Prevalence and Determinants of Self-medication among Attendants of Primary Health Care Centers in Abha City, Saudi Arabia

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Abstract

Objectives: To determine the prevalence and determinants of self-medication practices among attendants of primary healthcare centers (PHCCs) in Abha City, Saudi Arabia.

Methods: The researchers interviewed 400 patients attending Al-Numees PHCC. A data collection sheet was constructed for data collection, which comprised participants' personal features and self-medication practices.

Results: About one-third of participants practiced self-medication during the last year, mostly 1-3 times (22.5%). The main motive toward self-medication was a previous positive personal experience with the medication (31.4%), while the main complaint was having minor ailments (41.5%). Analgesics were mainly sought (47.9%), with pharmacists being the main advice providers (50.2%). The condition of 70.7% improved after self-medication. Self-medication was significantly more practiced by older participants (p=0.028), males (p=0.016), Saudis (p=0.001), and both illiterate and university-educated participants than others (p=0.018). It was also significantly influenced by participants' occupation, being highest among retired participants (100%).

Conclusions: Self-medication is commonly practiced in Abha City, mainly due to having prior experience. It is mainly practiced when having a minor ailment. Analgesics are the most frequently purchased drugs for self-medication. Pharmacists are the main source of advice for self-medication. Determinants of more practice of self-medication include older age, male gender, Saudi nationality, and educational level.

Key Words: Self-medication; prevalence; primary health care.

Introduction

Every day people throughout the world act on their own for their health; they practice self-care. Most people hold the view that medicines should be used in the event of any sickness or discomfort(1). Therefore, human beings have an inherent tendency to use medications for self-medication(2).

Alhomoud et al.(3) noted that self-medication denotes obtaining medicines without having a prescription, buying medicines based on a previous prescription, or sharing medicines with others. It also includes using leftover medicines for the treatment of self-diagnosed symptoms or diseases(4).

Self-medication mainly encourages an individual to look after minor ailments with simple and effective remedies (5). It is a part of the larger frame of self-care (6). It can be described as obtaining and consuming drugs without the advice of a physician either for diagnosis, or treatment (2).

The World Health Organization (WHO) stressed the role of self-care through the "Health for All by the Year 2000" initiative, which was applied in several countries, including the Kingdom of Saudi Arabia (7).

Medicines for self-medication are called non-prescription medicines or "over-the-counter" (OTC) medicines. They are more common in some developing countries, where pharmacies easily supply prescription medicines without having a prescription. However, these practices also exist in developed countries, where dispensing of medicines is strictly regulated (8).

Optimal therapy with OTC medicines requires that consumers diagnose the underlying condition correctly and use the medicine in a manner that minimizes risk. This is possible only if consumers have some basic knowledge about the medicine, its appropriate use, adverse drug reactions, precautions, and contraindications. They should know when to seek further medical attention and when not to self-medicate (9).

Covington stated that of the 3.5 billion health problems treated in the USA annually, 57% were treated with a non-prescription drug (10). In the United Kingdom, about 50% of health care services take place within the field of self-medication. Al-Freihi et al., in Saudi Arabia, drew attention to the potential for drug misuse due to the lack of adherence to this regulation governing the dispensing of drugs by community pharmacies (11). Therefore, there is a pressing need to provide adequate information to consumers so that they choose the right medicine for a particular illness to gain benefits from self-medication.

This study aimed to determine the prevalence and motives for self-medication practices among PHC patients in Abha City, Saudi Arabia.

Methods

Following a cross-sectional design, this study was conducted during January-March, 2017 at "Al-Numees" PHCC, Abha City, in the southwestern region of Saudi Arabia.

Following a consecutive sample, 400 attendants were interviewed. The inclusion criteria were being an attendant of Al-Numees PHCC, aged 18 years or more. The exclusion criteria were the inability to communicate (e.g., mental retardation, major speech or hearing problems).

Based on a thorough review of the literature, the researchers constructed a data collection sheet (in a simple Arabic Language). It comprised the following parts:

1- Personal characteristics: Age, gender, residence, nationality, occupation, marital status, and highest attained educational level.

2- Self-medication practice: Receiving a medication without being prescribed by a physician for a health problem within the last year, the reason for that, type of medication, the person who advised the medication, outcome, and source of medication information.

The validity of the study tool was assessed by three consultants of Family Medicine. Moreover, the researchers conducted a pilot study on 20 subjects to check the wording, clarity, and reliability of responses to the questions. The results of the pilot study helped in re-phrasing, adding, or omitting some questions. Collected data within the pilot study were excluded from the main study.

Ethical approval permission was obtained in December 2016 from the King Khalid College of Medicine Institutional Research Board (IRB). Prior to the interview, potential participants were briefed by the researcher as regards study objectives. They were assured that no harm is expected to occur if they decide to participate in this study and their participation is absolutely optional. They were also assured of the full anonymity and confidentiality of their responses. Their verbal consent to participate was obtained.

The Statistical Package for Social Sciences (IBM-SPSS version 25.0) was used for the statistical analysis of collected data. Descriptive statistics (e.g. number, percentage) and hypothesis testing (i.e., $\chi 2$) were applied. P-values <0.05 were considered as statistically significant.

Results

Table (1) shows that the age group of most participants was 20-40 years (76%), 68% were females and 88.8% were Saudi. Participants' highest attained educational level was mainly a university degree in 42.5%, secondary level in 35.5%, while 3% were illiterate. Around one-quarter of participants were governmentally employed (28.5%) or students (24.8%). About one-third (34.5%) were not working (unemployed or housewives). Most participants were married (72.8%).

Table (2) and Figure (1) show that almost one third of participants practiced self-medication during the last year (30.2%). Most of them practiced self-medication 1-3 times (22.5%), mainly because of a previously positive personal experience with a medication (31.4%), for which the patient developed trust (17.4%) and having no time to waste by prolonged waiting times at clinics (17.4%), or due to difficult transportation (14%). Moreover, 10.7% of participants justified their practice by their lack of confidence towards their PHC physicians, or that service hours at the PHCC are not suitable (9.1%). Analgesics and anti-dyspepsia were the main drugs bought for self-medication (47.9% and 32.2%, respectively), followed by antipyretics and nasal decongestants (16.5% and 15.7%, respectively).

Table (3) shows that the main complaints for self-medication were having minor ailments (41.5%), followed by dyspepsia (27.5%), having a skin disease (10.5%), joint or muscle pain (7.9%), toothache (7.9%) or colic (4.8%). Most participants' conditions (70.7%) improved after self-medication. However, the condition deteriorated in 7%, while there was no change in 22.3%.

Table (4) shows that pharmacists constituted the main source of advice (50.2%). Physicians were the source for 24% of participants, followed by family members (13.1%), friends (11.8%), or neighbours (0.9%).

Table (5) shows that self-medication was significantly more practiced by older participants (p=0.028), more by males than females (38.3% vs. 6.5%, respectively, p=0.016), and more by Saudi than non-Saudi (33% vs. 8.9%, respectively, p=0.001). It was significantly more practiced by both illiterate and university-educated participants than others (p=0.018). Self-medication practices were also significantly influenced by participants' occupation, being highest among retired participants (100%). Self-medication practices were not significantly associated with participants' marital status.

Table 1: Personal characteristics of study sample

Personal characteristics	No.	%
Age groups (in years)		
• <20 years	52	13.0
• 20-40 years	304	76.0
• >40 years	44	11.0
Sex		
• Males	128	32.0
• Females	272	68.0
Nationality		
• Saudi	355	88.8
• Non-Saudi	45	11.3
Education level		
• Illiterate	12	3.0
• Primary	16	4.0
• Intermediate	60	15.0
• Secondary	142	35.5
• University	170	42.5
Occupation		
• Unemployed/housewife	138	34.5
• Governmental	114	28.5
• Private	21	5.3
• Military	23	5.8
• Retired	5	1.3
• Student	99	24.8
Marital status		
• Single	92	23.0
• Married	291	72.8
• Divorced	6	1.5
• Widow	11	2.8

Table 2: Frequency and percentage of self-medication practices within the last year

Self-medication practices	No.	%
• No	279	69.8
• Yes:	121	30.2
• 1-3 times	90	22.5
• More than three times	31	7.7
Main reasons for self-medication:		
• Previous personal experience	38	31.4
• I trust my medical knowledge	21	17.4
• To save time by sparing long waiting times	21	17.4
• Difficult transportation	17	14.0
• No confidence toward PHC physicians	13	10.7
• Service hours at PHCC are not suitable	11	9.1
Main types of self-medications		
• Analgesic	58	47.9
• Anti-dyspepsia	39	32.2
• Antipyretic	20	16.5
• Nasal decongestant	19	15.7
• Anti-diarrheal	12	9.9
• Antihistamines	12	9.9
• Vitamins	10	8.3
• Antitussive/expectorant	9	7.4

Figure 1: Frequency and percentage of self-medication within the last year

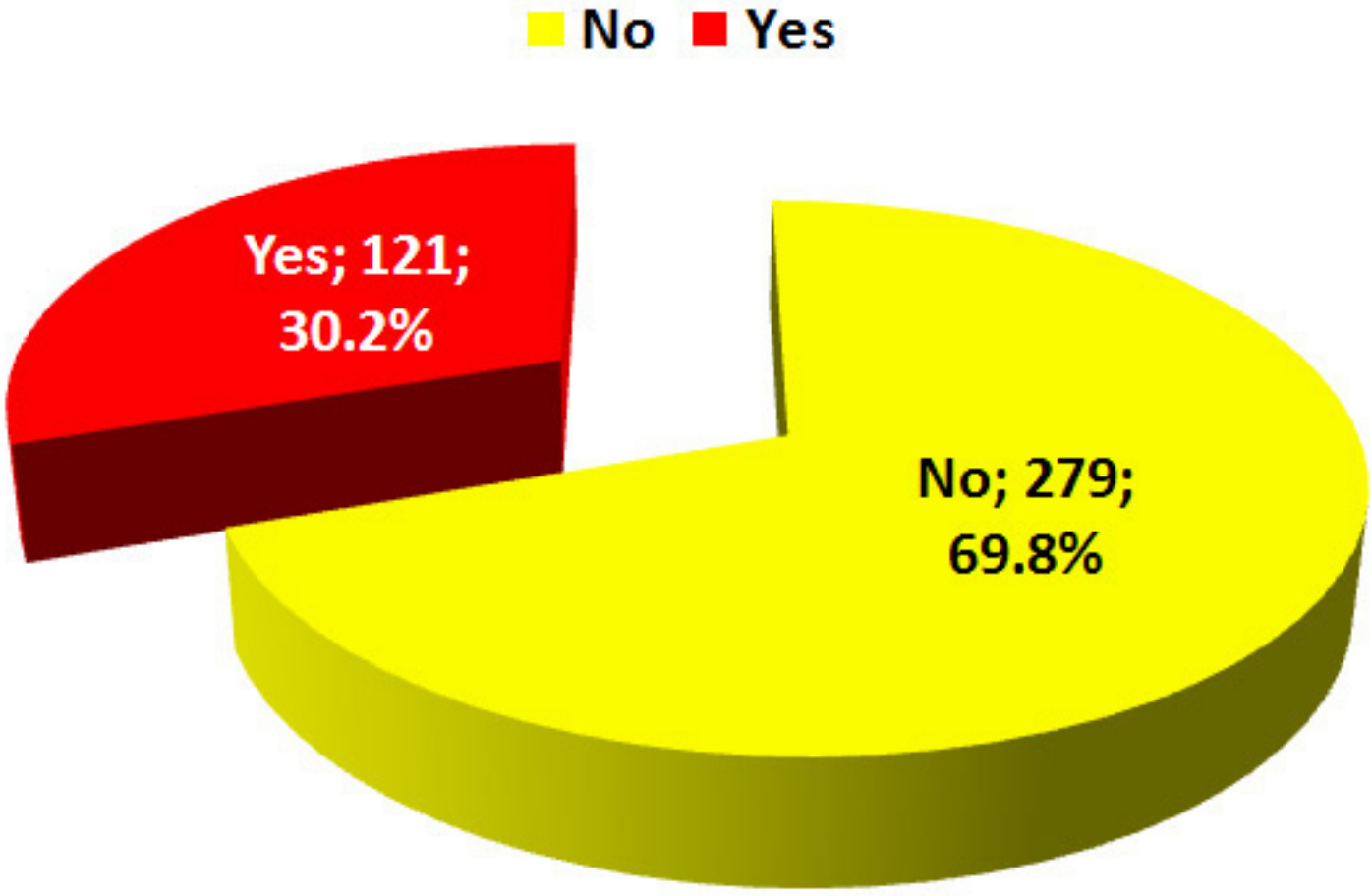

Table 3: Main complaints of participants who practiced self-medication (1), and the outcome of self-medication (n=229)

Complaints and Outcome	No.	%
Complaints for self-medication:		
• Minor ailments[2]	95	41.5
• Dyspepsia	63	27.5
• Skin diseases	24	10.5
• Joint or muscle pain	18	7.9
• Toothache	18	7.9
• Colic	11	4.8
Outcome of self-medication:		
• Improved	162	70.7
• Deteriorated	16	7.0
• No change	51	22.3

(1) Participants were allowed to mention more than one complaint
(2) Minor ailments include: diarrhea, cough, sore throat, mild fever, or headache

Table 4: Main sources of advice for self-medication in each complaint (n=229)

Sources of advice	No.	%
Pharmacist	115	50.2
Physician	55	24.0
Family member	30	13.1
Friend	27	11.8
Neighbor	2	0.9

Table 5: Practice of self-medication according to personal characteristics of participants

Personal Characteristics	No (n=279)		Yes (n=121)		p-value
	No.	%	No.	%	
Age groups (in years)					
<20 years	44	84.6	8	15.4	
20-40 years	208	68.4	96	31.6	
>40 years	27	61.4	17	38.6	0.028†
Sex					
Males	79	61.7	49	38.3	
Females	200	73.5	72	26.5	0.016†
Nationality					
Saudi	238	67.0	117	33.0	
Non-Saudi	41	91.1	4	8.9	0.001†
Education					
Illiterate	7	58.3	5	41.7	
Primary	13	81.3	3	18.8	
Intermediate	50	83.3	10	16.7	
Secondary	103	72.5	39	27.5	
University	106	62.4	64	37.6	0.018†
Occupation					
Unemployed/housewife	99	71.7	39	28.3	
Governmental	75	65.8	39	34.2	
Private	16	76.2	5	23.8	
Military	18	78.3	5	21.7	
Retired	0	0.0	5	100.0	
Student	71	71.7	28	28.3	0.015†
Marital status					
Single	69	75.0	23	25.0	
Married	197	67.7	94	32.3	
Divorced	3	50.0	3	50.0	
Widow	10	90.9	1	9.1	0.156

† Statistically significant

Discussion

Our results indicated that self-medication is a common practice among attendants of PHCCs in Abha City. Almost one-third of participants practiced self-medication during the previous year.

This is quite alarming, in view of the possible hazards associated with such practice. This finding confirms the previously published reports that self-medication is widespread among the Saudi general population (12). This finding is in agreement with those reported by several studies. In Riyadh City, Alghanim found that, over a period of two weeks before his survey, 35.4% of respondents used self-medication (13).

However, studies conducted in different parts of the world varied in their estimation of the percentage of patients who practice self-medication, with prevalence rates ranging from 13% to 92% (14). In China, Bi et al.(15) reported that 32.5% of the population practice self-medication. In Pokhara Valley, Western Nepal, Shankar et al.(16) reported that 59% had taken some form of self-medication during the preceding six months. In Ethiopia, Solomon and Abebe reported that the prevalence of self-medication was 27.6% (17). A rate of 85% was reported by Omolase et al.(18) among patients attending the General Outpatient Clinic in Nigeria.

Alghanim explained this wide range in self-medication practices by the variable definitions of self-medication, employed methodologies, their cultures, and health care systems (13).

Our study indicated that the main motives for practicing self-medication were positive past experiences with the medication, for which the patient developed trust, to avoid long waiting times outside the doctor's clinic, difficult transportation, lack of confidence towards PHC physicians (10.7%), or unsuitable PHCC service hours.

These findings are in accordance with those of Alghanim, who stated that four health-related variables (perceived health status, presence of chronic illness, perceived

access to healthcare, and satisfaction with health care) have significant independent associations with the practice of self-medication (13).

Several studies have revealed that different factors may influence self-medication, including lack of patient satisfaction with the healthcare provider, and high cost of drugs (14). Yousef et al.(19) noted that the common reasons for self-medication in Amman, Jordan were the long waiting time to be seen by the doctors; avoiding the high cost of doctors' visits; and having ailments that are too minor to be cared for by a doctor.

Fuentes et al.(20) in Chile and Balbuena et al.(21) in Mexico reported that respondents who had difficulties in accessing healthcare facilities were more likely to practice self-medication. In Ethiopia, previous experience and the non-seriousness of the illness were the two major reasons for self-medication(22).

In Saudi Arabia, Alghanim stated that several reasons were stated by respondents for self-medication, which include: lack of time to attend health facilities, long waiting times to be seen by the doctor, and to save the cost of consultations (13). He stressed that these findings raise a number of questions related to the availability of, and accessibility relevant to the whole PHC system, i.e., the working hours of the PHC facilities, the waiting times, and patients' perception regarding the quality of provided health services.

Our study revealed that the main complaint for self-medication practice was having minor ailments, followed by dyspepsia and skin disease. These findings are in agreement with those of Solomon and Abebe in Ethiopia; (17) and Jaquier et al. (23), in France, who reported that the commonest illnesses that led to self-medication were minor ailments (e.g., headache, mild fever, cough, and diarrhea).

The present study indicated that analgesics were the main drug sought for self-medication (47.9%), followed by anti-dyspepsia (32.2%), antipyretics (16.5%), antihistamines (9.9%), vitamins (8.3%), and antitussive/expectorant (7.4%).

In Ethiopia, Abay and Amelo reported that the most common drugs for self-care were paracetamol (46.3%), followed by antacids (12.2%), anti-helminths (10.9%), antibiotics (4.8%), and antimalarials (3.7%)(24). In Nepal, antimicrobials were commonly used for self-medication (16).

Our study showed that pharmacists constituted the main source for participants' information and advice about self-medications, followed by the physician. Similarly, Alghanim indicated that about 80% of respondents who reported using self-medication declared that the pharmacist was their major source of both provision of self-medication and information (13).

This is not surprising, since, except for a very limited number of drugs, it is possible for any individual in Saudi Arabia to buy any drug products over-the-counter without the need to have a prescription. This is probably due to the lack of regulations enforcement regarding drug dispensing.

These findings are consistent with those reported from other neighboring countries, such as Sudan, (25), and Palestine, (7) which confirmed that pharmacies in these countries play a major role in the wide prevalence of self-medication among the population. In Jordan, Yousef et al.(19) added that patients' choice of non-prescription medication was based on advice received from pharmacy staff, friends/relatives, or informal advice from other health professionals. Alternatively, patients used to select medications according to their previous experience with similar symptoms or diseases.

Raynor et al.(26) stated that pharmacists might play a more active role in helping educate patients, especially since a large number of people do not pay attention to written information provided with medicines. The role of the pharmacists is mainly seen as that of a drug salesman rather than that of a healthcare provider.

Therefore, patient education and awareness campaigns are necessary to promote the role of the pharmacist, particularly since pharmacists can play an active role in the provision of drug information. In view of the wide spectrum of drugs that are available over the counter, it is vital that pharmacists assume this role after appropriate training and with continuing professional development programs.

The poor contribution of physicians in the provision of health education on proper self-medication and self-care has been explained by Alghanim, who found that doctors were the least persuasive source of information about self-medication since many people have the strong impression that doctors do not approve of self-medication (13).

Our study revealed that 70.7% of participants' condition improved after self-medication. However, the condition deteriorated in 7% while there was no change in 22.3%. This finding reveals two important points. The first is that self-medication is a type of self-care, if properly practiced improvement of the health condition can occur. The second is that those who practice self-medication should be fully aware of their medication condition and the action as well as the expected side effects of the medication they take. Hence, health education of the public is an important preliminary strategy to avoid the possible hazards of self-medication.

This study revealed that self-medication was significantly more practiced by older participants and significantly more by males than females. Self-medication was significantly more practiced by Saudi than non-Saudi patients. It was significantly more practiced by both illiterate and university-educated participants than others. Self-medication

practices were also significantly influenced by participants' occupations, being highest among retired participants.

Differences in self-medication practices according to nationality may be explained by differences in socioeconomic levels. The fact that non-Saudis working in Saudi Arabia have lower incomes than Saudis explains the significantly lower practices of self-medication among non-Saudis.

Wazaify et al. (27) stated that self-care choices vary according to gender, age, and socioeconomic status. In Ireland, females report buying OTC medicines more often than males, and younger more often than older adults do.

In Kuwait, Abahussain et al.(12) reported that self-medication increased with age. This may be due to children becoming more aware of their health needs as they grow older. Males also use more products for muscular pain, which may be explained by the fact that they tend to do more physical activities, which often result in sprains and injuries. Shankar et al. (24) added that the better socioeconomic status of men, their better earning power, and their higher educational level are probably among the reasons. Also in Khartoum, Sudan, Awad et al. (25) reported that the level of education of patients has an impact on the practice of self-medication.

In Jordan, Yousef et al. (19) reported that patients' age was the only factor that influenced the extent of self-medication, where patients younger than 16 years and those older than 60 years were less likely to self-treat. This may be because children and the elderly were perceived as more liable to the adversity of self-medication.

In Germany, Du and Knopf found that the higher the socioeconomic status of the family, or the higher the educational level of participants, the more the practice of self-medication (28). However, in Japan, Aoyama et al.(29) found interesting age differences in practicing self-medication. Younger adults were less likely to see a doctor because of the high medical costs, while elderly adults were less likely to see a doctor due to the lack of transportation.

Alghanim(13) stated that gender had a significant independent association with self-medication practices. Until recently, women in Saudi Arabia were not permitted to drive a car and many do not leave home without a male escort. Accordingly, they were less likely to seek medicine from sources, such as private pharmacies. He added that satisfaction with the quality of provided healthcare services is an important determinant of health resource utilization. Patients who were dissatisfied with the quality of PHC services were more likely to practice self-medication. An individual's decision to use a particular source of healthcare involves many factors related to sociodemographic characteristics, illness type, and severity, perceived health status, the range and accessibility of therapeutic options available, and their perceived efficacy (13).

Study limitations

Several limitations should be considered while probing the results of this study. Respondents were asked to report on their self-medication practices over a period of the past 12 months. So, the problems associated with recall bias should be taken into consideration. Moreover, the findings of this study were based on self-reported data and therefore are totally subjective.

Conclusions

Based on findings of the present study it is concluded that self-medication is commonly practiced in Abha City. The main reason for practicing self-medication is having a prior personal experience with the medication. Self-medication is mainly practiced when complaining of a minor ailment, with analgesics being the most frequently bought drugs. Pharmacists are the main source of advice for self-medication and information about medications. Some cases deteriorate after self-medication. The determinants of more practice of self-medication include older age, male gender, Saudi nationality, illiteracy or high literacy.

Therefore, it is recommended that physicians at primary health care facilities should provide health education on proper self-medication and self-care to attendants. The Ministry of Health should focus on ensuring that people have adequate and easy access to primary health care facilities. The working hours of the primary health care facilities should be organized to suit their clients. Waiting times at health care facilities should be minimized. The perception of patients toward provided quality of health services should be improved. Enforcement of regulations regarding drug handling and dispensing. To conduct more research about the prevalence, determinants, effectiveness and side-effects of self-medication in Saudi Arabia.

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