

Medicines use among general public in Taif, KSA

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ABSTRACT

Objectives: Patient practice toward medication including the extent of self-medication has an important impact on therapeutic outcome. Therefore, this study aimed to assess general public practice toward the usage of medicines in Taif city. **Materials and Methods:** A cross-sectional research design using nonprobability convenience sampling technique was used in this study. Data were collected face-to-face from literate adults in public areas such as malls, shopping centers, and health centers. Data were analyzed using SPSS version 16 and significant values of difference were determined using the Chi-square and Fisher Exact tests. **Results:** Nine hundred questionnaires were successfully collected from literate adults in Taif city over 8 weeks. Eighty percent of respondents tend to stop taking their medications once they feel good. In addition, only 62% of respondents refer to pharmacists or doctors once they feel unwell. On the other hand, one-fifth of respondents store their medications as directed by the pharmacist or as written in the drug leaflet. Furthermore, as little as 12% of respondents consult a doctor or a pharmacist once they miss their medication dose. **Conclusion:** This study demonstrates that public in Taif city has, to a certain extent, improper practice toward medicine. Thus, it is of urge for healthcare and policymakers to develop healthcare programs aiming to enhance practice of public toward medicines.

Key words: Medicines, practice, public, self-medication, Taif

INTRODUCTION

Patient self-medication practice has always been a concern due to its impact on treatment outcome. This concern has gained more weight upon the change of many drug statuses from prescription only to over-the-counter (OTC) in late 1980s.^[1] The World Health Organization reported that more than half of all medications are prescribed, dispensed, sold or used incorrectly. Hamel *et al.* have reported that the incidence of false diagnosis and treatment complications were higher in patients who medicate themselves as compared to those who consulted a physician.^[2] Not only OTC drugs, but also prescription-only-medicines (POM) were subject to

self-medication in both developed and developing countries. Studies conducted in 19 European countries have shown that self-medication with antibiotics is common.^[3] Higher rates of self-medication were found in Eastern and Southern Europe compared to North and West Europe where more strict regulations pertaining to drug dispensing are in act.^[3] Self-medication is believed to be pronounced in a larger extent in developing countries where no such regulations are enforced. For example, studies describing self-medication and storage in Jordan,^[4] Egypt,^[5] Pakistan,^[6] Sudan,^[7] Nigeria,^[8] India,^[9] and Malaysia^[10] also suggest considerably high rate of nondoctor consultation and self-medication practice.

The main sources of drugs used for the purpose of self-medication are believed to be obtained from leftovers, family members, friends, brought from overseas or even bought from pharmacies without prescription.^[3,4] The purposes for most cases of self-medication were to relieve symptoms, to treat disease that is diagnosed by the patient himself or continuation of use of previously prescribed drugs

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for treatment of chronic or recurrent symptoms.^[11] Other factors such as cultural context, economy, social, and educational status were thought to influence the nature and extent of self-medication.^[12] This stresses on the fact that control the selling of POM may only limit and not just eliminate the misuse of medicine as patient's awareness and education may play a critical role. However, any public or patient oriented program aiming to increase the awareness toward medicine use and medication storage in a population, should not only take into account the extent of self-medication, but also the preassessed factors influencing its extent in that specific population. In the Kingdom of Saudi Arabia (KSA), the current practice of general public toward medication is still not well-studied. This study is carried out to elucidate the prevalence of self-medication and storage among general public in Taif city, KSA. The current study also aimed to evaluate the extent of adherence to treatment regimen.

MATERIALS AND METHODS

Study design

A cross-sectional research design using nonprobability convenience sampling technique was used in this study.

Data collection tool

The questionnaire

The questionnaire was developed after extensive literature search in the known databases.^[4,12-15] A first draft was then developed and validated through an expert team of researchers from Clinical Pharmacy Department at Taif University. Then, the final draft of the questionnaire was translated into Arabic language using back to back translation method. Briefly, the validated English copy of the questionnaire was translated into Arabic language. Later, the translated Arabic version of the questionnaire was separately translated back into English language by an expert researcher from Clinical Pharmacy Department at Taif University. After that, both English versions of the questionnaire were compared to see the consistency of the translation. Final draft of the Arabic version was piloted on 20 respondents to obtain their feedback on the questionnaire draft. Few comments and suggestions were raised by the respondents, which were considered in the final draft of the questionnaire that was used in this study. Finally, Cronbach alpha test was performed using SPSS version 16, 2007 by SPSS Inc., USA to find the reliability of the translated version of the questionnaire. Cronbach alpha value was 0.643.

Questionnaire was divided into five parts. First part

included the respondents' demographics such as age, gender, educational level, etc., Second part included practice towards medicines such as medicines use, complying with prescribers' advices, etc., Third section included respondents' behavior once they feel unwell. Fourth section included respondents' place of medications storage. Final part was designed to measure the incentives that affect on respondents once they buy medicines. Answers were designed to be close-ended. In which answers were either dichotomous or ordinal scale.

Data collection procedure

Data collectors met with respondents in public areas in Taif city. They introduced themselves to the respondents and then informed them that no findings, which could identify them, will be published and all information will be kept confidential. Once respondents give their agreement to participate in this research, researchers gave them the questionnaire, which did not take more than 10 min to complete.

Inclusion criteria

General public who were above the age of 18 years and who were able to read and write in Arabic language, were included in this study.

Exclusion criteria

Any respondent who was under age of 18 years or unable to read and write in Arabic language or refused to participate in this study, were excluded from this study.

Data collection time frame

Data collection was started from June 15, 2012 to August 7, 2012.

Data collection areas

Data were collected from the general public in the public areas such as shopping malls, restaurants, and health centers.

Data analysis

Descriptive analysis was used to describe the frequencies and percentages whereas, Chi-square and Fisher Exact tests were used to compare the results with different demographics of the respondents such as gender, age living area, nationality, and education. All analyses were considered statistically significant, if $P < 0.05$ were achieved.

RESULTS

A total of 900 respondents aged 18 years or above, successfully participated in this study, consisting of

601 (66.8%) males and 299 (33.2%) females. Difficulty was experienced in recruiting females among majority of Saudi's respondent (95.8%). Main reason of this was due to Saudi culture and costume, which prohibit male researchers from dealing directly with adult females. The mean for age of respondents participated in this study was 30.51 ± 10.17 years of age. The greater majority of respondents live in urban 815 (90.6%), which may reflect the high percentage of respondents with high education level (52.1%). Table 1 summarizes the details of respondent's demographics.

Table 2 below describes the respondents practice regarding medicines. It was found that higher proportion of singles 193 (51.3%) and those with age (18–25) year old 167 (51.2%) always decided to stop taking their medication once they feel good. Not surprisingly, the same groups have also shown less adherence to treatment regimen compared to others as only 28.5% of singles and 27% of young respondents were completing the dose regimen as directed. On the other hand, almost two out of three respondents aged 45 years or above completed their dose regimen as directed. A higher percentage of respondents aged >45 years (49.3%) were also more keen to inquire about their medications and their side effects. The majority of males (37%), Saudis (34.9%) and divorced/widowed (48%) respondents have also said that they always

ask doctors and pharmacists about their medications. Although, the majority of respondents were intended to read the instruction inside the medicine packets and check for medication expiry date, singles, and youngest groups of respondents have shown the least attention to the expiry date and the instructions, which comes with the medicines. More than half of the respondents with high education read the medications' instruction leaflet, whereas only a quarter of respondent's with no formal education did this. While medicine advertisements had only a little impact on respondents' drug selection, the financial status was more considerable factor influencing the selection of medicines.

While feeling unwell, just more than a third of respondents 310 (34.4%) consulted their doctors before deciding their treatment method. This percentage was higher among respondents aged >45 years (49.3%) and those with no formal education (54.4%). One hundred and twenty-one respondents (12.4%) said that they prefer to give a chance to their immune system to fight alone with the disease, while only 4% of respondents preferred to use traditional (herbal) medicines. Table 3 shows the responses of respondents regarding their behavior once they unwell.

Regarding places where respondents usually store their medicines at home [Table 4], it was found that refrigerator is the most common place to keep medicines with a frequency of 345 respondents (38.3%). Freezers 24 (2.7%) and bathrooms 3 (0.3%) being the least common places. Only a small proportion of respondents 183 (20.3%) were following instructions written on the medication package or given by the pharmacist.

Regarding the influence of manufacturer and prices of medicines on drug selection, the highest percentage of respondents (42.9%) were considering the price of the drug, preferring to buy the cheapest compared to a total of 39.2% of respondents, which made their decision upon the drug company regardless of the price [Table 5].

It was found that only as little as 12.2% of respondents call a doctor or a pharmacist to ask about what to do when they forget to take a dose of their medication on time. Majority of respondents made their decisions without an expert opinion, 61.3% of which took the forgotten dose whenever they remember, and 26.4% simply skipped the forgotten dose. Full description of frequencies and percentages regarding the respondent's behavior toward forgotten dose are expressed in Table 6.

Table 1: General characteristics of the respondents

Demographic characteristics	Frequency (n)	Percentage
Gender		
Male	601	66.8
Female	299	33.2
Age (years)		
18-25	326	36.2
26-35	347	38.6
36-45	156	17.3
>45	71	7.9
Nationality		
Saudi	862	95.8
Non-Saudi	38	4.2
Education level		
Primary education	40	4.4
Intermediate education	69	7.7
Secondary education	311	34.6
Higher education	469	52.1
No formal education	11	1.2
Marital status		
Single	376	41.8
Married	499	55.4
Divorced	25	2.8
Residence of location		
Rural	85	9.4
Urban	815	90.6

Table 2: Respondent's practice regarding medicines

Items	Responses (n (%))				*Chi-square test exact Fisher exact test (P<0.05)					
	A	S	R	N	Age	*Gender	Nationality	Education level	Marital status	Residence location
I stop taking medications when I feel good	395 (43.9)	337 (37.4)	110 (12.2)	58 (6.4)	<0.001	0.131	0.095	0.799	0.002	0.360
When I take my medications I complete my dose regimen as directed	373 (41.4)	402 (44.7)	106 (11.8)	19 (2.1)	0.002	0.297	0.002	0.538	<0.001	0.379
I ask the doctor or the pharmacist about my medicine and its side effects	312 (34.7)	251 (27.9)	204 (22.7)	133 (14.8)	<0.001	0.014	0.008	0.690	0.010	0.667
I read the label and instructions inside the medicine packets	400 (44.4)	259 (28.8)	163 (18.1)	78 (8.4)	<0.001	0.054	0.202	0.004	<0.001	0.183
I check the expiry date of medications that I usually buy	322 (35.8)	207 (23.0)	191 (21.2)	180 (20.0)	<0.001	0.297	0.006	0.521	<0.001	0.980
Medicine advertising has an effect on my drug selection	113 (12.6)	297 (33.0)	259 (28.8)	231 (25.7)	0.535	0.522	0.002	0.002	0.125	0.676
Personal or family financial status are important factors that I consider in purchasing medicine	268 (29.8)	299 (33.2)	183 (20.3)	150 (16.7)	0.049	0.012	0.165	<0.001	0.060	0.288

A=Always, S=Sometimes, R=Rarely, N=Never

Table 3: Respondent's behavior once they feel unwell

If I feel unwell, usually	Response	
	Frequency (n)	Percentage
I go to pharmacy and get my medications without referring to any doctor	248	27.6
I consult my doctor	310	34.4
I take medications upon my previous experience	185	20.6
I give a chance for my immune system to fight the disease without taking any medication	121	13.4
I use herbal/traditional medicine	36	4.0

Table 4: Medications place of storage

I usually store my medications in the	Response	
	Frequency (n)	Percentage
Refrigerator	345	38.3
Freezer	24	2.7
On the shelves out of the children reach	209	23.2
Anywhere	85	9.4
As directed by the pharmacist	62	6.9
As written on the medication package	121	13.4
Kitchen	51	5.7
Bathroom	3	0.3

DISCUSSION

The majority of respondents (90.6%) live in urban areas and aged under 45 years old (92%). This may explain the high percentage of respondents with high education (52.1%).

Table 5: Respondent's incentives when they buy their medicines

When I buy any drug I look at	Response	
	Frequency (n)	Percentage
The cheaper one	386	42.9
The expensive drug	161	17.9
The product from foreign companies regardless of price	218	24.2
The product from local companies regardless of price	135	15.0

Table 6: Respondent's action once they miss their dose

When I forget to take my medication dose, I usually	Response	
	Frequency (n)	Percentage
Take the dose immediately when I remember it	525	61.3
Call my doctor and ask him	83	9.2
Call the pharmacist and ask him	27	3.0
Skip the missed dose and take the next dose	238	26.4

Adherence to treatment regimen^[16,17] and patient knowledge^[14,18,19] is thought to have huge impact on the treatment outcome. The incidence of false diagnosis and treatment was higher among those patients who medicate themselves without referring to healthcare professionals.^[2] This improper practice is linked to the increased probability of disease complications, side effects and delay of cure.^[20,21] In the current study, 81.3% of respondents tend to stop their treatment once they feel good and only 41.4% of participated respondents were always completing their treatment

regimens as directed. The latter percentage was lower than the 50% reported in neighborhood cities in gulf countries.^[22] Same study has also mentioned a high stock of leftover medications in respondents' homes with an average of eight different types of medicine. Some of those medicines were POM including respiratory medicine (16.8%), central nervous system agents (16.4%), and antibiotics (14.3%).

Just over a third of respondents (34.4%) said that they would consult a physician for a diagnosis if they feel unwell and would probably ask the doctor or the pharmacist about their medications and possible side-effects. These results left us with around two-thirds of respondents, which intended to practice self-medication. Improper practices were seen more pronounced among both single and young respondents (aged 18–25 year old). It may be argued that married people have more family commitments as compared with singles, which may in turn, increase their awareness toward many issues including practice toward medicines. Mitsi *et al.* have reported that parents who practice self-medication with antibiotics were more compliant and less likely to use nonprescribed antibiotics for their children.^[23] However, it may be worth to mention that young respondents (aged 18–25 year old) form the majority of singles group in this study. Taking into consideration any possible role of marital status, the above results pointed out the high incidence of inappropriate practice, especially among those of younger age.

While the majority of respondents considered physicians and pharmacists as the major source of information regarding the medications, slightly less than a 10th of respondents who seek advice from doctors when they skip one dose of their medicine unconsciously. Although pharmacists are the most accessible healthcare professionals as no long waiting time, or appointment or fee is required, surprisingly, only very few percentage (3%) ask pharmacists in order to obtain their advice regarding a forgotten dose of medication. These findings are important as other studies have shown the important role of pharmacists and how it may influence the treatment outcomes.^[24-26] Many of the respondents admitted that they do not read the medicine leaflets that come with the medicine packet and also do not pay attention for the drug expiry date. Singles and younger age respondents were the least keen to check for expiry date or read the drug leaflet. These findings are far less than previously reported in Riyadh city in KSA.^[27] In addition, just one-fifth of respondents 183 (20.3%) usually follow

directions regarding medication storage given by the pharmacist or present on the drug packet.

All of the above discussion elucidates the absence of an effective role of healthcare professionals, especially pharmacists in educating patients in Taif city. While more than half 238 (50.7%) of respondents with high education said that they usually read the drug instructions, only a quarter of respondents with no formal education did so. Recalling that the majority of respondents with no formal education (54.4%) consult their doctors before having any drugs, it can be concluded that verbal medical advice play a critical role particularly for this group of population.

While results of the current study indicate little influence of the media and drug advertisements on respondents' decision. Many studies have discussed the impact of pharmaceutical advertising on the public, which resulted in initiating the discussion between patients and their doctors on the advertised drugs.^[28-30] The majority of them are manipulated by the family and personal financial status as well as the medication price and manufacturing. This might be due to the fact that not all patients afford expensive medications.^[31-33]

CONCLUSION

Improper practices toward medicines were found to be high among general public in Taif. High percentage of respondents stopped taking their medication once they feel well, store their medicines in the refrigerator and treat themselves based on their previous experience when they feel unwell. This study attempts to highlight the demand for healthcare educational programs addressing general public and focusing on young people to increase their knowledge and practice toward medicines. Pharmacists as being healthcare professionals have to play their role in patients' education and counseling.

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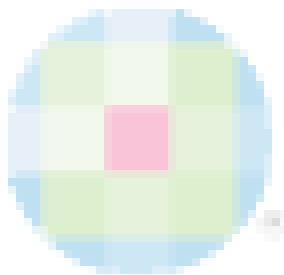
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