

RESEARCH ARTICLE

Prevalence, Practice, and Pattern of Self-medication among Medical Students in Al-Iraqia Medical College, Baghdad, Iraq

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ABSTRACT

Introduction: Self-medication is increasingly being a common practice worldwide, more so amongst the medical students. This study aimed to assess the prevalence of self-medication among the medical students and to describe the self-reported practice and pattern of medication by undergraduate medical students at Al-Iraqia University in Baghdad city.

Methods: This study is a cross-sectional survey. Out of 440 students enrolled, 400 (> 90%) responded. The data was collected using a self-administrated pretested questionnaire and then analyzed using SPSS version 18.0.

Results: During the last one year preceding the study, 85% of respondents using self-medication mostly among single students (98.2%), aged 20+ years old (56.5%), in fourth academic level (27.1%), living with their families (73.2%) and of non-sufficient income (54.7%). The main indication for seeking self-medication includes headache as reported by 83.8%, followed by cold and cough and fever 80.3% and pain elsewhere in the body (70%). Drugs commonly used for self-medication included analgesics 89.4% and antipyretic 67.9%. The minor illness was the most common reason for self-medication (80.6%). 56.8% and 45% of respondents follow pharmacists and textbooks, respectively, as a source of information in practicing self-medication. Most of the respondents practiced self-medication for themselves (57.9%) and for both; themselves and their family members (45%). Some level of awareness was reported among non-practiced self-medication students; 60% of them were afraid of the risk of adverse reactions of drugs.

Conclusion: Self-medication is broadly practiced among medical students in this college. Therefore, there is a need to improve the medical education program to raise the awareness level regarding the advantage and disadvantages of self-medication to ensure safe usage of drugs.

Keywords: Practice, Prevalence, Self-medication.

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INTRODUCTION

Currently, there is an increased likelihood of self-medication among medical students that could be attributed to many reasons such as those students have easy access to information from drug indices, literature, and other medical students to self-diagnose and self-medicate.¹

Self-medication can be defined as the medicines required by an individual for the settlement of a self-identified disorder or disease or the continued usage of an already prescribed medicine for the recurrent or chronic disorder.²

Different patterns of self-medication exist in different populations, and these patterns are affected by factors like age, gender, medical knowledge, level of education, and income.³

There is much public and professional concern about the irrational use of drugs in both developed and developing

countries, as the prevalence rates are high all over the world; up to 68% in European countries,⁴ while much higher in the developing countries with rates going to increase to reach in our neighboring countries with a prevalence rates as high as 92% in the adolescents of Kuwait,⁵ and seems to be as a common practice among the general population in Saudi Arabia.⁶

The most recent study published by Iraqi researchers shows that the way the patients self-medicate evolves along with time intervals.⁷

The study of self-medication practice among medical students is critical as they are with access to valuable information related to their health. Looking at this practice, among them, is also very vital as they represent the future generation of drug prescribers and health educationalists.⁸

Many studies were done about self-medication practice for the general population, only a few types of research

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have been addressed in this research population, and it is important to study in our context. The present study was hence, conducted to assess the prevalence of self-medication among the undergraduate students of Al-Iraqia Medical College, and if this practice influenced by their socio-demographic characteristics and to assess the students regarding the pattern of self-medication and to ascertain the types of medicines used; the sources of medicine information, and also the common symptoms for which the medicines were used for self-medication.

METHODOLOGY

The descriptive cross-sectional study design was conducted from March to May 2015. A total of 400 participants were the respondent's sample size of overall 440 invited students enrolled at Al-Iraqia Medical College to participate in the study without exclusion criteria.

A self-administrated questionnaire was distributed among all four years students are sitting in common lecture halls and main courtyards after explaining the purpose of the study and taking the verbal consent, and some medical terms were further explained to the first-year students, including dysmenorrhea, anti-pyretic, analgesics, etc. The questionnaire was authors prepared based on published researches.^{1,2,4,6-13} The questionnaire consist of three parts; First part: Questions related to students' socio-demographic information. Second part: questions related to student's practice about self-medication. Third part: questions related to student's usage patterns in self-medication. However, before applying the questionnaire form and to construct a final, suitable, and formative form, it has been restructured and modified and expertly judged for its item validity and pre-tested. The reliability of the questionnaire was evaluated using internal consistency (Cronbach's alpha) test, and it was found to be (0.89). The collected data then were reviewed, checked, and organized to ensure that it has been collected properly without

any missing, and only the completed questionnaires were considered for final analysis.

Statistical analysis was performed after data entry into the computer software program of Statistical Package for the Social Sciences (SPSS) version 18.0, using standard approaches including descriptive summaries such as frequencies and percentages. Chi-square test () with a 95% confidence interval was used to obtain a significant association between students' practice of self-medication and their socio-demographic characteristics. A non-parametric test of one sample Komogorov-Smirnov, was performed for obtained the significant differences among students' prevalence of self-medication and their practice, pattern and awareness for self self-medication. A *p*-value of <0.05 has been considered to indicate the level of significance throughout the study.

Ethical clearance and approval were obtained from Al-Iraqia Medical College, Department of Community, and Family Medicine before submitting the questionnaire. Other ethical requirements, including verbal consent with the implicit acceptance of student's right to refuse in participation and confidentiality, were ensured.

RESULTS

A total sample amounted to 400 participated students with a mean age of 20.73 ± 1.5 years; most of them were aged 20+ (52.8%). Female to male ratio was almost double (1.98:1). Most of the students were in the third level (26.5%). The majority of them were single (97.5%), and most of them lived with their family (74%) and with non-enough family income (53%) (Table 1).

Out of 400 studied students, 340 (85%; %95 CI: 0.8149-0.8851) were reported to practiced self-medication during the last year before study compared to only 15% were not. The obtained value of the test (Z Kolmogorov- Smirnov was 10.252) allowed to confirm these differences ($p < 0.001$) (Figure 1).

There was a significant association between participant usage of self-medication and their some socio-demographic characteristics. Participants aged 20+ years had a higher prevalence of using self-medication than those equal or less than 20 years old (56.5% vs. 43.5%), respectively ($\chi^2 = 12.589$, df: 1, $p < 0.001$). The prevalence of use was increased by increased the academic year with the highest proportion found among fourth-year students (22.4% of first, 24.4% of second, 26.2 of third, and 27.1 of fourth years) ($\chi^2 = 18.972$, df: 3, $p < 0.001$). The prevalence was higher among single participants than non-single one (98.2% vs. 1.8%) respectively ($\chi^2 = 5.028$, df: 1, $p = 0.025$). Students

Table 1: Sociodemographic characteristics of the study sample

Characteristics	n (%)
Age	
≤ 20	189 (47.3)
>20	211 (52.8)
Gender	
Female	266 (66.5)
Male	134 (33.5)
Academic level 4 th	
1 st	100 (25)
2 nd	100 (25)
3 rd	106 (26.5)
4 th	94 (23.5)
Marital status	
Single	390 (97.5)
Non-single	10 (2.5)
Residual status	
With family	296 (74)
In school or private dormitory	104 (26)
Family income	
Non-Sufficient	211 (52.8)
Sufficient	189 (47.3)

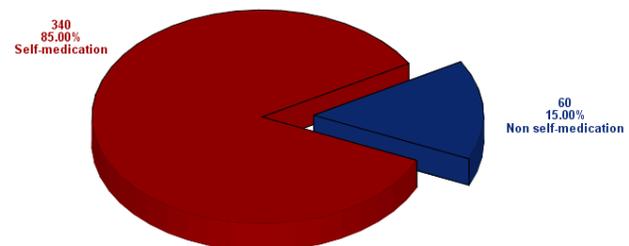


Figure 1: Prevalence of self-medication during one year before study

lived with their families use self-medication more than those living in school or in private dormitory (73.2% vs. 26.8%), respectively ($\chi^2 = 68.9$, $df = 1$, $P = 0.040$). Most of the participants with nonsufficient family income reported the use of self-medication more than those with sufficient family income (54.7% vs. 45.3%), respectively ($\chi^2 = 34.79$, $df = 1$, $p = 0.026$). On the other hand, there is no statistically significant difference between participants' gender and their use of self-medication ($\chi^2 = 143.249$, $df = 1$, $p = 0.976$) (Table 2).

The study participants reported that the most common symptoms for using self-medication were headache (83.8%) followed by cold and cough and fever (80.3% for each), pain in body, tooth or elsewhere (70%), dysmenorrhea (45.3%), diarrhea (31.2%), nausea (29.4%), sleeping disturbance (13.5%) and allergy (9.7%), the obtained values of the test Z Kolmogorov-Smirnov allowed to confirm these differences (each $p < 0.001$) (Table 3).

The study also showed that the majority of participants who used self-medication were utilized analgesic (89.4%),

followed by antipyretic (67.9%). A 40% of them used anti-acid and anti-spasmodic. The antibiotics and vitamins were utilized by about one-third of them (37.6% and 34.7%), respectively. Herbals were used by (28%), and a small proportion was used sleeping pills and anti-allergy (13% and 12%), respectively, the obtained values of the test Z Kolmogorov-Smirnov allowed to confirm these differences (each $p < 0.001$) (Table 4).

Regarding the reasons reported by students to use self-medication, the majority of them reported minor illness (80.6%). More than half of them reported the previous experience of similar illness, unavailability or difficulty of transportation, and cost-effectiveness (58.2%, 54.1%, and 51%), respectively. A total of 49% of user attributed to emergency use, 32% quick relief and 25% due to lack of time to consult physician, the obtained values of the test Z Kolmogorov-Smirnov allowed to confirm these differences (each $p < 0.001$) (Table 5).

The sources of information reported from participants for the use of self-medication were that pharmacist (56.8%), textbook (45%), old prescription (43%), senior (30%) and

Table 2: Association between participants' self-medication prevalence and their socio-demographic characteristics

Respondents' characteristics	Self-medication in last one year				Total No.	Total %	Significance <i>df</i>	<i>p</i>		
	No.	%	No.	%						
Age group	≤ 20	41	86.3	148	43.5	189	47.3	12.589	1	0.000
	>20	19	31.7	192	56.5	211	52.8			
	Total	60	100	340	100	400	100			
Gender	Female	40	66.7	226	66.5	266	66.5	143.249	1	0.976
	Male	20	33.3	114	33.5	134	33.5			
	Total	60	100	340	100	400	100			
Study level	1 st	24	40	76	22.4	100	25	18.972	3	0.000
	2 nd	17	28.3	83	24.4	100	25			
	3 rd	17	28.3	89	26.2	106	26.5			
	4 th	2	3.3	92	27.1	94	23.5			
	Total	60	100	340	100	400	100			
Marital status	Single	56	93.3	334	98.2	390	97.5	5.028	1	0.025
	Non-single	4	6.7	6	1.8	10	2.5			
	Total	60	100	340	100	400	100			
Residual status	With family	47	78.3	249	73.2	296	74	68.9	1	0.040
	In school or private dormitory	13	21.7	91	26.8	104	26			
	Total	60	100	340	100	400	100			
Family income	Nonsufficient	25	41.7	186	54.7	211	52.8	34.79	1	0.026
	Sufficient	35	58.3	154	45.3	189	47.3			
	Total	60	100	340	100	400	100			

Table 3: Indication for self-medication (n = 340)

Indication for self-medication	No.	%	Z*	P
Headache	285	83.8	9.363	< 0.001
Cold and cough	273	80.3	9.082	< 0.001
Fever	273	80.3	9.082	< 0.001
Pain (body, tooth, elsewhere)	238	70	8.175	< 0.001
Dysmenorrhea	154	45.3	6.735	< 0.001
Diarrhea	106	31.2	8.066	< 0.001
Nausea	100	29.4	8.229	< 0.001
Sleep disturbance	46	13.5	9.556	< 0.001
Allergy	33	9.7	9.796	< 0.001

* Z = Z value of Kolmogorov-Smirnov test.

drug advertising (15%), all these differences were confirmed significantly by Z Kolmogorov- Smirnov test (each $p < 0.001$) (Table 6).

Out of 340 of participants who use self-medication, 57.9% of them use self-medication for themselves, 45% of them practice it for themselves and their family members. 15% of the participants practice self-medication for someone else like friends or neighbors, and 12.6% practice it for their family members only, also all these differences were confirmed statistically using Z Kolmogorov- Smirnov test (each $p < 0.001$) (Table 7).

Among 60 participants who don't practice self-medication in last one year, 60% of them attributed their un-usage to that, they were afraid of risk of adverse reaction, 55% were reported risk of wrong diagnosis, 36.7% reported risk of missing actual diagnosis and 21.7% reported risk from drug dependency, the obtained values of the test Z Kolmogorov-Smirnov allowed to confirm these differences (each $p < 0.001$) (Table 8).

DISCUSSION

The present study showed a high prevalence (85%) of self-medication by medical students in Al-Iraqia University

Table 4: Commonest drugs used for self-medication (n = 340)

<i>Commonest drugs used for self-medication</i>	<i>No.</i>	<i>%</i>	<i>Z*</i>	<i>p</i>
Analgesic	304	89.4	9.746	< 0.001
Anti-pyretic	231	67.9	7.985	< 0.001
Anti-acid	137	40.3	7.210	< 0.001
Anti-spasmodic	136	40	7.238	< 0.001
Antibiotic	128	37.6	7.461	< 0.001
Vitamin	118	34.7	7.738	< 0.001
Herbal	95	27.9	8.363	< 0.001
Sleeping pill	44	12.9	9.597	< 0.001
Anti-allergy	40	11.8	9.674	< 0.001

* Z = Z value of Kolmogorov – Smirnov test.

Table 5: Reasons for self-medication (n = 340)

<i>Reasons for self-medication</i>	<i>No.</i>	<i>%</i>	<i>Z*</i>	<i>P</i>
Minor illness	274	80.6	9.106	< 0.001
Previous experience	198	58.2	7.071	< 0.001
Unavailability or difficulty of transportation	184	54.1	6.679	< 0.001
Cost-effectiveness	172	50.6	6.343	< 0.001
Emergency use	167	49.1	6.371	< 0.001
Quick-relief	109	32.1	7.985	< 0.001
Lack of time to consult a physician	85	25	8.627	< 0.001

* Z = Z value of Kolmogorov- Smirnov test.

Table 6: Respondents' source of information for self-medication (n = 340)

<i>Source of information for self-medication</i>	<i>No.</i>	<i>%</i>	<i>Z*</i>	<i>p</i>
Pharmacist	193	56.8	6.931	< 0.001
Textbook	153	45	6.763	< 0.001
Old prescription	146	42.9	6.959	< 0.001
Senior	102	30	8.175	< 0.001
Drug advertising	51	15	9.451	< 0.001

* Z = Z value of Kolmogorov- Smirnov test.

Table 7: Self-medication pattern usage (n = 340)

<i>Pattern usage</i>	<i>No.</i>	<i>%</i>	<i>Z*</i>	<i>p</i>
Use self-medication for yourself	197	57.9	7.043	< 0.001
Use self-medication for yourself and family members	153	45	6.763	< 0.001
Use self-medication for someone else	51	15	9.451	< 0.001
Use self-medication for family only	43	12.6	9.617	< 0.001

* Z = Z value of Kolmogorov- Smirnov test.

Table 8: Awareness for self- medication (n = 60)

<i>Awareness for self- medication</i>	<i>No.</i>	<i>%</i>	<i>Z*</i>	<i>p</i>
Risk of adverse reaction	36	60	3.028	< 0.001
Risk of the wrong diagnosis	33	55	2.828	< 0.001
Risk of missing actual diagnosis	22	36.7	3.161	< 0.001
Risk of drug dependency	13	21.7	3.736	< 0.001

* Z = Z value of Kolmogorov- Smirnov test.

during the last one year before the study. This finding is in agreement with what were reported from other studies, Mehta and Sharma study⁸ showed that 84% of respondents practiced self-medication, Mumtaz *et al.* study¹⁰ revealed that 80.4% of participants were self-medicated, Zafer *et al.* study⁴ reported prevalence rate as (76%) and Ibrahim *et al.* study⁶ reported it as (75.2%). This higher prevalence rate might be because of the easy access to medicine without a prescription.

However, our finding is higher than other studies, as the prevalence rates were 70.5% in Kumar *et al.* study¹² 65.9% in Pandya *et al.* study,¹³ 60% in Jasim, Fadhil and Taher study⁷ 55% in El Ezz and Ez Elarab study¹¹ and 43% in Pereira *et al.* study.¹⁴

On the other hand, some rates were reported higher than our study rate, of medical students surveyed in Badiger *et al.* study,¹ self-medication was reported to be (92%), and 95.5% of students in Ullah *et al.* study² were self-medicated. This discrepancy in rate could be attributed to the differences in duration of reporting self-medication, target population, and sample size.

The present study showed that the prevalence of self-medication was higher among students aged 20+ years (56.5%) compared to others and this may be due to that older students thought that they are able to treat themselves especially those who studied pharmacology, this finding goes in line of what was reported by Ibrahim *et al.* study,⁶ Koley *et al.* study,¹⁵ Osemene, and Lamikanra study,¹⁶ Meauri, Temple and Lauewo study,¹⁷ and Awad and Eltayeb study.¹⁸

The prevalence of self-medication was found to increase with the increased academic level, which is most properly due to an increase in the level of their medical knowledge. Other studies were also supported and emphasized the effect of the study level on self-medication practice.^{6,9,11-13,15,16}

Single students were found to practice self-medication more than non-single one; this finding is supported by a study of Ibrahim *et al.* in Saudi Arabia.⁶ In contrast, the study of Jasim, Fadhil, and Taher⁷ reported that most of the self-medication users were married, and these differences could be attributed to the differences in the study population.

Students who lived with their families practiced self-medication more often than those living in school or private dormitory; this finding is in the line of what was reported by Ibrahim *et al.*⁶ The probable explanation of this finding might be due to that those students may be influenced by their family knowledge, perception, and practice toward self-medication.

Students with non-sufficient family income were found to practice self-medication more than those with a sufficient one. Results of Koley *et al.* support this finding. Study 15 as the prevalence of self-medication use was higher in students who came from low and middle-income family backgrounds.

In contrast to many studies^[1, 8, 11-13, 16, 19], our study didn't found significant gender differences regarding self-medication usage, which is supported by other studies.^{2,6,15,17}

The majority of respondents uses self-medication for headache (83.8%), cold/ cough, fever (80.3% each), and pain elsewhere (70%). These findings are supported by Zafer *et*

*al.*⁴ where 72.4% of participants use medication for headache, 65.5% for flue/cough/cold, 55.2% for fever and 47.6% for pain elsewhere, Mumtaz *et al.*¹⁰ reported that 62.3% of respondents use medication for headache, 49.8% for fever, 48.3% for cold and cough and 44.4% for pain elsewhere. Other studies more or less reported same major indications for self-medication; Mehta and Sharma study^[8] reported 85.7% for cold and cough, 76.2% for pain included head pain, 73% for fever, Pandya *et al.*¹³ reported 72.7% for fever, 69.1% for headache and 64.1% for upper respiratory tract infection, Kumar *et al.*¹² reported 75.1% for fever, 64.7% for headache, 58.7% for cough/ cold and 57.5% for pain elsewhere, Badiger *et al.*¹ reported common cold (69%), fever(63%), headache (60%). Other indications for self-medication like dysmenorrhea, diarrhea, nausea, sleeping disturbance and allergy are also supported by other studies.^{1, 4, 8, 9, 12, 13}

Regarding to commonest drugs that used by students, the majority of respondents use analgesic (89.4%) and anti-pyretic (67.9%) These results are inconsistent with other studies; Zafer *et al.*⁴ reported that 88.3% of participants use analgesic and 65.1% use antipyretic. On the other hand, Badiger *et al.*¹ reported that antipyretic (71%) and analgesic (65%) were used by most of students. Similarly, Kumar *et al.*¹² reported that 74.8% of students use antipyretic, and 65.8% use analgesics. The use of anti-acid and anti-spasmodic was (40%), other studies show higher⁸ and lower^{1,4,9,10,12,13} than our findings. The antibiotic use was 37.6% which is in the line of other studies; 34% reported by baggier *et al.*,¹ 35.2% by Zafar *et al.*,⁴ 39% by Kumari *et al.*,⁹ 39.3% by Kumar *et al.*,¹² However, our results are higher and lower than what were reported by Mumtaz *et al.* (12.1%),¹⁰ and El Ezz and Ez-Elarab¹¹ (58.8%) studies.

The existing study finding vitamin use (34.7%) is supported by other studies.^{4,8,12} On the other hand, some studies show higher¹¹ and lower rate.^{9,10} The herbals usage by current study students was 27.9%, which is in the line of other studies,^{8,11}; nevertheless, it is higher than else studies.^{4,13} Sleeping pills usage was 12.9%, which is supported by other studies.^{4,12} However, this finding is higher than what was reported by Badiger *et al.*¹ and Mumtaz *et al.*¹⁰ studies (2% each). Anti-allergy drugs were employed by 11.8% of our respondents; this result is supported by Mumtaz *et al.* study (7.7%).¹⁰ In contradiction, our finding is lower than what have been observed by other studies.^{1,4,8,9,13} All these discrepancies from the studies mentioned above could be attributed to the differences in target populations.

Regarding the reasons for self-medication, the major reasons were minor illness (80.6%), previous experience with similar illness (58.2%). These findings are in line of other studies; Mehta and Sharma study⁸ reported that 79.4% and 61.9% of respondents reported minor illness and disease of prior experience respectively as majors reasons for self-medication, Badiger *et al.*, indicated that 82% of students reported minor ailments as a major cause, and 70.5% of students of Kumar *et al.* study¹² reported illness too trivial for consultation as a cause. These higher rates could be attributed to the poor

knowledge regarding to disease progression as the students with mild illness who used self-medication will get serious health hazards later on due to the fact that many diseases may initially appear in mild form and with misdiagnosis and wrong treatment ends with serious complications.

On the other hand, lower rates were reported by Zafar *et al.*, (50.1% and 48.3%), respectively and Mumtaz *et al.*¹⁰ (46.9% and 30.9%) respectively and Ibrahim *et al.*,⁶ (35.4% and 27.2%) respectively. These discrepancies might be due to differences in study design and population.

Other major causes reported in the current study were unavailability or difficulty of transportation (54.1%) and cost-effectiveness (50.6%). These findings are higher than what was revealed by Zafar *et al.*⁴ as 2.5% and 6% of students reported unavailability of transportation and cost of consultation as a causes to practiced self-medication, Ibrahim *et al.*⁶ reported that, 2% and 4.3% respectively and Mumtaz *et al.*¹⁰ showed 0.5% and 3.4% respectively. This could be attributed to the local situation of unusual traffic jam in Baghdad city and non-sufficient family income reported by most the students. Other causes were emergency use (49.1%), quick-relief (32.1%), and lack of time to consults physicians (25%), and such findings are also supported by other studies.^{1,4,6,8,10,12,13}

Most of the respondents in this study follow pharmacists (56.8%) and textbooks (45%) as sources of information for self-medication. These findings are in congruence with findings of the study conducted by Mehta and Sharma⁸ in Nepal as reported that 60.3% and 46% of students use pharmacists and textbooks as sources of information, respectively. Other studies reported old prescription; 83.1% in Mumtaz *et al.*¹⁰ and 53.1% in Kumar *et al.*¹² reviews as the main sources of information used. It could suggest that our medical students relied mainly on the objective sources of information. Other sources of information reported by current study respondents like old prescription, senior, and drugs advertisements are also supported by other studies.^{1,8,9,12,13}

Concerning self-medication pattern usage, most of our students (57.9%) practices self-medication for themselves, and for themselves and their family members (45%) followed by practices for someone else (15%) and for family members only (12.6%). Similar results have been observed in other studies; Mehta and Sharma⁸ reported that 52.4% of students used self-medication for themselves only and 42.9% for both, 9.5% and 4.8% for someone else and family member only respectively, Badiger *et al.*¹ revealed that 63.6% of participants suggested medication to others, most commonly to family/friends (51.8%) and to classmates or junior (48.2%).

The most common reasons against practicing self-medication reported among non-practiced self-medication students in our study were; they are aware about risk of adverse reaction (60%), awareness about risk of wrong diagnosis (55%), awareness about risk of missing actual diagnosis (36.7%) and awareness about the risk of drug dependency (21.7%). These findings are supported by results of Mehta and Sharma^[8] study reported that 50% of respondents were afraid from risk

of adverse reaction and risk of the wrong diagnosis; 33.3 % of them were afraid from the risk of missing actual diagnosis and 25% afraid from the risk of drug dependence. Badiger *et al.* study¹ reported that 67.4% of participants were aware of the adverse effects of drugs. This could be due to medical student's knowledge about disease diagnosis and the adverse reaction of drugs.

CONCLUSION

This study concludes that self-medication is sound to be very common among medical students with significant effects of their age, academic level, marital and residual status, and family income. However, there is no significant association between self-medication prevalence and gender of the respondents. Headache, cold, and cough, and fever were the significant indicators to practice self-medication. Analgesic and anti-pyretic were the most common drugs used. Prevalence of self-medication was high due to minor illness, previous experience, unavailability/difficulty of transportation, and cost-effectiveness. Pharmacist and textbooks facilitate self-medication practice as sources of information for both students themselves and their families. A significant number of students are aware about the risk of wrong diagnosis of disease and risk of adverse reaction of drugs. This study is recommended to review the medical, educational programs particularly, the teaching of clinical pharmacology and rational and judicious use of medicine with an urgent need to legislate and reinforce the law to restricting the easy availability of drugs from pharmacies.

This study was limited to that it conducted using a self-reported questionnaire, which is largely relied on the students' self-rated assessment, and this could have lead to over or under-reporting of self-medication practice. But the study will be helpful in providing database about the prevalence and practice of self-medication, especially among target populations selected in the study.

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