IJBPAS, March, 2020, 9(3): 381-396

ISSN: 2277–4998

International Journal of Biology, Pharmacy and Allied Sciences (IJBPAS)

'A Bridge Between Laboratory and Reader'

www.ijbpas.com

KNOWLEDGE, ATTITUDE AND PRACTICES REGARDING SELF-MEDICATION AMONG PEOPLE LIVING IN DAMMAM, SAUDI ARABIA

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Received 25th Aug. 2019; Revised 15th Sept. 2019; Accepted 25th Sept. 2019; Available online 1st March 2020

https://doi.org/10.31032/IJBPAS/2020/9.3.4973

ABSTRACT

Background

Self-medication common practice in the society. The consequence of self-medication is wide range of health problem such as drug addiction, allergy, worsening of ailment. The purpose of the study to determine the knowledge, attitude and practices regarding self-medication among residents in Dammam, Saudi Arabia.

Methods

It's a cross sectional study, 350 participants were selected through convenience sampling from the different districts of pharmacy store in Dammam during January to April 2019. Participants were including those have permanent resident of Dammam. Structured and validated questionnaire was used to determine the knowledge, attitude and practice. Frequency and proportion were calculated, and chi-square test was used to determine the factor associated with self-medication.

Results

The results showed that more than half (66.6%) had inappropriate knowledge and (71.7%) unsafe practiced regarding self-medication. More than half (54.9%) had positive attitude toward self-medication. The most common factor for self-medication was education level.

Illiterate person was more had unsafe practice for self-medication due to inappropriate knowledge. (p-value 0.05)

Conclusion

The conclusion was made that knowledge, self-practice,and attitude influenced self-medication program among residents in Dammam, Saudi Arabia.

Keywords: Attitude, Knowledge, Practice, Self, Medication

INTRODUCTION

The World Self-Medication Industry (WSMI) defines self-medication as a way of treating common illness with medications which are labeled and designed to be used by the patients without the supervision of medical practitioners, and they are approved to be safe and effective for use **[1]**. Self-medication practise is worrisome because it enables individuals to access therapeutic medications very fast and this can potentially damage health **[2]**. World Health Organizations (WHO) defines self-medication practice as a use of medications to treat self-reported symptoms and illness without consulting qualified medical practitioner on how the medications to function and the stages of self-care **[3]**. Medicines, which are used in self-medication program, are referred to as 'over the counter drugs', which are easy to get without a prescription from a doctor. They are mostly available in pharmacies, supermarkets in some countries and chemists all over the world. Those medications which are accessed with doctor's prescription are generally referred to as prescribed drugs (Rx drugs) **[4]**.

Previous articles which were published reported common thing over the counter medications (OTC) leads to adverse health effects and even fatal occurrence as a result of insufficient knowledge of medications **[5, 6]**. In a study conducted in Ethiopia, the results showed that 45.5% of the participants used at least one medication which was not prescribed by a medical profession, 63.4% indicated that they follow the advice of their family members about the medications which they use **[7]**. The main medications which they were using for self-medication was, antibiotics, analgesics, appetite suppressants, anti-emetics and anti-influenzas: 13.9% of these medications were advocated by pharmacists while 19.7% as taken as another choice therapy.

A study which was conducted specifically Ethiopia disclosed that lack of knowledge among pregnant and breastfeeding mother's predisposes then to use medications which are contraindicated in pregnancy and lactation, which puts risk to the unborn

foetus and breast-feeding babies **[8]**. The results have shown that 3% of the live infants which are born have congenital anomalies, 7% are as a result of exposure to chemicals during their intrauterine life. The results showed 6.1% of pregnant women were identified to have teratogenic risks as a result of taking medications which were not prescribed by health professionals especially medications such as sex hormones with androgenic components and tetracycline's **[9, 10]**.

A survey conducted shows that the commonest reason for self-medication practice among the population in economic deprived countries is as a result of poor social economic status and high cost of acquiring medications **[10]**. Other surveys show that the some other reasons why consumers practice self-medication are minor illnesses, lack of time and conveniences **[11]**. A study which have been based on age indicated that those older adults who lives independently often practice self-medication with over the counter medications being the most common when they develop simple sicknesses such as mild headache, allergies, fever, gas and indigestion **[11]**. A study conducted by the WHO, Action Committee on Essential Drugs highlighted that more than 60% of the illnesses which are reported were as a result of the use of self-medicated over the counter drugs **[12]**. Another study indicated that it was reported that up to 80% of the patients were still practicing self-medication even when the medical practitioners are supervising the adequacy of health services delivery **[13].** Various studies have indicated that most drugs which are used by patients in self-medication are the analgesics. However, a recent study shows that antibiotics are commonly sold in developing countries, the figure showing the 15% rate when combined with anti-malarial and analgesics and over 10% with analgesics alone **[14]**.

Saudi Arabia stands out between few nations of the world where medications are freely displayed for sale in various places such as roadside stalls, shops, and other public placed which are unauthorized and those who sell there are not duly licensed **[15]**. This non-selective use of drugs cut across all groups of individuals and it could be for social, medical and recreational reasons.

To best of our knowledge that there are few studies conducted in eastern province for determine the knowledge, attitude and practice survey regarding self-medication. This study helps to determine the level of knowledge, attitude and practice regarding self-medication among common person. Their study showed that the over the counter medications were the key reasons behind the misuse of drugs. Individual self-care is fashioned in the social environment-

it is a crucial determiner of the type, quality and amount of healthcare used. Self-medication is a very regular among people in many developing nations, and despite the growing interests of the research on the topic, not much is known about major cognitive factors. Various studies which have been conducted in most developing countries shows that self-medication practice is influenced by major factors such as family, law, society, education, and availability of medications and a lot of exposures through advertisements. Professional status and high level of education have been mentioned as predictive factors for self-medication practice in most developed nations. The study objective is to assess the Knowledge, Attitude, and Practices of self-medication among people living in Dammam, Saudi Arabia.

METHODOLOGY

Study Setting, Target population, sampling technique and study design, the study was carried out at the five different pharmacies in Dammam, Saudi Arabia. Dammam city divided into 5 regions and each region one pharmacy was selected randomly. Total 350 participants which divided into 70 participants from each pharmacy. The target population of the study consisted of residents of Dammam who practice self-medication. Design of the study was cross sectional. The duration of study was from January to April 2019.

Inclusion and exclusion Procedures and Study variables

Those residents from Dammam community who are willing to participate in the study and exclusion of those person who buying other than medicine in the pharmacies. Dependent variables are Knowledge, attitude, and practice and independent variables are age, gender, education level, marital status, occupation.

Data Collection Tool and Data collection method and Sample size

The data collection instrument was developed by the researcher. The validity and reliability of instrument was done by pilot study. Necessary changes were made in the instrument after pilot study. The instrument contained 24 questions. There are four section in the questionnaire, socio-demographic characteristics, knowledge, attitude and practice. The level of knowledge was divided into appropriate and inappropriate, if study participants were responded 70% questions correct then it gave to appropriate knowledge. The level of attitude was divided into positive and negative attitude toward self-medication, if study participants were responded 70% question correct then it gave positive attitude. The practice type was divided into safe and unsafe practice, if participants were response were 70% answer to safe

practice questions then we gave to safe practice. The sample size was calculated from the WHO health studies software, 350 respondents at precision level of 5% and confidence interval of 95% for expected proportion of 35% self-medication **[16]**. 70 participants were selected for each pharmacy.

Data Collection Methods and ethical consideration and Statistical analysis

The permission was taken from each pharmacy; the researchers selected the participants through convenience sampling and start the interview in the pharmacy. The primary data was collected via a personal interview with guided interview questions using a pretested structured questionnaire. The interview guide was considered appropriate for the study because it needed a very detailed and in-depth understanding the major factors influencing self-medication practice among residents in Dammam. **The study protocol approved by the university IRB board** and permission was taken from pharmacy manager prior to the collection of data; written informed consent from each of the research participants were obtained from each participant. Confidentiality of each participants were maintained through interview was conducted in specific place in the pharmacy. Data was entered and analysed in the statistical package of social science software (SPSS) version 24. Frequency and proportion were calculated for quantitative and qualitative variable respectively. Chi square test was applied to determine the difference of independent variables with dependent variables.

RESULTS

Table 1 shows that most of the respondents (64%) were below 30 years, 64.9% were male, 68.3%were married, 58% were employed, 82.6%of the respondents had attained primary school education level.

Table 2 Most of the respondents (76%) indicated that they are aware of side effects of self-medication. On part of which medications, they think that can be used safely without consulting a doctor, most of the respondents (64.6%) highlighted painkillers, 22.3% indicated herbs, 7.1 said NSAIDS. In terms of which conditions make them consume drugs without seeing a doctor, most of the respondents (56.9%) highlighted that common cold makes them not see a doctor, those how highlighted headaches was 37.4%, Allergy were 3.4%. Those who knew that the medications which they purchase requires a prescription where more than half 70.9% .77.4% of the respondents highlighted to know the route of medication which they purchase without a prescription while 22.6%, indicated not to know the route of administration.70.3% of the respondents were aware of the dosage of medications which they purchase without a prescription.

Table 3 The respondents 21.4% agreed with self-medication, 31.1% disagreed with self-medication, while only 9.7% strongly agreed with the encouragement of self-medication. 46.3% of the respondents disagreed with buying medications without a prescription, 38.3% were neural about buying medications without a prescription, 11.4% agreed with buying medications without a prescription while 4% strongly agreed with buying medications without a prescription. Most of the respondents (40.9%) were neutral on if self-medication is hazardous to the community, 26% agreed and 19.4% strongly agreed that they recognize self-medication as hazardous to the community while only 13.7% indicated that self-medication is not hazardous to the community. Most of the respondents (34.3%) were neutral on if they believed that an individual should consult pharmacist directly without seeing physicians. 32% agreed that they should consult with pharmacist without seeing the physicians, 22.6% disagreed while 10.6% strongly agreed that individual should consult pharmacists directly without seeing the physicians.

Table 4 Most of the respondents (71.7%) indicated that they have ever practiced self-medication. Most of the respondents (43.1%) indicated that they do not consult a doctor because they have positive perception of OTC medicines, 30.9% indicated they lack time to consult a doctor, 17.1% highlighted that doctors are not accessible while 8.9% indicated that rapid emergency care requirement makes them not to consult a doctor. Most of the respondents in the survey 48% highlighted that they always ask the pharmacist for information regarding the medications they are buying, 37.1% asks for information sometimes, 8.3% rarely asks for information regarding medications while 6.6% never ask for information about medication they are buying. Most of the medications which they buy without prescriptions from community pharmacies include analgesics or antipyretics having most respondents (67.7%), vitamins 15.1%, cough preparations 4.6%. antibiotics 4.3% while those who buy antiallergy were 2.3%.

Table 5 there are association with socio-demographic characteristic and knowledge, attitude and practice but only statistically significant association was education level.

Figure 1 show that most of the respondents (66.3%) indicate that the level of knowledge is inappropriate in relation to self-medication while 33.4% highlighted knowledge as appropriate in relation to self-medication.

Figure 2 above more than half of the respondents 54.9% showed positive attitude while 45% showed negative attitude in relation to self-medication practice.

Figure 3 the number of respondents who highlighted self-medication to be unsafe was 61.1% while those who indicated the self-medication to be safe was (38.9).

Table 1: Social Demographic Information of study participants (n=350)		
Age	**Frequency (n)**	**Proportion (%)**
>30	**126**	**36**
<30	**224**	**64**
Gender		
Male	**227**	**64.9**
Female	**123**	**35.1**
Marital status		
Single	**107**	**30.6**
Married	**239**	**68.3**
Divorced	**4**	**1.1**
Occupation		
Self-employed	**2**	**0.6**
Employed	**203**	**58**
Housewife	**52**	**14.9**
Unemployed	**93**	**26.6**
Education		
Illiterate	**54**	**15.4**
Literate	**296**	**84.6**

Table 2: Study participants knowledge regarding self-medication (n=350)			
	Response	**Number**	**Percentage**
Are you aware of the side effects of self-medication?	**YES**	**266**	**76**
	NO	**84**	**24**
Which type of medicine do you think can be used safely without consulting a doctor?	**NSAIDs**	**25**	**7.1**
	Pain killers	**227**	**64.9**
	Herbs	**78**	**22.3**
	Antacids	**11**	**3.1**
	Other	**9**	**2.6**
What conditions can make you consume drugs without seeking a doctor?	**Common cold**	**199**	**56.9**
	Headache	**131**	**37.4**
	Allergy	**12**	**3.4**
	Other	**8**	**2.3**
Do you know whether the medicine you purchased needs a prescription or not?	**YES**	**248**	**70.9**
	NO	**102**	**29.6**
Do you know the route of administration of medication you purchased without a prescription?	**YES**	**271**	**77.4**
	NO	**79**	**22.6**
Do you know the dosage of medications you purchased without a prescription?	**YES**	**246**	**70.3**
	NO	**104**	**29.7**

Table 3: Study Participants attitude towards self-medication(n=350)			
	Response	**Number**	**Percentage**
Should self-medication be encouraged?	**Strongly agree**	**34**	**9.7**
	Agree	**75**	**21.3**
	Neutral	**132**	**37.7**
	Disagree	**109**	**31.1**
Is it right to use drugs without prescription?	**Strongly agree**	**14**	**4**
	Agree	**40**	**11.4**

	Neutral	134	38.3
	Disagree	162	46.3
Is self-medication hazardous to the community?	Strongly agree	68	19.4
	Agree	91	26
	Neutral	143	40.9
	Disagree	48	13.7
Do you believe that you should consult with pharmacist directly without seeing the physician	Strongly agree	37	10.6
	Agree	114	32.6
	Neutral	120	34.3
	Disagree	79	22.6

Table 4: Study Participants practice regarding self-medication(n=350)

	Response	Number	Percentage
Have you ever practised self-medication?	YES	251	71.7
	NO	99	28.3
What reason makes you not to consult a doctor?	Doctor not accessible	60	17.1
	Lack of time to visit a doctor	108	30.9
	Rapid emergency care required	31	8.9
	Positive perception of over the counter medicines	151	43.1
When you buy a medication without a prescription, do you ask the pharmacist for information regarding the medications?	Always	168	48
	Sometimes	130	37.1
	Rarely	29	8.3
	Never	23	6.6
Type of medications bought without prescriptions among consumers from the community pharmacies?	Analgesics/antipyretics	237	67.7
	Cough preparations	16	4.6
	Antibiotics	15	4.3
	Antiallergy	8	2.3
	Vitamins	53	15.1
	Other	21	6

Table 5: Association of socio-demographic factors associated with level of Knowledge, Attitude and Practice

Factor		Level of Knowledge		*p-value
		Appropriate	Inappropriate	
Age (Years)	- 30	40	86	0.617
	>30	77	147	
Gender	Male	78	149	0.615
	Female	39	84	
Education	Illiterate	11	43	0.04
	Primary	107	190	
		Level of Attitude		
		Positive	Negative	P Value
Age (Years)	18 - 30	67	59	0.635
	>30	125	99	
Gender	Male	121	106	0.42
	Female	71	52	
Education	Illiterate	24	30	0.03
	Literate	118	177	
		Type of Practice		
		Safe	Unsafe	P Value
Age (Years)	18 - 30	54	72	0.250
	>30	82	142	
Gender	Male	88	139	0.96
	Female	48	75	
Education	Illiterate	18	36	0.02
	Literate	118	175	

*chi-square

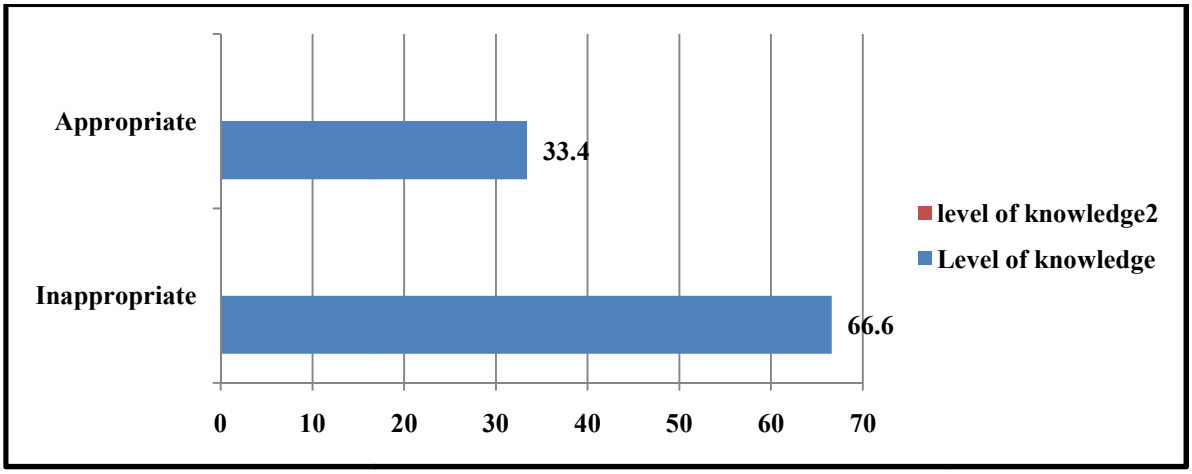

Figure 1: Level of Knowledge among Study Participants

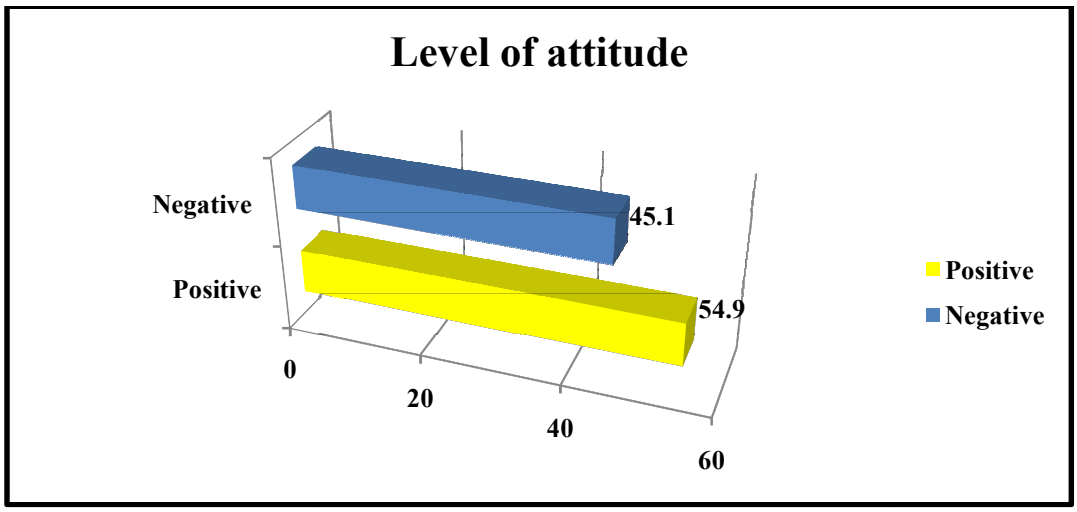

Figure 2: Level of Attitude among Study Participants

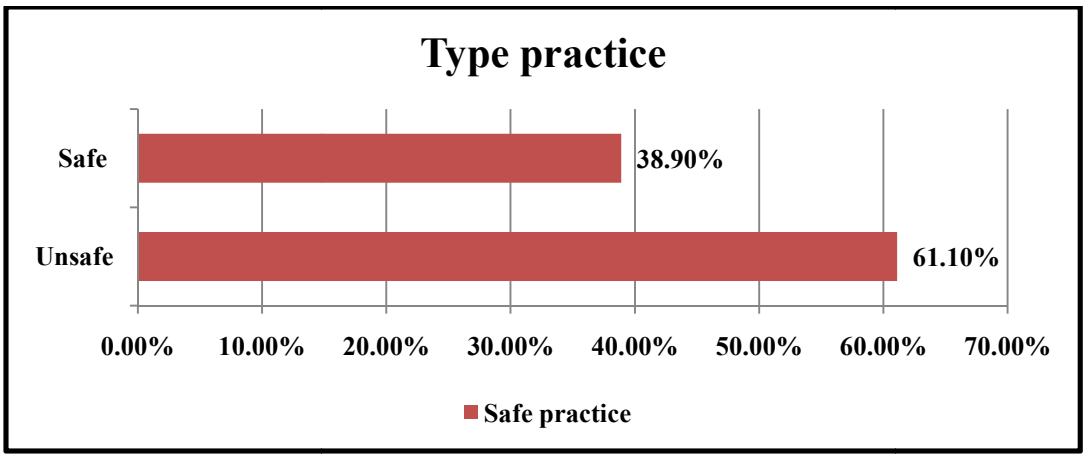

Figure 3: Type of Practice among Study Participants

DISCUSSION

The study found that most of the participants had good knowledge in what is self-medication which was simply referred by most of the respondents as '' the use of medications without a prescription from a medical profession''. Majority of the respondents had attained the primary certificate level of education. However, they participated in self-medication, these findings were in line with those which have been documented in developing nations **[17, 18]** but different to the most privileged nations where the level of education is high and therefore will not prefer self-medication because they are able to afford healthcare services. Majority of the respondents indicated that they understood the side effects; this is in line with a study which was conducted in Hong Kong, mainland China which showed that most patients 93% were fully aware of the drugs side effects **[19]**. Although the medications are affordable, readily available and it saves time when purchasing medications than seeing a physician in similar studies which have been conducted in various developing nations **[20]**. Self-medication is frequently practiced despite varying opinions from different respondents in the study. More than half (71.7%) had practiced self-medication. Most of the respondents (66.6%) indicated that the level of knowledge is inappropriate in relation to self-medication; this can be attributed to the fact that most of the participants had attained a primary certificate in their education level.

Despite the awareness of safety, there is still a high prevalence of self-medication among residents in Dammam, Saudi Arabia. This may be as a result of the level of education, but also most of the respondents indicated that they read the leaflets which are enclosed in packaging before taking medications. Also, most of the respondents indicated that they asked pharmacists about medications which they are buying. This was like various studies **[21, 23]** where adverts from media and internet have been proved to be valuable sources of drug information. Most of the respondents in the study indicated that they are aware that medications should be purchased with a prescription and they are aware of the route of administration of medication and the dosages mostly is because they ask for more information from the pharmacists before taking medications. This is in line with various studies **[24, 25]** which have shown that pharmacist forms a great part in the healthcare system.

As recorded in various studies **[26, 27]** fever, cough, common cold, and headaches were the most common conditions which made residents of Dammam to practice self-medication. The residents largely explained that the most medications which

they purchase in local pharmacies without prescription are painkillers, cough preparations, antibiotics, and vitamins, they consider these medications safe to manage or treat mild illnesses without consulting physicians, this is a comparable report in most studies **[22, 23]**. These findings were in harmony with previous studies showed that commonly used over-the-counter medications were antibiotics, penicillin, and cough expectorant and painkillers **[21, 28]**.

In this study, most respondents indicated that over-the-counter medications saves time of seeing a doctor, this was in harmony with previous studies **[19, 29]** which showed that consumers are not willing to submit to the inconveniences which are caused by doctors, for some illnesses which they feel they can manage on their own when they are offered with adequate information about the medications **[25]** in addition, another study which showed that in most developing countries most medications without prescription saves time **[9]**.

The incidence of self-medical among the respondents in Dammam was found to be more than half (71.7%) of the respondents highlighted that they have practiced self-medication. This is equal to a number of past studies **[18, 24]** and vary in a few studies such as **[7, 23]**. This can be due to various factors in different areas such as the social-demographic and social-economic status of the participants; the environment and time frame used during the study differ. Contradictory, despite the devastating self-medication practice among the participants, more than half of the respondents (61.1%) indicated that self-medication practice is unsafe and should not be encouraged. They also highlighted self-medication to be hazardous to the community. This was in line with previous study which showed that lack of knowledge among pregnant and breastfeeding mothers predisposes them to foetal complications to the unborn foetus and risks to breastfeeding babies **[24, 26]**. The study revealed that most of the respondents (76%) are aware that self-medication has side effects, this can be attributed to the fact that most of them indicated that the source information about the drug from pharmacists. This was like a study which was conducted in Nigeria **[9]** which showed that the main channels of drug information to the consumers are the chemist dealers of the pharmacists and medical professionals in the developing nations.

The study showed that most respondents (62.9%) highlighted that the cost of consulting a physician to be very high, this influenced them more patients to buy over the counter medications rather than visiting physicians. This was in line with a study which showed that the patient satisfaction

is high **[30]**. Most of the respondents in the study indicated that they use practice self-medication because of their perception of the simplicity of illness or as a minor one, this was in harmony with Nigerian studies **[9]**. In addition most of the respondents indicated that it is easier to acquire over-the counter medications which makes them to practice self-medication rather than visiting a physician. This was in line with a local study which showed that the major source of the self-medication drugs is the community pharmacies where patients purchase them easily even without prescription **[30]**. Most of the respondents indicated that they practise self-medication because of their knowledge of the drugs, respondents were aware of the benefits and potential side effects of drugs. This was in harmony with a descriptive study which was conducted in Hong Kong which showed that most of the patients understood the therapeutic effects and benefits of medications which they used as over the counter **[27]**.

CONCLUSION

Level of knowledge found it in appropriate among study subject. Majority of participant have attitude for self-medication. Unsafe practice of self-medication was found among majority of subject. The practice of self-medication is high among those who have not well educated in Dammam, Saudi Arabia. There should be increased education and awareness at all levels of the population about the need and benefits of consulting medical professionals before consuming drugs, there is an association between self-medication and the place of responsible self-medication.

Compliance with Ethical Standard

Research involving human participants: All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. Research involved human participants, research approved from ethical review committee from hospital, confidentiality of data has maintained.

Ethical Approval

The study protocol was approved by the Imam Abdul Rehman bin faisal university.

Informed consent written inform consent was obtained from each participant,

Consent for Publication

Informed written consent was received for publication of the manuscript and figure.

Competing interest

The authors declare that they have no competing interest.

Funding

Funding source No funding source, project is self-funded.

Author contribution

EA contribute the data collection, data entry, write the introduction and methodology, MS contribute to supervise the project, analysis, write the discussion. MZ contribute to proof reading, reference writing.

Acknowledgement

The authors thank all Participants to participate in this study and all pharmacies.

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