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Full Length Research Paper

Knowledge, attitude and practice of self-medication among health science students at Debre Markos University, Northwest Ethiopia

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Self-medication is defined as obtaining and consuming drugs without the advice of a physician either for diagnosis, prescription or surveillance of treatment. Self-medication can lead to wasteful expenditure, increase in morbidities due to adverse events and resistance to antibiotics. So enhancing the knowledge and attitude of consumers is very important to reduce practice of self-medication. The objective of the study was to assess the knowledge, attitude and practice of self-medication among health science students at Debre Markos University in 2016. An institutional based cross-sectional study design was conducted. A total of 276 eligible participants were selected using simple random sampling after participants were proportionally allocated to size from each department in health Science College. Data was collected using pretested structured self-administered questionnaire. When queried, 64.6% of the respondents had good level of knowledge on self-medication, while 49.1% had favorable attitudes towards self-medication practice. Moreover, 58.4% of participants practiced self-medication. This study shows that self-medication is widely practiced among health sciences students in Debre Markos University(DMU), more than half of the respondents were found to have good knowledge about self-medication however, their outlook towards it remain majorly unfavorable. Therefore, concerned bodies need to enhance the level of knowledge and attitude towards the impacts of self-medication.

Key words: Knowledge, attitude, practice, self-medication, Ethiopia.

INTRODUCTION

Self-medication is defined as the selection and use of non-prescription medicines by individuals' own initiatives to treat self-recognized illnesses or symptoms. It is also obtaining and consuming medication without professional supervision regarding indication, dosage, and duration of treatment (Gutema et al., 2011).

Inadequate knowledge of medication use may directly lead to misuse by community and/or patients,

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noncompliance with a drug regimen and results in serious outcomes like adverse drug reaction and reduction of the quality of treatment (Atsbeha and Suleyman, 2008).

Previous studies conducted in different areas suggested that people had a poor knowledge about the pros and cons of self-medication, as a result their outlook toward self-medication practice were majorly favorable for any perceived illness (Suleman et al., 2009). The misuse of nonprescription drugs amongst students has become a serious problem. The youth is especially exposed to the media and the increased advertising of pharmaceuticals poses a larger threat to the young population. This raises concerns of incorrect self-diagnosis, drug interaction, and use other than for the original indication (Zafar et al., 2008). In economically deprived communities, most episodes of illnesses are treated by self-medication (Shankar et al., 2002). However, it resulted in wastage of resources, increases in resistance of pathogens, and causes health hazards such as adverse drug reactions, prolonged suffering and drug dependence. Despite this fact, studies indicated that health science students continued to practice and recommend self-medication (Pan et al., 2012; Bekele et al., 2016).

Therefore, the purpose of this study was to assess the knowledge, attitude and practice of self-medication among health science students in Debre Markos University.

MATERIALS AND METHODS

Study area and period

The study was conducted in Debre Markos University among health science students. There are a total of 725 health science students in the campus. The study was conducted from June to September, 2016.

Study design

An institutional based cross-sectional study design was conducted to assess the knowledge, attitude and practice of self-medication among health science students at Debre Markos University.

Source of population

The source populations were all health science students in Debre Markos University at 2016 academic year.

Study population

The study subjects were all randomly selected health science students after proportionally allocated to size in nursing, public health and midwifery departments.

Eligibility criteria

Inclusion criteria

All health science students who were willing to participate and available during study period were included in the study.

Exclusion criteria

Students who were in annual leave and seriously ill during data collection period were excluded from the study.

Sample size determination

The sample size was determined by using a single population proportion formula and considering the following assumptions: Prevalence (p) KAP of self-medication 50%, (Z) = standard normal distribution value at 95% confidence level of Zα/2 = 1.96 and margin of error (d) = 5%.

$$N = \frac{(Z\alpha/2)^2 P (1-P)}{d^2}$$

$$n = \frac{(1.96)^2 \times 0.5 (1-0.5)}{(0.05)^2}$$

n=384. The final sample size was determined as follows using correction formula:

nf = no/[1 + no/N]

Where: nf = the final sample size; no = initial sample size which is 384 and N = number of health science students in Debre Markos university

$$nf = \frac{no}{1+\frac{no}{N}} = \frac{384}{1+\frac{384}{725}} = 251$$

Considering a 10 % non-response rate, the total sample size was:

$\frac{10}{100} \times 251 = 25$, 25+ 251 = 276

Hence, 276 health science students were included in this study.

Sampling procedure

After allocating students from the 3 departments by proportional allocation to size (PAS), the participants were selected by using simple random sampling (Figure 1).

Variables of the study

Dependent variable

Knowledge about self-medication, attitude towards self-medication and practice of self-medication.

Independent variables

Socio-demographic characteristics (sex, age, ethnicity, educational level, occupation, marital status), prior experience.

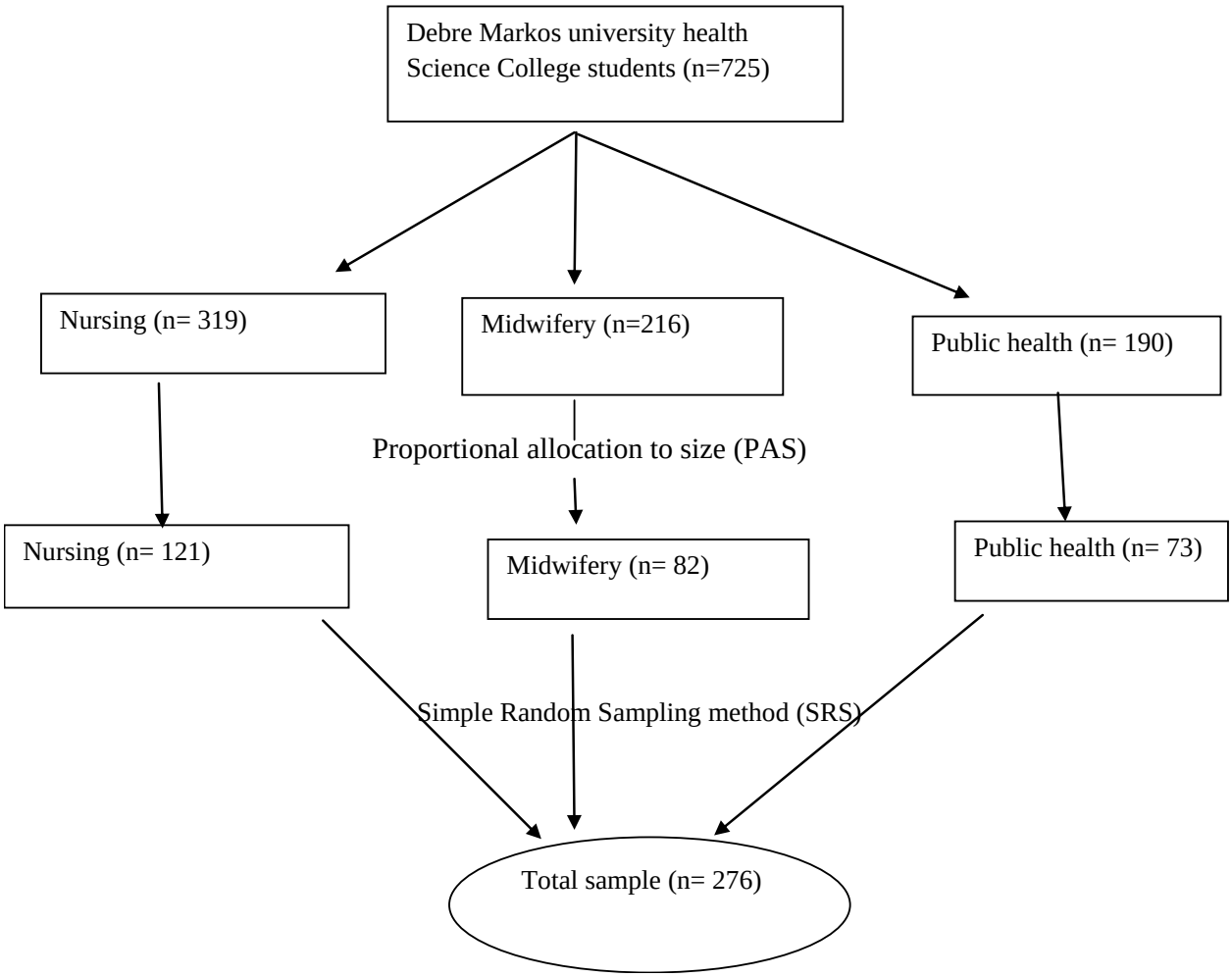

Figure 1. the schematic presentation of the sampling procedure to select study participants from Debre Markos university health science college students.

Data collection tool

Data was collected using structured self-administered questionnaire having four parts. The first, second, third and fourth parts of the questionnaires were about socio demographic information, knowledge, attitude and self-medication practices respectively. The questionnaire was adapted by reviewing literatures of similar studies on KAP of self-medication (Gutema et al., 2011; Patel et al., 2013).

Data collection procedure

The data were collected by five trained diploma nurses and were supervised by two nurses having previous experience in data collection. Continuous follow-up and supervision were also made by principal investigator throughout the data collection period.

Data quality assurance

In order to maintain quality of the data, data collectors and supervisors were trained in data collection procedures by the principal investigator. The questionnaire has also been carefully designed and English version was used for data collection. Before actual data collection time, the questionnaire (tool) was checked for clarity, comprehensiveness, and content validity by an expert and pretested for reliability on 10% of the total sample at Tropical College of Medicine, at Bahir Dar campus among under graduate health science students. Then, based on the finding of the pretest, the questions were modified for wording and clarity. The collected data were then reviewed and checked for completeness and consistency by the principal investigator on a daily basis.

Data processing and analysis

The collected data was checked, reviewed and organized daily for its completeness and consistency. Then data were coded, entered, and analyzed using the statistical package for social sciences program (SPSS) version 21.0 and interpreted in terms of descriptive statistics (frequency, percentage, mean). The results were presented in absolute figures (percentages) as depicted in tables.

Table 1. Socio-demographic characteristics of health science students at DMU, 2016 (n=250).

Variable		Frequency	Percentage
Age	20-25	205	82.0
	26-30	39	15.6
	>30	6	2.4
Sex	Female	91	36.4
	Male	159	63.6
Department	Nursing	121	51.2
	Midwifery	82	26.8
	Public Health	93	22.0
Studying year	1st year	71	28.4
	2nd year	75	30.0
	3rdyear	52	20.8
	4th year	52	20.8
Marital status	Single	224	89.6
	Married	19	7.6
	Divorced	7	2.8
Religion	Orthodox	237	94.8
	Muslim	5	2.0
	Protestant	8	3.2
Educational background	Diploma	56	22.4
	12 complete	185	74.0
	Others	9	3.6

Ethical consideration

Ethical clearance was obtained from Debre Markos University (DMU), College of Health Sciences. The study participants were informed about the objective, rationale and expected outcomes of the study and written consent were provided for guaranteeing their choice of participation or refusal. All the information was recorded anonymously and confidentiality was assured throughout the study.

RESULTS

Socio-demographic characteristics

A total of 276 health science students were included in the study. Of these, only 250 students voluntarily agreed to participate in this study, and 26 either refused or submitted incomplete questionnaires. This resulted in a response rate of 90.3%.

Out of 250 respondents, 159(63.6%) were males and 224 (89.6%) were single. Moreover, the mean age of study participants were 22.75 years (SD= ± 1.8). The majority of the respondents 237 (94.8%) were orthodox Christian by religion (Table 1).

Knowledge about self-medication

The majority, 220 (88.8%), of the participants were aware that medication administration requires basic knowledge about drug action. About 40(16%) of respondents did not know that changing of times when taking the drugs as having hazard (Table 2).

Based on the correct and incorrect responses each respondent gave, a count was made for each respondent. Then the aggregate scores of each of the 250 respondents were used to calculate mean, median and other descriptive statistics. Based on these results, respondents who have correctly answered more than the mean among the questions that were aimed at assessing knowledge towards self-medication were to be considered as knowledgeable. The study showed that, 64.6% of respondents had good level of knowledge regarding self-medication (Figure 2).

Table 2. Distribution of right and wrong responses about knowledge of self-medication among Health Science students in Debre Markos University, 2016.

S/N	Knowledge question	Right		Wrong	
		Frequency	%	Frequency	%
1	Medication administration requires basic knowledge about drug action	220	88.0	30	12.0
2	Changing of times when taking the drugs has no hazard	210	84	40	16.0
3	Antihypertensive drugs could be discontinued when blood pressure returns to a normal range	139	55.6	111	44.4
4	You can discontinue the use of antibiotics by yourself when the symptoms of fever or sore throat are relieved	180	72.0	70	28.0
5	Overuse of Paracetamol will cause liver toxicity	189	75.6	61	24.4
6	Antacids should be chewed before swallowing to achieve a better effect	146	58.4	104	41.6
7	Antacids should be added into all prescriptions to avoid GI upset	130	52	120	48
8	Taking all medicines with empty stomach helps to achieve optimum effect	197	78.8	53	21.2
9	Taking medicines three time a day means: taking at breakfast, lunch and dinner time.	127	50.8	123	49.2
10	Not taking full dose of medication does not have any effect.	192	76.8	58	23.2
11	Vitamins are a health food, so overusing it will not cause negative effects to human body	159	63.6	91	36.4
12	Storing ointment or gel in the refrigerator could extend the expiration date	164	65.6	86	34.4
13	Storing syrup in the refrigerator could extend the expiration date	129	51.6	121	48.4
14	Dosage of cough syrup is one bottle per use	156	62.4	94	37.6
15	Taking medicine with food, drink, tea or alcohol can interfere with the effect of medicine	175	70.0	75	30.0

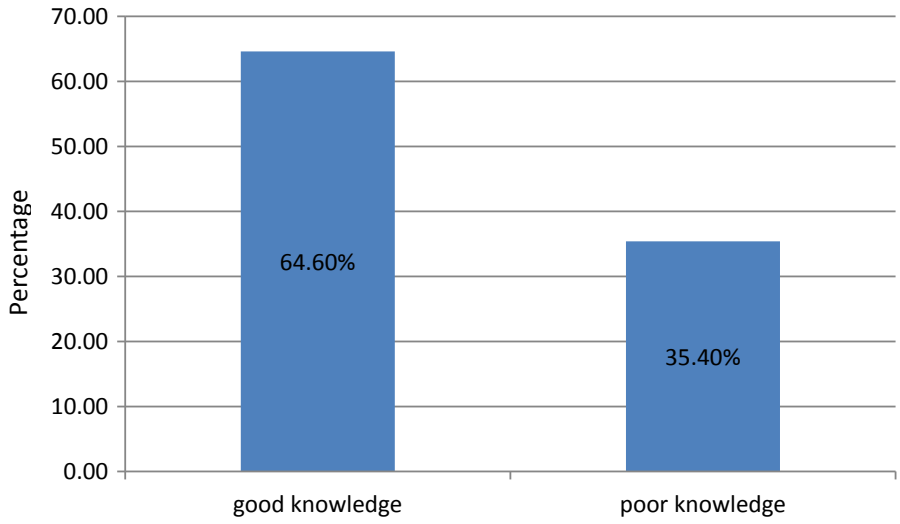

Figure 2. Respondents' level of knowledge regarding self-medication in DMU health science students, 2016.

Attitude towards self-medication

Scores for each attitude related question were summarized and the responses were then categorized into two variables, namely, favorable attitude and unfavorable attitude. Students who were positively worded for each attitude related question were categorized as having favorable attitude whereas respondents who were negatively worded for each attitude related questions were classified in the

Table 3. Attitude towards self-medication among health science students in Debre Markos University, 2016.

S/N	Statement	Strongly agree (%)	Agree (%)	Disagree (%)	Strongly disagree (%)
1	Self-medication is acceptable for medical students.	72(28.8%)	92(36.8%)	68(27.2%)	18(7.2%)
2	Medical students have good ability to diagnose the symptoms	85(34.0%)	133(53.2%)	29(11.6%)	3(1.2%)
3	Medical students have good ability to treat symptoms	62(24.8%)	152(60.8%)	27(10.8%)	9(3.6%)
4	Self-medication would be harmful if they are taken without proper knowledge of drugs and disease	124(49.6%)	97(38.8%)	25(10.0%)	4(1.6%)
5	Medical license would be essential for better administration of drugs	94(37.6%)	125(50%)	24(9.6%)	7 (2.8%)
6	The course of medicines should be complete although the symptoms subside	79(31.6%)	144(57.6%)	23(9.2%)	4(1.6%)
7	The pharmacist is a good source of advice/information about minor medical problems	33(44%)	136(54.4%)	40(16.0%)	10(4.0%)
8	Medical students are likely to bother their doctors with minor problems always.	15(6.0%)	161(64.4%)	55(22.0%)	19(7.6%)
9	We should be careful with non-prescribed over the counter medicines	74(29.6%)	136(54.4%)	37(14.8%)	3(1.2%)
10	Medical students should check the accompanied medication leaflet contain	106(42.4%)	114(45.6%)	25(10.0%)	5(2.0%)

unfavorable attitude category. Finally, overall attitude score of the respondents were calculated. Those students who score above the median were considered as having favorable attitude while those who scored below the median were labeled as having unfavorable attitude. Accordingly, 49% of students had favorable attitude while 51% had unfavorable attitude toward self-medication.

Majority 144(57.6%)) of the respondents agreed that medicines should be completed although the symptoms subside and 18 (7.2%) of the respondents strongly disagree towards acceptance of self-medication (Table 3).

Practice of self-medication

From the respondents, 146 (58.4%) took self-medication, but only 4.8% went to traditional healers when they fall sick due to different reasons (Figure 3).

Moreover, among the respondents who took self-medication, 60(41%), 24(16.4%), 17(11.6%), 14(9.6%), 11(7.5%), 10(6.8%) and 10(6.8%) identified pain (head, body, tooth), diarrhea, fever, nausea and vomiting, dysmenorrhea, cough and itching respectively as reasons to took self-medication.

Similarly, Analgesics (52.7%) are the most common type of drugs used for self-medication whereas antifungals (2.1%) are least used for self-medication among Debre Markos university health science students (Figure 4).

Among the respondents, who practiced self-medication 66.8% replied improved condition, 24% replied no change and 9.2 % replied worsened health condition after practicing self-medication.

Among the respondents who did not practice self-medication when they fall sick, 66(63.4%), 15(14.4%), 12(11.5%) and 11(10.57%) reasoned due to fear of adverse drug reaction, risk of missing actual diagnosis, risk of using wrong diagnosis and risk of drug dependence respectively.

DISCUSSION

The main purpose of this study was to assess the knowledge, attitude and practice of Debre Markos university health science students to self-medication.

This study showed that 64.6% of the students had good level of knowledge regarding self-medication. This was relatively analogues with a study done in Chitwan Medical College, Nepal, where more than half of the respondents had good knowledge about self-medication (Mehta and Sharma, 2015).

In this study, 58.4% of respondents practice self-medication in the last one year which is almost similar to a study done in Ain Shams university of Egypt, where prevalence of self-medication was 55% (El Ezz and Ez-Elarab, 2011). However, it was slightly higher than a study done in Kerman Iran, where 50.2% practiced self-

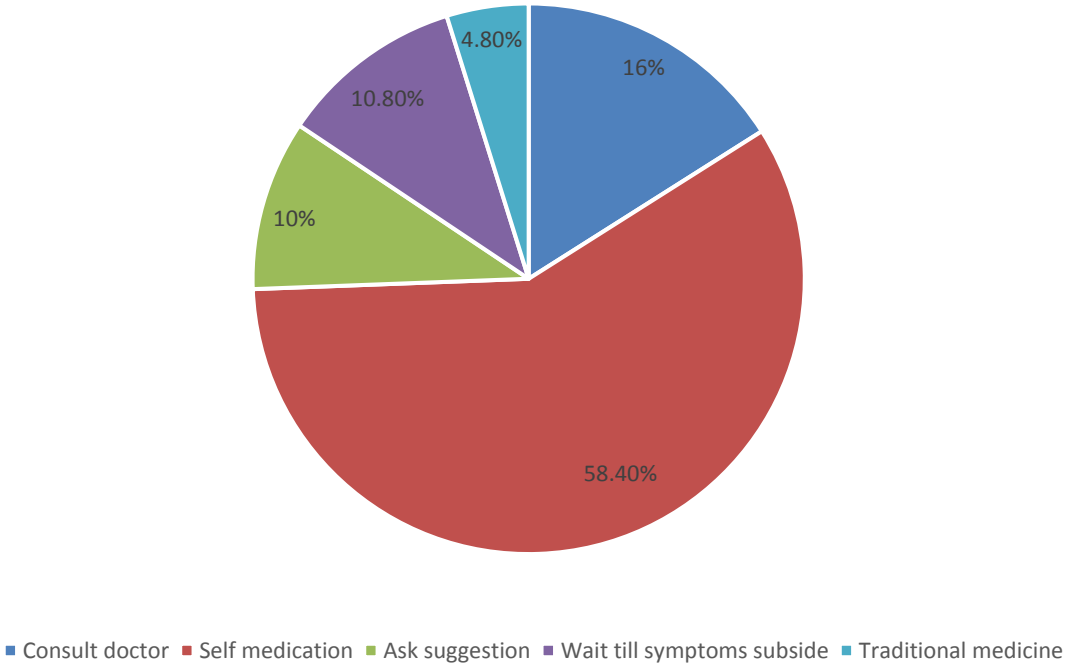

Figure 3. Immediate actions taken when they fall sick among Debere Markos university health science students, 2016.

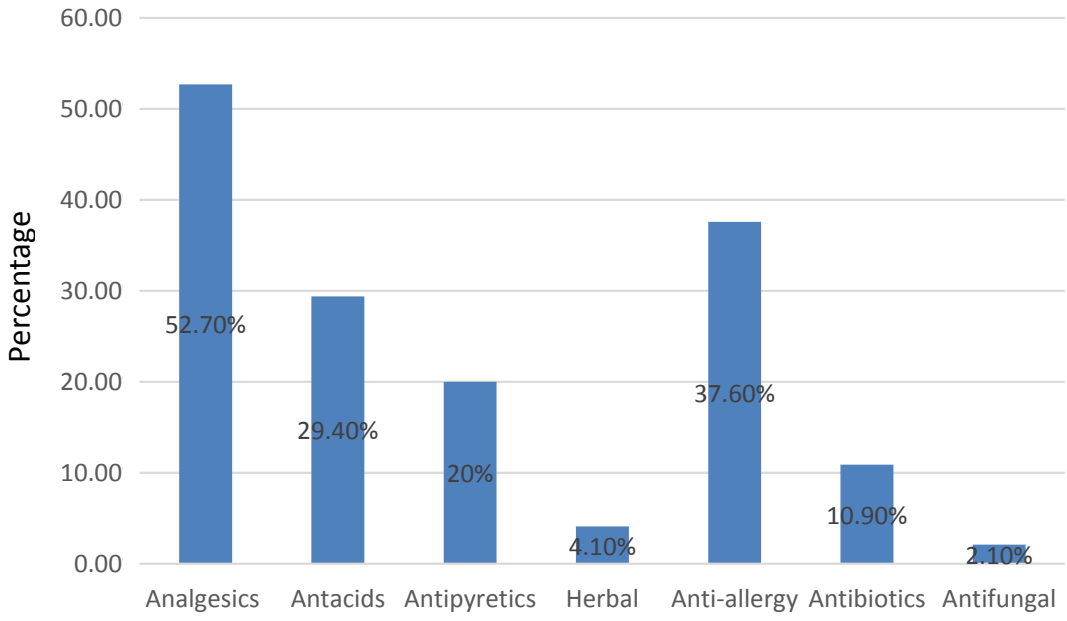

Figure 4. Types of drugs used for self-medication practice among Debre Markos university health science students, 2016.

medication (Zardosht et al., 2016). On the contrary it is much lower than a descriptive study done in Palestinian university, where 98% reported self-medication practice and Rio Grande, Brazil, where 86.4% practiced self-medication (Sawalha, 2008; da Silva et al., 2012). The finding of this study revealed that, 49.12% of the respondents had favorable attitude towards self-medication. This was relatively lower than a study done

by college of medicine and medical sciences of Arabian Gulf University in Kingdom of Bahrain, where 76.9% of the respondents had positive attitude favoring self-medication (James et al., 2006).

The study revealed that analgesics (52.7%) are the most common drugs used for self-medication. This finding was relatively lower than a study done in Ain Shams university of Egypt, where 87.2% of the participants took analgesics without physicians' prescription (El Ezz and Ez-Elarab, 2011).

The most common reason for self-medication was pain (head, body and tooth (41%). This was also similar to a study done in among university students in Karachi, Pakistan, where headache (72.4%) was the most common symptoms leading to self-medication (Zafar et al., 2008).

CONCLUSION AND RECOMMENDATIONS

Majority of the respondents practiced self-medication. Besides this, more than half of the respondents were found to have good knowledge about self-medication however, their outlook towards it remain majorly unfavorable. Pain and diarrhea were the two most commonly reported conditions for self-medication practice. Analgesics, anti-allergies and antacids were the most commonly reported types of medications consumed in self-medication. Raising the issue of awareness and further improve the attitude of students about self-medications in order to build up new generations combating unregulated self-medication is very important.

CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

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