

Knowledge, Attitude and Practice of Self Medication among Pharmacy Students of Rift Valley University, Abichu Campus, Addis Ababa, Ethiopia

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Abstract

Introduction: Now a day's self-medication practice is increasing widely due to availability of variety of over the counter medications. Self-medication practice is expected to be higher in health science students due to their exposure to knowledge about different diseases and drugs. If self-medication is used properly it saves time and money spent. Improper self-medication practice or medication abuse may lead to serious adverse drug reactions and possibly fatal consequences and emergence of antibiotic resistant.

Objective: The aim of this study is to assess the knowledge, attitude and practice of self-medication among Pharmacy Students in Rift Valley University of the Abichu campus.

Methods: A cross sectional survey was conducted using self-administered questionnaires which comprise 7 parts among pharmacy students (year one to five) who were available during the study period (January 1st to February 1st, 2017). Descriptive statistics was used to describe the frequency of variables contained in the questionnaire.

Results: Six hundred forty students were included in the study, of these 443 students were participated. A total of 400 students filled properly and returned the questionnaire. Among the participants, 218 (54.5%) were females with the prevalent age group of 26-35 years 202 (50.2%). Nearly half of the respondents 189 (47.3%) didn't know the medication classification of OTC and prescription only drugs. About 165 (41.3%) had information about the medication classification of OTC and prescription only drugs. The most frequently reported self-medication symptom was fever/headache (69.3%) followed by gastric pain (67.5%). The three main reasons for self-medication were non-seriousness, quick relief and emergency use accounting for 81.3%, 70.3%, and 45.8% respectively. Among the respondents, 109 (27.3%) had not practiced self-medication. 262 (65.5%) had visited physicians for the illnesses encountered whereas 52 (13.0%) had taken no action and others 291 (72.8) used pure self-medication from pharmacy or drug vendor without prescription. Paracetamol (92.0%), antacids (71.8%) and antibiotic (66.8%) were the most frequently consumed medication among the participants. The main source of information during self-medication was reading material (56.3%) followed by advice from pharmacist (43.8%), and advice from physician/nurses without prescription (38.8%). More than half of the respondents agreed that the practice of self-medication is part of self-care in the study.

Conclusion and Recommendation: A significant number of students were identified to practice self-medication and nearly half of the respondents have no knowledge about OTC and prescriptions only drugs. Prevalence of self-medication increases as year of study increases. This may be due to increased study exposure to diseases and medications. Students should be aware that improper use of medications can lead to drug resistance, toxicity, and increased side effects.

Keywords: Self-medication; Rift valley; Toxicity

Introduction

Self-medication can be defined as obtaining and consuming one (or more) drug (s) without the advice of a physician either for diagnosis, prescription or surveillance of the treatment [1]. This includes acquiring medicines without a prescription, resubmitting old prescriptions to purchase medicines, sharing medicines with relatives or members of one's social circle or using leftover medicines stored at home and It is an issue with serious global implications [2]. The International Pharmaceutical Federation (FIP) defines self-medication as the use of non-prescription medicines by people on their own initiative [3]. As per the WHO 'Self-medication is the selection and use of medicines by individuals to treat self-recognized illnesses or symptoms [4].

Self-medication behaviour varies significantly with a number of socio-economic characteristics [5]. Some of them are educational level which means when they have poor knowledge or unspecialized knowledge in health education and when they are not in educational level which lack medical information. Other socioeconomic status, access to medical information, awareness about health, exposure to advertisements and perception of illnesses, accessibility to medicine

and health care facilities, and health sector reforms among others. Improvement in peoples' general knowledge, level of education, socioeconomic status, and development of new technologies (e.g. internet and related communication) is promoting self-medication worldwide [6].

Responsible self-medication has been advocated by the World Health Organization (WHO) for the treatment and prevention of condition/symptoms that do not require medical consultation [7].

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It is a cheaper alternative for treating common illnesses and may be important in developing countries where access to medical services are difficult and there is a shortage of medical personnel especially in rural areas. However, the practice of self-medication should be supported by unbiased medical information provided to patients to avoid health hazards [8].

Self-medication has both benefits and risks, proper use of self-medication can save scarce medical resources from being wasted on minor conditions, reduce the burden on health care facilities, and decrease the cost and time people spend to visit health care facilities for minor symptoms [9]. However, inappropriate self-medication can have a number of potential risks for example delay in seeking appropriate medical advice; failure to recognize or self-diagnose contraindications, interactions with prescribed medicinal products; failure to report current self-medications to the prescribing physician (risk of double medication and/or harmful interaction) inappropriate duration of use of medicine; risk of dependence and abuse etc. [6,10]. Studies have shown that self-medication patterns vary among different populations. It has been also shown that self-medication is much more common among physicians, nurse, pharmacists and medical students than among the general population [4].

Physicians and pharmacists are considered to be the worst offenders as they have an easy access to medications and the knowledge use it at any whenever needed [11,12]. Self-medication assumes a special significance among the medical students as they are the future medical practitioners and have a potential role in counselling the patients about the advantages and disadvantages of self-medication. Medical students also differ from the general population because they are well-exposed to the knowledge about diseases and drugs [13].

In Ethiopia, almost every pharmacy sells drugs without a prescription; a phenomenon seen in many developing countries consequently, antibiotics and potentially habit forming medicines such as Dextromethorphan, Tramadol and others are easily available to the common man. This together with poor awareness leaves the layman uninformed about the potentially lethal effects of some of these drugs. Also, the lack of a good primary health care system coupled with cost issues causes the general public to approach various other doors instead of a doctor's to seek help for a problem. Despite this, there is paucity of literature regarding self-medication in Ethiopia and no measures have been taken to address this problem. This study presents to know the results of University pharmacy student knowledge, attitude, and practice towards self-medication [2]. Therefore, the present study assesses the Knowledge, Attitude and Practice (KAP) of Self-Medication among Pharmacy Students in Rift Valley University, Abichu campus, Addis Ababa, Ethiopia.

Methods

Study area and period

The study was conducted in Rift Valley University Abichu campus from January 1st to February 1st, 2017. The campus is located around "Meganagna" Adiss Ababa. Rift Valley University was established in Sept 2007 and it is the largest private university with different campus around the country and it is also an educational center for different programs.

Study design

A cross-sectional survey study was conducted by using a self-administered questionnaire.

Source and study population

Source population: All students of Rift Valley University of Abichu campus were a source population.

Study population: All pharmacy students were enrolled to the study.

Inclusion and exclusion criteria

All pharmacy students from year one to year five were included. Pharmacy students who were not available during the study period and who were not volunteers to participate were excluded.

Data management system

Data collectors: The self-administered questionnaires were distributed and collected by the investigators from the students' class rooms, after explanation regarding the study purpose and impact.

Data collection tool: Questionnaires prepared in English which consists of 7 parts were distributed to collect all relevant data. No data was requested from the questionnaire that could lead to the identification of the participants. Contents of the questionnaires include; demographic information's which includes sex, age, year of study and school, the second part consists of disease or symptoms frequently self-treated, measures taken for the illness, source of information for self-medication and finally attitude of the students towards self-medications. Descriptive statistics was used to describe the frequency of variables contained in the questioner.

Sampling: Convenient sampling technique was used because we took all pharmacy students. Total number of pharmacy students were 640 and 443 students were available during study period and filled the questionnaire. Among the participants 400 were filled properly, completely and returned the questionnaire.

Data analysis: Data was analysed using SPSS version 21. A descriptive statistics was used to describe demographic information as well as variables contained in the questioner in order to assess practice, attitude and knowledge of self-medication practice among pharmacy students. The results were presented in the form of tables, texts, figures.

Variables

Dependent variables: Attitude towards self-medication, Practice of self-medication, knowledge about medication classification.

Independent variables: Age, sex, years of pharmacy students, previous treatment the same diseases or symptoms, family and peer pressure, availability of drugs, cost of medication, lack of time, severity of disease or symptoms, type of drugs.

Ethical issues

To obtain the consent of students prior to data collection, a detailed explanation on the aim and objectives of the study was given. They were also informed that participation is voluntary and confidentiality would be maintained throughout the study.

Results

Demographic information

A total of 443 questionnaires were distributed to be filled by respondents, 400 were filled completely and collected, which gives the response rate of 90.2%. Moreover, 43 (10.75%) of the questionnaires were rejected because of incomplete information. The study was

composed of 182 (45.5%) males and 218 (54.5%) female pharmacy students. Most of the respondents 202 (50.2%) were in the age 26-35 years. Most of the participants were year IV pharmacy students with response rate of (23.8%), followed by year V students (23.2%) and year I students (16.0%), while year II (19.0%) and year III (18.0%) accounts for lower responders. Considering their previous educational status most were diploma in pharmacy (31.8%) (Table 1).

Disease or symptoms most frequently self-medicated

The most frequent causes of morbidity encountered by respondents to practice self-medication were headache and fever 277 (69.3%) followed by gastric pain 270 (67.5%). Others like cough & common cold, cough and chest pain, constipation, vomiting and diarrhea with respective episodes of (46.3%, 46.0%, 30.8%, and 29.5%) (Table 2).

Measures taken for the illnesses

Among the respondents 109 (27.3%) were not practiced self-medication, 262 (65.5%) were visited physicians for the illnesses encountered whereas 52 (13.0%) were taken no action. Others 291 (72.8) were used self-medication from pharmacy or drug vendor without prescription, (26.5%) used self-medications left over from prior use and self-medications from pharmacies and using borrowed medicines from friends which account for 63 (15.8%) and the rest is specified in graph (Figure 1).

Variables		Frequency	Percentage
Sex	Male	182	45.5
	Female	218	54.5
Age	18-25	166	41.2
	26-35	202	50.2
	>35	32	7.8
Year	One	64	16
	Two	76	19
	Three	72	18
	Four	95	23.8
	Five	93	23.2
Previous educational status	First degree in nurse	54	13.5
	Diploma in pharmacy	127	31.8
	Diploma in nurse	63	15.8
	Other health sciences	79	19.8
	Social department	77	19.3

Table 1: Socio demographic Information of students at Rift Valley University, Abicho campus, Addis Ababa Ethiopia, January^{1st} to February^{1st}, 2017 (n= 400).

Disease/symptoms	Frequency	Percentage
Fever and headache	277	69.30%
Gastric pain	270	67.50%
Cough and common cold	185	46.30%
Cough and chest pain	184	46.00%
Constipation	123	30.80%
Vomiting and diarrhea	118	29.50%
Fever and chills	100	25%
Skin symptoms	95	23.80%
Ear symptoms	63	15.80%
Eye disease	62	15.50%
Others	28	7.00%

Table 2: Disease or symptoms most frequently self-medicated by students at Rift Valley University, Abicho campus, Addis Ababa Ethiopia, January^{1st} to February^{1st}, 2017 (n=400).

Among the respondent 46 (11.5%) were included in others and they specified measures taken for the illness they encountered such as non-pharmacological treatment, traditional healers, healthy eating and exercise are some of ideas written by respondent.

Drug or drug groups frequently used for self-medication

Paracetamol was the most common medication used for self-medication by the majority of the participants (92.0%), followed by combinations of Paracetamol and anti-acids (71.8%) and combinations of Paracetamol and antibiotics (66.8%). It was also observed that (46.8%) of the participants reported to have self-medicated with NSAIDs, others are listed in Table 3.

Reasons of students for self-medications

Among self-medicated (combinations of self-medication with visiting physicians and who used pure self-medication) the majority (81.3) has self-medicated because of non-seriousness of the illness followed by quick relief (70.3%) and for emergency use (45.8%). Other reasons like prior experience is (33.1) others included in Figure 2.

Among the respondent some of the students wrote their reason of self-medication which was 44 (11.0%), such as, Lack of time to consult a doctor, Repetition of one type class of drug, they have already had the symptom and they know what to take, confidence on self-diagnosis and if they have history of non-responsiveness of the prescribed medication.

Source of information for self-medication

Among those self-medicated reading materials (like books) was the major source of information 225 (56.3%) for the practice of self-medication by participants. Advice from pharmacists, advice from physician/nurses but without prescription and personal experience

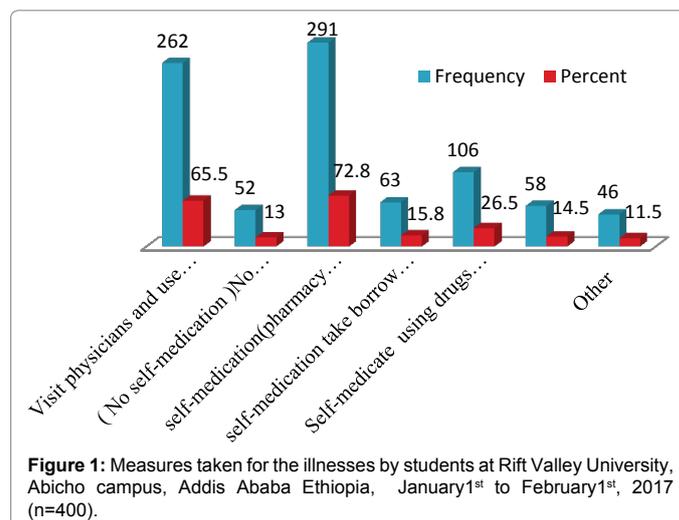


Figure 1: Measures taken for the illnesses by students at Rift Valley University, Abicho campus, Addis Ababa Ethiopia, January^{1st} to February^{1st}, 2017 (n=400).

Drug group	Frequency	Percentage
Paracetamol	368	92
Antacid	287	71.8
Antibiotics	267	66.8
NSAIDs	187	46.8
Vitamins	112	28

Table 3: Drug or drug groups frequently used for self-medication by students at Rift Valley University, Abicho campus, Addis Ababa Ethiopia, January^{1st} to February^{1st}, 2017 (n=400).

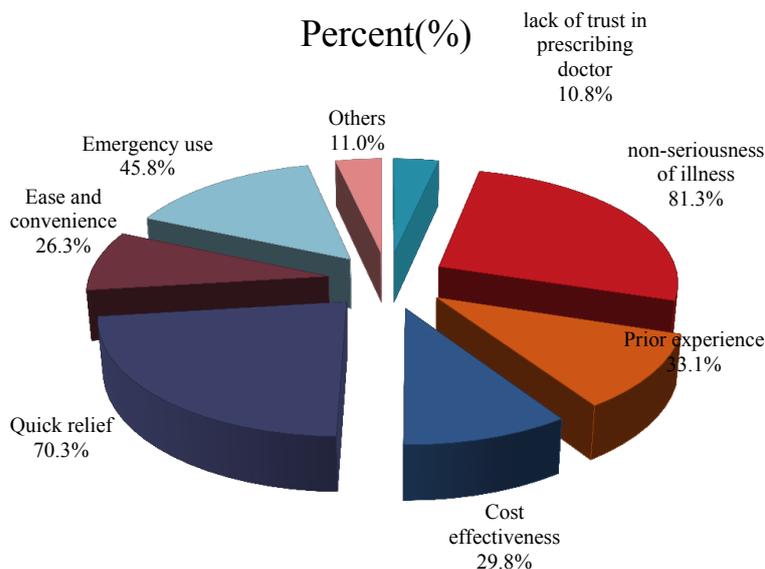


Figure 2: Reasons of students for self-medication at Rift Valley University, Abicho campus, Addis Ababa Ethiopia, and January 1st to February 1st, 2017 (n=400).

were also the other most common sources of information accounting for responses [(43.8%), (38.8%), and (37.3%)] respectively. Others are specified in Table 4.

Knowledge about medication classification of OTC and prescription only drugs

Among the respondents 189 (47.3%) didn't know the medication classification of OTC & prescription only drugs, even though most of the respondent stated that they knew that it may be harmful to self-medicate, this data shows that they lacked complete knowledge. 165 (41.3%) has information about the medication classification of OTC & prescription only drugs. Others 46 (11.5%) has no information about medication classification of OTC & prescription only drugs and it is also specified in Table 5.

Attitude of students towards self-medication practice

Data regarding attitude toward self-medication was collected from 400 students, including those who did not practice self-medication, the majority of students 310 (77.5%) agreed on the practice of self-medication is part of self-care. On the other hand, 90 (22.5%) students disagreed with this practice, when asked about the influence of pharmacists on their attitude towards self-medication; more 304 (76.0%) felt that the pharmacists are a good source of information for minor illness, and 96 (24.0%) disagreed. Most around 60 (15.0%) of respondents had agreed that self-medication would be harmful if taken without proper knowledge of disease and drug. 149 (37.3%) of respondents had agreed that self-medication is acceptable for medical students. Most pharmacy students believe that health science students have good ability to practice self-medication (Table 6).

Discussion

Self-medication is practiced throughout the world in the general population even if the reasons may vary. The practice is expected to be higher in developing countries like Ethiopia this may be due to limited number of health care facilities available to the public. Self-medication is also expected to be even more practiced among health science students, who differed from the general population because they were exposed

Source of information	Frequency	Percentage
Reading materials and medical books	225	56.3
Advice from pharmacists	175	43.8
Advice from physician/nurse but without prescriptions	155	38.8
My own experience	149	37.3
Others (internet and advertisement)	77	19.3
Advice from classmate friend	60	15
Advice from traditional healers	39	9.8

Table 4: Source of information for self-medication used by the students at Rift Valley University, Abicho campus, Addis Ababa Ethiopia, January 1st to February 1st, 2017 (n=400).

Do you know the medication classification of OTC and prescription only drugs?	No	Yes	I don't have information
	189 (47.3%)	165 (41.3%)	46 (11.5%)

Table 5: Knowledge about medication classification of students at Rift Valley University, Abicho campus, Addis Ababa Ethiopia, January 1st to February 1st, 2017 (n=400).

Attitude	Agree	Disagree
Self-medication is part of self-care	310 (77.5%)	90 (22.5%)
Pharmacists are good source of information for minor medical problems	304 (76.0%)	96 (24.0%)
The course of medicines should be complete although the symptoms subside	230 (57.5%)	170 (42.5%)
Health science students have good ability to treat symptoms	215 (53.7%)	185 (46.25%)
Self-medication is acceptable for medical students	149 (37.3%)	251 (62.8%)
Not acceptable at all and it would be harmful	60 (15.0%)	340 (85.0%)

Table 6: Attitude of students towards self-medication practice of students at Rift Valley University, Abicho campus, Addis Ababa Ethiopia, January 1st to February 1st, 2017 (n=400).

to knowledge about diseases and drugs, so they might be expected to behave differently [14]. Self-medication practice is prevalent in Ethiopia and varies in different populations and regions of the country [15]. This research was done to assess self-medication attitude and practice among pharmacy students, in Rift Valley University.

Based on demographic characteristics of our study, there were 182 (45.5%) males and 218 (54.5%) female pharmacy students. Most of the respondents 202 (50.2%) were in the age 26-35 years; this is because of that our study includes all extension, weekend and regular students. Our finding is in agreement with the study conducted in Mekelle where 112 (75.6%) were female student, and the mean age of the respondent was 26 (17.56%) [16]. But, when we compare this result with other similar study done in south India the mean age among the participant students was a bit higher in the south Indian study (28%) whereas female were higher similar to our study [17].

In our study many of the participants were Year-IV pharmacy students with a response rate of 23.8%, followed by year-V students (23.2%) and year-I students (16.0%), while year-II (19.0%) and year-III (18.0%) accounts for lower response rates. Considering their previous educational status most of the respondents were diploma in pharmacy (31.8%). This finding was also in line with the study conducted in Mekelle where most of the participant was year 4 pharmacy students [16].

The current study shows that among the respondents 109 (27.3%) has not practiced self-medication, 262 (65.5%) has visited physicians for the illnesses encountered whereas 52 (13.0%) has taken no action. Others 291 (72.8) used pure self-medication from pharmacy or drug vendor without prescription, (26.5%) used self-medications left over from prior use and 63 (15.8%) used self-medications from borrowed medicines from friends. According to another study made among medical students in coastal south India, the prevalence of pure self-medication was 78.6%. And the similar study in Nepal revealed 84% of prevalence of self-medication [18].

On study from Ethiopia reported that self-medication up to 95% among college students in Southwest Ethiopia [19]. Another study conducted in Iran (Isfahan university pharmacy student) demonstrates that about 84.9% of students in Isfahan University of pharmacy students self-medicate [20]. While a comparative study of self-medication practice among medical & engineering students in a private university in north India indicates that out of the 316 medical students 232 (73.4%) were practicing self-medication [21]. When compared to two studies done on health science students in Ethiopia, study in Gondar 130 of the 213 students (61.3%) had practiced self-medication during the two months period prior to the study [22]. The Mekelle study reported out of 148 respondents, 93 respondents were practicing self-medication [16].

The current study has found that fever and headache 277 (69.3), combination of fever/headache, and Gastric pain 270 (67.5) were reported to be the most frequent diseases for the practice of self-medication. The study done in Palestine reported that headache, sore throat, flu, and dysmenorrhea were the most common ailments for which respondents seek self-medication [23]. When we compare this result the west Bengal, cough and common cold were reported by 94 students (35.21%) followed by diarrhea (68 students) (25.47%), fever (42 students) (15.73%), headache (40 students) (14.98%) and pain abdomen due to heartburn/peptic ulcer (23 students) (8.61%) [24]. The study done in Gondar reported that fever and headache were the most frequently self-medicated enquiring illness, while gastrointestinal tract disease and cough and common cold were the second and the third most common disease treated by self-medication with the prevalence of 55 (24.8%), 51 (23.9%), and 28 (13.2%) respectively [22]. However, in studies reported from Iran, Mozambique, Pakistan, and Egypt analgesics were the most common group indicated for self-medication and fever was the most common illness seeking self-medication.

The present study identified that Paracetamol was the most common medication used for self-medication by the majority of the participants (92.0%), followed by combinations of paracetamol and anti-acids (71.8%) and combinations of paracetamol and antibiotics (66.8%). It was also observed that (46.8%) of the participants reported to have self-medication with NSAIDs. This data was similar to the study done in Gondar University where among the respondent 38 (46.3) of 82 student were using paracetamol, and other were using another analgesics 20 (24.4%) followed by anti-acid 10 (12.2%) [22]. However a study conducted in Malaysia showed that (50.3%) supplements/vitamins were the most frequently used OTC medications followed by painkillers (27%), flu/cough remedies [25]. The study done in south India reported that the classes of drugs that were commonly used were, antipyretics (71%), analgesics (65%), antihistamines (37%) and antibiotics (34%). According to the study done in Iran most of the drugs used were cold or flu drugs and painkillers [20].

Studies reported that the most common reason for self-medication is treatment of minor illness [25]. The study done in south India denoted that the most common reasons were minor ailments (82%) and lack of time to consult a doctor (11%). The common reason for self-medication in the Indian study among medical students was confidence in self-diagnosis (8.5%), it also reported that medical students self-medicate themselves any circumstances of minor ailments [17], when we compared with our study the majority (81.3) has self-medicated because of non-seriousness of the illness followed by quick relief (70.3%) and for emergency use (45.8%). Other reason like prior experience (33.1%) was also reported. Similar study done in Palestine showed that majority of respondents practiced self-medication because the ailments they encounter were simple and previous experiences [23]. The study in Gondar reported the reasons for self-medication including prior experience (79%), mildness of illness (80.2%), financial constraint, educational level or knowledge about drugs.

In our study the main source of information while self-medication was reading material (56.3%) followed by advice from pharmacist (43.8%), and advice from physician/nurses without prescription (38.8%). When we see study done in south India the study group cited their source of information for self-medication in most cases as textbooks (39%) and seniors or classmates (38%) [18]. Similarly study in Gondar the major information source for most of those who practiced self-medication was reading material (30.5) which accounts highest number of student and the least is advice from traditional healers (3.7%) [22]. The latter is the similar to our study.

In a study done in south coastal India 47% of the participants agreed that self-medication was part of self-care. In our study the majority of students 310 (77.5%) agreed on the practice of self-medication is part of self-care. On the other hand, 90 (22.5%) students disagreed with this practice. Study in Gondar among the total respondent 55.5% agreed on self-medication practice and 44.5 % disagreed on this practice [22]. In most of studies respondent had a positive attitude favouring self-medication.

Regarding knowledge of student in our study, 189 (47.3%) didn't know the medication classification of OTC & prescription only drugs whereas 165 (41.3%) reported that they had information about the medication classification. In the UAE study the most prevalent respondents were aware of bacterial resistance and the concept of rational drug use and have information about medication [4]. Study in Malaysian About 82% of the respondents stated that their level of knowledge regarding OTC medications was moderate to low. Eighty one percent of the participants said that they would stop using the OTC

drug if it did not work within the proposed time frame, while a small number of them would increase (7%) or decrease (5%) the dose [25].

Conclusion and Recommendation

A majority number of students were identified to practice self-medication and half of the students had no knowledge about OTC and prescriptions only drugs. Prevalence of self-medication increases as year of study increases this may be due to increased study exposure to diseases and medications. Student attitude towards self-medication significant number of student agreed on Self-medication is part of self-care. Hence, college students should be aware the consequence of improper use of medications leading to drug resistance, toxicity, and increased side effects. It is also worthy to note here that our participants belong to the current generation of society and if the prevalence of self-medication is so high in people who are aware of its dangers, then the prevalence in the rest of the people may be even more serious cause for concern. Although the self-medication practice is inevitable; drug authorities and health professionals need to educate students about the pros and cons of self-medication and also, strong policies should be applied prohibiting the supply of medicines without a valid prescription.

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Authors' Contribution

This work was carried out in collaboration with the following authors. 'Author EG, AD, EP and KA' collected the data, performed the statistical analysis, wrote the proposal, and wrote the first draft of the manuscript. 'Author AB' designed the study, managed the analyses of the study and managed the literature searches. 'Author MA' managed the analyses of the study and managed the literature searches. All authors read and approved the final manuscript.

Conflict of Interest

Authors declare that there is no conflict of interest regarding publication of this manuscript.

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