
Community pharmacists and other pharmacy practitioners' perception toward pharmaceutical services of over-the-counter medications in Benghazi city, Libya: a cross sectional study.

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Abstract: Background: Over the Counter (OTC) medications can be defined as the drugs that can be sold without a prescription from a registered medical practitioner. It's generally acceptable for patients to self-medicate their non-serious illnesses with a more accessible, easy to purchase (OTC) from community pharmacies, however, such feasibility and accessibility has definitely imposed a number of issues over the past few decades, issues of abuse, over or improper medication, and symptomatic relief or a more dangerous health situation. Aim: This current study was conducted to investigate the understanding of community pharmacists and other pharmacy practitioners, in the Libyan city of Benghazi, of the issues regarding (OTC) medications dispensing and focusing on their role, practice, opinion and future perspective regarding managing these medications using a self-administered questionnaire. Method: The data were labeled, entered and analyzed using descriptive analysis for percent and frequency. While, Chi-square test were used to test the relationship between categorical variables with level of significance equal to ($p < 0.05$). Results and discussion: The response rate was (67%) and the pharmacist's ratio among the participants was (58.96%) indicating that OTC and other medications are dispensed by (41.01%) of non-pharmacists making it unsafe in some cases. The OTC medications, the antibiotics and prescribed drugs were abused by both the pharmacists and other pharmacy practitioners with no significant difference as ($P\text{-value} > 0.05$). The commonly dispensed OTC were analgesics and antipyretics. While, the symptoms were population dependent.

Keywords: Over the counter; self-medication; community pharmacists; drugs; Libya

1. Introduction

Giving suitable health care to every person equally is anticipating task. So, numerous non-governmental and governmental healthcare institutes are working hand in hand to make this possible (Meher *et al.*, 2018). Accordingly, during a long period of time the status of many prescriptions only medications changed to over-the-counter medications (OTC), that carries rang of advantages to general practitioners, patients, pharmacists, government and pharmaceutical companies (Abduelmula *et al.*, 2018). The OTC medications are defined as drugs that can be sold and obtained without a prescription from registered medical practitioners (Cooper, 2013 & Jain *et al.*, 2012). So far, the liberalization of medicines has enhanced the community of self-medication. It is clear from various studies that the practice of self-medication is higher with OTC medications (Hanlon *et al.*, 2001). Recently, the self-medication and nonselective use of medications is one of the highest social, health and economic problems in different communities. The self-medication practice can be defined as the people tend to treat and solve their health

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issues and problem without taking the advice of health professionals (Fekadu *et al.*, 2020; Azami-Aghdash *et al.*, 2015). Largely, the general practitioners have an advantage of treating the nonserious illness without interferences. While, patients with different range of minor ailments can benefit from many effective medications being easily available. The benefits from OTC medications can be provided to patients by pharmacists in different retail pharmacies to help relieve their minor symptoms. The OTC medications use can benefit the pharmaceutical companies by freely marketing medicines and increase their uses and profit (Abduelmula *et al.*, 2018). However, such feasibility and accessibility has definitely imposed a number of issues over the past few decades, issues of abuse, over or improper medication, and symptomatic relief or a more dangerous health situation. Many reports have demonstrated these hidden dangers of this internationally recognized problem (Agaba *et al.*, 2004; Ajuoga *et al.*, 2004; Akram, 2000; Manohar & Manohar., 2015), Also, prolonged recovery and treatment durations, decreased clinical effectiveness leading to bacterial resistance to antimicrobial therapy, peptic ulcers, renal disease, hepatic problems (Machado-Alba *et al.*, 2014), adverse drug reactions and drug dependence (Fekadu *et al.*, 2020; Jalilian *et al.*, 2013). As well as, dangerous issues like deaths specifically in children and elderly (extremes of ages), pregnant and breast-feeding mothers and comorbidities patients with poly pharmacy can be association with OTC self-medication causing a concern not nationally but also globally (Tesfamariam *et al.*, 2019). The last connection between the patients and drugs are the pharmacists and dispensers of treatments. In many situations, the easy acceptable and accessible source of suggestion and advice are the pharmacists. Therefore, the behavior of patients can be amended by pharmacists including self-medication practice. In addition, the pharmacists could play an important role in giving reasonable, suitable and related data about medications and different aspects of OTC to patients (Meher *et al.*, 2018). In many countries, several conducted researches request the role and skill of pharmacists in whole system. As the pharmacists play enormous role in the process of drug purchase (Natasa *et al.*, 2018). The good pharmacy practice guideline has accepted as draft by international pharmaceutical federation which was recognized and published by WHO (Meher *et al.*, 2018). But yet, quantifying this phenomenon is still problematic and needs continuous research. In developing countries with weakened pharmaceutical services surveillance systems, the problem seems to be of a greater scale, yet with no sufficient data to analyze the Over the Counter (OTC) situation in these countries. Measuring the magnitude of this problem in these countries from a pharmacist point view could be of a better convenience to researchers. This current study was conducted to examine the understanding of the community pharmacists and other pharmacy practitioners in the Libyan city of Benghazi, of the issues regarding Over the Counter (OTC) medications dispensing and focusing on their opinion, practice and future perspective regarding managing these medications using a self-administered questioner.

2. MATERIALS AND METHODS

2.1. The study design and population

A cross sectional survey was conducted by randomly distributing a total of 200 copies of anonymous self-administrated questioners to seventy-seven community pharmacies covering all areas of Benghazi city. A total of 134 valid forms were completed by pharmacist and other pharmacy practitioners, and collected over a period of one month. The questioners were provided in English with Arabic translation to each question to insure comprehensive understanding of questions and correct answers by participants. The data from the returned questionnaires were labeled, entered and analyzed using descriptive analysis parameters such as percentage and

frequency. While, the significant differences between different groups of population and qualifications were tested by Chi-square test using Minitab 17 for desktop with level of significance equal to ($p < 0.05$). Therefore, missing data were not evaluated or used in analyses. The target population or participants were the community pharmacists and any other pharmacy practitioners in different community pharmacies in Benghazi city, eastern Libya. The purpose and goal of the study was stated and clarified as the beginning of questionnaire, also, the acceptance was taken orally before data collection and was voluntary.

3.2. The study tool: The questionnaire

In this study the used questionnaire was developed by reviewing previous studies on the same subject (Ravichandran, & Basavareddy, 2016; Shroti *et al.*, 2011) and the questions were modified to fit the current Libyan pharmacy practice situation. The questionnaire composed of total of 22 questions; all of them pre-formulated questions close ended questions. The questionnaire was divided logically into five integrative parts: The first part was covering general background information on the participant asking him/ her about: Qualification, Gender, and Number of working hours, and specific time shift of his /her coverage in working in a pharmacy. The second part asked participant to describe: the age, gender and number of patients seeking these medications who come in contact with the participants in their time shift and the most common dispensing units of some these medications as well. The third part was to investigate the prevalence and popularity of different pre-stated OTC medications among population, the symptoms dispensed for, and the opinion of the participants toward the necessity of these medications to different groups of populations including middle age, elderly and pregnant women. Meanwhile, the fourth part aimed to assist the community pharmacists and other pharmacy practitioners' practice and opinion regarding OTC dispensing. Finally, the fifth part questions were directed towards finding if there is a relationship between the qualification of participants and the abuse of OTC medication, antibiotics and prescribed medications as an OTC medication.

4. Results and discussion

4.1. Characteristics of the participants:

The demographic characteristics of participants were illustrated in (Table1). Out of 200 distributed questionnaires, a total of 134 valid forms were returned with respond rate of (67 %). Out of 134 participants, 79 (58.96%) were pharmacists and the rest were other medical professionals practicing pharmacy indicating that the OTC and other medications are dispensed by 55 (41.01 %) of unregistered pharmacy practitioners. The majority of participants were male 82 (61.19 %) that were comparable to number of male (43, 86%) participating in Meher *et al.*, (2018) work done among dispensers in retails pharmacies in South India. While, the number of pharmacists 17 (34%) were lower and non-pharmacists 33 (66%) were higher than the number of pharmacists and non-pharmacist in this study. Also, in Shroti *et al.*, (2011) study the percent of pharmacists qualified participants were lower (48%) than the percent of non-pharmacists qualified participants at community pharmacies. While, in Hussain & Ibrahim, (2011) study, 80.3% of participants were qualified with non-pharmacy related qualifications, that much higher than our result. As well as, Shakya *et al.*, (2021) work mentioned that the distribution of participants between male 27 (54%) and female 23 (46%) was nearly equal and different from our findings. In Kumar & John, (2021) study, the percent of male participants 39 (72%) were

more than female 15 (28%) that nearly comparable with the current study result. The average working hours of participants was 6 hours and the respond came from different time shifts.

Table 1: Background information of participants (N=134)

Parameters		Frequency (n)	Percent (%)
Qualification (n=134)	Pharmacists	79	58.95
	Non-pharmacists' practitioners*	55	41.05
Gender (n=134)	Male	82	61.19
	Female	52	38.81
Number of working hours (hrs)	4 to 6	81	63.79
	7 to 9	32	25.2
	10 to 12	13	10.24
	13 to 15	1	0.79
Time shifts (n=134)	Morning	36	20.21
	Afternoon	37	20.79
	Night	40	22.47
	Half day (Morning)	24	13.48
	Half day (Night)	9	5.06
	Friday	23	12.92
	Holidays	9	5.06

(N)=Number of participants, (n) = Number of respond, (OTC) = Over the counter.

* Pharmacist assistances =13 (9.70%), Physicians=14 (10.45%), Dentists=6 (4.48%), Students=14(10.45%),

Other professions=8(5.97%).

4.2. Characteristics of patients (customers):

The characteristics of patients were expressed in (Table 2/Figure 2&3). This section indicated that 45 participants (33.84 %) interacted with 11 to 20 patients /a day / their time shift seeking these medications. 29 participants (21.81 %) and 27 participants (20.3 %) came in contact with 21-30 patients and 5-10 patients /per their time shift respectively. The above-mentioned estimations of numbers of patients/a day / time shift ranging from 5 up to 40 will reveal a momentum (highest) number of patients falling between 11 and 20. In Ravichandran, & Basavareddy (2016) study, the majority of dispensers came in contact with more than ten patients seeking OTC medication a week. Also, In Shakya *et al.*, (2021) study, mainly all the pharmacists mentioned that they encountered with not less than five patients seeking OTC medicines a week. These results were less than this study results indicating the huge use of OTC medications among community in Benghazi city.

The majority of customers seeking OTC medication were male 111 (84.09%) and the rest were female 21 (15.91%). This result different to the result of Shroti *et al.*, (2011) study, in which the gender of customers seeking OTC were nearly equally distributed between male (43.7%) and female (56.3%). Whereas, in Nagaraj *et al.*, (2015) study, the majority of customers visiting the pharmacies seeking OTC were mainly male (70.83%) and the rest were female (28.2%) that different from this study. In Machado-Alba *et al.*, (2014) study, the minority of customers were male (37.4%) and the majority were female (62.6%), that opposite to the current study.

The age group of most acquiring customers competitively fell in the age group of 35-45 years and 25-35 years category as stated by 66 (45.52%) and 63 (43.45%) of the participants respectively, indicating that the age of most customers seeking OTC medications ranges from 25-45 years. Similarly, the mean age of customers were 37.4 years as stated by Shroti *et al.*, (2011). Meanwhile, the mean age of customers were 42 years that higher than the mean age of customers in this study as stated by Nagaraj *et al.*, (2015) study. This differences in gender distribution can be owned to region and the predominance of either age in a selected population.

The most favorite dispensing unit of solid dosage forms are strip as reported by 129 of participants (95.59 %) rather the whole packing unit. This suggesting the obvious insignificance of information enclosed in the accompanying leaflet to patients medicated by these medicines. The Gavronski & Volmer (2014) stated that patients in general consider the OTC medications safe, without regard to their negative effects. So, the patients ignore the drug leaflets and depend mainly on previous experience in drug use. Also, the Elhoseeny *et al.*, (2013) mentioned that one third of respondents (34.3%) as stated by community pharmacists may don't read the drug leaflets which in turn contribute to the problem of nonprescription medicine misuse. Also, Tesfamariam *et al.*, (2019) reported that (31.3%) of the customers stated that they never read the drug leaflets. The previous studies different from this study that our result much higher.

Parameters		Frequency (n)	Percent (%)
Number of patients (n=133)	Less than 5 patients	4	3.01
	5-10 patients	27	20.3
	11-20 patients	45	33.84
	21-30 patients	29	21.81
	31-40 patients	19	14.29
	More than 40 patients	9	6.77
Gender distribution of patients (n=132)	Male	111	84.09
	Female	21	15.91
Age distributions of patients (n=130)	15-25 years	7	4.83
	25-35 years	63	43.45
	35-45 years	66	45.52
	More than 45 years	9	6.21
Dispensing unit of solid dosage form	Packet	6	4.45
	Strip	129	95.56

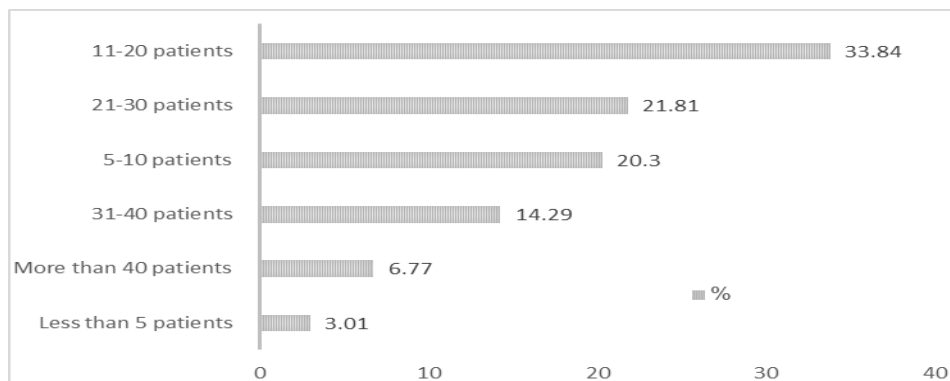


Figure 2: The approximate number of patients per time shift and the daily sales of OTC.

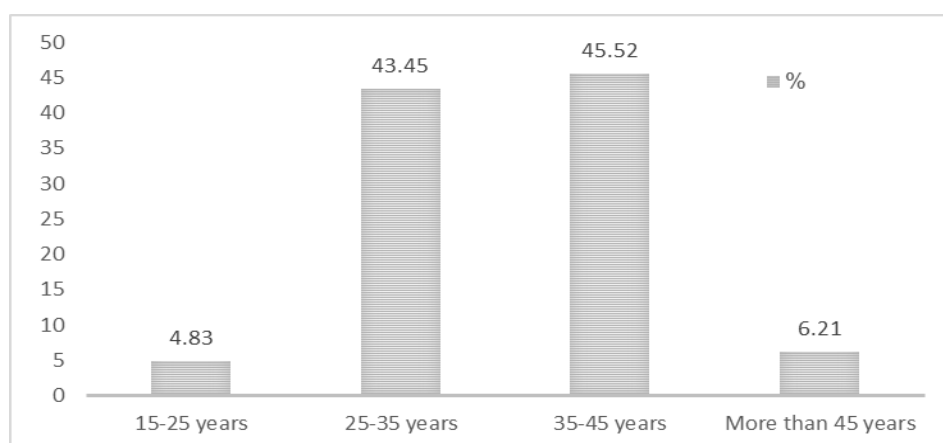


Figure 3: The age distribution of customers.

4.3. The prevalence of symptoms, popularity of OTC medications among different customers population and association between symptoms and OTC.

4.3.1. The prevalence of symptoms, popularity of OTC medications among different customers population

The results of this part were illustrated in (Table 3 and figure 4). This study showed that analgesic, antipyretics and anti- dyspepsia medicines were the most dispensed categories of OTC medications among Libyan patients in Benghazi city that come in line with the most common symptoms prevailed in different age groups of the same population including headache, colds, acidity, back and joint pain. These results were in accordance with Shroti *et al.*, (2011) study that antipyretic and analgesic were the most dispensed categories of OTC medications, then they followed by antihistamine that is different to this study results in which anti-dyspepsia medications came after. Similarly, in Shakya *et al.*, (2021) work, the participants mentioned that the most commonly dispensed OTC medications were antipyretics and analgesics (98%), gastritis medications (96%), then antihistamines (72%) that comparable to the current study results. In Ravichandran, & Basavareddy (2016) study, the common asked OTC medicines were analgesics (75%), antacids (48%), antihistamines (40%), and others (35%) The symptoms for which the OTC medications dispensed and experienced among patients were pain in general, common cold,

headache, fever, acidity, vomiting and joint pain in decreasing order. These findings also came in line to the current study results. In Nagaraj *et al.*, (2015) study, the most commonly dispensed OTC medicines were analgesics (26.8%), antihistamines (15.2%), antacids (14.8%), antibiotics (10%), antipyretics (7.8%) and others. These results were comparable with this study results for analgesics. Meanwhile, the main symptom among patients were pain (26.80%) that were comparable with our results, the other symptoms were infections of respiratory tract (24.50%), gastrointestinal tract problems (22.22%), headache (6.01%), and others (10.18%). In Tesfamariam *et al.*, (2019) study, the most common groups of OTC medication used by customers were analgesic, antipyretics, cough and cold preparations, then antacid; by (34.3%), (15.7%), (14.2%) and (10.2%) of respondents. These findings were similar to the current study findings for analgesic, antipyretics and then dyspepsia medicines not cough and cold preparations. Also, Machado-Alba *et al.*, (2014) mentioned that the prevalence of used OTC groups was in the following order; analgesics/antipyretics (44.3%), antihistamines (8.5%), (6.3%) antibiotics. They used this medication for the following symptoms headache (54.1%), flu (15.7%), muscle pain (12.8%), infection (6.4%), which was comparable to this study for analgesics/antipyretics common use and headache as common symptoms. In Aghdash *et al.*, (2015), found that most common used OTC medications were analgesics (53.2%), antibiotics (43.4%), and flu medications (40.4%), for the following symptoms respiratory diseases (39.8%), common cold (39.5%) and headache (37.3%) (Azami-Aghdash *et al.*, 2015). In several countries, the analgesics/antipyretics establish the first line of treatment in many medical conditions existing with fever and pain. In which, these OTC medications help relief symptoms. But there is a growing fear about the unselective use of this type of OTC as a result of fear of hiding serious illness and related side effects (Machado-Alba *et al.*, 2014). While, sleeping aids and sedatives were the least dispensed categories of OTC medications and this is a good indication of how low is the prevalence of these medications between customers in first place and in society in second place. In Azami-Aghdash *et al.*, (2015), sedative was used by (37.6%) of population that came after the three common groups of OTCS that is different from the results of current study.

Table 3: The categories of OTC medications and their prevalence among populations (N=134) and (n= 134)

The categories of OTC medications	The dispensing quantities in packages or bottles (n)					The percent (%) in total
	1 to 3	4 to 5	6 to 8	9 to 11	More than 11	
Analgesic	8	24	17	35	52	15.47
Antipyretics	5	19	21	37	51	15.37
Anti- dyspepsia	13	25	30	25	29	12.25
Antidiarrheal	78	24	14	4	3	9.23
Antihistamine	50	38	23	12	2	8.11
Multi Vitamins	38	38	26	14	9	7.65
Calcium	52	33	23	8	4	7.25
Iron	61	37	13	8	3	7.11
Antiemetic	60	37	16	5	5	6.51
Sedatives	75	21	12	5	1	5.88
Sleeping aids	84	15	9	3	2	5.18

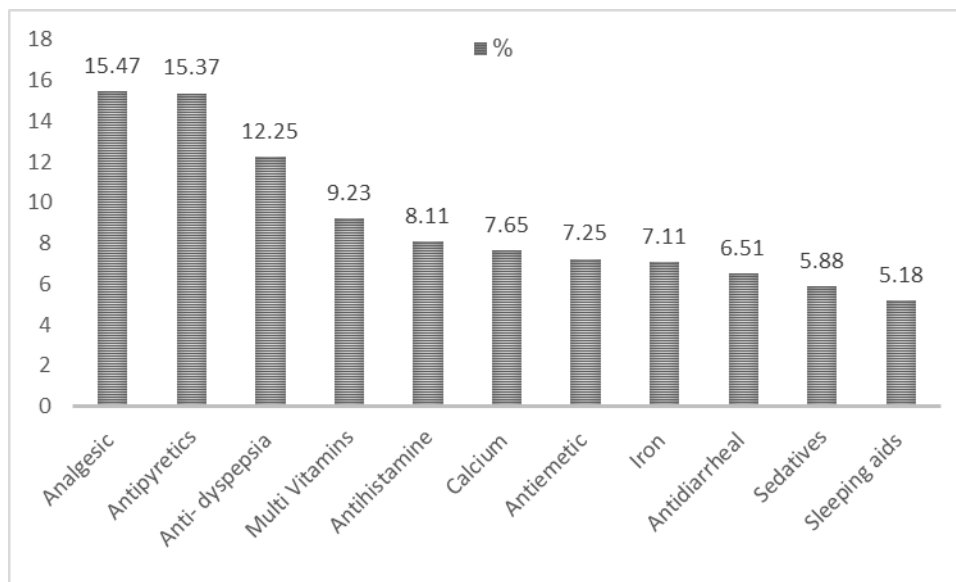


Figure 4: The prevalence of different categories of OTC medications.

4.3.2. The association between symptoms and OTC population acquisition

The spread of symptoms was different with each group of population that the most common symptoms within the middle age population were acidity and back pain, while within the elderly were back pain and joint pain and within the pregnant women were acidity and headache. There is a significant relationship between the symptoms and population groups and they are dependent according to ($P < 0.05$).

Elderly population is allied with high incidence of chronic disease, a huge number of medications used and an increased need for all medical services including self-medication practice with OTC medicines. So, this practice was of great importance as a result of numerous variables such as multiple co-morbidities, polypharmacy, and physiological changes which increase the incidence of adverse drug reactions. In elderly population, the long-term painful condition is frequent, consequently many conditions are treated with OTC analgesics (Goh *et al.*, 2009). This finding came in line with this study finding that pain was common among elderly population as stated by participants.

The pain in elderly come from minor complaints including pain, flu and allergies, constipation, arthritis and gastrointestinal problems. The other commonly used groups of OTC among elderly were nutritional supplements, respiratory preparations for colds and coughs and gastrointestinal agents. In developed countries, among population aged 65 years and more, there is a 20–30% of people used analgesic on any one day as claimed in Francis *et al.*, (2005) study. These finding came in accordance with the current study result in which pain, common cold and gastric problems were also prevalence among elderly in our study.

Regard the use of OTC and related symptoms in pregnant women. The medication prescription contained a printed warning to use OTC medicines without medical advices. Nevertheless, a study stated that pregnant women use between 2.3 and 2.6 medication with no prescription as OTC. Among these medicines; vitamins and iron as dietary supplements were the commonly used medicines, then analgesics and antacids. These commonly used OTC came in

line with our stated symptoms, that acidity, vomiting, headache, common cold and anemia were mentioned by the participants for pregnant women. Another study has stated that two thirds of women discharged after gave birth had used OTC medications during their pregnancy. Also in another study, the rates of OTC medicines use; before pregnancy, during the first trimester and during the third trimester were (88%, 71% and 79%) respectively (Tillett *et al.*, 2003).

Table 4: The prevalence of symptoms according to different groups of the population

Symptoms	Population group (N = n = 134)		
	Middle aged population	Elderly population	Pregnant women
Common cold	91 (11.19)	44 (6.74)	68 (9.9)
Headache	74 (9.1)	67 (10.26)	86 (9.9)
Fever	39 (4.8)	26 (3.98)	28 (4.08)
Acidity	104 (12.8)	93 (14.24)	87 (12.66)
Vomiting	16 (1.97)	9 (1.38)	83 (12.08)
Joint pain	83 (10.21)	97 (14.86)	15 (2.18)
Diarrhea	24 (2.95)	25 (3.83)	3 (0.44)
Constipation	76 (9.35)	90 (13.78)	39 (5.68)
Back pain	95 (11.69)	101(15.47)	26 (3.79)
Tooth pain	69 (8.49)	21 (3.22)	42 (6.11)
stomach pain	33 (4.06)	33 (5.05)	39 (5.68)
Skin disorders	22 (2.71)	9 (1.38)	26 (3.79)
Anemia	13 (1.6)	19 (2.91)	42 (6.11)
Hair problems	23 (2.83)	2 (0.31)	39 (5.68)
ENT	30 (3.69)	16 (2.45)	12 (1.75)
Cosmetics	21 (2.58)	1 (0.15)	52 (7.6)

4.4. Participants' practice and Opinion regarding OTC dispensing:

The results of this part were expressed in (Table 5). The results showed that an approximately all the participants 114 (87.03 %) said that patients rather prefer going to the pharmacy than to go to a hospital to be medicated. Also, 124 (93.23 %) of the patients are self-mediators that matches the values for the previous question. This result was comparable with Okai *et al.*, (2019) study, who have found that an about (84%) of patients recurrently go to the community pharmacies to treat the minor ailments complained which was comparable with this study results. As well as, the pharmacies were considered by more than (50%) of patients as first contact point in any problems related to drugs. Also, in Rabbani *et al.*, (2001) work, it was mentioned by nearly the majority (97%) of pharmacy attenders that patients contact pharmacy as first line health care to provide medications for different illness without prescription, this finding was in line with our findings.

The majority of participants 102 (79.12 %) advises the patients to consult the doctor if the conditions, for which the OTC medications were taking, persist. This result was different from Kumar & John, (2021) work, in which only (37%) of participants advice the patient to consult doctor before taking OTC medications As well as, in Meher *et al.*, (2018) study only 36% of participants advice patient to consult doctor that different from this study result. Similarly, in Ravichandran, & Basavareddy (2016) study, among the interviewed pharmacists only 50% ask patients for medical advice before OTC dispensing which also different from our results.

The choice of active ingredients of the OTC was always made by participants as proclaimed by 101 (76.52 %) of them. In Shroti *et al.*, (2011) study, the choice of OTC medication was made

by patient that was different to this results in which majority of participants (101, 76.52%) choose the OTC medication rather than patients (31, 23.49%).

Most patients ask for their OTC for refill by generic name and by shape and color of drugs or containers as stated by 62 (39.24 %) and 64 (40.51 %) of participants respectively. and most of them trust brands rather than generic as stated by 99 (73.89 %) of participants. Also, in Shrotri *et al.*, (2011) study, only (37%) of participants stated that the patients ask for OTC medication by brand name only. This similar to this results study in which (39.24%) mentioned that patients ask for OTC refill by brand name.

The half of the pharmacists and pharmacy practitioners 67 (50 %) asked about the history of patients before dispensing the OTC medications. Shakya *et al.*, (2021) find that mainly all the participants (98%) ask about the symptoms before dispensing OTC medications. This different to this study results in which only half (50%) of participants asked for symptoms before dispensing OTC medications. While, most of participants (68.94 %) think that the pharmacists contribute to the problem of OTC abuse by patients and (58.78 %) think that other pharmacy attendants contribute to this problem. About all of the participants (95.49 %) think that there should be approved on guidelines for dispensing OTC medications among Libyan populations. In Ravichandran, & Basavareddy (2016) study, the authors mentioned that pharmacists and other pharmacy attender play an important role in promoting self-medication among consumers that is similar to the current study results.

Table 5: Participants' practice and Opinion regarding OTC dispensing

Question	Replay	Response, n (%)
Do most customers once experiencing these symptoms, go to the hospital first or the pharmacy? (n= 131)	Hospital Pharmacy	17 (12.98) 114 (87.03)
Do you think that Libyan patients are self-medicators, that don't like to go to hospitals in general? (n= 131)	Yes No	124 (93.23) 9 (6.77)
Do you always advise your patient to go to a hospital if their symptoms persist before taking the OTC medication? (n= 134)	Yes Sometimes No	102 (79.12) 0 (0) 32 (23.88)
For the first time, the choice of active ingredient to be dispensed as OTC medications was made by whom? (n= 132) /4	Pharmacist & other medical professions Patients	101 (76.52) 31(23.49)
How does the patient ask about these medications for refill? (n= 132)	By brand name By scientific name By shape and color or drugs or containers Others	62 (39.24) 3 (1.9) 64 (40.51) 29 (18.35)
Do you ask for customer medical history every time before dispensing the OTC medications? (n= 134)	Yes No Sometimes	67 (50) 11 (8.21) 56 (14.79)
Do you think that pharmacist contributes to the problem of OTC medication abuse? (n= 132)	Yes No	91 (68.94) 41 (31.06)
Do you think that there should be approved on guidelines for dispensing OTC medications among Libyan populations? (n= 133)	Yes No	127 (95.49) 6 (4.51)

4.5. The effect of the qualification of participants on the abuse of prescribed medications and antibiotics as an OTC:

4.5.1. The abuse of prescribed medications as an OTC:

This part answered by (98.51%) of participants and There is no significant difference between pharmacists and other pharmacy practitioners in abusing prescription drugs as OTC medications. As the value of P is larger than the level of significant (P -Value = 0.653, $P > 0.05$), there is no significant difference between pharmacists and other pharmacy attendants regarding prescribed drugs abuse as OTC by both (Table 6). The authors in Al-Mohamadi *et al.*, (2013) have found that every single drug available in selected pharmacies were sold unfortunately as OTC.

Qualification	Answer		Total
	Yes	No	
Pharmacist	55 (56.13)	23 (21.86)	78
Other pharmacy attendants	40 (38.86)	14 (15.13)	54
Total	95	37	132

4.5.2. The abuse of antibiotics as an OTC

All of the participants answered the question and There is no significant difference between pharmacists and other pharmacy attendants in abusing antibiotics as OTC medications. As the value of P is larger than the level of significant (P -Value = 0.479, $P > 0.05$), there is no significant difference between pharmacists and other pharmacy attendants regarding antibiotics abuse as OTC by both (Table 7).

Qualification	Answer		Total
	Yes	No	
Pharmacist	63 (61.31)	16 (17.68)	79
Other pharmacy attendants	41 (42.68)	14 (12.31)	55
Total	104	30	134

In this study, 77.61% of the participants dispensed antibiotics as OTC, nearly two third (63, 61.315) were pharmacists and the rest (41, 42.68%) were other pharmacy attenders. According to P -value=0.53, there were no significant difference between pharmacists and other pharmacy attendants in abusing antibiotics as OTC medications. In Jalilian *et al.*, (2013) work, it has been stated that the second abused OTC medication after pain relievers were antibiotics which in accordance to our results.

One of the reasons of antibiotics misuse was ease access of both the antibiotics in pharmacies and the availability of consultation from pharmacist. So, the pharmacists were the main helper in antibiotics misuse Khalifeh *et al.*, (2017). In eastern Mediterranean countries, the antibiotics

misuse is common. Similarly, the population in Sudan had misused antibiotics by (73.9%), Syria by (85%), Yemen (60%). On other hand, the misuse of antibiotics was less common in Tunisia (20%) (Khalifeh *et al.*, 2017). In Al-Mohamadi *et al.*, (2013) study, the majority of participants (97.9%) dispensed antibiotics as OTC on customers request or recommending them, that was in accordance to this study result.

5. Conclusion

The issues of OTC abuse are a global concern, and assisting the level of challenges we face in Libyan situation was indeed needed. In general, the problem of OTC abuse by public was created over years by contributions of unprofessional practices of pharmacists, medical professionals, pharmacies owners, cross talks of mass public themselves, and inadequate health system services in Libya. The role of pharmacist in the case is pivotal as well his role in creating solutions and interventions. the image of Libyan pharmacist needs to be polished and he/she should take that responsibility seriously.

6. Future work

The confusion of Over-the-counter medications with other medications can be easily sensed in this study, along with other concerns, and what was aimed to assist the OTC abuse issues, has uncovered some serious complicated issues of pharmaceutical practice situation in the eastern city of Benghazi. A triangle of complicated unprofessional relationships between pharmacist, medical professionals and consumers needs expanded investigation with future studies; to uncover reasons for abuse and to better plan future health education programs and future pharmaceutical practice renovations and interventions. This study may pave the way into identifying future pharmacy practice research land escapes and in our opinion, it was successful in the sense.

تصور صيادلة المجتمع وغيرهم من ممارسي الصيدلة تجاه الخدمات الصيدلانية للأدوية التي لا تستلزم وصفة طبية في مدينة بنغازي ، ليبيا:
دراسة مقطعية.

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المستخلص: الخلفية: يمكن تعريف الأدوية التي لا تستلزم وصفة طبية (OTC) على أنها الأدوية التي يمكن بيعها بدون وصفة طبية من ممارس طب مسجل. إنه مقبول بشكل عام للمرضى أن يعالجوا أمراضهم الغير الخطيرة بأنفسهم بسهولة بالأدوية التي يسهل شراؤها (OTC) من صيدليات المجتمع، ومع ذلك ، فإن مثل هذه العملية وإمكانية في سهولة الشراء و الوصول قد فرضت بالتأكيد عدداً من القضايا على مدى العقود القليلة الماضية ، منها قضايا إساءة الاستخدام ، والإفراط في تناول الأدوية أو تناولها بشكل غير لائق ، وتخفيف الأعراض أو الحالة الصحية لأمراض أكثر خطورة. الهدف: أجريت هذه الدراسة للتحقق من فهم صيادلة المجتمع وغيرهم من ممارسي الصيدلة ، في مدينة بنغازي الليبية، للقضايا المتعلقة بصرف الأدوية التي تصرف بدون وصفة طبية والتركيز على دورهم وممارستهم وآرائهم ومنظورهم المستقبلي فيما يتعلق بإدارتها باستخدام استبيان ورفي. الطريقة: تم تصنيف البيانات وإدخالها وتحليلها باستخدام التحليل الوصفي بالنسبة المقوية والتكرار. بينما استخدم اختبار Chi-square لاختبار العلاقة بين المتغيرات الفئوية بمستوى دلالة يساوي ($p < 0.05$).

النتائج والمناقشة: كانت نسبة الاستجابة (67٪) ونسبة الصيدالة بين المشاركين (58.96٪) مما يشير إلى أن الأدوية التي لا تتطلب وصفة طبية والأدوية الأخرى يتم صرفها من قبل (41.01٪) من غير الصيدالة مما يجعلها غير آمنة في بعض الحالات. تم إساءة استخدام الأدوية التي تصرف بدون وصفة طبية والمضادات الحيوية والأدوية الموصوفة من قبل كل من الصيدالة وممارسي الصيدلة الآخرين مع عدم وجود فرق احصائي كبير ($P > 0.05$). كانت الأدوية التي يتم صرفها عادة بدون وصفة طبية هي المسكنات وخافضات الحرارة. بينما ، كانت الأعراض تعتمد على السكان.

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