

Self-Medication Trends in Saudi Households by the Pharmacist: A Questionnaire Survey among Community Pharmacist in Jeddah Province, Saudi Arabia

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ABSTRACT

Introduction: Self-medication is defined as the selection and use of medications by individuals to treat self-recognized illnesses or symptoms also it is defined as drugs that are safe and effective for use by the general public without seeking treatment by a health professional. Objectives: Aim of this work is to study pharmacist's attitude of community pharmacies towards self-medication. (2) To assess and summarize their opinion on consumer's awareness of medicines and self-medication practice and OTC medicine advertisements in Jeddah province, Saudi Arabia. And (3) To estimate the prevalence of Self-Medication Trends in Saudi Households and consumers who consult Community Pharmacist in Jeddah province, Saudi Arabia.

Subjects and Methods: A questionnaire-based study was conducted on 200 random pharmacies in Jeddah, KSA. The pharmacists were asked to recall their encounter with patients with illnesses who visited their pharmacies for medications without prescriptions. Data were collected from May to September 2018. This was a prospective cross-sectional survey conducted in Jeddah province, Kingdom of Saudi Arabia. Community pharmacies within 5 areas of the city (North, South, West, East, and Middle) were randomly selected and the study was conducted over 4 months in 2018. Every 10 pharmacies from the 5 regions were selected. Results: The prevalence of the practice of self-medication was high among the age group of 30 - 39 years but lower in the 50-59 and ≥ 60 year age groups, Males exhibited higher prevalence of self-medication than females, which might be due to social factors. Graduates practices self-medication was at higher rate and doctorates exhibited low prevalence of self-medication practices may be due to literary distribution size. Conclusion: The prevalence of self-medication was high among the predominantly well-educated residents in Jeddah area, despite majority being aware of its harmful effects. Self-medication was largely preferred that among the respondents because of its time and cost effectiveness.

Key words: Self-medication, Jeddah, Pharmacist, Pain killer, Harmful

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INTRODUCTION

According to World Health Organization self-medication

is the use and selection of medicines by individuals to treat self-recognized illnesses or symptoms. The International Pharmaceutical Federation (IPF) has defined self-medication as non-prescription drugs use by individuals on their own initiative [1]. Drugs purchase and use without an authorized prescription or using previous prescription also comes under self-medication. It also included the use of leftover medicines which are stored at home and medicines advised by family members or friends [2].

Many individuals practice self-care to maintain good

health and to manage minor illnesses. The US Food and Drug Authority (FDA) has defined Over the Counter (OTC) medication as “drugs that are safe and effective for use by the general public without seeking treatment by a health professional”. Self-medication with OTC medications is called responsible self-medication, and is an acceptable practice worldwide, whereas buying prescription medications without a prescription from a physician is dangerous and considered as unsafe self-medication. The benefits of using OTC medications include a reduction in the frequency of visits to a physician and reduced cost. However, misuse of OTC medications can be accompanied by adverse reactions, interactions with other medications, overdosing, and other medication related problems. Therefore, it is recommended that the public should be educated on the use of OTC medications to increase their knowledge and awareness and facilitate responsible self-care. The use of prescription medications is helpful to treat illnesses when they are used under the advice of physicians for appropriate diagnoses.

It has been reported that self-medication is common practice among consumers in developing countries, and prescription medications can be purchased without a prescription [3]. In Kuwait, a self-medication prevalence of 92% has been reported among adolescents [4]. A study from Bahrain reported that 44.8% of medical students have self-medicated [5]. Although there are regulations for prescription and OTC medications use, it is common to buy prescription medications without a prescription in Saudi Arabia. A study in 1992 reported that 35% of medications that were dispensed over the counter in community pharmacies in Riyadh were actually prescription only medications [6]. This is a very old study, and awareness of self-medication might have changed over the past 2 decades. However, with the easy and unrestricted access to medications from community pharmacies and lack of advice from the pharmacists there is a great risk of self-medication without a healthcare provider consultation.

Estimating the prevalence of self-medication and ascertaining the reasons behind it will enable policy makers and community pharmacists to ensure safe use of medications by consumers. Previous studies on self-medication in Saudi Arabia among consumers in community pharmacies are limited.

Therefore, the aims of this work were to study pharmacist attitude of community pharmacy towards self-medication, to assess and summarize their opinion on consumer's awareness of medicines and self-medication in Jeddah province, Saudi Arabia.

MATERIALS AND METHODS

Study design

This was a prospective cross-sectional survey conducted in Jeddah province, Kingdom of Saudi Arabia. Community pharmacies within 5 areas of the city (North, South,

West, East, and Middle) were randomly selected and the study was conducted over 4 months in 2018. Every 10 pharmacies from the 5 regions were selected.

Study population

A questionnaire-based study was conducted on 200 random pharmacies in Jeddah, KSA. The pharmacists were told to recall their encounter with patients with illnesses who visited their pharmacies for medications without prescriptions. Data was collected from May to September 2018.

Inclusion criteria

Consumers buying medications with or without prescriptions from the selected pharmacies at different times of the day

Exclusion criteria

Consumers buying cosmetics and medical equipment were not included.

Questionnaire design

In addition to questions regarding participants' demographic characteristics, the questionnaire consisted of questions with closed- and open-ended responses. In the demographic characteristics section, participants were asked to provide their age, gender, educational level, and employment status. In addition, the survey also included questions on the type of medication purchased, the indication for OTC medication use, sources of medications information, and reasons for buying medications without a prescription. Open-ended questions were used to provide in-depth information. Consumers were requested to list all medications they bought during that visit without prescription. These medications were then checked against the Saudi Food and Drug Authority (SFDA) list of human medications and subsequently classified into prescription only or OTC medications.

Consumers' knowledge of self-medication was assessed by asking 4 questions with yes or no responses. A scoring system was designed in this study to determine consumers' knowledge. A score of one was given to a yes response, and a score of zero was given to a no response. The total score for knowledge domain ranged from 0-4.

The scores were summed, and the total knowledge score was calculated. A cut off level of <2 was considered poor knowledge, and a score of ≥ 2 was considered adequate knowledge of self-medication. Consumers' attitude toward self-medication was assessed by asking 4 questions. The responses to the first and second questions were scored as follows:

0=never, 1=rarely, 2=occasionally, 3=sometimes, 4=frequently, 5=usually, 6=always; whereas the same scoring was reversed for responses to the third and fourth questions as shown in the results. The responses were summed and the total attitude score was calculated. The total attitude score ranged from 0-24. A score of <12 was considered negative attitude, and a

score of ≥ 12 as positive attitude toward self-medication. Perception toward self-medication was assessed by asking 2 questions. The responses to the first question were scored as: 0=never, 1=rarely, 2=occasionally, 3=sometimes, 4=frequently, 5=usually, 6=always; The responses to the second question were reversed. The total score ranged from 0-12. A cut of level of < 6 was considered negative perception, and a score of ≥ 6 was considered positive perception.

Data analysis

We utilized the Statistical Package for Social Sciences (SPSS Inc., Chicago, IL, USA) version 18 to analyze the study data. Results were displayed as counts and percentages. Descriptive statistics were used to illustrate respondents' demographic characteristics, and list of medication classes. Categorical variables were presented as count and percentages and 95 percent confidence interval. The prevalence of self-medication was reported as percentages. The survey was descriptive and data was summarized as counts and percentages.

Ethical consideration

Permission to conduct the study was obtained from each pharmacy manager of the participating community pharmacies and the Research and Ethics Committee at the College of Pharmacy, RIYADH ELM UNIVERSITY, and Riyadh, Saudi Arabia. Data collectors gave a brief introduction to the consumers by explaining the aims and significance of the study. Verbal consent was obtained from all participants. Confidentiality of data was maintained throughout the study.

RESULTS

A total of 542 completed questionnaires were retrieved out of the 600 questionnaires distributed to the consumers buying medications with or without prescriptions from the selected pharmacies at different times of the day. The remaining 58 were either misplaced or returned unfilled and hence were excluded from the data analysis.

The gender, age, educational qualification and professional experience distribution with 95% confidence interval of the respondents were shown in Table-1. Higher respondents were males 98.7% and females were 1.3%, this trend was due to social culture. Nearly half 50% of the respondents were between the ages of 30-39 with 95% CI ranging between 45.81 – 54.19, just below the percent respondents were at the age 20- 29 years with 40.7%, the least responded were geriatric with age range ≥ 60 years with 0.6%. Most of the respondents were graduates, 61.4% with ≤ 9 years professional experience in their field followed by post graduated 36.6% and few were doctorates i.e. 2% (Table 1).

Trends of self- medication practice were shown, among pattern for medication usage, 219 respondents (40.4%) practiced self-medication for themselves, 133 practiced (24.6%) for some else and 190 respondents (35%)

Table 1: Demographic characteristics of the participants.

	Frequency	Percent	95% CI
Sex			
Male	535	98.7	97.36-99.37
Female	7	1.3	0.63-2.64
Age			
20-29 years	221	40.7	36.72-44.96
30-39 years	271	50	45.81-54.19
40-49 years	43	8	6.0-10.52
50-59 years	4	0.7	0.29-1.88
≥ 60 years	3	0.6	0.2-1.61
Level of professional qualification			
Graduate	333	61.4	57.27-65.44
Post Graduate	198	36.6	32.59-40.67
Doctorate	11	2	1.14 -3.60
Professional experience			
≤ 09 years	337	62.2	58.02-66.16
10-19 years	190	35.1	31.16- 39.16
20-29 years	12	2.2	1.27-3.83
30-39 years	2	0.4	0.10-1.34
≥ 40 years	0	0	0

practiced self-medication for members in their family. Common cold was top ailment for which 247 respondents (45.6%) practiced self-medication, followed by flu & headache 121 (22.4%), cough with sputum 83 (15.4%), fever 50 (9.2%), dental carries 21 (3.9%), accidental trauma sports related injuries 10 (1.9%), dysentery/diarrhea 9 (1.6%) respondents respectively for which self-medications were practiced. Pain killer's drugs (61.6%) were commonly self-medicated followed by antipyretic drugs (18%), anti- allergic drugs (9.6%), vitamins (6.4%), antibiotics (1.7%), indigestion drugs (1.1%), sleeping pills (0.9%), antidiarrheal drugs (0.7%) were self-medicated respectively. When asked to the respondents reason for self-medication, 28.7% consumers agreed that pre-experience of self-medication promoted them practice self-medication whereas next large percentage i.e. 16.7% respondents practiced to avoid physician" fees, the remaining respondents gave reason like due to mild illness (15.2%), suggestion of friends (12.2%), adequate knowledge (11.8%), urgency of situation (9%), not necessary (3.4%) and cost effectiveness (3%),to practice self-medication as shown in Table2. Majority respondents (69.4%) did not prefer to use antibiotics without prescription or physician "advice whereas 30.6% consumers used antibiotics without physician" prescription (Table 2).

Majority of the respondents, 475 (87.6%) took medicines with physician's prescription and 67 (12.4%) would rather practice self-medication. Many consumers 382 (70.5%) discontinued the prescribed medicines by themselves when symptoms were not relieved, 443 (81.7%) respondents reused prescription when experienced with similar symptoms whereas 99 (18.3%) did not reuse prescription. Consumers had less tendency to increase the dose when symptoms were relived, only 227 (41.8%) tried to increase dose to get relived from symptom. There was equal response when asked if they experienced adverse effect, 273 (50.4%) experienced

Table 2: Practice of self-medication.

	Frequency	Percent	95% CI
Medication usage Pattern			
Practice self-medication for yourself	219	40.4	36.36-44.59
Practice self-medication for someone else	133	24.6	21.10-28.33
Practice self-medication for family	190	35	31.16-39.16
What is the common an illness for which self-medication was sought?			
Cough with sputum	83	15.4	12.53-18.59
Fever	50	9.2	7.07-11.96
Common Cold	247	45.6	41.42-49.78
Burning micturition	0	0	0
Accidental trauma/sports related injuries			
Flu & Headache	121	22.4	19.02-26.02
Dysentery/Diarrhea	9	1.6	0.88-3.13
Dental Carries/Toothache	21	3.9	2.55-5.85
What are the commonly self-medicated drugs by consumers?			
Pain killer	334	61.6	57.46-65.62
Antipyretic	98	18	15.07-21.54
Antibiotics	9	1.7	0.88-3.13
Anti-allergic	52	9.6	7.39-12.37
Sleeping pills	5	0.9	0.39-2.14
Vitamins	35	6.4	4.68-8.85
Antidiarrheal	4	0.7	0.29-1.88
Indigestion drugs	6	1.1	0.55-2.45
What are the reasons for Self-medication among consumers?			
Good Pre-experience	156	28.7	25.13-32.73
Suggestion of Friends	66	12.2	9.69-15.20
Adequate Knowledge	64	11.8	9.36-14.80
To avoid doctor's fee	91	16.7	13.88-20.17
Not necessary	18	3.4	2.11-5.19
Urgency of situation	49	9	6.91-11.75
It is Cost effective	16	3	1.83-4.74
Due to mild illness	82	15.2	12.36-18.39
Do consumers practice of Self-medication with antibiotics?			
Yes	166	30.6	26.89-34.63
No	376	69.4	65.37-73.11

adverse effect and 269 (49.6%) did not experience adverse effect. Old prescription was reused (72.8%) for others when having similar symptoms and others (27.2%) did not use (Table 3).

Characteristic analysis of consumer's beliefs and opinions presented in favor of self-medication, mild problem was the main reasons for which can self-medication was sought, the respondents also largely (65.7%) agreed to it. Previous experience or advice given by prescribers was reused whenever needed, 22.4% agreed for this point whereas majority (70.7%) believed sometimes to be agreed for this point (Table 4).

Majority of the consumers: 360 (66.5%) believed that self-medication somewhat acceptable and 38 (7%) would rather pay a visit to the nearest health facility when ill, than treat themselves, while 143 (26.4%) admitted otherwise. We found that consumers had sometime ability to diagnose the symptoms and ability to treat symptoms by 63.3% and 64.5%, In contrast we found 29.9% and 28.5% would not have the ability,

while 6.8% and 7% could diagnose and treat themselves, respectively .upon asking the question on self-medication would be harmful if they took without proper knowledge

Table 3: Consumers view towards self-medication.

	Frequency	Percent	95% CI
Do consumers follow doctor's prescription			
Yes	475	87.6	84.60-90.15
NO	67	12.4	9.85-15.40
Do consumers discontinue the prescribed medicines by themselves when symptoms are not relieved?			
Yes	382	70.5	66.51- 74.16
NO	160	29.5	25.84-33.49
Do consumers reuse the prescription when experienced with similar symptoms?			
Yes	443	81.7	78.26-84.76
NO	99	18.3	15.24-21.74
Do consumers increase the drug dose on themselves when symptoms are not relieved?			
Yes	227	41.8	37.80-46.08
NO	315	58.2	53.92-62.20
Do consumers experience adverse reaction during self-medication?			
Yes	273	50.4	46.17-54.56
NO	269	49.6	45.44-53.83
Do they give their prescription to someone who is having similar symptoms as their before?			
Yes	395	72.8	68.98-76.45
NO	147	27.2	23.55-31.02

Table 4: Consumers beliefs and opinions presented in favor of self-medication.

	Frequency	Percent	95% CI
Beliefs and opinions			
They have mild problem which can be treated by self-medication.			
Always	162	29.9	26.19-33.87
Sometimes	356	65.7	61.59-69.56
Never	24	4.4	2.99-6.50
They are already informed by their prescriber regarding its usage therefore does not feel to consult again/Previous experience			
Always	121	22.4	19.02-26.02
Sometimes	383	70.7	66.70-74.34
Never	37	6.8	4.99-9.27
They found self-medication as taking active role in managing their health			
Always	132	24.4	20.93-28.14
Sometimes	389	71.8	67.84-75.40
Never	21	3.8	2.55-5.85
Waiting in queues for visiting a doctor is a hassle of time			
Always	162	29.9	26.19-33.87
Sometimes	346	63.8	59.71-67.77
Never	34	6.3	4.52-8.64
They don't trust the prescribers ability to detect their problem			
Always	41	7.6	5.62-10.10
Sometimes	401	74	70.13-77.50
Never	100	18.4	15.41-21.93
They have enough knowledge about the body to treat one's condition			
Always	41	7.6	5.62-10.10
Sometimes	332	61.2	57.02-65.26
Never	169	31.2	27.42-35.20
They Informed by elders (non-health care professionals) regarding correct use of medications			
Always	78	14.4	11.69-17.60
Sometimes	403	74.4	70.52-77.85
Never	61	11.2	8.86-14.19

of drugs and disease, we revealed that 49.6% believed that it was harmful. However, 45.8% said that it was not high level of risk. 4.5% of the consumers considered that self-medication is not a definite risk. The consumers also largely (66%) believed that the pharmacists could give correct information to drug consumers who purchase self-medication products, while (1.7%) of them thought otherwise. 24% of the people were unlikely to bother their doctors with minor problems always but most of them sometime 71.2% had agree with that. We found that consumers' behavior towards caution with OTC medications was balanced between always (38.6%) and sometime (35.3%) (Table 5).

Table 5: Attitude regarding Self-medication.

	Frequency	Percent	95% CI
Self-medication is acceptable for consumers			
Always	143	26.4	22.85-30.25
Sometimes	360	66.5	62.34-70.27
Never	38	7	5.15-9.48
Consumers have good ability to diagnose the symptoms			
Always	37	6.8	4.99-9.27
Sometimes	343	63.3	59.15-67.24
Never	162	29.9	26.19-33.87
Consumers have good ability to treat symptoms			
Always	38	7	5.15-9.48
Sometimes	350	64.5	60.46-68.49
Never	154	28.5	24.78-32.35
Self-medication would be harmful if they are taken without proper knowledge of drugs and disease			
Always	269	49.6	45.44-53.83
Sometimes	248	45.8	41.61-49.97
Never	24	4.5	2.99-6.50
The pharmacist is a good source of advice/information about minor medical problems			
Always	358	66	61.96-69.91
Sometimes	175	32.3	28.49-36.34
Never	9	1.7	0.88-3.13
Consumers are unlikely to bother their doctors with minor problems always			
Always	130	24	20.58-27.76
Sometimes	386	71.2	67.27-74.87
Never	26	4.8	3.29-6.94
Consumers should be careful with non-prescribed over the counter medicines			
Always	209	38.6	34.56-42.73
Sometimes	191	35.3	31.33-39.35
Never	33	6.1	4.37-8.43
Consumers should check the accompanied medication leaflet contain			
Always	173	32	28.13-35.96
Sometimes	341	63	58.77-66.88
Never	27	5	3.45-7.45
Consumers will continue with self-medication			
Always	117	21.6	18.33-25.24
Sometimes	398	73.4	69.56-76.98
Never	27	4.9	3.45-7.15
Consumers Beliefs that it is alright to give/take self-medication advice to/ from friends and family members			
Always	156	28.7	25.13-32.73
Sometimes	354	65.4	61.21-69.20
Never	32	5.9	4.21-8.22

DISCUSSION

The study was carried out among 200 random pharmacies in Jeddah, community pharmacies within 5 areas of the city (North, South, West, East, and Middle); with most of the respondents being well learned and more than 50% of respondents were aged between 20 and 39 years. Majority of the respondents were graduates, with ≤ 09 years professional experience in their field.

In previous studies [7] have reported that fever, headaches, common cold and cough were the most common conditions for which the residents practiced self-medication. The respondents largely believed that pain relievers (paracetamol and aspirin) [8] antimalarial [9] antibiotics (ampicillin and flagyl) [10] and cough mixtures [11] were particularly safe enough to be used to treat ailments without consulting a physician. This is comparable to reports in most other studies [12]. Where These findings are in agreement with previous studies in parts of Africa [13] and Asia [14] which revealed that information on the side effects of self-medication products are largely inadequate [15]. Over 80% of respondents consequently confessed that more information on self-medication products should be made more readily available to consumers just as was discovered in the World Self Medication Industry survey of 2007.

The respondents also confessed that they will be given to practice self-medication in treating common cold, cough, fever and skin rashes in their children; this is consistent with findings in an urban pediatric study [11] in which it was found that cough mixture, ascorbic acid and Cotrimoxazole were the most frequently administered self-medications by parents while ascorbic acid, iron, cough mixture and paracetamol were the most common drugs kept at home by the mothers.

Despite the overwhelming practice of self-medication among the respondents, over 2% of them believed that the chemists and over-the-counter sales men were not knowledgeable enough to give adequate and correct information on the drugs been purchased. However, up to 66% of the respondents confessed that the chemists, sales and local pharmacy personnel were their source of drug information and a good proportion of the remainder received information from medical personnel (nurses and other health assistant workers) and the drug leaflets. The reports in a Nigerian study [16] also showed that the main channel of information and the usual source where medication was obtained were the patent medicine dealers and chemists, who are usually closer to the grassroots probably due to the relatively limited number of Registered Pharmacists and Medical Doctors in the developing countries.

The drugs used for self-medication were therefore mostly purchased from private pharmacies, chemists and hospital pharmacies. This is in concurrence with a local study [17] in which the major source of drugs used for self-medication was purchased from community pharmacies and contrast to studies which revealed that

the populace purchased drugs from patent medicine sellers [16].

The frequency of purchase of drugs from pharmacies in this study may be related to the fact that over 75% of respondents claimed to have a health facility or particular physician they visit, even though only 50% went when they fell ill, and considered that the ailment was not a minor one. This study revealed that the main reasons for self-medication by the 172 residents who practiced it in the instances in the one month period were a previous experience of treating the ailment and the perception of the ailment as a minor one, just as it was revealed in Nigerian studies by Afolabi, et al. [8,9,16].

Majority of the considered self-medication largely unsafe and most likely to be associated with side effects while others thought of it has been a more affordable, readily available and time effective practice just like in similar studies in developing countries and hence practiced it frequently, in spite of the varying opinions, larger percent of respondents still confessed to have practiced self-medication in the one month, as reported in previous studies [9].

The high prevalence of self-medication practiced despite the awareness on the safety among the residents which was also the case in a study carried among University students in Kuwait [12] may also have been due to level of education of a greater proportion (80% having attained tertiary level) of the respondents.

The commonest reasons given by the respondents for practicing self-medication were time and cost effectiveness owing to the long delays in Government hospitals and the exploitation by Private hospitals. These are important factors favoring self-medication particularly in developing countries [17] and have been reported in other studies [15,18,19]. This would mean that health services need to be improved to the point where treatment becomes more accessible and the patient's waiting time is minimized.

The prevalence of self-medication among the respondents for minor ailment was found to be more than 80% in this study. This is similar to a number of studies [20] and in variance with a few others [19]. Generally the absolute prevalence of self-medication, varies widely in previous studies from 12.7%-95% [20-22]. Perhaps owing to various factors ranging from differing socio-demographic and socio-economic profiles of respondents, environmental differences, varying determinants and time frame used in assessment [22]. The drugs mostly used by the Jeddah residents included paracetamol, ampicillin, pro-cold, cough syrups, vitamins; while headaches, fever and common cold were the conditions for which self-medication was practiced.

CONCLUSION

The prevalence of self-medication was high among the predominantly well-educated residents in Jeddah region, despite that the majority being aware of its

harmful effects. Self-medication was largely preferred among the respondents because of its time and cost effectiveness. Therefore there is an urgent need to provide awareness and education programs using mass media with involvement of community to help with rational approach towards self-medication.

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