Original Article

Self-medication and the advisory role of pharmacists in Riyadh, Saudi Arabia

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ABSTRACT

Background: Self-medication with over-the-counter (OTC) remedies is a common practice in both developed and developing countries; however, inappropriate self-medication can have adverse effects and may contribute to the emergence of drug-resistant pathogens. A consultation with pharmacists plays a crucial role in providing efficient professional guidance advice for appropriate use of OTC medicines.
Aims: This paper investigated the situations in which patients ask a pharmacist for advice and the factors that affect the patients' decisions for asking advice from a pharmacist in Riyadh, Saudi Arabia.
Materials and Methods: A pre-tested structured questionnaire was administered to a sample of 680 patients on a voluntary basis who purchased OTC medicines at various five private pharmacies located in different areas of Riyadh, Saudi Arabia. Patients were asked to answer a set of closed-ended questionnaire about their practice regarding the purchase of medicines and the factors that influence their decisions to ask for consultation from pharmacists. Nonparametric statistical software (STATISTICA 12.0) was used to analyze the data.
Results and Conclusions: The overall response rate was 78.9%. The majority of participants 67.2% were found to visit the pharmacy specifically to purchase OTC medication. Surprisingly, only 12.9% were asked the pharmacist for advice. According to the participants, the reasons that did not encourage them to ask advice from pharmacists were found - 58.2% felt shy and reluctant, 32.9% lack of confidentiality, 25.3% the pharmacist is impatient, 22.7% queues inside the pharmacy, and 14.2% did not trust the pharmacists. The current study revealed that the majority of patients tend to self-medicate and did not ask the pharmacist for advice when they purchased OTC medicines. Effort should be made to raise public awareness with regards to the advisory role of pharmacists and discrete facilities should be provided that encourage patients to ask for advice from the pharmacist.

Key words: Medical roles, over-the-counter medication, pharmacist advice, Riyadh, self-medication

INTRODUCTION

Self-medication is defined as the selection and use of drugs by individuals to treat self-recognized illnesses or symptoms without having professional expertise.[1] It is a common practice in developed and developing countries but little is known about the motivation of patients to take OTCS or the subsequent impact on their health. Unfortunately, professional healthcare can be expensive or not readily available to the public, particularly in developing countries. Thus, under these circumstances, self-medication becomes an obvious healthcare choice[1] and it is a routine practice in Saudi Arabia.[2] It has previously been noted that the purchase of OTC drugs is increasing and now exceeds the rate at which prescription-only drugs are bought.[3,4] It should be noted, however, that many drugs designated as 'prescription-only' in developed countries are available OTC in less developed countries.[3] A study by Saeed[5] found that, out of 430 patients interviewed

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in Saudi Arabia, 58% are self-medicated either due to the triviality of their symptoms or to save time and money. Recently, a study by Alghanim[6] found that 35.4% of Saudi patients, who were receiving treatment within the public healthcare system, had practiced self-medication although they covered under a free public healthcare system.

Moreover, the use of self-medication is expected to grow further as a result of marketing and the availability of information and medication *via* the internet, as well as the deregulation of current prescription-only medication, making them more widely available OTC.[1] Regardless, a wide selection of non-prescription medication is currently available from pharmacies, as well as other outlets, and they are often subject to intense advertising campaigns, as found by Bond and Hannaford,[7] who stated that medical companies often promote OTC medication using powerful advertising and health reports presented in the media. These authors hypothesized that advertising the use of self-medication for minor ailments may mislead consumers or create the false impression that taking a particular type of medication is necessary. As a consequence, it was warned that insufficient knowledge about these products may result in unnecessary or inconsistent use. Chang and Trivedi[3] added to this conclusion and, based on the findings of their 2003-study, indicated that uninformed self-medication may increase the burden on professional healthcare services. This was supported by Ruiz,[8] who stated that the self-administration of medication carries significant risks as it may result in poly-pharmacy and unexpected pharmacological interactions. What must also be considered is the lack of medical consultation that often precedes the purchase of OTC pharmaceuticals for self-medication purposes. Shelley *et al*.,[9] found that, in general, patients do not inform their physicians or consult pharmacists regarding the use of non-prescription products, including dietary supplements and natural products. Instead, it was found that patients tend to self-diagnose and purchase the same medication that they may have previously been prescribed when they experience similar symptoms. Interestingly, Alghanim[6] found that Saudi patients receiving treatment within the public healthcare system still practice self-medication and are more likely use this form of treatment than those receiving private or public healthcare. However, detailed studies examining consumer behavior with regards to OTC medications and self-medication are lacking. As such, based on the relevant literature, this study aims to identify the situations in which Saudian patients using OTC medicines ask pharmacists for advice, and identify the key factors that influence the decisions of patients to ask for advice from pharmacists in Riyadh, Saudi Arabia.

MATERIALS AND METHODS

This study was conducted in five private pharmacies located in different socioeconomic regions of Riyadh, within an area of 3580 km^2 and population of 6,167,626. Based on the rule-of-thumb, sample size was determined with 680 patients having 99% confidence intervals, and a margin of error of +/−5%.

A validated structured questionnaire was used for the data collection from patients who voluntarily agreed to participate and who purchased OTC drugs using a convenience sample method. Consent for participation in the study was obtained from all patients. The questionnaire and survey protocol were approved by the Clinical Department of Pharmacy, Faculty of Pharmacy, Prince Noura, Riyadh. The questionnaire was formatted based on a review of the relevant literature and was composed of two sections. An experience panel of five academics in the field was used to assess the content validity and compare the statements with the literature. The wording of translated statements was compared and their clarity was proven. The questionnaire was pilot-tested on a convenience sample of thirteen of the target sample. The resulting data from the pilot-test was excluded from the final analysis.

The first section of the questionnaire probed consumer habits with regards to the purchase of OTC medication; the second part covered factors that affect the patient's decision to seek advice from a pharmacist. A five-point Likert scale was used to define the patients' attitudes and covered various aspects surrounding consultations with pharmacists. More specifically, participants were questioned about encouraged or discouraged situations for them to seek advice from pharmacists, why they have chosen a particular pharmacy, and how often and why they visited the pharmacy. The study was initiated on February 4th 2013 and ran until the end of June 2013. All consumers aged 18 years and over that entered the selected pharmacies were invited to participate in the study. Age was the only inclusion criterion.

A nonparametric statistical test (using STATISTICA 12 software) was utilized to analyze the data. The variables that correlated to one another were identified by nonparametric correlation tests using Kendall's tau (τ) coefficient, Spearman's rank correlation coefficient and Goodman and Kruskal's gamma. After dividing the sample according to grouping factors (age, education, purpose of pharmacy visit), hypotheses concerning the statistically important differences were verified by the Kruskal–Wallis test (H). The level of significance was set at $P < 0.02$.

RESULTS

The overall response rate was 78.9%. Among the participants, 63% were male and the majority of respondents were 53.8% aged 26-40 years. Meanwhile, 89.2% had completed a Bachelor's degree or a higher level of education and 28.7% participants stated that they regularly visited a pharmacy (i.e. several times a month or once a week). The gender, age distribution, qualification, and frequency of pharmacy visits of the respondents are summarized in Table 1.

Table 1: Demographics of the study participants

Variables	*N*=537	(%)
Gender		
Male	336	63
Female	201	37
Age group		
18-25	31	5.8
26-40	289	53.8
41-60	211	39.3
61 and over	6	1.1
Education		
School level	58	10.8
Bachelor's degree	369	68.7
Master's degree	98	18.2
Ph.D.	12	2.2
Frequency of pharmacy visits		
Once a week	23	4.3
Several times a month	131	24.4
Several times a year	374	71.3

Out of the 537 patients (61.8%) that had specific criteria for choosing their selected pharmacy, 58.9% indicated that they 'always' or 'often' generally took into account the convenience of the pharmacy location as the first reason for their selected pharmacy, such as it being within easy reach their home, on a main road or having a parking area, while 56.6% indicated that they 'always' or 'often' that the availability of medications at the pharmacy as the second reason had guided their choice. It should be noted that, in Riyadh, pharmacies must establish agreements with medical companies to enable the supply of pharmaceutical products, some of which are restricted. As such, certain OTC products can only be found in selected pharmacies. In addition to the location and drug availability, the professional service was also deemed important and 49.6% participants indicated that this was the factor that affected their choice, 32.4% selected on the advice of an insurance company, 30.4% because of friendly staff, 28.9% because of short waiting times, 24.4% as they were a member of a promotional program, and 21.2% because of the availability of non-medicinal products. The distribution of the factors that affected consumer choice with regards to the selected pharmacy is shown in Table 2.

Table 3 shows the reasons that participants in this study visited their selected pharmacy and under what circumstances they would seek the advice of the pharmacist. The data revealed that, out of 537 participants, 361 (67.2%) indicated that they 'always' or 'often' visit a pharmacy to purchase OTC medication and only 206 respondents (38.4%) attend the pharmacy for a health consultation. Interestingly, 295 consumers of OTC products indicated that they 'rarely' or 'never' ask for advice

Table 2: Factors that inform consumer choice in selecting a pharmacy (*N*=537)

Factors	Always		Often		Sometimes		Rarely		Never	
	N	%	*N*	%	*N*	%	*N*	%	*N*	%
Friendly staff	101	18.8	62	11.6	182	33.8	66	12.3	126	23.5
Availability of medicinal products	153	28.5	151	28.1	98	18.2	129	24.0	6	1.2
Availability of non-medicinal products	48	8.9	66	12.3	262	48.8	144	26.8	17	3.2
Short waiting times	102	19.0	53	9.9	293	54.6	80	14.9	9	1.6
Member of a promotional program	73	13.6	58	10.8	33	6.1	71	13.2	302	56.1
Convenient location	212	39.5	104	19.4	139	25.9	47	8.8	35	6.4
Professional service	148	27.6	118	22.0	118	22.0	75	14.0	78	14.4
Pharmacy's interior	37	6.9	28	5.2	36	6.7	225	41.9	211	39.3
Recommendation from family/friends	51	9.5	39	7.3	296	55.1	133	24.8	18	3.3
Selected by an insurance company	98	18.2	76	14.2	115	21.4	47	8.8	201	37.4

when purchasing such medicines. In fact, only 25% of participants (N = 143) asked for advice when they purchased OTC medication. Moreover, a negative correlation was found between the educational level and the number of respondents that indicated they would seek advice from the pharmacist prior to purchasing OTC drugs. Precisely, consumers with a higher level of education are less likely to seek advice when purchasing OTC products (H = 9.27, P = 0.021). It must also be noted that older patients (age 41–60) were more likely to seek advice than younger participants (H = 7.98, P = 0.018).

Table 4 summarizes the factors that affect whether or not a consumer seeks advice from a pharmacist. The majority of consumers (N = 313) indicated that they felt too shy. Secondary to this, 177 participants indicated that there is a lack of confidentiality at the pharmacy and they do not wish to discuss health matters in the presence of other customers. Interestingly, the respondents to our survey indicated that they would feel encouraged to seek the advice of a pharmacist if there was the possibility of immediate counseling and 148 consumers felt that counseling should be complementary to the sales process and should be included in the purchase price of the medicine.

DISCUSSION

Pharmacies in Saudi Arabia are easily accessible to the public. Antibiotics, as well as many other non-prescription medications, are available OTC. However, previous research has suggested that as many as 95% of pharmacists do not adhere to the professional legislation act regarding the dispensing of antibiotics[10] and patients are known to practice self-medication with such drugs.[6] Another study[2] examined the behavior of parents with regards to OTC medication and found that, out of 750 parents from different cities across Saudi Arabia, 80% self-medicate their children. This correlates with the findings of the present study, which indicated

Table 3: Consumer perspectives with regard to the role of pharmacists (*N*=537)

Factors	Always		Often		Sometimes		Rarely		Never	
	N	%	*N*	%	*N*	%	*N*	%	*N*	%
Reason for visit										
For a health consultation or use of a medicine, or to select between different brands of pharmaceuticals	119	22.2	87	16.2	79	14.7	67	12.5	185	34.5
To purchase non-prescription medication	224	41.7	137	25.5	108	20.1	44	8.2	24	4.5
To obtain prescription-only medication	251	46.7	133	24.8	94	17.5	26	4.8	33	6.1
Reason for requesting advice from the pharmacist										
For use of a non-prescription medication	76	14.2	58	10.8	108	20.1	153	28.5	142	26.4
Unsure about drug administration or its effects	88	16.4	41	7.6	105	19.6	141	26.3	162	30.2
For a minor complaint	18	3.4	52	9.7	82	15.3	136	25.3	249	46.4

Table 4: Factors that affect whether or not a consumer consults a pharmacist prior to purchasing of OTC medication (*N*=537)

Factors	Strongly agree		Agree		Neither agree nor disagree		Disagree		Strongly disagree	
	N	%	*N*	%	*N*	%	*N*	%	*N*	%
I did not seek advice from a pharmacist because										
I do not like to talk in front of other customers (Lack of confidentiality)	73	13.6	104	19.4	210	39.1	66	12.3	84	15.6
I do not trust the pharmacist's advice	34	6.3	42	7.8	51	9.5	188	35.0	222	41.3
The pharmacist is impatient	65	21.1	71	13.2	90	16.8	117	21.8	194	36.1
I feel shy and reluctant	102	19.0	211	39.3	170	31.7	28	5.2	26	4.6
Queues inside the pharmacy	54	10.1	68	12.7	82	15.3	202	37.6	131	24.4
I would be encouraged to consult a pharmacist if										
The advice was free of charge	0	0.0	11	2.0	41	7.6	301	58.1	184	34.3
I was confident in the provided advice	66	12.3	57	10.6	234	43.6	98	18.2	82	15.3
I could obtain counseling from the pharmacist	238	44.3	111	20.7	86	16.0	54	10.1	48	8.9
Counseling was complementary to the sales process and included in the price of the purchased product	84	15.6	64	11.9	69	12.8	113	21.0	207	36.5

OTC=Over-the-counter

that the majority of respondents (67.2%) practice self-medication with OTC drugs. A review by Walston *et al*., in 2008[11] focused on the changing face of healthcare in Saudi Arabia and highlighted the long waiting times for many healthcare services. In addition, services for disadvantaged groups, such as the elderly and adolescents, are lacking, which may further encourage self-medication. Furthermore, excessive clinic waiting times and high consultation fees have also been cited as reasons for the increased prevalence of self-medication in Saudi Arabia.[2]

Our study compounds the above findings as we found that the convenience of the pharmacy's location and the availability of non-prescription drugs rated highly as important factors for customers visiting private pharmacies in Riyadh. In accordance with our results, Kwilecki *et al*.,[12] also found that the availability of medicines was the most important factor for customers and was rated above the quality of the professional advice. In addition, Anna *et al*.,[13] found that, in their study conducted in Poland, 48.5% of patients considered the availability of medication when choosing a pharmacy.

In our study, we found that only 143 consumers of OTC products (26.6%) sought the advice of pharmacists and the main cited reason for this was assistance in choosing an appropriate non-prescription drug. This indicates that the consultative role of pharmacists is considered to be of minor importance among the surveyed public. This conclusion is consistent with the work of Anna *et al*.,[13] who found that only 29.7% of respondents consulted a pharmacist when purchasing OTC medication. Furthermore, Szalonka and Sikorska[14] found that only one in five respondents to their survey took professional advice into consideration when choosing a non-prescription drug. This may be due to the lack and shortage of information in regard to the function and role of pharmacists in the community.[2]

Unfortunately, there seems to be a lack of public awareness with regards to the role that pharmacists can play in the healthcare system. In general, consumers do not seem to be acutely aware that pharmacists can act as a source of information regarding OTC medication and prescription drugs, as well as health problems, in general, and advice about maintaining a healthy lifestyle.

A lack of consumer confidence and an unwillingness to discuss personal health matters in a public setting were found to be the major factors discouraging customers from seeking the advice of pharmacists. Previous studies have also demonstrated that a lack of privacy is one of the key factors that discourages consumers from asking questions about medication within pharmacies as it can often lead to the disclosure of private information.[15,16] Based on their findings, these researchers suggested that a separate area within the pharmacy should be reserved for private consultations with customers. In Riyadh, it is not currently easy for pharmacists to offer discrete advice as they are often not separated from other patients or customers by glass panels. Thus, strengthening the consultative role of the pharmacist demands the creation of conditions in which patients are able to speak privately and confidentially with these professionals.

The main limitation of this study is that it may not be possible to generalize the results across the wider population since the study was conducted on a reasonably small sample, selected through a convenient sampling methodology. Furthermore, the study was conducted only in Riyadh and may not necessarily reflect the attitudes of consumers in other Saudi Arabian cities. It must also be acknowledged that bias cannot be completely excluded from the answers given by the respondents; however, every effort was taken to limit social bias, although subconscious associations between the researchers and patients may have affected the answers that were provided.

CONCLUSION

The most important conclusion that can be drawn from this study is that the majority of respondents practice self-medication with OTC drugs. This is not surprising as it is possible for any patients in Saudi Arabia to buy any OTC drug without any prescription. The current study revealed that the majority of patients use the OTC drugs without the advice of a health professional, as customers felt shy and reluctant, there was a lack of confidentiality, the pharmacist was felt to be impatient, there was a queue, or the customer did not trust the pharmacist. This study explains that there is a needful for the public to become more conscious of the advisory role that pharmacists can play within the healthcare system in Saudi Arabia. Considering the risks that inappropriate self-medication poses, efforts should be made to raise public awareness with regard to the advisory role of pharmacists and discrete facilities should be provided that encourage patients to ask advice and speak with a pharmacist.

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REFERENCES

1. Phalke VD, Phalke DB, Durgawale PM. Self-medication practices in rural Maharashtra. Indian J Community Med 2006;31:34-5.
2. Ahmed S. Saudi parent's attitude and practice about self-medicating their children. Arch Pharm Pract 2013;4:57-62.
3. Chang FR, Trivedi PK. Economics of self-medication: Theory and evidence. Health Econ 2003;12:721-39.
4. WHO, General Policy Information. WHO Drug Information 2001;14:1-2.
5. Saeed AA. Self-medication among primary care patients in Farazdak Clinic in Riyadh. Soc Sci Med 1998;27:287-9.
6. Alghanim SA. Self-medication practice among patients in a public health care system. East Mediterr Health J 2011;17:409-16.
7. Bond C, Hannaford P. Issues related to monitoring the safety of over-the-counter (OTC) medicines. Drug Saf 2003;26:1065-74.
8. Ruiz ME. Risks of self-medication practices. Curr Drug Saf 2010;5:315-23.
9. Shelley BM, Sussman AL, Williams RL, Segal AR, Crabtree BF. Rios Net Clinicians. 'They don't ask me so i don't tell them': Patient-clinician communication about traditional, complementary, and alternative medicine. Ann Fam Med 2009;7:139-47.
10. Al-Hassan MI. Community pharmacy practice in Saudi Arabia: An Overview. Internet J Pharmacol [Internet]. 2011 Jun 9(1) [about 1 p.]. Available from: Http://www.ispub.com/journal/the-internet-journal-of-pharmacology/volum-9- number-1/community-pharmacy-practice-in-saudi-arabia-an-overview.htm1#sthash.kFVMFmGp.dpbs [Last acessed on 2013 Aug 28].
11. Walston S, Al-Harbi Y, Al-Omar B. The changing face of health-care in Saudi Arabia. Ann Saudi Med 2008;28:243-50.
12. Kwilecki W. Oczekiwania pacjentow wobec aptek i farmaceutow. Patients' expectations from pharmacies and pharmacists. Gazeta Farmaceutyczna 2010;217:12-5.
13. Piecuch A, Kozłowska-Wojciechowska M. Self-medication in Poland: The pharmacist's advisory role in Warsaw. Int J Clin Pharm 2013;35:225-9.
14. Szalonka K, Sikorska S. Patients' opinion on Polish pharmacies the report from questionnaire studies. Farm Pol 2007;63:423-9.
15. Bednarczyk RA, Nadeau JA, Davis CF, McCarthy A, Hussain S, Martiniano R, *et al*. Privacy in the pharmacy environment: Analysis of observations from inside the pharmacy. J Am Pharm Assoc (2003) 2010;50:362-7.
16. Pronk M, Blom A, Jonkers R, Bakker A. Evaluation of patient opinions in a pharmacy-level intervention study. Int J Pharm Pract 2003;11:143-51.

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