Knowledge, Attitude and Practices of Self-Medication Among Community Pharmacy Consumers' Perspectives in Derna City, Libya

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ABSTRACT

Self-medication may be associated with side effects and increases the chance of drug interactions and also affects the potency of treatment and quality of life. This study aims to estimate knowledge, attitude and pharmacy practices concerning the usage of the drugs without prescription and identifying demographic factors that could influence self-medication among the consumers of community pharmacy in Derna- Libya. Cross-sectional study was conducted among 389 participants randomly selected depending on multi-stage random sampling technique. Data were collected by using a structured questionnaire distributed over 10 different regions in Derna city. This study continued over 2 months, in our result 215 (55.3%) of total participant used the self medication, most of them were male, the mean age of participants was 37.40 ± 13.190 ranged from 14 to 83 years, most of participants 179(46%) were in university level, 235(60.4%) were in low-income level and 214(55%) were employee. In our result 111(28.5%) of participants had low level of knowledge regarding the safety of self-medication, 186 (47.8%) don't know OTC medication and prescription only medication. Based on the attitude total score 215 participants had negative attitude toward self-medications, 159 (40.9%) always purchase the medication without prescription, the most common reason for taking self-medication was that there was no need to visit the doctor for minor illness. And the most of medication dispensed without prescription were analgesics antipyretics for cases of cold and flu as well as in pain. Pharmacy practices were good, most of pharmacist provided information about drug interactions if taking this medicine without a prescription (84.6%) and did not face difficulties to find information about the medicine.

Keywords: Self-medication, Knowledge, Attitude, Practice, Derna city-Libya

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INTRODUCTION

Self-medication is the use of medicinal products by the individuals to treat self-recognized disorders or symptoms, it also involves the intermittent or continuous use of a medication prescribed by doctors for chronic or recurring diseases or symptoms¹. Serious side effects, drug resistance,

some illnesses and even mortality are its problem; moreover, the financial costs increased by individuals and governments are often very high².

The term over-the-counter (OTC) is used to describe the medicines. Such available to offer benefits in

terms of convenient access to, and choice of, medicines as well as involving individuals as active participants in their own health and the treatment of diseases³. There has been a tendency for the public to perceive OTC medicines to be safer than prescription medicines^{4,5,6}, but it has been recognized that OTC medicines have the potential for harm as well as benefit⁷. This may result in what has been variously referred to as the misuse or abuse of OTC medicines and their potential to cause addiction and dependency⁷.

The medicines such as stimulants, laxatives, sedatives and substances such as dextromethorphan, they noted that in relation to abused drugs, and their review tellingly omits opiate-based OTC analgesics, combine codeine or dihydrocodeine with either ibuprofen or paracetamol and have caused addiction and also gastric or hepatic damage, respectively^{8,9}. 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 different developing countries, and purchasing the prescription medications without a prescription^{10,11}.

Inadequate knowledge of medication use may lead to misuse by community and patients noncompliance with a drug regimen and results in serious outcomes like adverse drug reaction and reduction of the quality of treatment¹². Previous studies conducted in different areas suggested that people had a poor knowledge about the pros and cons of self-medication, as a result their outlook toward self-medication practice were majorly favorable for any perceived illness¹³. A variety of studies have documented some of the major factors affecting or contributing to self-medication. One of these factors involves reforms in the health sector, Others include access to health care facilities, medical factors, socioeconomic factors, such as awareness about health, access to medical information, and educational level¹⁴, the increase in cases of self-medication has been attributed to issues such as new technological developments (including the dominance of the Internet and online interactions), improvements in the socioeconomic status of individuals, level of education, and the people's general knowledge¹⁵, for these reasons, and in addition to there are limited studies on self-medication in Derna city, so the aims of our study to

assess the knowledge, attitude, and practices of self-medication among community pharmacies in Derna city, also to know the most types of drugs used by self medication in compare with non self medication.

METHODS AND MATERIALS

A questionnaire-based cross sectional study were used. The questionnaire consisted of personal information (gender, age, level of education, income of family, occupation) and other question related to knowledge, attitude, and practices of prescribed and non-prescribed medicines. In addition to questions of the pharmacy has to be answered. Community pharmacies were 10 pharmacies in different regions in Derna city, which they are selected randomly, where the sample size for this study was calculated by using Raosoft sample size calculator. It was calculated assuming a prevalence rate of self-medication to be 50% in population size of 130000 in Derna. Assuming a 95% confidence interval and 5% margin of error, the minimum effective sample size calculated for this study was 383.

The study was continued over 2 months started in June to August 2020. Data collectors distributed the questionnaires to consumers buying medications with or without prescriptions from the selected pharmacies at different times of the day, but not included consumers buying cosmetics and medical equipment. The questionnaire was written in Arabic language, in cases where consumers were blind or can't read the question, the pharmacy was asked to interview them and complete the questionnaire on their behalf.

Data were analyzed using Statistical Package of Social Science (SPSS version 25.0). Descriptive statistics (frequencies, percentages, mean, range and standard deviation.) were used to describe the categorical study and outcome variables. Chi-square test was used to compare the distribution of proportions between two groups and p value ≤ 0.05 were considered statistically significant.

Appropriate scoring was done for the assessment of knowledge, attitude and practice regarding self-medication among participants. Each correct answer = 1 mark; each incorrect answer = 0 mark. Minimum score was "0" and maximum score was 5 for knowledge questions, 4 for attitude questions, and 2 for practice questions. Patients score 70% and

above was taken as having good knowledge, attitude and practice less than was taken as having bad knowledge, attitude and practice.

RESULTS

A total of 389 participants were included in the study, 215(55.3%) of them take a medicine without prescription (Table 1 & Fig 1). Of these, 257(66.1%) were male and 132(33.9%) were female. Moreover, the mean age of participants was 37.40 ± 13.190 ranged from 14 to 83 years. Most of participants 179(46%) were in university level, 235(60.4%) were in low-income level and 214(55%) were employee (Table 2).

Table 1: the medications dispensing with and without prescription (N=389)

Type of medicine	Frequency	%
With prescription	174	44.7
Without prescription	215	55.3
Total	389	100.0

Fig 1: show the medication dispensed with and without prescription

Table 2: Socio-Demographic Characteristics of the Study Participants (N=389)

Participants	Freq.	%
Age		
≤30	152	39.1
31-40	91	23.4
41-50	80	20.6
51-60	48	12.3
61≤	18	4.6
Gender		
Male	257	66.1
Female	132	33.9
Level of education		
Preparatory	41	10.5
Secondary	50	12.9
Diploma	91	23.4
Universal	179	46.0
Postgraduate	28	7.2
Family Income		
Low (less than 1200 LD)	235	60.4
Medium (1210 & less than 2400 LD)	122	31.4
High (2400 LD & more)	25	6.40
Occupation		
Student	63	16.2
Employee	214	55.0
Retired	18	4.60
Business	6	15.7
Other	33	8.5

Knowledge of self-medication

Based on the knowledge total score, 215 participants had not good knowledge regarding self-medication. 111 (28.5%) of participants had low level of knowledge regarding the safety of self-medication, 186 (47.8%) don't know OTC medication and prescription only medication. While 127 (32.6%) and 186 (47.8%) of 215

participants know how to take the medicine also know the dose of medications respectively and 175 (45.0%) don't know the drug interaction of medications that purchased (Table 3 & Fig 2). There is no statistically significant difference between the level of knowledge to the use of self-medication among participants and their age ($X^2 = 1.596$, $p = 0.810$) (Table 4).

Fig 2: Shows the knowledge toward the self medication

Table 3: Show the Knowledge of self-medication

Knowledge	Frequency (%)	
	Yes	No
Do you think buying a medication without prescription is a safe way of using medication?	111(28.5)	104(26.7)
Do you know that the medicine you bought needs a prescription?	186(47.8)	29(7.5)
Do you know how to take the medicine?	127(32.6)	88(22.6)
Do you know the dose of the medicine	186(47.8)	29(7.5)
Do you know the drug interactions with this drug?	40(10.3)	175(45.0)

Attitude toward the self-medications

Based on the attitude total score 215 participants had negative attitude toward self-medications, 159 (40.9%) always purchase the medication without prescription, but based on total score 389 recorded positive attitude, 251 (64.5%) think the consultation of pharmacist don't takes the place of seeing a physician, 364 (93.6%) consult the pharmacy to give them the correct medicine if they don't see the

doctor, and 161 (41.4%) ask the pharmacist about drug information (Table 5). There is no statistically significant difference between the level of attitude to the use of self-medication among participants and their age ($X^2 = 1.357$, $p = 0.852$) (Table 6).

More than third of participants 124 (31.9%) had reported that they always read the pamphlet when they bought medication without prescription and 84 (21.6%) said sometimes (Table 7).

Practices toward self-medication

In general pharmacy practices is very good, most of pharmacist provided information about drug interactions if taking this medicine without a

prescription (84.6%) and did not face difficulties to find information about the medicine (91.3%) (Table 8).

Table 4: Knowledge of participants about self-medication

Variables	High knowledge	Low Knowledge	X ²	p-value
Age				
≤30	39(42.9)	52(57.1)	1.596	0.8100
31-40	23(45.1)	28(54.9)		
41-50	20(40.0)	30(60.0)		
51-60	14(46.7)	16(53.3)		
61≤	5(62.5)	3(37.5)		
Gender				
Male	62(38.8)	98(61.3)	5.690 ^a	0.021
Female	39(55.7)	31(44.3)		
level of education				
Preparatory	9(40.9)	13(59.1)	8.303	0.081
Secondary	10(29.4)	24(70.6)		
Diploma	22(44.0)	28(56.0)		
Universal	49(45.0)	60(55.0)		
Postgraduate	11(73.3)	4(26.7)		
Family Income	66(48.9)		5.677	0.059
Low (less than 1200 LD)	29(38.7)	69(51.1)		
Medium (1210 and less than 2400 LD)	29(38.7)	46(61.3)		
High (2400 LD and more)	3(20.0)	12(80.0)		
Occupation				
Student	6(16.2)	31(83.8)	15.114	0.004

Employee	66(51.6)	62(48.4)
Retired	6(54.5)	5(45.5)
Business	18(42.9)	24(57.1)
Other	5(41.7)	7(58.3)

Table 5: show the attitude among the consumers if they purchased the medication without prescription

Attitude	Frequency (%)		Total
	Yes	No	
Are you always purchase the medicine without prescription	159(40.9)	65(16.7)	215
Do you think the consultation of pharmacist takes the place of seeing a physician	251(64.5)	138(35.5)	389
When you buy the medicine without prescription. You consult the pharmacy to give you the correct medicine for your case?	364(93.6)	21(5.4)	389
When you buy a medication without a prescription, do you ask the pharmacist for information regarding the medication	161(41.4)	75(19.3)	389

Table 6: Attitude of participants about self-medication

Variables	Good attitude	Bad attitude	X ²	p-value
Age				
≤30	22(14.5)	130(85.5)	1.357	0.8520
31-40	10(11.0)	81(89.0)		
41-50	13(16.3)	67(83.8)		
51-60	8(16.7)	40(83.3)		
61≤	3(16.7)	15(83.3)		
Gender				
Male	41(16.0)	216(84.0)	1.491 ^a	0.142
Female	15(11.4)	117(88.6)		
level of education				
Preparatory	5(12.2)	36(87.8)	6.157	0.188
Secondary	3(6.0)	47(94.0)		

Diploma	12(13.2)	79(86.8)		
Universal	29(16.2)	150(83.8)		
Postgraduate	7(25.0)	21(75.0)		
Family Income				
Low (less than 1200 LD)	35(14.9)	200(85.1)		
Medium (1210 & less than 2400 LD)	17(13.9)	105(86.1)	0.097	0.952
High (2400 LD & more)	4(16.0)	21(84.0)		
Occupation				
Student	6(9.5)	57(90.5)		
Employee	27 (12.6)	12(66.7)	11.378	0.023
Retired	6(33.3)	12(66.7)		
Business	14 (23.0)	47 (77.0)		
Other	3 (9.1)	30 (90.9)		

DISCUSSIONS

This study was conducted to evaluate the knowledge, attitude and practice of self medication among community pharmacy consumers' perspectives in Derna city (Libya). This study included 389 participants; whose ages ranged from 14-83 years with a mean (37.40±13.190). The prevalence of self medication in our study was found to be 215(55.3%) of them take a medicine without prescription. It supported by the studies done in Saudi Arabia (51.2%) 16 and in Ain Shams University, Egypt was (55%).

Overall, participants (50.1%) of participants know how to take the medicine with the correct dose and 119(30.6%) know that the medicine they bought needs a prescription, in other hand had negative knowledge toward the drug interactions. There is no statistically significant difference between the level of knowledge to the use of self-medication among participants and their age (Table 4) ($X^2 = 1.596$, $p=0.810$). Most of participants had negative attitude toward self-medication

While 159(40.9%) always purchase the medicine without prescription and 251(64.5%) think the

consultation of pharmacist takes the place of seeing a physician. Good attitude toward the consultation of pharmacist about the medicinal information. And generally, more than third of participants always read the pamphlet before using the drug, when they bought medication without prescription (Table 7).

The most common reason for self-medication between participants was no need to visit the doctor for minor illness (23.5%)

As well as because of time saving (21.3%) and (18.7%) for economic reason (Fig. 3). The same finding of James et al., 2006¹⁸.

In the other hand the most common reason of non self-medication in this study was risk of worse the condition, about (30%) followed by risk of misdiagnosis, which scored about (25%) (Fig 4). In our study (Table 9) the drugs that are commonly used for self-medication were analgesics antipyretics it score (14.7%) of total participants in cases of cold and flu as well as in pain which agree with the earlier studies reported that analgesics was the most commonly used group of drugs^{18,19}, when we compare the uses of analgesics antipyretics by self medication with non self medication. Also, we

found (14.7%) of medication dispensed for self medication while (3.9%) were given with prescription which was the same as that in a study conducted in 2015 in Saudi Arabia¹⁶.

Table 7: Shows the attitude of all the consumers toward reading the pamphlet if they purchased the medication without prescription based on 389 participants

Participants	Frequency	%
Always	124	31.9
Usually	69	17.7
Frequently	11	2.8
Sometimes	84	21.6
Often	34	8.7
Rarely	38	9.8
Never	29	7.5
Total	389	100

Antibiotics had been used in present study by self-medication (6.7%) of the total participants. This

result was similar to other results reported by studies done in Karachi¹⁹ and India²⁰. In addition, studies from Nigeria²¹ and Egypt² have reported a higher percentage in antibiotics as self-medication. The current study revealed that participants thought that antibiotics are effective in the treatment of both bacterial and viral infection.

Table 8: Shows the pharmacy practices toward self and non self-medication

Pharmacy Practice	Frequency (%)	
	Yes	No
Does the pharmacist provide information about drug interactions if taking this medicine without a prescription?	329(84.6)	49(12.6)
Does the pharmacist find it difficult to find information about the medicine	23(5.9)	355(91.3)

Fig 3: Show the reasons of self medication

Pavyd et al.,²² showed that almost half of the respondents incorrectly identified antibiotics as being effective either in treating viral or mixed (bacterial and viral) infections. Also found cough preparation had (5.7%) of uses of the total participants. Incorrect self-diagnosis and, drug- drug interaction were the most common concerns about

self-medication found in our study. These findings were similar to observations made in Bahrain¹⁸ and Egypt¹⁷. In general pharmacy practices is very good, most of pharmacist provided information about drug interactions if taking this medicine without a prescription (84.6%) and did not face

difficulties to find information about the medicine (91.3%).

Fig 4: Shows the reasons of non self medication

Table 9: Medications bought without prescriptions among 389 consumers from community pharmacies

Type of medicine	Type of prescribed medicine		Total
	With Prescription	Without Prescription	
Analgesic and antipyretic	15(3.9%)	57(14.7%)	72(18.5%)
Cough preparation	14(3.6%)	22(5.7%)	36(9.3%)
Antibiotic	20(5.1%)	26(6.7%)	46(11.8%)
Anti-allergic preparation	17(4.4%)	14(3.6 %)	31(8.0%)
Vitamins	13(3.3%)	19(4.9%)	32(8.2%)
Antidiabetic	13(3.3%)	13(3.3%)	26(6.7%)
Antihypertensive and cardiac disease	10(2.6%)	16(4.1%)	26(6.7%)
Antacid and antiulcer	12(3.1%)	16(4.1%)	28(7.2%)
Oral contraceptive	9(2.3%)	4(1.0%)	13(3.3%)
Eye and ear drops	7(1.8%)	6(1.5%)	13(3.3%)
Antifungal preparation	8(2.1%)	2(0.5%)	10(2.6%)
Antidepressant	3(0.5%)	0	3(0.8%)
Antipsychotic	6(1.5%)	0	6(1.5%)
Anti-asthma	6(1.5%)	3(0.3%)	11(2.8%)
Antidiarrhea And Anti constipation	16(4.1%)	11(2.8%)	27(6.9%)

Others	5(1.3%)	6(1.5%)	11(2.8%)
Total	174(44.7%)	215(55.3%)	389

CONCLUSION & RECOMMENDATION

The results of our study which was conducted among consumers of community pharmacy in Derna city, The findings in this study revealed that drugs used for self medication, knowledge, attitudes and practices towards self medication, reasons that led the respondents to self medicate.

Through this study, we found that analgesic antipyretics most of the medication consuming by self medication followed by antibiotics and cough preparations, we found also bad knowledge and attitude toward the self medication in Derna city, but the pharmacy practices was good, incorrect self diagnosis and risk of drug interaction and serious of adverse effects is the most common problem that face the self medication, 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.

Also we suggest further research conduction in regards to the practice of self medication with traditional medicine were remarkably used in our country and Future research regarding the self medication among larger samples in different cities of Libya.

CONFLICTS OF INTEREST

We hereby declare that there are no conflicts of interest regarding the publication of this study.

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AUTHOR'S CONTRIBUTIONS

This work was carried out in collaboration with all of the authors. Author AAAR designed the study, wrote the protocol, collected the data and wrote the manuscript. Author RAE performed all of the statistical analyses and wrote the results. Author YSEM and NAMI managed the literature review. All authors reviewed and approved the final manuscript.

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