Republic of Iraq
Ministry of Higher Education and Scientific Research
University of Basra
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perception, attitude and practice of self - medication among population in Basra city

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A research submitted to the college of pharmacy university of Basra as a partial fulfillment of the requirements for bachelor's degree in pharmacy

Abstract:

Self-medication is defined as obtaining and consuming drugs without the advice of a physician either for diagnosis, prescription or surveillance of treatment.

objectives : The study was aimed at to investigate the knowledge, attitudes and practice of self-medication among the Basra population , southern Iraq.

Method: This population-based cross-sectional study was carried out from December 2020 to March 2021 in Basra city. The study was conducted by using both qualitative and quantitative data in which a web based structured questionnaire.

Results: A total of 500 male and female were aged between 12 and 80 years from Basra residents participated in filling out the questionnaire were involved in this study, out of them 75.60% were male, while 24.40% were females who administered self prescribed drugs in the last two months .

Most drugs for self-medication were obtained from the pharmacy or drug shops; and the most commonly used drugs were analgesic and antipyretics. Common reported illnesses were headache (75.90%) followed by fever and common cold (51.90%). Prior experience and the non-seriousness of the illness were the top two reported factors for self-medication.

Conclusions: Self-medication was practiced with a range of drugs from the conventional anti-pains to antibiotics. Although the practice of selfi-medication is inevitable; drug authorities and health professionals need to educate the population about the pros and cons of self-medication.

Keywords :Self_medications, Basra population, Drug, OTC.

1.Introduction

Self-medication is defined as taking medication without professional supervision to treat self recognized symptoms or disease [1]. It is generally including over the counter (OTC) medications and may involve prescription only-medications (POM) without medical review, at the same time it includes buying drugs by reutilizing previous prescription or taking advices from relatives, friends, posts on social media or consuming the medicines that are already available at home [2].

Self-medication with OTC medications is a worldwide public health problem [3] and is more experienced in developing countries [4]. Self medication also has advantages for healthcare systems as it facilitates better use of clinical skills, increases access to medication and may contribute to reducing prescribed drug costs associated with publicly funded health programs [5].

However, it has been found that self-medication can slip towards self-medication with prescription medications and/or improper drug use such as misdiagnosis, low or high doses, and/or treatment duration. Such practices may result in irrational drug use [6], delayed seeking of medical advice, and increased side effects and increase in pathogens resistance which is a current problem world-wide, particularly in developing countries where antibiotics are often available without prescription as the drug monitoring system is very poor and it is very easy to buy any drug with or without Prescription [7].

Self-medication patterns vary among different populations and are influenced by various features, such as age, gender, income and expenditure, self-care orientation, educational level, medical knowledge, satisfaction, and non seriousness of illnesses [8]. The substances which are most extensively self-medicated are OTC drugs and dietary supplements. Besides analgesics, antibiotics,

and cold syrups are intermittently used for self-administration [9]. In majority of economically deprived countries, nearly 60- 80% of health related problems are treated through self-medicated as lower cost alternative [10]. In Iraq, many other medicines in addition to the antibiotics are easily accessible to everyone without a prescription, a phenomenon seen in many economically deprived countries, a study carried out in Baghdad city found that about 60% self medicated at monthly intervals, while 21.3% practiced self medication weekly and the (18.9%) practiced self medication every 6 months or even longer [11]. A study indicated that about 90% of study populations were 15-60 years old and this seems logical since these individuals have greater ability than older individuals to move and seek medications due to fewer incidences of having joint or cardiovascular diseases than the older persons [12].

This study was aimed to determine the prevalence of self-medication among Iraqi patients in Basra city and evaluate the factors associated with practicing self-medication behavior by Iraqi respondents of Basra populations.

2.Methods

2.1. Study Design

This population-based cross-sectional study was carried out among the Basra population, southern Iraq from December 2020 to March 2021. The study was conducted by using both qualitative and quantitative data in which a web based structured questionnaire was used.

2.2. Participants and Eligibility Criteria

This study included only those respondents who were easily available for data collection and interested to provide information willingly. Those who did not feel comfortable to give information were excluded from the study.

2.3. Data collection, Sampling and Recruitment

This questionnaire consisting of close-ended and open-ended questions was shared to be completed by all the respondents. It was distributed online among facebook groups and other social media.

Answers from the questionnaires were exclusively used as the data source. Our sample size should be 400 respondents. However, a total of 500 patients were used in this study as respondents, which is 100 persons above the calculated sample size. A questionnaire was administered to be answered individually by the consented respondents.

This questionnaire was made in Arabic language, and it involved information like: demographic characteristics, chronic disease, disease conditions, reasons for self-medication, drugs use for self- medication, sources of information, questions regarding attitude of the respondents towards self-medication.

2.4. Consent

All potential participants were sent brief details of the study and offered a more detailed standard information sheet, consent was collected either by email or verbally. Participants were assured that all data would be de-identified and stored and handled anonymously; and if they changed their mind about anything they said, they could contact a named researcher and withdraw that section of the data. The research proposal was approved by the Human Research Ethics Committee in pharmacy college in University of Basra

2.5. Data Analysis

The collected data were entered into an Excel spreadsheet for Windows 2010 and later subjected to statistical analysis using the Statistical Analysis System (SAS). Data are presented as percentages. Statistical analyses were performed using the Prism 7 software package (GraphPad, La Jolla, CA).

3. Results

3.1. Demographic characteristics

A total of 500 male and female were aged between 12 and 80 years from Basra residents participated in filling out the questionnaire were involved in this study. The majority of the respondents where aged between 12 to 30 years, 106 of the participants where aged between 30-50 years and only 37 where older than 50 years, Out of them 75.60% were male, while 24.40% were females who administered self prescribed drugs in the last two months as shown in the figure 1.

Table1. Demographic characteristics of the respondents

Age (Years)	**Number of participants**
12-30	357
30-50	106
>50	37
Gender	
Male	75.60%
Female	24.40%
Economic state	
Good	36.80%

Moderate	61.20%
Bad	2.10%

Figure 1. Male and female respondents that practiced self-medication represented as percentage (%)

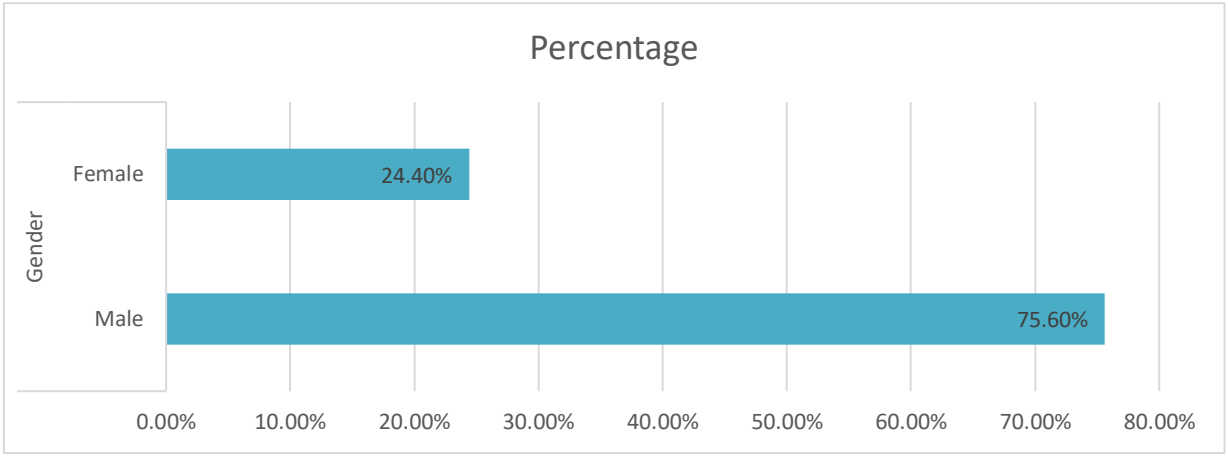
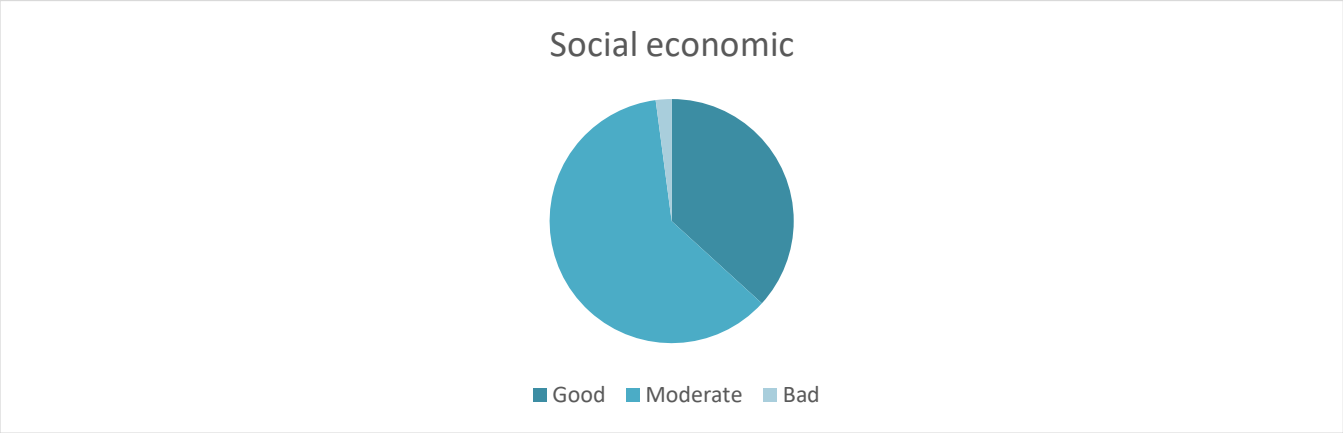


Figure 2 show the effect of social economy on the practice of self- medication. It seems that the application of self- medication was mostly distributed among people from moderate social economic with a percentage of 61.20% and 36.80% from good social economy, while the least was from bad economic state with a percentage of 2.10.

Figure 2. Economic state of the respondents who practiced self medication represented as percentage (%)



3.2. Indications for using self- medication

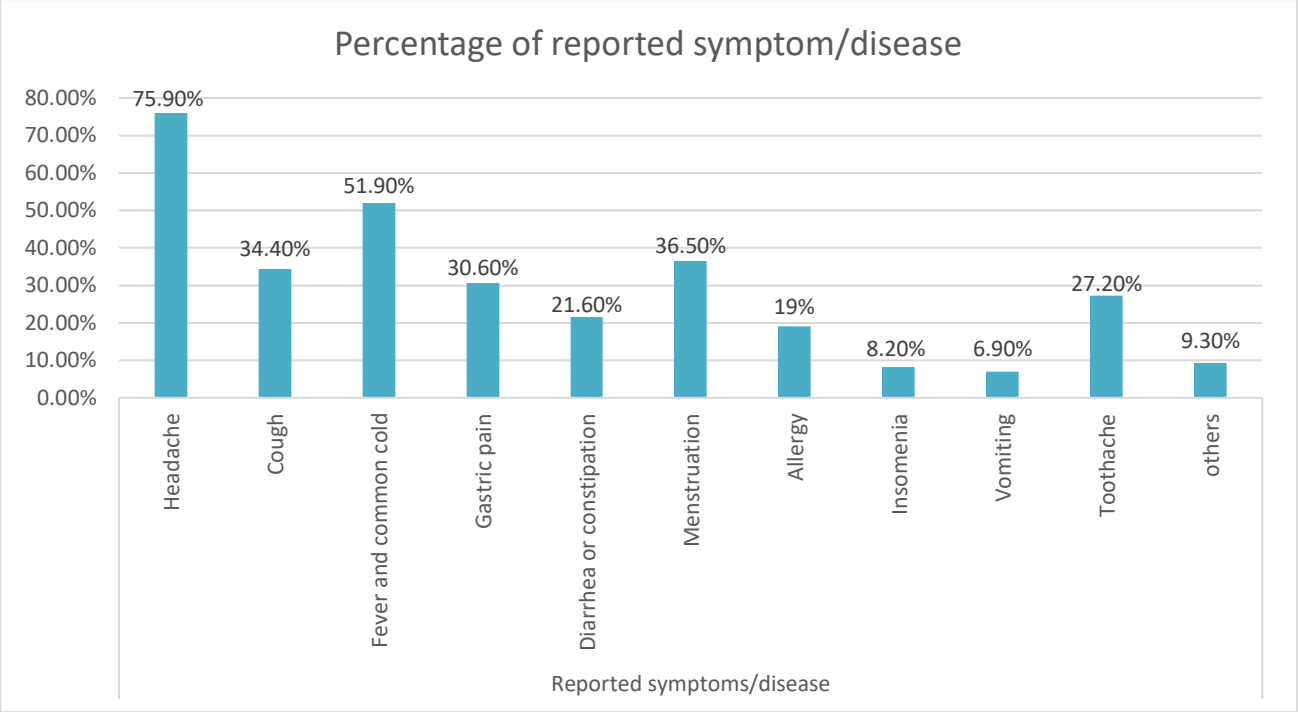
Table 2 Shows indication for using self medication, headache and fever and common cold, were the most commonly reported symptoms in the two-month period prior to the study that led to self-medication with 75.90% and 51.90% respectively, followed by mensuration (36.50%) among female respondents, cough (34.40%), gastric pain (30.60%), toothache(27.20%), diarrhea or constipation (21.60%), allergy (19%) are coming next, the study showed that there were also administration of self-prescribed drug to treat insomnia with a percentage of 8.20%, while vomiting was the least indication for the use of self-medication (6.90%). Other indications that weren't mentioned were treated by self-medications with a percentage of (9.30%)

Table2. Indications for using self- medication

Reported symptoms/disease	Percentage of reported symptoms/disease
Headache	75.90%
Cough	34.40%
Fever and common cold	51.90%

Gastric pain	30.60%
Diarrhea or constipation	21.60%
Menstruation	36.50%
Allergy	19%
Insomnia	8.20%
Vomiting	6.90%
Toothache	27.20%
others	9.30%

Figure 3. The use of self-medication by the respondents to treat different complications, data presented as percentage (%)



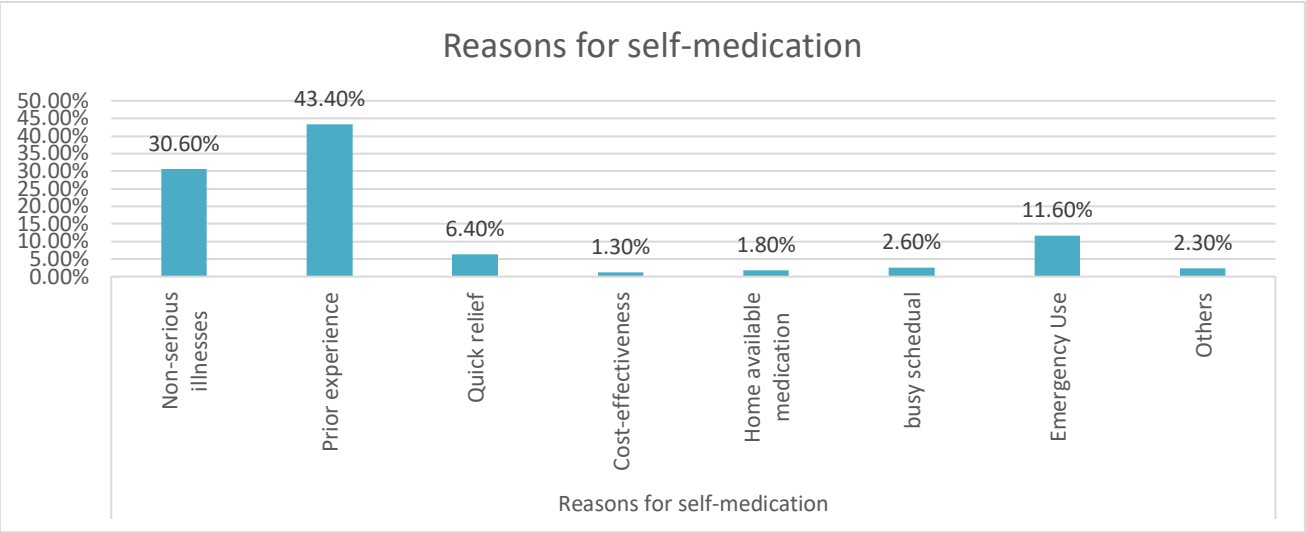
3.3. Reasons for self-medication

Among the reasons given for self-medication, 43.40% of the respondents felt that they had previous experience of treating a similar illness, 30.60% of the respondents felt that the illness was mild and did not require the service of a physician,and 11.60% for Emergency use, quick relief (6.40%) and busy schedule (2.60%) and Home available medication (1.80%) were other reasons for self medication ,1.30% reported that cost-effectiveness was their major reason to practice self- medication, 2.30% practiced self- medication for other reasons. [figure 4]

Table 3. Reasons for self-medication

Reasons for self-medication	
Non-serious illnesses	30.60%
Prior experience	43.40%
Quick relief	6.40%
Cost-effectiveness	1.30%
Home available medication	1.80%
busy schedule	2.60%
Emergency Use	11.60%
Others	2.30%

Figure 4. Reasons of self-medication, Data is represented as percentage



3.4. Drug/Drugs used for self medication

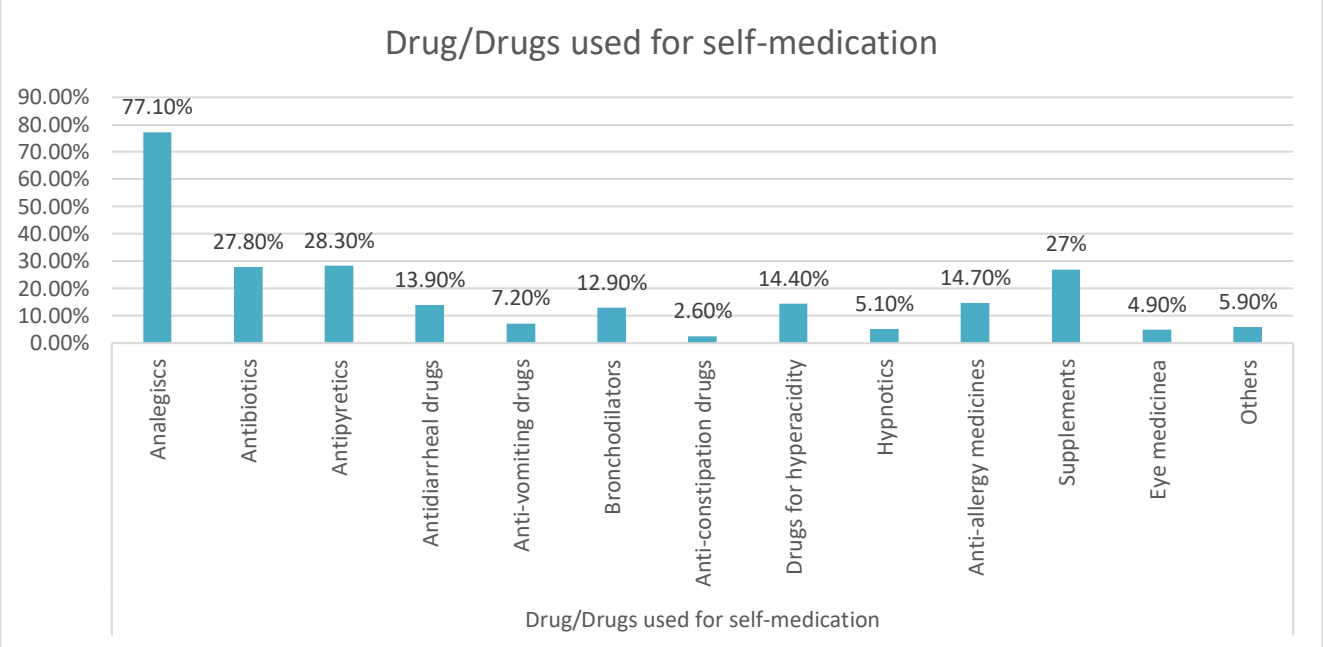
Table 4 show the Different categories of medicine which were self-medicated by the respondents for the treatment of self diagnosed illness. Among the drugs the rate of analgesics consumption was highest (77.10%) by the respondents, whereas antipyretic (28.30%), antibiotics (27.80%), Supplements (27%), anti-allergy (14.70%) anti- diarrheal (13.90%), bronchodilators (12.90%) anti-emetics (7.20%), hypnotics drugs were also self prescribed with a percentage of 5.10% of the respondents, eye medications (4.90%) were also used by them. It was found that among different type of drugs used by the respondents anti-constipation drugs the least with a percentage of 2.60%. Other types of medications that did not mention on the least were used with a percentage of 5.90.

Table4. Type of self-prescribed drugs

Drug/Drugs used for self-medication	
Analgesics	77.10%

Antibiotics	27.80%
Antipyretics	28.30%
Antidiarrheal drugs	13.90%
Anti-vomiting drugs	7.20%
Bronchodilators	12.90%
Anti-constipation drugs	2.60%
Drugs for hyperacidity	14.40%
Hypnotics	5.10%
Anti-allergy medicines	14.70%
Supplements	27%
Eye medicine	4.90%
Others	5.90%

Figure 5. Drug/Drugs used for self-medication



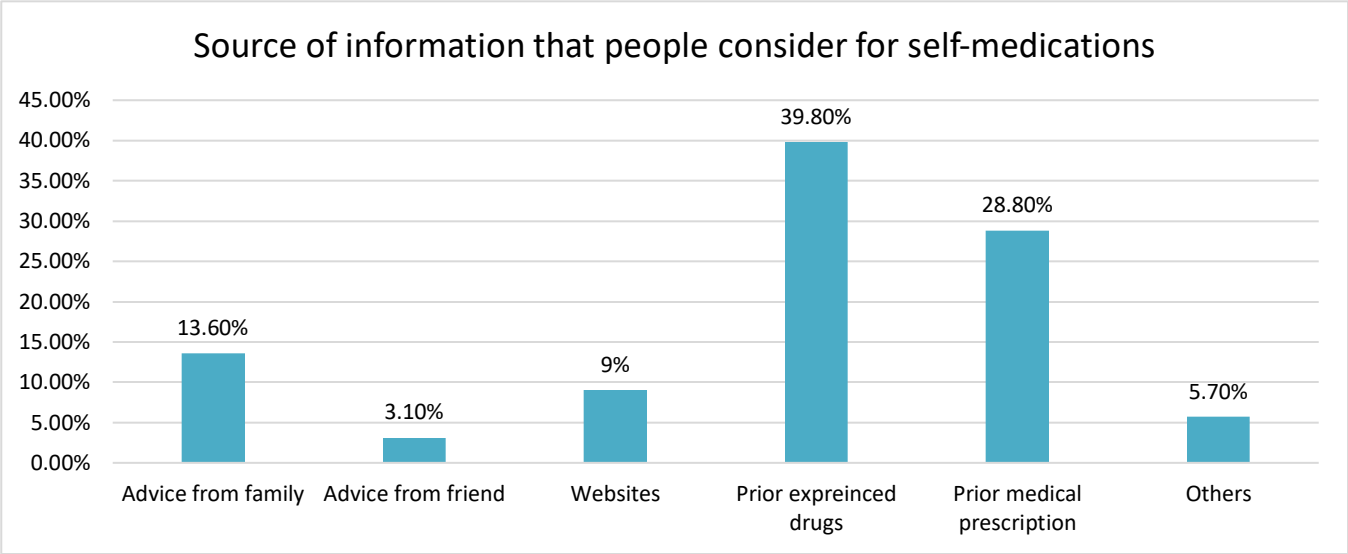
3.5.Sources of Information on Self-Medication Practice

Figure 6 represents the respondents source of information on the medication self-prescribed by them. From the diagram we got a clear picture that the majority of the respondents considered prior experience with an drug (39.80%) and prior medical prescription (28.80%) as their primary source of information. 9% of the respondents gathering their information from different websites. It also show the role of other family (13.60%) members and friends (3.10%) to be a good source of advice about self-medicated drugs because some of them experienced similar conditions previously, while others may be physicians, pharmacists or nurses.Other sources (5,70%) of information were considered among the respondents.

Table 5. Source of information that people considered for self-medication

Source of information that people considered for self-medication	
Advice from family	13.60%
Advice from friend	3.10%
Websites	9%
Prior experienced drugs	39.80%
Prior medical prescription	28.80%
Others	5.70%

Figure 6. Source of information that people considered for self-medication, Data is represented as percentage(%)



3.6 attitude of the respondents towards self-medication

Figure 7 represents the Basra population approach on self medication of medication for self healthcare . From figure it is clear the people concept about self medication was classified into two categories namely(1-Do you believe that practicing self-medication is good for your health? and 2-Do you have an idea that drugs could have serious side effects?)

So the percentage of attitude of the respondents toward self- medication was for first category for yes answer 57.30% and for No answer 42.70%, And for second category yes answer was 69.70% and No answer was 30.30%.

Table 6. Attitude of the respondents toward self- medication

Do you believe that practicing self-medication is good for your health?	
Yes	57.30%
No	42.70%
Do you have an idea that drugs could have serious side effects?	
Yes	69.70%
No	30.30%

Figure 7. Attitude of the respondents toward self- medication as percentage

4.Discussion

Total 500 respondents included in this study. The aim of this study was to assess the prevalence, knowledge, attitudes and practice associated factors of self-medication among the residents of Basra government.Many articles have described self-medication in different nations like India, Ethiopia, Pakistan, Saudi Arabia, China, and Egypt, the results of these studies showed that the self- medication practices were prevalent in various age groups, gender and social economics. Comparing results of this study with those of other studies conducted in other countries seems somewhat difficult due to differences in cultures, health care systems and the roles of community pharmacies. In this study respondents had a mean age between 12 and 80 years old, 75.60% were males while 24.40% were females. The study found that the practice of self medication was predominant between male respondents to larger extent than females This result is consistent with the result of another study [13] and contradicts others [14,15]. These findings are expected given the fact that males practice shopping more than females in our communities. Therefore, females less commonly get their self medications from community pharmacies [13]. The majority of the respondents from medium social economic status or their incomes is less than good incomes. This result is similar with other studies carried out in third world countries which outlined the prevalence of practicing self-medication among patients of low economic status [16,17].

As reported by some previously published articles, the one that carried out in Ethiopia found that fever and headache with a percentage of 25.8 were the most commonly reported symptoms in the two-month period prior to the study that led to self-medication, followed by cough and common cold [18]. In the study of

Mekelle university headache was self-treated by 76.60% of the participants followed by flu with 46.20% [19]. 49.8% reported headache as the problem of the use of the analgesic as self-medication as reported by Iranian university students [20]. Similarly a wide range of conditions observed in this study in which drug without prescription used for Headache, fever and common cold in addition to cough were the most common symptoms for self-administration of medications mentioned by the respondent, the probable explanation of this finding is that the study was done in winter when the prevalence of these conditions was high. Administration of self prescribed drugs to relief mensuration pain was also common among female respondents. It was quoted in our research report that the most common cause for self-treatment with drugs was the Prior experience and non-serious illnesses that don't require a doctor's visit. Similar outcomes were reported by the study conducted in India [21,22]. This type of attitude of the respondents may be attributed to an ignorance and absence of consciousness about the advancement of diseases. Sometimes the people who practice medication for self-treatment may suffer from a serious illness as the symptoms of many diseases are primarily mild but wrong diagnosis and treatment may promote serious health hazards.Only 1.30% of the respondents in this study chose cost effectiveness as a reason behind the practice of self medication which is in the contrary to other studies done in Sudan [23] and Palestine [24] in which there was a high practicing of self-medication among subjects with low monthly incomes that attributed to the fact that obtaining medications directly from pharmacy is relatively lower cost than obtaining drugs after consulting a physician. However, in agreement with other studies, easy availability of medicines [25], quick relief [26], emergency use and time saving [27] were found to be the other causatives for preferring self-medication practice. As stated earlier, Analgesics were the most self-prescribed drug administered by the respondents from Basra residents involved in this study,

some of these drugs were OTC and could be dispensed according to patient's request but other medications are prescribed only medications and required physician supervision. For instance 27.80% of the respondents self prescribed the use of antibiotics which considered a high percentage and as we know inappropriate or irrational use of these drugs can lead to various hazardous effects including the reduction in the capability of microbial flora to resist detrimental microorganisms, the development of multi-drug resistance, addiction, toxicity, and other related syndromes [22]. This high prevalence resembles others documented among many developing countries like Sudan [23] and Ethiopia [28] more likely this attributed to the lack of regulations governing the use of antibiotics and due to high rate of using antibiotics without prescription for treating minor illnesses like common cold, cough and sore throat which are mostly viral in nature not requiring antibiotics for treatment [29]. The study showed that there was a high rate of administration of Antipyretics ,Anti-allergy medicines , Anti-hyperacidity and Antidiarrheal drugs among the population of Basra government, Almost identical observations were found in the studies conducted in India [25,30], Pakistan [22], Iran [31], and Nigerian [32].

Prior experience was the major reasons of self-medication in this study [33,34], Which makes this study different is that the majority of respondents who practiced self-medication reported that they practiced self- medication because of their prior experience. Previous prescription was the second source of information about the drugs which could be related to the reason of requiring self-medications [35]. This study like others [36] revealed the important influences of other family members and close friends to be a good source of advice about self medicated drugs because some of them experienced similar conditions previously, while others may be physicians, pharmacists or nurses [36]. About 9% of the respondents depending on

using different websites for gaining information about self-medication which is not always the right decision in some cases.

About 69.70% know that the drugs have a serious side effects. However In this research work, about 57.30% of the respondents believed the practice of self-medication is good for their own health and the proportion was much lower than the study from Bangladesh [37]. Considering all these evidences there was favorable attitude towards self- medication among both males and females respondents of Basra residents .

5.Conclusion

This descriptive study demonstrated that the majority of the respondents practiced self-medication. Besides this, more than half of the respondents were found to have prior experienced about self-medication however, their outlook towards it remain majorly favorable. Headache, fever and common cold were the two most commonly reported conditions for self-medication practice. Analgesics, antipyretics and antibiotics were the most commonly reported types of medications consumed in self-medication. Raising the issue of awareness and further improve the attitude of people about self- medications in order to build up new generations combating unregulated self-medication is very important.

References

1. J. L. Montastruc, H. Bagheri, T. Geraud, M. Lapeyre-Mestre, "Pharmacovigilance of self-medication," Therapies.1997;52(2):105–110.

2. S. N. Zafar, R. Syed, S. Waqar et al., “Self-medication amongst university students of Karachi: prevalence, knowledge and attitudes,” Journal of the Pakistan Medical Association. 2008;58(4):214–217.
3. S. Sarahroodi, A. Maleki-Jamshid, A. F. Sawalha, P. Mikaili, L. Safaeian, “Pattern of self-medication with analgesics among Iranian University students in central Iran,” Journal of Family and Community Medicine.2012;19(2):125–129.
4. World Health Organization (WHO), The Safety of Medicines, 2005.
5. A. I. D. Loyola Filho, M. F. Lima-Costa, E. Uchôa, “Bambuí Project: a qualitative approach to self-medication,” Cadernos de SaudePublica.2004;20(6):1661–1669.
6. O. Ehigiator, C. Azodo, A. Ehizele, E. Ezeja, L. Ehigiator, I. Madukwe, “Selfmedication practices among dental, midwifery and nursing students,” European Journal of General Dentistry.2013; 2(1):54–57.
7. Shuvashis Saha, Md.Tawhid Hossain, Evaluation of medicines dispensing pattern of private Pharmacies in Rajshahi, Bangladesh, BMC Health Services Research. 2017;17(136):1-8.
8. Z. Klemenc-Ketiš, Ž. Hladnik, J. Kersnik, “A cross sectional study of sex differences in self-medication practices among university students in Slovenia,” Collegium Antropologicum.2011;35(2):329–334.
9. Afolabi, A.O. Factors influencing the pattern of self-medication in an adult Nigerian population. Ann. Afr. Med.2008;7:120–127.
10. A.I. Awad, I.B. Eltayeb Self-medication practices with antibiotics antimalarials among Sudanese undergraduate university studentsAnn. Pharmacother.2007;41(7):1249-1255.

11. Ali L. Jasim, Taqua A. Fadhil, Sala m S. Taher, “Self Medication Practice among Iraqi Patients in Baghdad City.” American JournalPharmacological Sciences. 2014;2(1):18-23.
12. Alan, D.K., Amir, B. ,Jared, T.S. Pain management in the elderly population. The Ochsner Journal. 2010;(10):179-187.
13. Alghanim, S.A. Self-medication practice among patients in a public health care system. Eastern Mediterranean Health Journal. 2011;17(5):409-416.
14. Chua, S.S, Sabki, N.H. Use of nonprescription medications by the general public in t he Klang Valley. Journal of Applied Pharmaceutical Science. 2011;1(9):93-98.
15. Carrasco, G.P. et al. Patterns of medication use in the immigrant population resident in Spain. Pharmacoepidemiology and DrugSafety.2009;18:743-750.
16. Solomon, W., Abebe, G.M. Practice of Self-medication in Jimma Town. Ethiopian Journal of Health Development.2003;17(2):111-116.
17. Hussain, A. ,Khanum, A. Self-medication among university students of Islamabad, Pakistan. Southern Med Review.2008;1(1):14- 16.
18. Abay, S.M.; Amelo, W. Assessment of self-medication practices among medical, pharmacy, and health sciencestudents in Gondar university, Ethiopia. J. Young Pharm. 2010;2:306–310.
19. Gutema, G.B.; Gadisa, D.A.; Kidanemariam, Z.A.; Berhe, D.F.; Berhe, A.H.; Hadera, M.G.; Hailu, G.S.; Abrha, N.G.; Yarlagadda, R.; Dagne, A.W. Self-medication practices among health sciences students: The case of Mekelle university. J. Appl. Pharm. Sci. 2011;1:183–189.
20. Sarahroodi, S.; Maleki-Jamshid, A.; Sawalha, A.F.; Mikaili, P.; Safaeian, L. Pattern of self-medication with analgesics among Iranian university students in central Iran. J. Family. Community Med. 2012;19:125–129.

21. Mehta, R.K.; Sharma, S. Knowledge, attitude and perception of self-medication among medical students. IOSR J. Nurs. Health Sci. 2015; 4:89–96.
22. Hughes, C.M.; McElnay, J.C.; Fleming, G.F. Benefits and risks of self medication. Drug Saf. 2001;24:1027–1037.
23. Awad, A.I, Eltayeb, I.B, Capps, P.A. Self-medication practices in Khartoum St at e, Sudan. European Journal of Clinical Pharmacology.2006;62:317-324.
24. Sawalha, A.F. A descriptive study of self-medication practices among Palestinian medical and nonmedical university student. Research in Social and Administrative Pharmacy. 2008;4:164-172.
25. Kumar, N.; Kanchan, T.; Unnikrishnan, B.; Rekha, T.; Mithra, P.; Kulkarni, V.; Papanna, M.K.; Holla, R.; Uppal, S. Perceptions and practices of self-medication among medical students in coastal South India.2013;8(8):e72247.
26. Sawalha, A.F. Assessment of self-medication practice among university students in Palestine: Therapeutic and toxicity implications. IUG J. Nat. Stud. 2015;15:267–282.
27. Souza, L.A.; da Silva, C.D.; Ferraz, G.C.; Sousa, F.A.; Pereira, L.V. The prevalence and characterization ofself-medication for obtaining pain relief among undergraduate nursing students. Rev. Lat. Am. Enfermagem. 2011; 19:245–251.
28. Tenaw. A., T sige G.M. Self-medication practices of drug consumers. Ethiopian Journal of Health Science. 2004;14:1-11.
29. McKee, M.D., Mills, L., Mainous, A.G. Antibiotic use for the treatment of upper respiratory infections in a diverse community. Journal of Family Practice. 1999;48(12):993-996.

30. Sontakke, S.D.; Bajait, C.S.; Pimpalkhute, S.A.; Jaiswal, K.M.; Jaiswal, S.R. Comparative study of evaluation of self-medication practices in first and third year medical students. Int. J. Biol. Med. Res. 2011;2:561–564.
31. Lukovic, J.A.; Miletic, V.; Pekmezovic, T.; Trajkovic, G.; Ratkovic, N.; Aleksic, D.; Grgurevic, A. Self-medication practices and risk factors for self-medication among medical students in Belgrade, Serbia.PLoS ONE 2014;9:e114644.
32. Afolabi, A.O. Factors influencing the pattern of self-medication in an adult Nigerian population. Ann. Afr. Med. 2008;7:120–127.
33. Abula T, Worku A. Self medication in three towns of North West Ethiopia. Ethiop J Health Dev. 2001;15:25-30.
34. Pray WS, Popovich NG. Self-care/diagnostic products. In: GenneroAR, editor. Remington the science and practice of pharmacy. 20th ed. Pennsylvania: Lippincott Williams and Winkins. 2000;1738-43.
35. Jasim AL, Fadhil TA., Taher SS. Self Medication Practice among Iraqi Patients in Baghdad City [online]. 2016;2(1):18-23.
36. Ghosh, S. et al. Evaluation of the practice of self medication among college students in west Uttar Pradesh. International Journal of Pharma Professional's Research. 2010;1(1):14-18.
37. Md. Omar Reza Seam , Rita Bhatta , BijoyLaxmi Saha, Abhijit Das ID , Md. Monir Hossain, S. M. Naim Uddin , PalashKarmakar, M. ShahabuddinKabirChoudhuriand Mohammad MafruhiSattar, Assessing the Perceptions and Practice of Self-Medication among Bangladeshi Undergraduate Pharmacy Students.2018,6(1):6.

A copy of the research questionnaire

sex			
age			
Economic state	Good	medium	bad
symptoms	headache	cough	Fever
Allergy	menstruation	constipation	Stomach pain
insomnia	vomiting	toothache	Other
Reasons of self medication	Non serious illness	Prior experience	Quick relief
Busy schedule	Emergency use	Home available drug	Cost effectiveness
Drugs for self medication	analgesic	antibiotic	Antipyretic
hypnotics	bronchodilators	antiemetic	anti diarrheal
supplements	Anti allergic	Eye medication	
Source of informations	Advice from family	Advice from friend	Website
	Others	Prior prescription	Prior experience
Do you believe self medication is good for your health?		Yes	No
Do you have an idea that drugs could have serious side effects?		Yes	No