ORIGINAL ARTICLE

Prevalence of Self-Medication among Urban Population Participating Community Pharmacies

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Abstract

Introduction: Self-medication is defined as the individuals who used to treat self-recognized symptoms or illnesses using and selecting traditional, herbal medicine products. Self-medication permits the consumer or patient to take an active role. However, it is not a completely safe health character, particularly in the irresponsible or unreliable practice cases. Incorrect self-diagnosis, adverse reactions, masking of severe disease, incorrect dosage, and incorrect choice of therapy, drug interactions, dependence, and abuse are the potential risks of self-medication. **Objective:** The objective of the study was to determine the prevalence of self-medication in urban population and to identify any factors contributing to self-medication in relation to assess the attitude, perception, and knowledge of consumers toward self-medication. **Materials and Methods:** Our study was a cross-sectional survey which was conducted over 12 weeks from the month February to May in Jeddah city, K.S.A. Self-administered, validated questionnaire was used to collect the data and questionnaire was designed by reviewing the available research literature. It was designed in the English and Arabic language. **Results:** A total of 1036 peoples participated in the survey. Most responders were female (59.26%) and the males were 40.73%, the participants were predominantly in the age group of 25–40 years which were 38.41%. About 94.11% of participants are answered in Arabic and 5.88% were answered in English language. The most common medications consumed without prescriptions were painkillers (93.05%). The reasons for self-medications were health problems which were not serious (67.18%). **Conclusion:** In the study of rational drug use, assessment of self-medication is most important element. The observation of this research should form the basis for future interventional plans to increase benefits and decrease risks. In Saudi Arabia, community pharmacies have the potential to make a great impact in ensuring medicines which are properly utilized.

Key words: Community pharmacies, irrational use of medications and pharmacist role, over-the-counter medications, self-medication

INTRODUCTION

Self-medication is defined as the individuals who used to treat self-recognized symptoms or illnesses using and selecting traditional, herbal medicine products.[1] Self-medication permits the consumer or patient to take an active role. However, it is not a completely safe health character, particularly in the irresponsible or unreliable practice cases.[2] In developed countries, a high intake of nutritional supplements and medicines among professional athletes is wide spread and is very well documented.[3-6] In most cases in developed countries, the

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team physicians prescribe the medicines. Consistent data reporting of self-administration of medicines that have raised concerns.[4,5,7-9]

Responsible self-medication is the practice, whereby individuals treat their ailments and conditions with medicines which are approved and available without prescription and which are safe and effective when used as directed. Such products should be supported by information, which describes how to take or use the medicines; effects and possible side effects; how the effects of the medicine should be monitored; possible interactions; precautions and warnings; duration of use; and when to seek professional guidance or advice. The role of the pharmacist has been changing over the past two decades. The pharmacist is no longer also a supplier of medicines and a concocter of medicinal products but also a team member involved in the provision of health care whether in the hospital, the community pharmacy, the laboratory, the industry, or in academic institutions.

Role of the pharmacist in self-care and self-medication

The pharmacist has several functions, outlined below.

As a communicator, the pharmacist should initiate dialogue with the patient (and the patient's physician, when necessary) to obtain a sufficiently detailed medication history; to address the condition of the patient appropriately the pharmacist must ask the patient key questions and pass on relevant information to him or her (e.g., how to take the medicines and how to deal with safety issues); the pharmacist must be prepared and adequately equipped to perform a proper screening for specific conditions and diseases, without interfering with the prescriber's authority; the pharmacist must provide objective information about medicines.

The previous studies on self-medication in Saudi Arabia among consumers in community pharmacies are limited. Therefore, the aim is to determine the prevalence of self-medication in urban population and to identify any factors contributing to self-medication in relation to assess the attitude, perception, and knowledge of consumers toward self-medication.

MATERIALS AND METHODS

The present investigation was approved by Ibn Sina National College for Medical Sciences, Institutional Human Ethics Committee (IHEC Ref No: H-11-15032018). Our study was a cross-sectional survey was conducted over 12 weeks from the month of February–May 2018 in Makkah Region, Saudi Arabia. Self-administered, validated questionnaire was used to collect the data and questionnaire was designed by reviewing the available research literature. It was designed in the English and Arabic language.

The questionnaire has the categories of variables identified which were demographics of person that included age, gender, and past illness, concerned with self-medication information, and included questions related to beliefs about self-medication practice, indulgence in the practice, frequency of self-medication per month, source of information regarding the same, type and nature of medicines used, and place of obtaining medications, as well as common symptoms experienced prompting self-medication. A total number of 1036 people were participated in the survey; the practice of self-medication is prevalent in Saudi Arabia and can be observed at various sociodemographic levels. Persons attending community pharmacies for self-medications and willing to participate in this study were included in the study. The people who are not interested to take part in this study were excluded from the study.

RESULTS AND DISCUSSION

A total of 1036 peoples participated in the survey. Most responders were female (59.26%) and the males were 40.73%, the participants were predominantly in the age group of 25–40 years which were 38.41%. About 94.11% of participants are answered in Arabic and 5.88% were answered in English language. The most common medications consumed without prescriptions were painkillers (93.05%). The reasons for self-medications were health problems which were not serious (67.18%).

Table 1 shows the demographic characteristics of the study participants. Figure 1 illustrates the age groups of the participants, 38.41% of participants are around the age group of 25–40 years. Approximately 94% of participants are preferred the Arabic language, as shown in Figure 2. About 59.26% of female and 40.73% of male were participated in this study represent in Figure 3. About 78.76% of participants replied no to the question asked in the study "do you suffer from any medical conditions that require regular medication?" represent in Figure 4. About 73.26% of the participants replied no to the question "Do you

Table 1: Demographic characteristics

	Number of respondents (%)
Age	
18–24 years	357 (34.45)
25–40 years	398 (38.41)
41–60 years	260 (25.09)
More than 60 years	21 (2.02)
Gender	
Males	422 (40.73)
Females	614 (59.26)
Language preferred	
English	61 (5.88)
Arabic	975 (94.11)

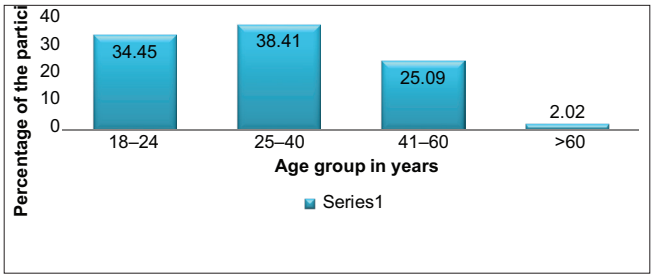

Figure 1: Age groups of the participants

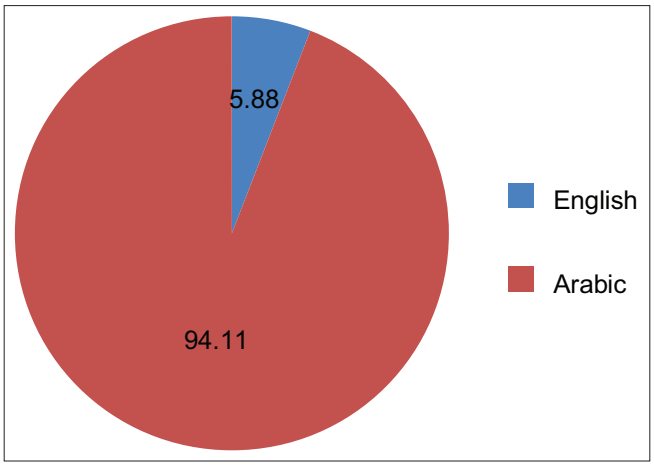

Figure 2: Percentage of participants preferred the language

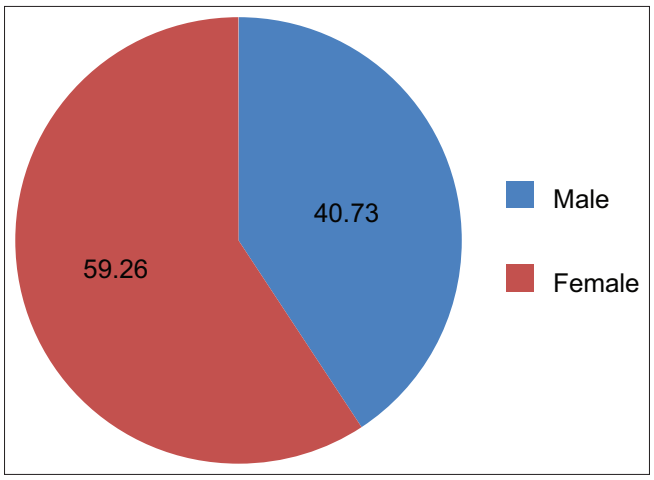

Figure 3: Gender in percentage

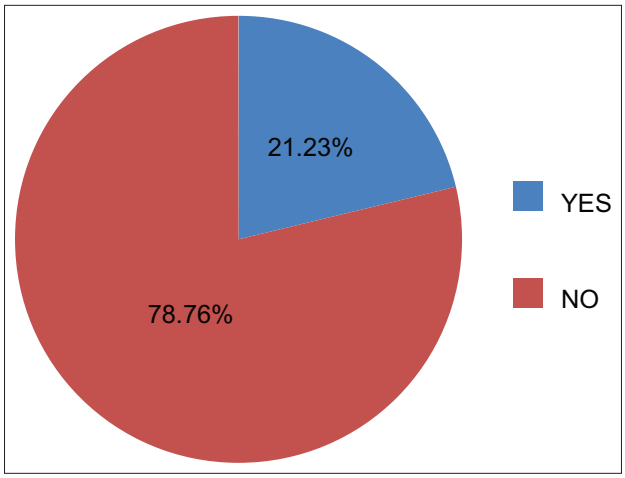

Figure 4: Medical conditions that require regular medication?

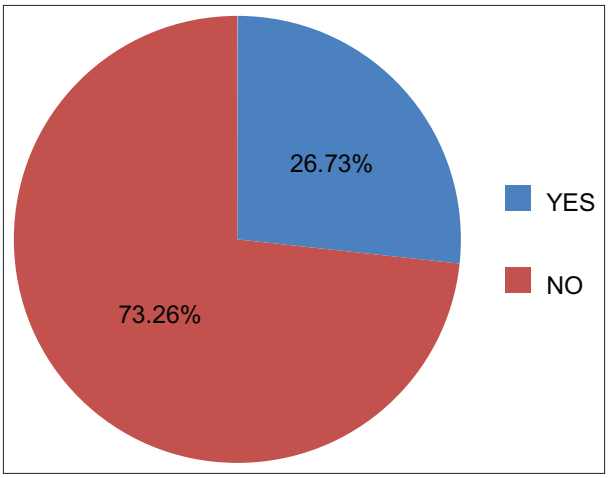

Figure 5: Do you think that over-the-counter available medicines are as effective as those prescribed by your physician

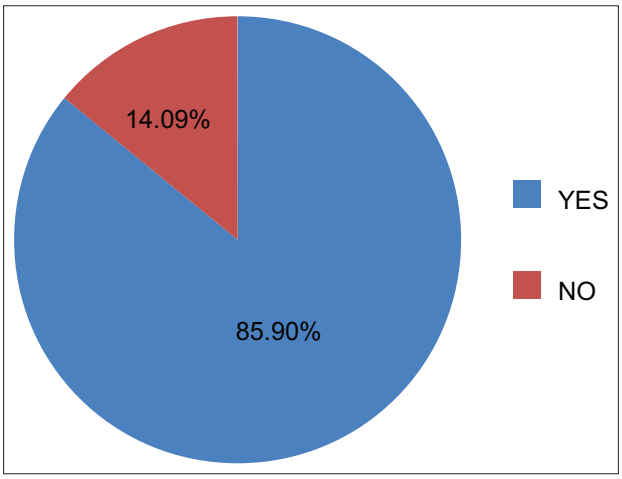

Figure 6: Would you consult a pharmacist

believe that over-the-counter medicines are as effective as those prescribed by the doctor," as shown in Figure 5. About 85.9% of participants said yes to the question to "Would you consult a pharmacist before buying any medications from the pharmacy," as illustrated in Figure 6. Figure 7 shows a majority of participants around 73% answered yes to the question "Are you aware that certain medications/ supplements may cause an adverse drug reaction." About 63.32% of participants answered yes to the question "Are you aware that certain medications/supplements can interact with food or other medication," as shown in Figure 8. Figure 9 illustrates the maximum participants around 67% replied yes to the question "Do you inform your doctor/pharmacist you are taking other medications/supplements." To the question "Do you read the leaflet that inserted with the medicines," 80% of peoples replied yes, as illustrated in Figure 10.

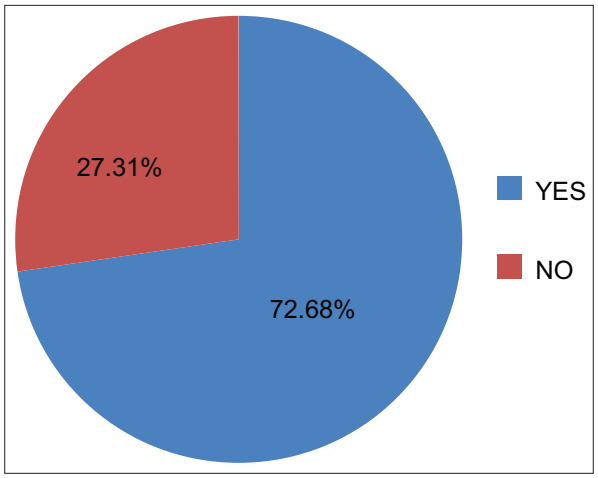

Figure 7: Medications /supplements may cause an adverse drug reaction

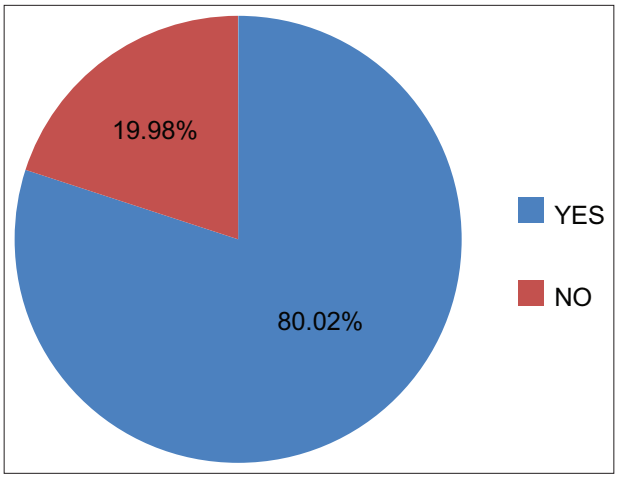

Figure 10: Do you read the leaflet that inserted with the medicines

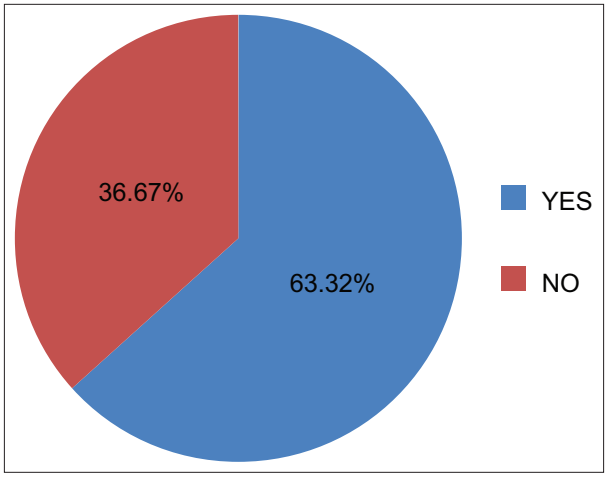

Figure 8: Medications/supplements can interact with food

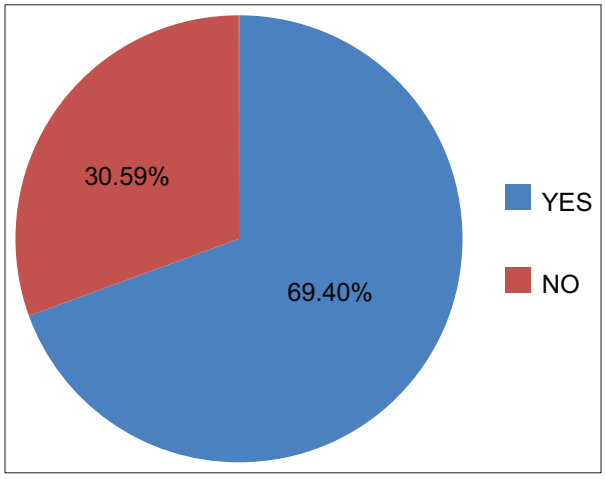

Figure 11: Do you keep the remaining medications with you in order to use them in the future

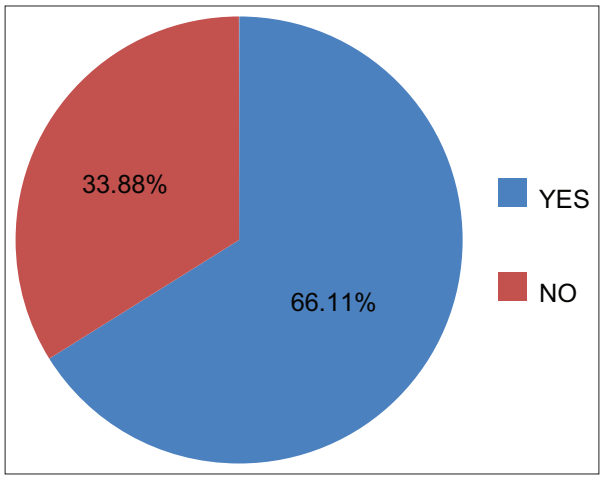

Figure 9: Do you inform your physician

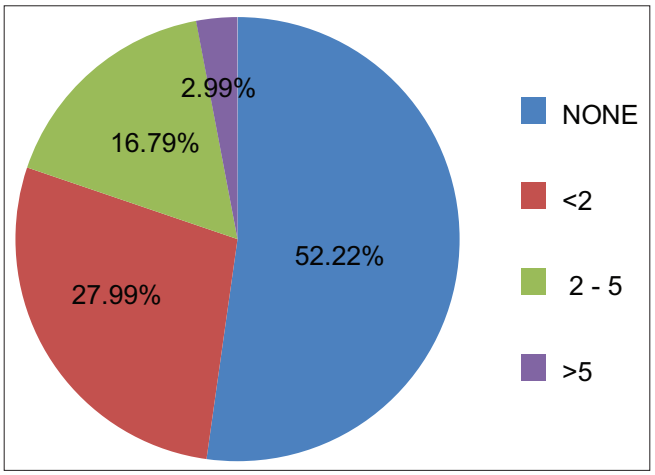

Figure 12: How many types of medications do you take in a day

Around 69% of participants said yes to the question "Do you keep the remaining medications with you to use them in the future," as shown in Figure 11. Whereas around 3% of participants, they were taking 2–5 medications/day, as shown in Figure 12. About 70% of the participants replied that the sources of the information before purchasing the medication are health-care professional, as shown in Figure 13. A maximum number of participant 62.5% purchase medications to the most symptoms and complaints

that lead to cough or cold shown in Figure 14. About 67% of the participants replied that the causes that lead you to self-prescribed practice were health problem that is not serious, as shown in Figure 15. About 93% of participants replied that they take painkillers when they ask about the types of medications do you use as self-prescribed medications as illustrate in Figure 16. Approximately 60% of the participants answered to by checking the package insert to the question how do you know about the doses of the self-prescribed medication, as shown in Figure 17. Approximately 92% of the participants said that they focus on indications for use when choosing your self-medication, as mentioned in Figure 18. The most common sources of information stated were health-care professionals (69.69%), followed by friends and family (37.93%), internet (7.52%), and advertisement (8.39%). The most common reasons for buying medication without prescription were health problems which are not serious (67.18%) followed by knowledge about medications and diseases (58.01%) and seeking quick relief (33.1%).

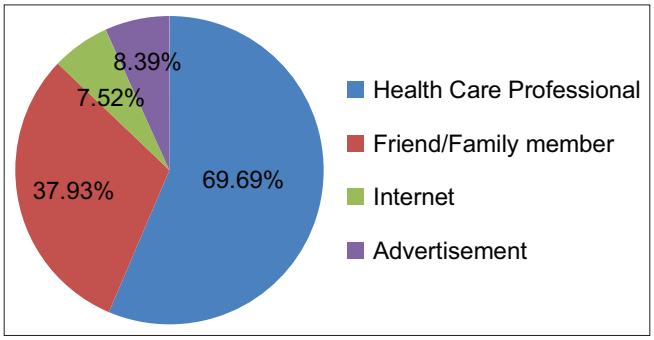

Figure 13: What is the source of information you take before purchasing any medicine

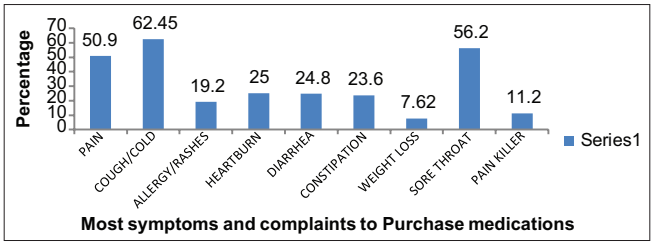

Figure 14: The most symptoms and complaints that lead you to purchase medications

Knowledge of self-medication based on the knowledge of self-medication participants asked about any medical problem such as high B.P., diabetes, and asthma that need regular medication 21.3% of participants replied yes and 78.76% responds no. About 26.73% of participants believe that over-the-counter medicines are as effective as those prescribed by the doctor. About 63.32% are aware of the supplements or medications can react with some other medication or food [Table 2].

Attitude toward self-medication 85.90% agreed that they will contact a pharmacist before getting any medications from the pharmacy and 66.11% of participants agreed that they will inform to doctor/pharmacist about taking other medications/supplements. About 80.02% of participants agreed that they read the leaflet that inserted with the medicines. About 69.4% of respondents will keep the remaining medications with you to use them in the future [Table 3].

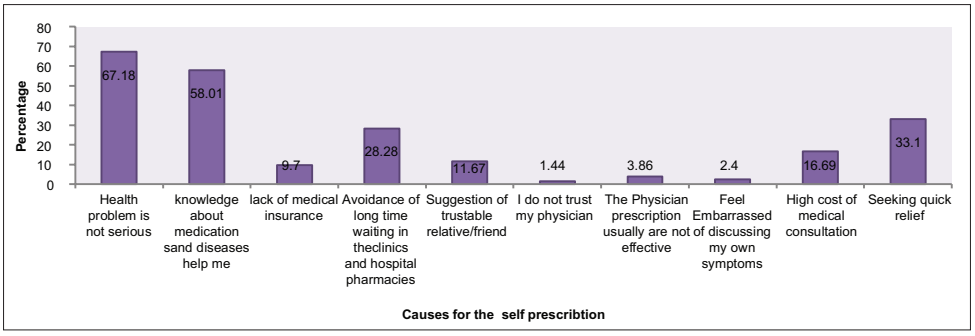

Figure 15: Causes for the self-prescription

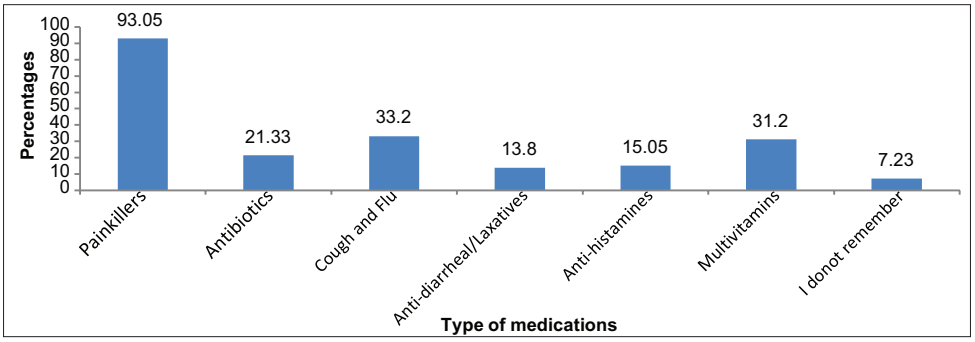

Figure 16: Types of medications

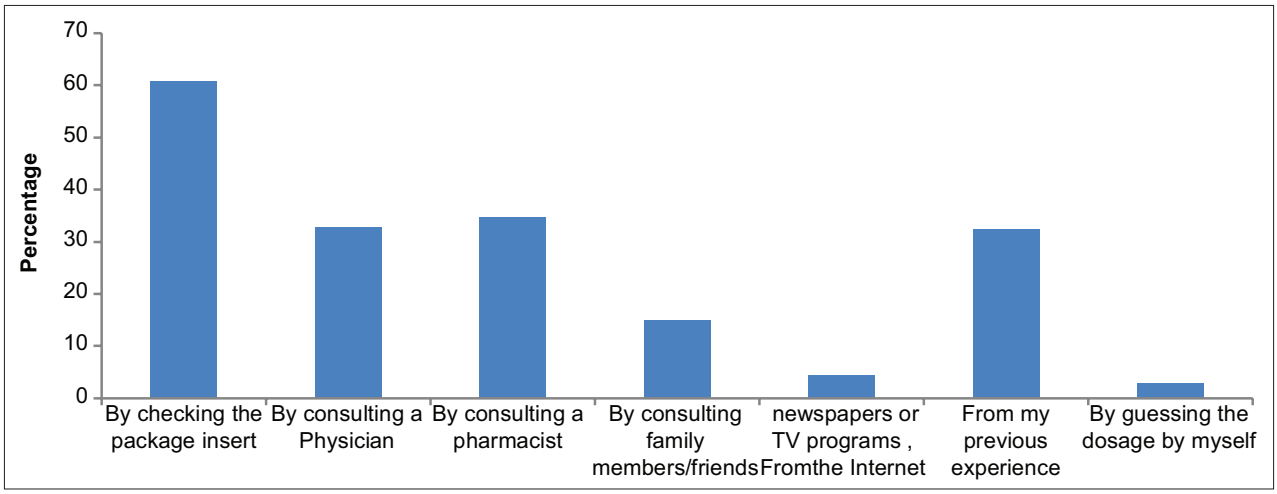

Figure 17: Doses of the self-prescribed medication

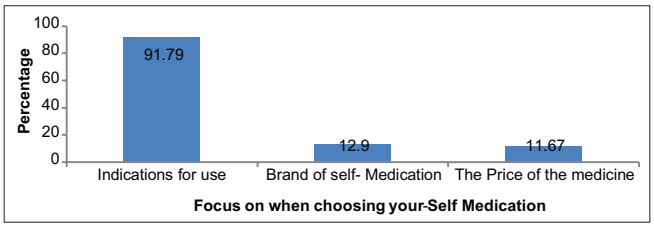

Figure 18: What do you focus on when choosing your self-medication

Perception of self-medication, 52.22% of participants are not taking medications every day, 27.99% are taking <2 medications daily, 16.79% of participants are taking 2–5 medicines daily, and 2.99% of respondents are taking more than 5 drugs daily. Majority of respondents are, 69.69% are said that the source of information is for medication before purchasing is health-care professionals. About 91.79% said that the indication is the main focus on when choosing self-medications [Table 4].

DISCUSSION

Our study data divulge that the self-medication is a normal practice in the various age categories of the people irrespective of education qualifications, gender, and economic status. Other studies shown that the main causes for practice of the self-medications were upper respiratory tract infection, cough, the flu, and having a cold, similar to our study.[10-12] The self-medication will lead to misdiagnosis, resistance of antibiotics, and adverse drug reactions. This study revealed that 73% of participants aware of medications/supplements may cause an adverse drug reaction as compared to other studies it shown only 15% of participants are aware.[13,14] We found in our study approximately 67% of participants said that due to minor health issues is the reason to take the self-medications, whereas Sankdia *et al*.[15] study exhibits 71% of the participants gave the similar response.[15,16] This study shows the majority of participants know about the doses of the self-prescribed

Table 2: Knowledge of self-medication among 1036 respondents

Knowledge items	Yes (%)	No (%)
Do you think you suffer from any medical conditions such as high blood pressure, diabetes, and asthma, which need regular medication?	220 (21.23)	816 (78.76)
Do you think that over-the-counter available medicines are as effective as those prescribed by your physician?	277 (26.73)	759 (73.26)
Do you know that some medications/supplements may lead to severe drug reaction?	753 (72.68)	283 (27.31)
Do you know that some medications/supplements may react with other medication or food?	656 (63.32)	380 (36.67)

Table 3: Respondents attitude regarding self-medication

Attitude items	Yes (%)	No (%)
Before buying any medications from the pharmacy do you consult any pharmacist	890 (85.90)	146 (14.09)
Do you inform you are taking other medications or supplements to your doctor/ pharmacist	685 (66.11)	351 (33.88)
Do you read the leaflet that inserted with the medicines	829 (80.02)	207 (19.98)
Do you keep the remaining medications with you in order to use them in the future	719 (69.4)	317 (30.59)

Table 4: Consumers' perception regarding self-medication

Perception items	None (%)	<2 (%)	2–5 (%)	>5 (%)
How many types of medications do you take in a day	541 (52.22)	290 (27.99)	174 (16.79)	31 (2.99)
	Health-care professional	Friend/family member	Internet	Advertisement
What is the source of information you take before purchasing any medicine	722 (69.69)	393 (37.93)	78 (7.52)	87 (8.39)
	Indications for use	Brand of self- medication	The price of the medicine	
What do you focus on when choosing your self-medication	951 (91.79)	134 (12.93)	121 (11.67)	----

medication by checking the packaging leaflet information. Maximum participants around 86% answered that they consult a pharmacist before buying any medications from the pharmacy, in other study also found similar results.[15-17] Painkillers were the very common category of drugs used for self-medication in our study; similar findings were there in the other studies.[15,18-20]

CONCLUSION

In the study of rational drug use, assessment of self-medication is most important element. The observation of this research should form the basis for future interventional plans to increase benefits and decrease risks. In Saudi Arabia, community pharmacies have the potential to make a great impact in ensuring medicines which are properly utilized. The community pharmacist plays a key role to educate the patients about the over-the-counter medication to minimize the various consequences occur due to over dose, under dose, drug misuse, and other adverse effects. Health education is important to decrease the irrational use of medications which is very commonly occurred because of self-medication.

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CONTRIBUTION OF AUTHORS

All authors have made substantial equal contribution to the work and approved it for publication.

REFERENCES

1. World Health Organization. Essential Medicines and Health Products Information Portal. Geneva: A World Health Organization resource. Available from: http://www.apps.who.int/medicinedocs/en/d/Jwhozip32e/3.2.html#Jwhozip32e.3.2. [Last accessed 2016 Jul 19].
2. Ruiz ME. Risks of self-medication practices. Curr Drug Saf 2010;5:315-23.
3. Alaranta A, Alaranta H, Helenius I. Use of prescription drugs in athletes. Sports Med 2008;38:449-63.
4. Tscholl P, Junge A, Dvorak J. The use of medication and nutritional supplements during FIFA World Cups 2002 and 2006. Br J Sports Med 2008;42:725-30.
5. Tscholl P, Alonso JM, Dolle G, Junge A, Dvorak J. The use of drugs and nutritional supplements into p-level track and field athletes. Am J Sports Med 2010;38:133-40.
6. Gorski T, Cadore EL, Pinto SS, daSilva EM, Correa CS, Beltrami FG, *et al*. Use of NSAIDs in triathletes: Prevalence, level of awareness and reasons for use. Br J Sports Med 2011;45:85-90.
7. World Anti-Doping Agency. The 2013 Prohibited List. Available from: https://www.wada-ama.org/en/questions-answers/2013-prohibited-list. [Last accessed 2019 on Nov 28]
8. Tsitsimpikou C, Jamurtas A, Fitch K, Papalexis P, Tsarouhas K. Medication use by athletes during the Athens 2004 Paralympic Games. Br J Sports Med 2009;43:1062-6.
9. Barry MJ, Edgman-Levitan S. Shared decision making-pinnacle of patient-centered care. N Engl J Med 2012;366:780-1.
10. Borg MA, Scicluna EA. Over-the-counter acquisition of antibiotics in the Maltese general population. Int J Antimicrob Agents 2002;20:253-7.
11. Khan KA. Drug utilization study in pediatric outpatients at OPD clinics in South Indian Metropolitan city. Indo Am J Pharm Res 2016;6:5196-201.
12. Khan KA. Drug utilization study of anti hyperglycemic agents in outpatients at OPD clinics in South Indian metropolitan city. Int J Pharm Pharm Sci 2016;8:58-61.
13. Albusalih FA, Naqvi AA, Ahmad R, Ahmad N. Prevalence of self-medication among students of pharmacy and medicine colleges of a public sector university in

Dammam city, Saudi Arabia. Pharmacy 2017;5:51.
14. Khan KA, Alkatsha AM, Sarhan MA, Abuhamar FM, Abdulrzaq R, Khan AA, *et al*. Evaluation of drug interactions with medications prescribed to ambulatory patients with metabolic syndrome in urban area. Adv Mater Lett 2020;11:20031487.
15. Sankdia RK, Agrawal M, Rekha PB, Kothari N. A questionnaire based study regarding the knowledge, attitude and practice of self-medication among second year undergraduate medical students. Int J Pharmacol Clin Sci 2017;l6:1-5.
16. Khan KA, Al-Ghamdi SM, Al-Ghamdi NM, Al-Saqqa AR, Halawani HK, Khan AA, *et al*. Evaluation of drug-utilization patterns based on world health organization drug use indicators at outpatient clinics. Adv Mater Lett 2020;11:20031489.
17. Klemenc-Ketis Z, Hladnik Z, Kersnik J. Self-medication among healthcare and non-healthcare students at University of Ljubljana, Slovenia. Med Princ Pract 2010;19:395-401.
18. Thadani S, Salman MT, Ahmad A. Knowledge, attitude and practice of self-medication among second year undergraduate medical students. J Rational Pharmacother Res 2013;1:131-4.
19. Miyan AJ, Khan KA. Drug monitoring in hypertensive and diabetic patients in tertiary care hospital. Int J Multidiscip Res Dev 2015;2:558-61.
20. Khan KA, Basaleh AA, Alhothali FA, Meashi AI, Aljuhna NT, Khan AA, *et al*. Medication incidents associated with outpatient computerized prescribing systems. Asian J Pharm 2020;14:767-73.

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