysis. Approximately two-thirds of the participants were female (n = 157; 67.3%), and the majority of the participants were Saudi nationals (n = 224; 96.1%). More than half of the participants were 20–39 years old (n = 179; 76.8%) and were from the North region of Saudi Arabia (n = 129; 55.3%). More details regarding the demographic characteristics of the participants are presented in Table 1.

Table 2 presents the participants' responses to the statements. The mean score of the individual statements ranged from 2.16 (±1.01) to 4.37 (±0.95) (5 being the possible maximum score of each statement). The minimum mean score was related to the statement: *Pharmacist discusses with you about herbal medications or vitamin supplements*. The maximum mean score was related to the statement: *Pharmacist explains to you about the dose of medications and when to take them.* The overall mean score of all the statements was 54 (±14.5), ranging from 24 to 88 (possible maximum score 90).

Table 1: Demographic characteristics of the participants (n=233)

Demographic characteristics	Number of participants (%)	Mean score (±SD)	*P*
Gender			
Male	76 (33)	2.78 (±0.81)	0.003[a]
Female	157 (67)	3.13 (±0.78)	
Age (years)			
<20	12 (5)	3.51 (±0.59)	0.001[b]
20–39	179 (77)	3.08 (±0.81)	
40 and above	42 (18)	2.61 (±0.65)	
Geographical location			
Central region	21 (9)	2.66 (±0.81)	0.009[b]
Eastern region	10 (4)	3.68 (±0.85)	
North region	129 (55)	3.09 (±0.82)	
South region	12 (5)	2.63 (±0.69)	
Western region	61 (26)	2.93 (±0.69)	
Nationality			
Saudi	224 (96)	3.02 (±0.80)	0.71[a]
Non-Saudi	9 (4)	2.95 (±1.01)	
Marital status			
Married	87 (37)	2.75 (±0.70)	<0.001[a]
Not married	146 (63)	3.17 (±0.82)	

[a]Mann–Whitney *U* test, [b]Kruskal–Wallis test. SD=Standard deviation

Mann–Whitney U-test *t*-test revealed that female participants had a significantly higher mean score as compared to the male participants, 3.13 (±0.78) versus 2.78 (±0.81); P = 0.003, and nonmarried had a significantly higher mean score as compared to the married, 3.17 (±0.82) versus 2.75 (±0.70); P < 0.001. However, no significant difference was found in the mean score between Saudi and non-Saudi participants, 3.02 (±0.80) versus 2.95 (±1.01); P = 0.71.

Kruskal–Wallis test revealed a statistically significant difference in participants' mean scores from different age groups (P = 0.001). Participants who were <20 years old had the highest mean score, 3.51 (±0.59), whereas those above 40 years old had the least mean score, 2.61 (±0.65). Similarly, a statistically significant difference was found in the mean score of the participants from different regions (P = 0.009). Participants from the Eastern region had the highest mean score, 3.68 (±0.85), compared to the South region participants who had the least mean score, 2.63 (±0.69).

Discussion

In our study, we evaluated the current practice of community pharmacists by the patients or customers who visit community pharmacies in Saudi Arabia. Community pharmacists are considered the first point of contact for many patients with minor illnesses as well as for collecting their prescription medicines. Therefore, these patients are well-positioned to evaluate the service they receive from community pharmacists. We developed a scale based on best community pharmacist practices drawn from the literature and asked the patients to rate the practice of their community pharmacist on this scale, following which we quantified their responses. The literature regarding the evaluation of the practice of community pharmacists from the patients' perspective is scarce. There is ample evidence from the Middle East region assessing the patient or consumer satisfaction with the services received by community pharmacists. Therefore, we will discuss our findings in light of the best available evidence from the Middle East region.

We found that female patients had significantly higher mean scores than male patients meaning that they evaluated

Table 2: Participants' frequencies (with percentages) and the mean score (with standard deviation) of the statements

Statement	Never, *n* (%)	Rarely, *n* (%)	Sometimes, *n* (%)	Often, *n* (%)	Always, *n* (%)	Mean (±SD)
1. Pharmacist makes sure that the medication you are buying is for you or not	39 (16.7)	43 (18.5)	70 (30)	27 (11.6)	54 (23.2)	3.06 (±1.38)
2. Pharmacist asks you about other medications you are currently taking	55 (23.6)	44 (18.9)	79 (33.9)	37 (15.9)	18 (7.7)	2.65 (±1.22)
3. Pharmacist asks you about the chronic diseases that you may have	48 (20.6)	45 (19.3)	60 (25.8)	44 (18.9)	36 (15.5)	2.89 (±1.35)
4. Pharmacist explains to you about the dose of medications and when to take	4 (1.7)	9 (3.9)	27 (11.6)	49 (21)	144 (61.8)	4.37 (±0.95)
5. Pharmacist explains to you how to use or take the medications	6 (2.6)	21 (9)	34 (14.6)	52 (22.3)	120 (51.5)	4.11 (±1.12)
6. Pharmacist makes sure that you understand how to use or take the medications	34 (14.6)	39 (16.7)	63 (27)	46 (19.7)	51 (21.9)	3.18 (±1.34)
7. Pharmacist explains to you about the main side effects of the medications	70 (30)	69 (29.6)	50 (21.5)	26 (11.2)	18 (7.7)	2.37 (±1.24)
8. Pharmacist asks you for extra money*	201 (86.3)	15 (6.4)	15 (6.4)	2 (0.9)	0	1.2 (±0.59)
9. Pharmacist discusses with you about herbal medications or Vitamin supplements	84 (36.1)	59 (25.3)	66 (28.3)	16 (6.9)	8 (3.4)	2.16 (±1.10)
10. Pharmacist discusses with you any concerns you may have about your medications	77 (33)	50 (21.5)	65 (27.9)	20 (8.6)	21 (9)	2.93 (±1.27)
11. Pharmacist discusses with you about your general health	77 (33)	61 (26.2)	62 (26.6)	19 (8.2)	14 (6)	2.28 (±1.18)
12. Pharmacist uses simple language with you which you can understand	6 (2.6)	11 (4.7)	35 (15)	64 (27.5)	117 (50.2)	4.18 (±1.02)
13. Pharmacist provides you with written information about medications whenever needed	85 (36.5)	35 (15)	50 (21.5)	29 (12.4)	34 (14.6)	2.54 (±1.45)
14. Pharmacist talks to you about sensitive topics appropriately whenever needed	23 (9.9)	26 (11.2)	73 (31.3)	52 (22.3)	59 (25.3)	3.42 (±1.25)
15. Pharmacist checks with you later if your medication is working or not	88 (37.8)	51 (21.9)	47 (20.2)	25 (10.7)	22 (9.4)	2.32 (±1.33)
16. Pharmacist helps you to take your medications regularly	70 (30)	50 (21.5)	58 (24.9)	27 (11.6)	28 (12)	2.54 (±1.25)
17. Pharmacist solves your problem related to your medications	53 (22.7)	39 (16.7)	77 (33)	41 (17.6)	23 (9.9)	2.75 (±1.26)
18. Pharmacist provides you service for improving your general health	45 (19.3)	42 (18)	63 (27)	47 (20.2)	36 (15.5)	2.94 (±1.33)
19. Pharmacist provides you service relevant to the Saudi culture	9 (3.9)	15 (6.4)	26 (11.2)	55 (23.6)	128 (54.9)	4.19 (±1.11)

*Not included in the analysis. SD=Standard deviation

community pharmacists to be performing best practice significantly more as compared to the evaluation by male patients. Alhaddad *et al*. assessed the female patients' satisfaction with male community pharmacists in Saudi Arabia and reported that <½ of the patients were satisfied with services received from male pharmacists, more than half were embarrassed to discuss sensitive female issues with the male pharmacists, and preferred the presence of female pharmacists in community pharmacies.[12] It should be noted that this study was conducted in 2016 (published in 2018). Since major reforms have taken place in the job market in Saudi Arabia, allowing a significant number of females to work in community pharmacies.[13] This may explain the difference between our findings and the findings reported by Alhaddad e*t al*.[12] It is also noteworthy that there are more female respondents in our study than male respondents.

Patients or visitors from different age categories can have different perceptions regarding the practices of community pharmacists based on their experiences. Our study found that patients <20 years of age scored significantly higher in evaluating the community pharmacist practice, whereas patients of 40 years or above age scored significantly lower. This resonates with the findings reported by Alhomoud *et al*., which highlighted that patients above the age of 60 years are least satisfied with the community pharmacy services in the United Arab Emirates.[14] The younger patients generally have fewer medicines and health-care requirements as compared to the elderly. Therefore, they have lower expectations from the community pharmacists, whereas the elderly have relatively higher medicines and health-care requirements and, therefore, expect the community pharmacists to provide higher quality services.

Our study also revealed that the patients from different regions of Saudi Arabia had a significant difference in their scores for evaluating community pharmacist practice. Patients from the Eastern and North regions

scored significantly higher than those from the Central and South regions. Moreover, Saudi patients scored higher (although nonsignificantly) in their evaluation of community pharmacist practice. There are significant differences in the population demographics of Saudi Arabia.[15] Some areas are more populated with non-Saudis, and others are more populated with people of middle age and the elderly. This may explain the reasons for the differences in these findings.

The four statements which achieved a mean score of <2.5 (out of a total of 5) were: pharmacist explains to you about the main side effects of the medications, pharmacist discusses with you about herbal medications or vitamin supplements, pharmacist discusses with you about your general health, and pharmacist checks with you later if your medication is working or not. Studies have reported that one of the patients' expectations from community pharmacists is to counsel them regarding the side effects of their medicines.[16,17] However, this expectation is least met as reflected in the findings of Al-Tannir *et al*. and El-Sharif *et al*., which reported that only 30% of the patients mentioned that they receive counseling on side effects from community pharmacists.[7,18] Similarly, most of the patients recognize that it is the role of community pharmacists to provide counseling on herbal medicines and vitamin supplements.[19] However, this is not performed by the majority of the community pharmacists.[20] The studies have reported that the majority of patients also expect community pharmacists to advise them regarding their general health in addition to medication counseling and ensure whether the medication is working.[21,22] Likewise, only <½ of the patients in the studies have mentioned that community pharmacists address these issues.[23] Interestingly, while evaluating their own practice, the community pharmacists reported in Part II of our study also scored low on the same four statements.

The four statements which achieved a mean score of more than 4 (out of a total of 5) were: pharmacist explains to you about the dose of medications, and when to take, pharmacist explains to you how to use or take the medications, pharmacist uses simple language with you which you can understand, and pharmacist provides you service relevant to the Saudi culture. The first three statements coincide with the statements which were also scored more than 4 by the community pharmacists while evaluating their own practice (reported in Part II of our study). However, a study from Iraq has reported that only <½ of the patients mentioned that community pharmacists check their prescriptions for dose and frequency accuracy.[24] A study from the United Arab Emirates reported that 98% of the respondents stated that community pharmacists explain how to use their medication.[25] Similarly, a more recent study from Saudi Arabia revealed that 73% of the respondents agreed that pharmacists provided them with clear instructions about medication use.[26]

The interpretation of the results of our study must be considered in light of its limitations. A major limitation of our study is that we were unable to achieve the required sample size due to time constraints. Moreover, we employed a self-completed online questionnaire which could be subjected to memory bias or misunderstanding of the questions as well as selection bias as not all patients may have access to the internet to complete the online questionnaire.

Following are some implications of the findings for policy and practice for community pharmacists in Saudi Arabia:

Increase the training and education of community pharmacists: The study found that patients were most satisfied with pharmacists who were able to explain the dose of medications and when to take them. This suggests that community pharmacists need to be better trained in medication counseling.

Provide more opportunities for pharmacists to interact with patients: The study found that patients were more satisfied with pharmacists who took the time to discuss their medications with them. This suggests that community pharmacies should provide more opportunities for pharmacists to interact with patients, such as through counseling sessions or medication reviews.

Empower pharmacists to provide more services: The study found that patients were more satisfied with pharmacists who were able to provide additional services, such as medication reviews and counseling. This suggests that policymakers should consider empowering pharmacists to provide more services, such as vaccinations and chronic disease management.

Despite the limited sample size, our results provide insight into the status of current practice by community pharmacists in Saudi Arabia from patients' perspective. Our study highlights a gap in the current practice and the best practice of community pharmacists as evaluated by patients. The pharmacists should consider including a clear and elaborate explanation of the main medication side effects, counseling on herbal medications or vitamin supplements the patient might be taking or interested in taking and discussing general health issues in their interactions with the patients in the community pharmacy. They should also follow up with the patients about their medications and health wherever possible. The policymakers can utilize these findings to provide targeted professional development opportunities for the

practicing community pharmacists to improve the overall service and care for the patients. The policymakers can utilize these findings to provide targeted professional development opportunities for the practicing community pharmacists to improve the overall service and care for the patients. The policymakers can utilize these findings to provide targeted professional development opportunities for practicing community pharmacists to improve the overall service and care for the patients.

Authors' contribution

M. Ali and E. Cheema conceived the project and wrote the proposal; A. Bajuayfir and M. Alhazmi designed the data collection forms; A. Bajuayfir, M. Alhazmi, O. Alshareef, A. Rawas, S. Alsharif, and A. Almasoudi collected and analyzed the data, and prepared the first draft of the manuscript; M. Ali and E. Cheema revised the manuscript. All authors have critically reviewed and approved the final draft of the manuscript.

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Conflicts of interest

There are no conflicts of interest.

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