

Assessment of Self-Medication Practice Among Undergraduate Medical Students In The Eastern Region, Saudi Arabia

Yasser Awadallah Yasein¹, Abdulelah Othman Ali Alghamdi²,
Salman Sharidah Al anazi², Moataza M. Abdelwahab³

1. Assistant Professor of Public Health and Community Medicine Department, Faculty of Medicine, Al-Azhar University, Egypt. Consultant of Preventive medicine, KFMMC, KSA

2. Family Medicine resident, KFMMC, KSA

3. Associated Professor of Family & Community Medicine, College of Medicine, Imam Abdulrahman Bin Faisal University, KSA

Corresponding Author: Yasser Awadallah Yasein

Abstract

Background: Self-medication is a common and regular practice of using medicines without any medical supervision by the people themselves for self-treatment.

Objectives: To clarify; the prevalence, the most common self-medicated drugs and most common health conditions for which self-medication will practice, as well as to estimate the level of knowledge and attitude towards self-medication practice.

Methods: A descriptive cross sectional study was conducted among undergraduate medical students in the Eastern Region, Saudi Arabia. The study included 473 medical students (293 student from medical college of King Faisal university "Al-Hassa" and 180 from Medical College of Imam Abdulrahman Bin Faisal University, "Al-Dammam"), with a mean age 22.2 ± 2.1 years and (range of 18-26 years).

Results: The overall prevalence of self-medication among studied sample was 90.5%, while the prevalence in the last 12 months before the current study was 75.5%. Self-medication was common prevalent among lower grades than higher grades. Most common class of drugs self-medicated was analgesics (59.1%), antipyretics (43.9%), antibiotics (24.3%), antispasmodics (24.1%), herbals (16.8%), and tonics/vitamins (14.7%). Most common indication for self-medication were headache (48.4%), fever (40.4%), sore throat (38.3%), and cough (24.3%). Out of 428 of respondents 209 (48.8%) were used self-medication for themselves, 107 (25.0%) for their family members, and 56 (13.1%) for their friends. Main source of medications for those self-medicated was pharmacy (70.3%). Among the total respondents, 218 (46.1%) agreed on self-medication practice and 187 (39.5%) disagreed on the practice. Two major reasons that lead to practice of self-medication among study participants were; minor illness (40.8%), prior experience of diseases (30.3%). The risk of wrong diagnosis (38.5%), adverse reaction (29.9%), delay in seeking medical advice (11.8%), were the most reasons against self-medication practice.

Conclusion: Self-medication is widely practiced among undergraduate medical students, facilitated by the easy availability of drugs.

Keywords: Self-medication, prevalence, knowledge, attitude, undergraduate medical student, Eastern Region, KSA.

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I. Introduction

Self medication is a major form of self-care⁽¹⁾. It involves the use of medicinal products by the consumer to treat self recognized disorder, symptoms, recurrent disease or minor health problems⁽²⁾. The World Health Organization (WHO) has defined self-medication as the selection and use of medicines by individuals to treat self-recognized illnesses or symptoms⁽³⁾. The US Food and Drug Authority has defined Over the Counter (OTC) medications as drugs that are safe and effective for use by the general public without seeking treatment by a health professional⁽⁴⁾. The practice of self-medication is growing worldwide. It is associated with problems that may lead to potentially life threatening complications represent a priority to be investigated⁽⁵⁾. Self-medication with over the counter drugs is a common practice in both developed and developing countries⁽⁶⁾. The prevalence rates are reported to be higher in developing countries⁽⁷⁾. The utilization of over the counter drugs among university students is common⁽⁸⁾. The findings of many studies revealed that, the prevalence rates of self-medication among university students was (76.0%) in Karachi, Pakistan⁽⁹⁾, (94.0%) in Hong Kong⁽¹⁰⁾, (87.0%) in India⁽¹¹⁾, (43.2%) in Ethiopia⁽¹²⁾, (86.4%) in Brazil⁽¹³⁾, (98.0%) in Palestine⁽¹⁴⁾, (55.0%) in Egypt⁽¹⁵⁾, (45.0%)

in Turkey⁽¹⁶⁾, (86.0%) in Bahrain⁽¹⁷⁾, (79.9%) in Belgrade, Serbia⁽¹⁸⁾, and (94.1%) in Slovenia⁽¹⁹⁾. A meta-analysis by Montgomery *et al.* which included 27 published studies from different countries showed that prevalence of self-medication among medical students and health care professionals was ranging from (12.0 to 99.0%)⁽²⁰⁾. Self-medication in Saudi Arabia seems to be a common practice among the general population and the prevalence rate was (67.2%)⁽²¹⁾. Self-medication among university students has been surveyed in different parts of Saudi Arabia, revealed that, the prevalence of self medication was (81.6%) in Qassim, (77.0%) in Buraydah⁽²²⁾, (75.2%) in Jeddah⁽²³⁾. Self-medication is very common and a number of reasons could be enumerated for it^(24, 25). Urge of self care, feeling of sympathy towards family members in sickness, lack of health services, poverty, ignorance, misbelieves, extensive advertisement and availability of drugs in other than drug shops are responsible for growing trend of self-medication⁽²⁶⁾. Potential risks of self-medication practices include: incorrect self-diagnosis, delays in seeking medical advice when needed, infrequent but severe adverse reactions, dangerous drug interactions, incorrect manner of administration, incorrect dosage, incorrect choice of therapy, masking of a severe disease and risk of dependence and abuse⁽²⁷⁾. The current study was conducted to clarify; the prevalence, the most common self-medicated drugs and most common health conditions for which self-medication will practice, as well as to estimate the level of knowledge and attitude of towards self-medication.

1.1 Rational

Survey of self-medication among student population is an important because this population represents a segment of highly educated members of the society that have better access to healthcare related information⁽¹⁸⁾. It is suspected that the prevalence rate of self medication is high in Saudi Arabia and only few studies have been done^(28, 29, 30). Therefore the present study will conduct to estimate the prevalence, and to assess Knowledge and attitudes of self medication among medical students in the Eastern Region, KSA.

II. Subject And Methods

2.1 Research design: A descriptive cross sectional study was conducted among undergraduate medical students in the Eastern Region, Saudi Arabia.

2.2 Study setting: Eastern Region includes 2 medical colleges (Medical college of Imam Abdulrahman Bin Faisal at Al-Dammam and King Faisal Medical College at Al-Hasa). Both colleges were included in the study. The study population comprises all academic years in the both college (except first year students).

2.3 Inclusion criteria:

1. Undergraduate medical students
2. Males only
3. Saudi students

Exclusion criteria:

1. Undergraduate non-medical students
2. Female students
3. Non Saudi students
4. First year students were excluded from the study where the medical sciences not included in their curriculum

2.4 Study sample: All medical students (1016 students) in the selected colleges and met the inclusion were requested to be included in the study. Out of 1016 students, 473 (46.6%) were accepted. Before data collection, oral consent from every participant was obtained with nearly 46.6% response rate (66.4% among King Faisal medical students, compared with 31.3% among Imam Abdulrahman Bin Faisal medical students).

2.5 Data collection technique: A self-developed questionnaire consisting of both open and close-ended questions was used. The questionnaire was included questions on; socio-demographic factors, risk factors, health conditions for which self-medication was practiced, reasons in favor of (advantages) and against (disadvantages) self-medication, knowledge and attitude towards self-medication practice. The questionnaire was prepared and developed through January and February 2016

2.6 Ethical considerations: Field survey was conducted after obtaining approval from; Family Medicine Board, Eastern Region, KSA; KFMMC Research Ethical Committee; and Local authority in the both colleges. An approval consent was conducted through July to August 2016.

2.7 Pilot study: The questionnaire form was tested on 30 students as a pilot study in order to evaluate the internal consistency of the questionnaire, and to determine the time needed to fill it. The pilot study was conducted through one week on November 2016

2.8 Data collection: The questionnaire was filled by the students themselves under supervision of data collector. The data was collected over a period of three months (February to May 2017).

Training for one day was conducted for 2 coordinators (one coordinator from every college), and covered the following items:

1. How to distribute the questionnaire and how to collect it after filling?
2. How to answer any questions related to the questionnaire?

All students in the both colleges was submitted to a brief orientation on; general purpose from the study; variables included in the questionnaire; and how to fill the questionnaire?

2.9 Data analysis and management: Data were entered, organized, tabulated and analyzed using the standard computer program SPSS version 21. Quantitative data were expressed as Mean±SD, while Qualitative data were expressed as frequency and percent. Chi square (χ^2) was used to assess the relationship between two qualitative variables, with the significant level set at 0.05.

III. Results

The current study included 473 of undergraduate medical student with a mean age of (22.22±2.03years) and range of (18-26years). Two hundred ninety three (61.9%) of 473 students were from Medical College of King Faisal University at Al-Hassa, while 180 (38.1%) were from Medical College of Imam Abdulrahman Bin Faisal University at Al-Dammam. Four hundred fifty nine (97.0%) were single, and 14 (3.0%) were married. Regarding residence, (71.5%) were urban residents, while 21.6% and 7.0% were rural and Bedouin residents respectively. Three hundred eighty eight (82.0%) of students were living with their families, while 45 (9.5%) and 40 (8.5%) were living in the university and private housing respectively. The respective number of students from each year of study is also given in table 1. One hundred fifty six (33.0%) were second year students, 114 (24.1%) were third year students, 83 (17.4%) were fourth year students, 59 (12.5%) and 61 (12.9%) were fifth and sixth year students respectively, **table 1**. The overall prevalence of self-medication among studied sample was 90.5%, while the prevalence in the last 12 months before the current study was 75.5%, **fig. 1 & 2**. The self-medication practice was commonly prevalent among medical college students of Imam Abdulrahman Bin Faisal University (96.7%), compared to (86.7%) among medical college students of King Faisal University. There was statistically significant difference ($\chi^2_1= 12.9, P < 0.05$), **table 2**. The results revealed that, there were no statistically significant differences regarding parent's education, occupation, family income, and practice of self-medication ($P > 0.05$), **table 3**. It shows that, the 5th and 6th year students had a lower prevalence of self-medication and represented by (81.8%), and (81.4%) respectively, compared to (95.6%, 95.1%, and 86.1%) among 2nd, 3rd, and 4th year students. There was statistically significant difference ($\chi^2_4= 20.0, P < 0.05$). The practice of self-medication was commonly prevalent among students who lived with their families (92.3%). There was statistically significant difference ($\chi^2_2= 7.96, P < 0.05$), **table 4**. Most common class of drugs self-medicated were analgesics (59.1%), antipyretics (43.9%), antibiotics (24.3%), antispasmodics (24.1%), herbals (16.8%), and tonics/vitamins (14.7%). The findings revealed that, the most common indication for self-medication were headache (48.4%), fever (40.4%), sore throat (38.3%), and cough (24.3%). **table 5 & 6**. Out of 428 of respondents 209 (48.8%) were used self-medication for themselves, 107 (25.0%) for their family members, and 56 (13.1%) for their friends. The main source of medications for those self-medicated was pharmacy (70.3%), followed by friends/relatives (15.9%), supermarkets (9.8%), and herbal store (4.0%), **table 7 & 8**. **Table (9)**, shows that respondent's knowledge on the risk of self-medication practice. Knowledge regarding hazards of change of drug's timing, 316 (66.8%) had a good knowledge, 135 (28.5%) had some knowledge, and 22 (4.7%) were unknown. Knowledge on hazard due to the increased drug dose 350 (74.0%) had a good knowledge, 110 (23.3%) had some knowledge, and 13 (2.7%) were unknown. Knowledge on drugs adverse reaction, 393 (83.1%) had a good knowledge, 70 (14.8%) had some knowledge, and 10 (2.1%) were unknown. Knowledge on completing dose of drugs, 381 (80.5%) had a good knowledge, 81 (17.2%) had some knowledge, and 11 (2.3%) were unknown. Regarding the knowledge about antimicrobial resistant, the findings revealed that, 376 (79.5%) had a good knowledge, 65 (13.7%) had some knowledge, 32 (6.8%) were unknown.

Among the total respondents, 218 (46.1%) agreed on self-medication practice, while 187 (39.5%) disagreed the practice. The table reveals that. The two major reasons that lead to practice self-medication among study participants were; minor illness (40.8%), and previously experience of diseases (30.3%). Regarding the reasons

against self-medication practice; the risk of wrong diagnosis (38.5%), adverse reaction (29.9%), delay in seeking medical advice (11.8%), were the most reasons against self-medication practice, **table 10**.

Table (1) Demographic characteristics of participants

Background characteristic		Frequency (n.=473)	
		No.	%
University	King Faisal university "Al-Hassa"	293	61.9
	AlDammam university	180	38.1
Mean age	22.2±2.1 years and (range of 18-26 years)		
Marital status	Single	459	97.0
	Married	14	3.0
Residence	Urban	338	71.5
	Rural	102	21.6
	Bedouin	33	7.0
Housing status	With family	388	82.0
	In university housing	45	9.5
	In private housing	40	8.5
Family income	< 10000 SR	238	50.3
	10000 & more	235	49.7
Academic year	2 nd year	156	33.0
	3 rd year	114	24.1
	4 th year	83	17.4
	5 th year	59	12.5
	6 th year	61	12.9

Fig. (1) Prvalence of selfmedication among studied sample

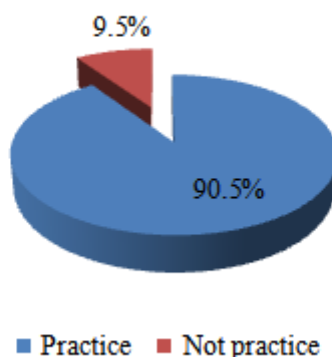


Fig. (2) Prevalence of selfmedication in the last 12 months

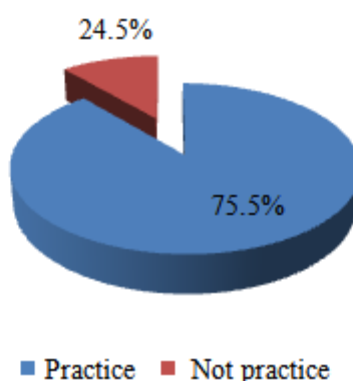


Table (2) Distribution of studied sample according to relationship between university and practice of self-medication

University	Self-medication (n. = 473)		Total	χ^2	P value	df
	Practice (n. = 428)	Not practice (n. = 45)				
King Faisal medical college "AlHassa"	254 (86.7%)	39 (13.3%)	293	12.9*	< 0.05	1
Al-Dammam medical college	174 (96.7%)	6 (3.3%)	180			

*Statistically significant difference

Table(3) Distribution of studied sample according to relationship between parent's education, occupation, family income, and practice of self-medication.

Variable		Self-medication (n. = 473)		Total	χ^2	P value	df
		Practice (n. = 428)	Not practice (n. = 45)				
Father education	Non educated	30(83.3%)	6(16.7%)	36	10.5	> 0.05	5
	Read & write	26(83.9%)	5(16.1%)	31			
	Primary level	27(81.8%)	6(18.2%)	33			
	Intermediate level	39(88.6%)	5(11.4%)	44			
	Secondary level	58(89.2%)	7(10.8%)	65			
	Higher level	248(93.9%)	16(6.1%)	264			
Father occupation	Non worker	74(91.4%)	7(8.6%)	81	2.0	> 0.05	2
	Nonprofessional worker	162(92.6%)	13(7.4%)	175			
	Professional worker	192(88.5%)	25(11.5%)	217			
Mother education	Non educated	33(80.5%)	8(19.5%)	41	10.1	> 0.05	5
	Read & write	30(85.7%)	5(14.3%)	35			
	Primary level	42(85.7%)	7(14.3%)	49			
	Intermediate level	64(90.1%)	7(9.9%)	71			
	Secondary level	59(92.2%)	5(7.8%)	64			
	Higher level	200(93.9%)	13(6.1%)	213			
Mother occupation	Non worker	200(90.1%)	22(9.9%)	222	3.7	> 0.05	2
	Nonprofessional worker	137(93.8%)	9(6.2%)	146			
	Professional worker	91(86.7%)	14(13.3%)	105			
Family income	< 10.000 SR	219(92.8%)	17(7.2%)	236	2.9	> 0.05	1
	10.000 and more	209(88.2%)	28(11.8%)	237			

Table (4) Distribution of studied sample according to relationship between academic year, housing status and practice of self-medication

Variable		Self-medication (n. = 473)		Total	χ^2	P value	df
		Practice (n. = 428)	Not practice (n. = 45)				
Academic year	2 nd year	151 (95.6%)	7 (4.4%)	158	20*	< 0.05	4
	3 rd year	116 (95.1%)	6 (4.9%)	122			
	4 th year	68 (86.1%)	11 (13.9%)	79			
	5 th year	45 (81.8%)	10 (18.2%)	55			
	6 th year	48 (81.4%)	11 (18.6%)	59			
Housing status	With family housing	358(92.3%)	30 (7.7%)	388	7.96*	< 0.05	2
	In university housing	37 (82.2%)	8 (17.8%)	45			
	In private housing	33 (82.5%)	7 (17.5%)	40			

* Statistically significant difference

Table (5) The frequency of drugs used for self-medication

Drugs self-medicated	Frequency (n.=428)	
	NO.	%
Analgesics	253	59.1
Antipyretics	188	43.9
Antibiotics	104	24.3
Antispasmodics	103	24.1
Herbal	72	16.8
Tonics/Vitamins	63	14.7
Antiacids	36	8.4
Antidiarrheal	24	5.6
Antiemetics	18	4.2
Antihistaminic	16	3.7
Others	5	1.2

Table (6) The frequency of different symptoms sought for self-medication

Different symptoms	Frequency (n.=428)	
	No.	%
Headache	207	48.4
Fever	173	40.4
Sore throat	164	38.3
Cough	104	24.3
Colic/abdominal pain	64	14.9
Rhinorrhea/Sneezing	62	14.5
Diarrheal	59	13.8
Acidity/abdominal distension	39	9.1
Nausea/Vomiting	24	5.6
Dental pain	21	4.9
Others	19	4.4

Table (7) Medications usage pattern

Medications usage pattern	Frequency (n.=428)	
	No.	%
Practice self-medication for yourself	209	48.8
Practice self-medication for your family member	107	25.0
Practice self-medication for your friends	56	13.1
Practice self-medication for your relatives	34	7.9
Practice self-medication for your neighbors	22	5.1

Table (8) Source of self-medication drugs

Source of self-medication drugs	Frequency (n.=428)	
	No.	%
Pharmacy	301	70.3
Friends/relatives	68	15.9
supermarkets	42	9.8
Herbal store	17	4.0

Table (9) Respondent's knowledge about definition and risk of self-medication practice

Knowledge on the risk of self-medication practice		Frequency (n.=473)	
		No.	%
Knowledge about definition of self-medication	Not at all	149	31.5
	Some knowledge	216	45.7
	Good knowledge	108	22.8
Knowledge about hazards due to change of timing	Not at all	22	4.7
	Some knowledge	135	28.5
	Good knowledge	316	66.8
Knowledge about hazards due to increase drug dose	Not at all	13	2.7
	Some knowledge	110	23.3
	Good knowledge	350	74.0
Knowledge about drug adverse reaction	Not at all	10	2.1
	Some knowledge	70	14.8
	Good knowledge	393	83.1

Knowledge on completing dose of drugs	Not at all	11	2.3
	Some knowledge	81	17.2
	Good knowledge	381	80.5
Knowledge about antimicrobial resistant	Not at all	32	6.8
	Some knowledge	65	13.7
	Good knowledge	376	79.5

Table (10) Respondent's attitude toward self-medication practice

Variable		Frequency (n.=473)	
		No.	%
Attitude	Agree	218	46.1
	Disagree	187	39.5
	Inbetween	68	14.4
Reasons in favor of self-medication (n.=218)	Minor illness	89	40.8
	Previously experience of diseases	66	30.3
	Emergency use	26	12.0
	Quick relief	19	8.7
	Lack of time to consult doctor	11	5.0
	Cost effectiveness	7	3.2
	Risk of wrong diagnosis	72	38.5
Reason against Self-medication (n.=187)	Risk of adverse reaction	56	29.9
	Risk of delay in seeking medical advice	22	11.8
	Risk of incorrect choice	13	7.0
	Risk of drug interaction	10	5.3
	Risk of masking severe disease	8	4.3
	Risk of incorrect manner of administration	6	3.2

IV. Discussion

Self-medication refers to using drugs that have not been prescribed, recommended or controlled by a licensed health care specialist⁽³¹⁾. In developing countries people are not only using non-prescription drugs but also prescription drugs, as self-medication products, without supervision⁽³²⁾. Self-medication is very common and a number of reasons could be enumerated for it^(24, 25). Urge of self care, feeling of sympathy towards family members in sickness, lack of health services, poverty, ignorance, misbelieves, extensive advertisement and availability of drugs in other than drug shops are responsible for growing trend of self medication⁽²⁶⁾. In the current study the prevalence of self-medication among undergraduate medical students was 90.5%, in agreement with other studies, the prevalence of self-medication was (94.0%) in Hong Kong⁽¹⁰⁾, (92.0%) in Kuwait⁽³³⁾, (88.2%) in Karnataka, India⁽³⁴⁾, (86.0%) in Bahrain⁽¹⁷⁾, and (78.9%) in Coastal South India⁽³⁵⁾. The current figure is higher than that reported in West Bengal (57.1%)⁽³⁶⁾, Karachi (55.3%)⁽³⁷⁾, Egypt (55.0%)⁽¹⁵⁾, Turkey (45.0%)⁽¹⁶⁾, and Ethiopia (25.4%)⁽³⁸⁾. Several factors may explain the discrepancy in the prevalence between different localities such as research methods, definition used, sampling techniques, and cultural differences. The most important reason for higher trend of self-medication might be the easy availability of all categories of medicines without prescription. In the current study the finding revealed that, the fifth and sixth year students had a lower prevalence of self-medication as compared with second, third, and fourth year students, in agreement with other studies^(38, 39, 40). On the other hand, some other studies showed no relationship between academic year and self-medication^(37, 8). The reason for low prevalence in fifth and sixth year students could be they are aware of potential disadvantages of self medication like; risks of wrong diagnosis, side effects, and drug interactions. In agreement with a study conducted by Ibrahim *et al.*⁽²³⁾ students who lived with their families used analgesic self-medication more often than students lived in dormitory. On the other hand, the Spanish study showed that self-medication was more prevalent among persons who lived alone⁽⁴¹⁾. Feeling of sympathy towards family members in sickness is responsible for growing trend of self medication⁽²⁶⁾. It is evident from many studies that pharmacy is the major source of getting self-medications^(30, 42, 16). Similar results have been found in the current study. Herbal stores and street markets are least used source for obtaining self-medication. The availability of wide range of medications makes pharmacy as most important choice of getting medications⁽⁶⁾. In agreement with Mehta *et al.*⁽⁴³⁾, and James *et al.*⁽⁴⁴⁾, analgesics, antipyretics, and antibiotics were the most common class of drugs self-medicated by majority of the participants in the current study. These results are similar to other studies conducted in Mozambique⁽⁴⁵⁾, Iran⁽⁴⁶⁾, and Pakistan⁽³⁷⁾. Also study conducted by Raut *et al.*⁽⁴⁷⁾, reported that, antipyretics and analgesics were the most common drugs used for self-medication. The use of antibiotics is not as common as analgesic and antipyretics, it might be due to the knowledge regarding antibiotics resistance and its adverse effect. In the current study the findings revealed that, the majority of respondents use the self-medication for themselves and their families. The similar finding is found in the study conducted by Mehta *et al.*⁽⁴³⁾. In agreement with Raut *et al.*⁽⁴⁷⁾, the most common indications for self-medication were; to relieve the symptoms of headache, fever, sore throat, cough & cold. The same

findings were reported in Ethiopia⁽³⁸⁾, Mangalore⁽⁴⁸⁾, West Bengal⁽³⁶⁾, southern part of India⁽⁴⁹⁾. This is in contrast to the study conducted by Pandya *et al.*⁽⁴⁰⁾, who found that, the most common indications for self-medication were; diarrhea, dysmenorrhea and vomiting. The discrepancy in the findings might be due to higher number of females in that study. In the current study, the findings revealed that, the majority of respondents had a good knowledge on the risk of self-medication practice like hazards related increased drug dose, drugs adverse reaction, in-completing dose, and antimicrobial resistant". The similar finding is found in the study done by James *et al.*⁽⁴⁴⁾, which revealed that majority of student has fairly good knowledge. In contrast to this, the study conducted by Wajantri *et al.* who showed that, majority of respondents were unaware about drug dose and timing⁽⁵⁰⁾. This could also mean that medical students have knowledge about side effects, advantages and disadvantages which they have learned from pharmacology course. It is evident from many studies^(30,42,16) revealed that pharmacy is the major source of getting self-medications. Similar results have been found in the current study. Gutema *et al.* reported that, the main source of medications for those self-medicated was drug retail outlets, followed by friends/relatives, and open markets⁽⁵¹⁾. The availability of drugs in informal sectors such as open markets and small shops encourage the practice of self-medication

Nearly half of respondents had a positive attitude and agreed on self-medication practice, in agreement with a study conducted by Mehta *et al.*⁽⁴³⁾. Also this finding supported by James, *et al.* who revealed that majority of respondents had a positive attitude towards self-medication and favored self-medication saying that it was acceptable⁽⁴⁴⁾. In the present study the two major reasons cited by participants to self-medicated was minor illness and previously experience of disease. The same reasons were also reported by Abay *et al.*⁽³⁸⁾, and Mehta *et al.*⁽⁴³⁾, but differs from results of one study in Sudan where the main reason for self-medication was cost effectiveness⁽⁵²⁾. This may be attributed to the ignorance and lack of knowledge regarding the progression of diseases. The fact that those with a mild illness practiced self-medication has got serious implications as many diseases may initially appear to be mild but misdiagnosis and wrong treatment may invite serious health hazards. Potential risks of self-medication practices include: incorrect self-diagnosis, delays in seeking medical advice when needed, infrequent but severe adverse reactions, dangerous drug interactions, incorrect manner of administration, incorrect dosage, incorrect choice of therapy, masking of a severe disease and risk of dependence and abuse⁽²⁷⁾. In the current study, the major reason against self-medication was afraid of self-medicating because the risk of wrong diagnosis and due to risk of adverse drug reaction. Similar results have been reported by James *et al.*⁽⁴⁴⁾ and Mehta *et al.*⁽⁴³⁾. This may be due to the good knowledge about adverse drug reaction among the medical students.

V. Conclusion

Self-medication is widely practiced among undergraduate medical students, facilitated by the easy availability of drugs. The respondent shows good knowledge towards self-medication and positive attitude towards self-medication favoring it is acceptable. Analgesic and antipyretic were most commonly used drugs. Headache, fever, sore throat, and cough were the most common indications for self-medication. The pharmacy is the main source for getting self-medication drugs. Prevalence of self-medication was high due to minor illness and prior experience of diseases. The risk of wrong diagnosis, adverse reaction, delay in seeking medical advice, were the most reasons against self-medication practice

VI. Recommendations

The study will be helpful to provide base line data about prevalence and practice of self-medication. It helps to conduct counseling programs about the potential risk of self-medication which can help to prevent the harms of un-prescribed medication. Similar type of study can be conducted in different setting in large scale. Self-medication can also be included in course by emphasizing the potential risk of self-medication. Restriction of sale of drugs with potentially harmful effects can be implemented effectively with monitoring systems between the significant stake holders. The health authorities should take strict measures to stop the dispensing of prescription drugs for self-medication. The concerned authority should only allow pharmacy graduates to sale the drugs, so that potential high risk due to drug dose, duration can be controlled to some extent.

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