

Awareness of Assiut University Students about Self-Medication

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Abstract

Background: Self-medication is a common and regular practice of using medicines without any medical supervision by the people themselves for self-treatment. **Aim of this study:** to assess knowledge and reported practices of university students regarding self-medication and determine the prevalence of self-medication among university students at Assiut University. **Subjects and Methods:** a descriptive cross sectional study was used in this study which conducted at four faculties of Assiut University among 1035 of fourth grad who were selected through simple random sample. Two tools were utilized for data collection: Tool I: A structured self-administered questionnaire Tool II: to assess reported practices of self-medication among university students. **Results:** It was found that 76.2% of studied students were females and the prevalence rate of self-medication among them was 90.4% also 71.4% of them reported that fast solution to relieve pain was the most common reason for using self-medication. 84.4% and 62.1% of studied students had unsatisfactory knowledge and reported practices regarding self-medication. **Conclusions:** The prevalence of self-medication was high among university students in Assiut University. Most of studied students had un satisfactory knowledge and reported practices about self-medication. **Recommendation:** Periodic health education programs regarding self-medication are needed to enhance awareness among studied students.

Keywords: *Self-medication, University Students & Awareness.*

Introduction

Self-medications or over the counter (OTC) drugs at this time play a major role in self-care, offering individuals the choice of making independent decisions regarding their own health. The WHO has also pointed out that responsible self-medication can help prevent and manage conditions that do not require consultation with a physician and provides a cheaper alternative for treating common problems (Azhar et al., 2013).

The World Health Organization has defined self-medication as “use of pharmaceutical or medicinal products by a consumer to treat self-recognized disorders or symptoms, the intermittent or continued use of medication previously prescribed by a physician for chronic or recurring disease or symptom, or use of medication recommended by lay sources or health workers not entitled to prescribe medicine (Uppal et al., 2014).

Self-medication is influenced by age, gender, education level, family, society, medical knowledge, perception of illness, self-care orientation and drug advertisements (Afolabi, 2008). The increase in self-medication was due to a number of factors like socioeconomic factors, lifestyle, ready access to drugs, the increased potential to manage certain illnesses through self-care, and greater availability of medicinal products. Patient contentment with the healthcare provider and cost of the drugs (Abay & Amelo, 2010).

There are many public and professional concerns about misuse of drugs. The prevalence rate is high all over the world up to 68% in European countries, 57% in USA, 92% in adolescence of Kuwait 31% in India, 59% in Nepal 51% in Pakistan 55% in medical students in University of Ain Shams in Egypt and 62.9% in medical students in University Mansoura, Egypt (Rajput & Mathur, 2010), (Helala & Abou-El-Wafa, 2017)).

The practice of self-medication is a crisis, as people are using whatever they think has got medicinal content without knowledge of the effects associated with that particular medicine; thus, lack of knowledge on the effects or risks of self-medication are paying significantly to the practice of self-medication. As a result of this people develop severe harmful effects from the medicines and delay themselves in seeking medical care at the hospital, thereby complicating their conditions (Afolabi, 2012).

Among commonly used non-prescribed medicines are antacids, stool softeners, anti-diarrheal, cold and allergy remedies, pain relievers, antipyretics, antibiotics, antispasmodics, vitamins, nutritional supplements, cough medicines and stimulants (Alshaqiti & Almohaddk, 2016).

The cost of negative outcomes as a consequence of self-medication may include wastage of resources, increased resistance of Pathogens and serious health hazards such as adverse reactions and drug interactions. The availability of the more complex

drugs such as antibiotics without prescriptions is a source of great concern. Antimicrobial resistance is a current problem worldwide particularly in developing countries where antibiotics are often available without a prescription (Sherazi et al., 2012).

Community health nurses as healthcare providers and community members are involved in self-medication. For example, nurses are commonly asked by the public to administer injectable medicines that are obtained without prescription like pain relievers and antibiotics. In such cases nurses should ask for prescriptions otherwise they should not administer the medication. Community health nurses are responsible for correcting public malpractices regarding self-medications. They play an important role in guarding the public against irrational use of medicines, and disseminating reliable pharmacological and non-pharmacological advice and information (WHO 2014).

Significance of the study

Self-medication is an increasing public health problem world wide while a limited number of drug utilization studies have been conducted in Egypt. In Alexandria, a phamaco-epidemiological study about self-medication among adults attending pharmacies reported that nearly 81% of medications were purchased without prescription (Sallam et al., 2009) Another study carried out among Ain Shams University medical students in Cairo, Egypt, showed that the prevalence of self - medication among the studied population was 55% (El Ezz & Ez-Elarab, 2011)

Another study conducted by (Helala & Abou-ElWafa, 2017) in Mansoura University students in Cairo, Egypt and found that the prevalence of self - medication among medical studied students was 62.9%.

So the present study was conducted to assess knowledge and reported practices of university students regarding self-medication and determine the prevalence of self-medication among university students at Assiut University

Research questions

- 1- What is the prevalence of self -medication among Assiut university students?
- 2- Do the students have good knowledge about self-medication?
- 3- Do students know the risks of self -medication?
- 4- Is there difference of self-medication practice in practical and theoretical faculty?
- 5- Is there association between socio-demographic characteristics of university students and their practice regarding self –medication?

Subjects & Methods

Aim of study

To assess knowledge and reported practices of university students regarding self-medication and determine the prevalence of self-medication among university students at Assiut University

Research design

A descriptive cross-sectional research design was used in this study.

Setting

This study was conducted at four randomly selected Faculties at Assiut University, two practical faculties (Faculty of pharmacy & Faculty of nursing) and two theoretical faculties (Faculty of Commercial & Faculty of arts) during the academic year 2017-2018

Sampling

A simple random sample was used to select the studied faculties in this study and a convenient sample was used in choosing the studied students Assiut University includes (18) faculties divided into (12) practical colleges and (6) theoretical colleges. This study was conducted at (4) faculties which selected randomly. Students of fourth grade were included in this study.

The total number of fourth year students in the selected faculties were 5730 students, by using software EPI /Info, version 3,3 with 99.9% confidence interval (CI), the final estimated sample size was 911students. To compensate the dropouts, 20% was added to the sample size; the final sample size was 1093 students; excluded from them 58 students because of incomplete answer and the final sample was 1035 the sample divided as (70% of students) from theoretical faculties and (30% of students) due to the number of students at theoretical faculties more than practical, It was divided as the following:

Faculty	Total number of students	Sample size	Sample size after drop out
Faculty of commercial	2165	385	354
Faculty of arts	2247	385	377
Faculty of pharmacy	855	163	161
Faculty of nursing	463	160	143
Total	5730	1093	1035

Tools of the study

Two tools were used in the current study

Tool(1): A structured self-administered questionnaire was developed by researcher after reviewing related literature to collect information from the students, it was included two parts:

Part 1: Socio-demographic characteristics: as age, sex, name of the faculty, parent's education and occupation.

Part 2: students' knowledge about self-medication it includes (9) questions such as definition of self-medication, rtype of self-medications used, indications for self-medication and risks of self-medication.

Scoring system of knowledge

Questionnaire to assess the knowledge which contains two types of questions: the first type was statements to which respondents answer with either yes or no. The second type was open ended questions as reasons for taking self-medication type of self-medications used, indications for self-medication, risks of self-medication. The total grades of knowledge equal (20 points); a grade **one** was given for each correct answer and **zero** was given for an incorrect answer and I don't know. The grades for each item were summed and then converted into a percent score as the following

Unsatisfactory = score <60 %, and **satisfactory** = score >60%.

Tool (2): This tool includes reported practice of self-medication among university students it includes (11) questions and statements such as, is self-medication was first line of your treatment? Did you ever give your prescription medicines to others? When your symptoms are relieved, will you discontinue your Prescription medicines by yourself? Will you checked expire date of medication? Places from which you can obtaining self-medication, Go to the doctor after taking self-medication, Tell the doctor about self-medication, Frequency of taking self-medication, Actions taking when complications of self-medication appear and Suggestion for reduce using self-medication.

Scoring system of reported practice

This part includes reported practice of self-medication among university students. The reported practice contains two types of questions: the first type was questions to which respondents answer with either yes or no. The second type was open ended questions as Actions taking when complications of self-medication appear, Suggestions for reduce using self-medication. The total grades of practice equal (11points); a grade one was given for each correct answer and zero was given for an incorrect answer and I don't know. The grades for each item were summed and then converted into a percent score as the following

Unsatisfactory = score <60 %, and **satisfactory** = score >60%.

Validity of tools

To evaluate the sheet validity, it was reviewed by panel of five experts from community and family

health nursing staff at, Assiut University. The necessary modifications and clarifications of some questions were done.

Reliability of tools

A reliability analysis was carried out in order to examine the internal consistency of its questions. The value of Cronbach's alpha was 0.835 for knowledge, and 0.786 for practice implying that the instrument was consistent and reliable in achieving the study objectives.

Methods

A. Administrative design

Before conducting the study an official approval letter was obtained from the dean of Faculty of Nursing, Assiut University to the vice of University president for students' affairs of Assiut University and the Deans of each selected faculty. The letter included a permission to carry out the study and explained the purpose and the nature of the stud

Ethical consideration

The researcher followed all the ethical issues in conducting the research. Consent was secured orally from the participants who were willing to participate in the study. The participants were informed that participation in this study is voluntary; they can withdraw at any time during the study without giving reasons. The researchers have explained the aim of the study to all university students in the study sample. They reassured that any obtained information would be strictly confidential.

B. Operational design

Pilot Study:

A pilot study was carried out before starting data collection on 10% of studied students. It was included in the total sample of the research. The aims of pilot study were to test clarity, feasibility and consistency of the tools and to estimate the time needed for filling the form.

Data collection Phase

- Data were collected during the period from the first of March to the end of May 2017 two days per week
- The researchers introduces themselves to the vice-deans for students' affairs at each selected faculty, and reminded them to the nature and purpose of the study. Then, they asked the vice-deans for students' affairs to take a copy of the study schedules of fourth grades of the faculties which involved in this study.
- The researchers took oral permission of the teaching staff members who were responsible for the desired lectures or sections, depending on their persuasion, thinking and the nature of each faculty, and then the researchers asked about the preferred time for data collection, either at the beginning or at the end part of the selected section

- or lecture. Sometimes, the staff members took a copy from an official approval letter.
- The researchers introduced themselves to the students and took oral permission of students and explained the purpose and the nature of the study and explained the main parts of the questionnaire to them. After that, the questionnaire was distributed to the students by the researchers.
 - Students were asked to complete the questionnaire and were asked about any difficulty that might face during answering the questionnaire.
 - The average time taken for completing questionnaires was around 15-20 minutes.

- After the students filling the questionnaire, the researchers collected the questionnaires with paying attention to incomplete answers to be completed by the student.
- Finally, the researchers thanked the students and teaching staff for their cooperation.

Statistical analysis

Data entry and data analysis were done using SPSS version 19 (Statistical Package for Social Science). Data were presented as number, percentage, mean and standard deviation. Chi-square test and Fisher Exact test were used to compare between qualitative variables. P-value considered statistically significant when $P < 0.05$.

Results

Table (1): Socio-demographic characteristics of the studied students at Assiut University 2017.

Items	No. (n= 1035)	%
Age: (years)		
20 – 22	743	71.8
> 22	292	28.2
Mean \pm SD (Range)	22.06 \pm 1.01 (20.0 – 30.0)	
Sex:		
Male	246	23.8
Female	789	76.2
Faculty name:		
Faculty of Arts	377	36.4
Faculty of Commerce	354	34.2
Faculty of Nursing	143	13.8
Faculty of Pharmacy	161	15.6
Father education:		
Illiterate	93	9.0
Basic education	205	19.8
Secondary education	300	29.0
University education	437	42.2
Mother education:		
Illiterate	236	22.8
Basic education	197	19.0
Secondary education	257	24.8
University education	345	33.3

Table (2): Knowledge of studied student about conditions of taking self-medication at Assiut University 2017.

Conditions of taking self-medication: (\neq)	No. (n=1035)	%
Cold and flu treatment	663	64.1
All kinds of Pain	530	51.2
High temperature(fever)	420	40.6
To treat epidermis and acne	196	18.9
To treat hair problems	149	14.4
To treat sleep disturbances and stress	91	8.8
To treat anemia and physical weakness	88	8.5
Don't know	28	2.7

(\neq) More than one answer was selected.

Table (3): Relationship between total score of students' knowledge regarding self-medication and their sociodemographic characteristics at Assiut University 2017.

	Knowledge level				X ²	P-value
	Unsatisfactory (n= 874)		Satisfactory (n= 161)			
	No.	%	No.	%		
Age: (years)						
20 – 22	649	87.3	94	12.7	16.91	0.000*
> 22	225	77.1	67	22.9		
Sex:					0.30	0.582
Male	205	83.3	41	16.7		
Female	669	84.8	120	15.2		
Faculty:					99.40	0.000*
Faculty of Arts	345	91.5	32	8.5		
Faculty of Commerce	318	89.8	36	10.2		
Faculty of Nursing	115	80.4	28	19.6		
Faculty of Pharmacy	96	59.6	65	40.4		
Father education:					2.11	0.550
Illiterate	81	87.1	12	12.9		
Basic education	176	85.9	29	14.1		
Secondary education	256	85.3	44	14.7		
University	361	82.6	76	17.4		
Mother education:					8.28	0.041*
Illiterate	208	88.1	28	11.9		
Basic education	161	81.7	36	18.3		
Secondary education	225	87.5	32	12.5		
University	280	81.2	65	18.8		

* Statistical significance difference at p value < 0.05.

Table (4): Relation between sex and practice of self-medication of different types of drugs among at Assiut University students 2017.

Medicine (≠)	Sex				P-value
	Male(n= 246)		Female(n= 789)		
	No.	%	No.	%	
Analgesic	187	76.0	612	77.5	0.613
Cold and flu medication	97	39.4	336	42.6	0.381
Antibiotic	64	26.0	158	20.0	0.046*
Antipyretic	27	11.0	191	24.2	0.000*
Antiacid medication	7	2.8	33	4.2	0.342
Antidiarrha	7	2.8	31	3.9	0.430
Vitamins	4	1.6	15	1.9	1.000
Sedative medication	3	1.2	2	0.3	0.090
Medication for anemia	1	0.4	16	2.0	0.090
Nose drop	2	0.8	5	0.6	0.673
For renal colic	2	0.8	6	0.8	1.000
Other drugs	5	2.0	8	1.0	0.203

* Statistical significance difference at p value < 0.05.

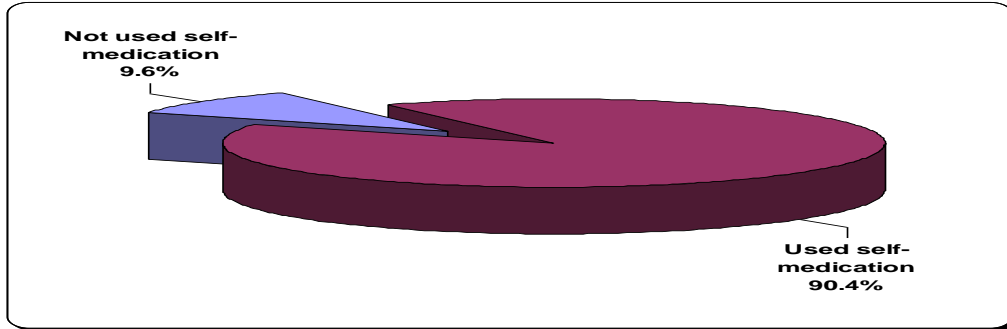


Fig (1): Prevalence of using self –medication among studied students at Assiut university 2017.

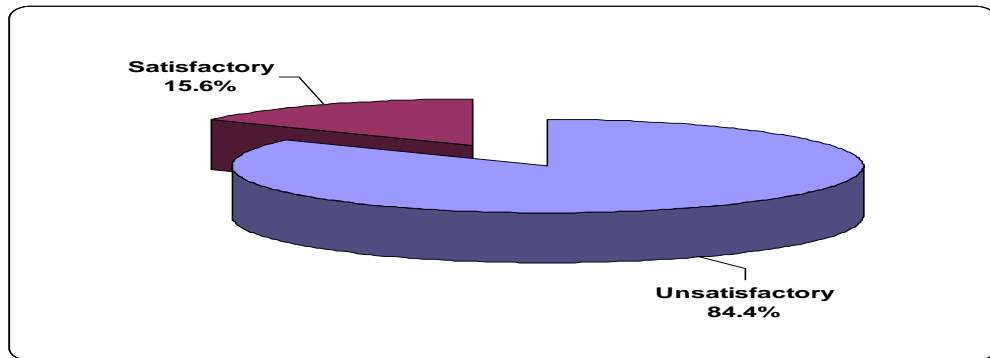


Fig (2): Total score of knowledge of studied students regarding self-medication at Assiut university 2017.

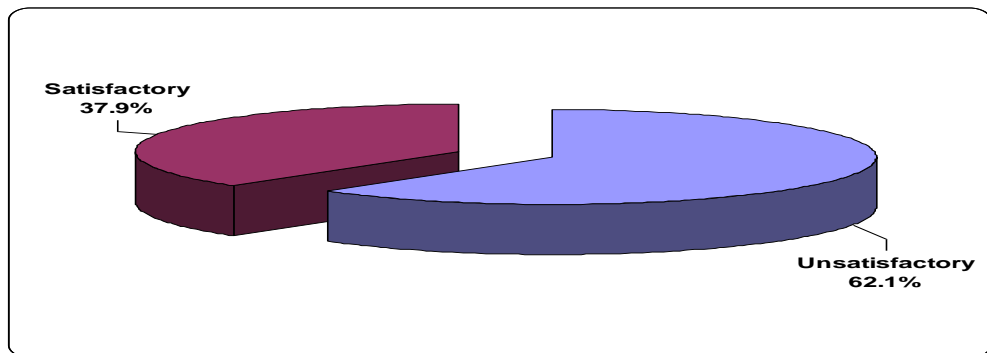


Fig (3): Total score of reported practice of studied students regarding self-medication at Assiut university 2017, (n= 1035).

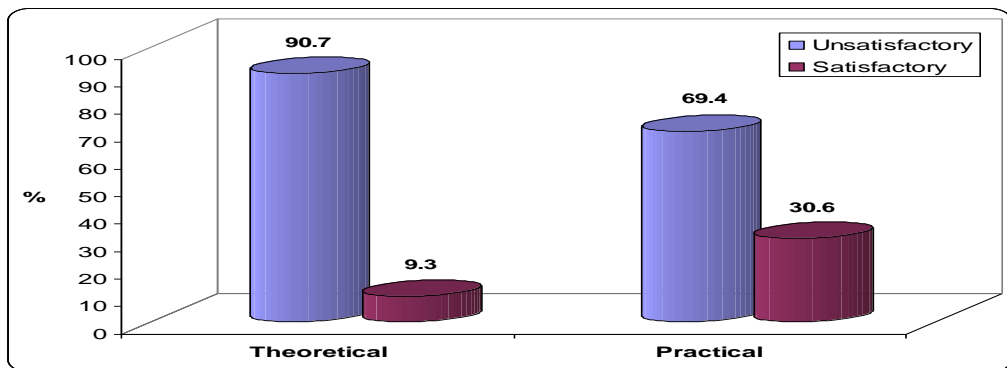


Fig (4): Relation between total score of students' knowledge and type of faculty regarding self –medication at Assiut university 2017.

Table (1): Shows socio-demographic characteristics of the studied students, it was found that 71.8% of the studied students their age range from (20-22) years old. According to students sex it was observed that 76.2% of studied students were females and 23.8% of them were males. Regarding to parents' education it was found that 42.20% of father 33.3% of mothers had university education.

Table (2): Shows students' knowledge about conditions of taking self-medication, it was observed that 64.1% of the studied students mentioned that they took self-medication in conditions of cold and flu treatment and 51.2% of them mentioned that they took self-medication in conditions of all kinds of pain and only 2.7% of them mentioned that they hadn't know conditions of took self-medication.

Table (3): Shows the relationship between total score of students' knowledge regarding self-medication and their sociodemographic characteristics; it was cleared that the majority 87.4% of studied students aged (20-22) years have unsatisfactory level of knowledge. Also this table revealed the majority 84.8% of studied female students have unsatisfactory level of knowledge.

On the other hand, this table revealed that pharmacy students' have satisfactory level of knowledge, (91.9%, 89.8% and 80.4% respectively of studied students on faculty of arts, commerce and nursing have unsatisfactory level of knowledge regarding self-medication. Also this table indicates that there was statistically significant difference between students score of knowledge regarding self-medication and type of faculty, their age and mothers education $p=0.00$, $P=0.00$ $P=0.04$ respectively

Table (4): Reveals relation between sex and practice self-medication of different types of drugs among studied students at Assiut University, it was cleared that (76.0% and 77.5% respectively) of male and female were taking analgesic. Also this table indicates that there was statistically significant difference between sex and practice self-medication of different drugs as antibiotic and antipyretic $p=0.046-0.000$ respectively

Fig (1): Presents the prevalence of using self-medication among studied students. It was revealed that 90.4% of studied students were used self-medication and only 9.6% of them weren't used self-medication.

Fig (2): Presents total score of knowledge of studied students regarding self-medication. It was revealed that 84.4% of studied students had unsatisfactory knowledge regarding self-medication and only 15.6% of them had satisfactory knowledge.

Fig (3): Clear that total score of reported practice of studied students regarding self-medication. It was revealed that 62.1% of studied students had

unsatisfactory reported practice regarding self-medication while 37.9% of them had satisfactory practice.

Fig (4): Shows that relation between total score of students' knowledge and type of faculty regarding self-medication, it was found that 90.7% of theoretical students had unsatisfactory level of knowledge While, 69.4% of practical students had unsatisfactory level of knowledge regarding self-medication.

Discussion

Self-medication is the selection and use of medicines by individuals to treat self-recognized illnesses or symptoms, as defined by the World Health Organization Self-medication is often due to the use of nonprescription medicines, commonly known as over-the-counter (OTC) medication. (Mitra et al., 2018)

The aim of this study was to assess knowledge and practice of university students regarding self-medication and determine the prevalence of self-medication among university students at Assiut University.

The results of the current study show that more than two thirds of the studied students their age range from (20-22) years old this finding in line with (Al Essa et al., 2019) who studied practice, awareness and attitude towards self-medication of analgesic among health science students in Riyadh in Saudia Arabia and referred that more than two third of the studied students their age range from (20-22) years.

According to the sex it was found that more than three quarters of studied students were females .This finding supported with (El Ezz & Ez-Elarab, 2011) who studied Knowledge, attitude and practice of medical students towards self-medication at Ain Shams University in Egypt and reported that more than two thirds of the studied students were females.

According to type of faculty it found that more than one quarter of studied students were enrolled to practical faculties and more than two thirds of them were enrolled to theoretical faculties. This is because the number of students in theoretical faculties were more than the number of students in practical faculties.

The findings of the present study in agreement with (Ansam, 2008) who carried out a study on Assessment of Self-Medication Practice among University Students in Palestine: Therapeutic and Toxicity Implication and the studied sample was (29.7%) of medical students and (70.3%) of them were non-medical students

Regarding to students' knowledge about conditions of taking self-medication, the present study revealed

that less than two thirds of the studied students mentioned that they took self-medication in conditions of cold and flu treatment.

The finding of the current study was similar also to (Helala & Abou-ElWafa, 2017) who carried out study on Self-Medication in University Students from the City of Mansoura, Egypt and found that the most frequent conditions that were suitable for self-medication from the students opinion were cold.

Concerning to prevalence of used self-medication it was found that the majority of the studied students were used self-medication, the present study agrees with (Alshogran et al., 2018) who conducted a study on Patterns of self-medication among medical and nonmedical University students in Jordan and they showed that the prevalence of self-medication was the majority.

Also, the finding of the current study in agreement with (Gyawali, et al., 2015) who studied knowledge, Attitude and Practice of Self-medication among Basic Science undergraduate medical students in a Medical school in Western Nepal and referred that prevalence of self-medication in their study was the majority.

According to the relation between total score of knowledge of studied students regarding self-medication and type of faculty it was found that the majority of theoretical students had unsatisfactory level of knowledge While, 69.4% of practical students had unsatisfactory level of knowledge regarding self-medication

This finding in the same line with (Gupta et al., 2011) in Malwa region of Punjab and verified that respondents of medical college students had good knowledge than non-medical college students.

According to relation between sex and practice self-medication of different drugs among studied students at Assiut University, the present study indicated that there was statistically significant difference between sex and practice self-medication of different drugs as antibiotic and antipyretic , $p=0.046-0.000$ respectively

The present study similar to (El eZZ, & Ez-Elarab, 2011) and referred that there was statistical significant difference between males and females only as regards the vitamins and analgesics intake and herbal products intake ($p = 0.00$, $p = 0.002$ and $p = 0.03$, respectively).

The majority of studied students had unsatisfactory knowledge and reported practice this may be due to they hadn't know enough about self-medication because there weren't any health education program about self-medication or because in this study the number of theoretical students more than practical students and theoretical students in their study didn't know more about medication or the long waiting time at clinics or hospitals and they needed quick decision

to relieve their problem or may be not face any complication from self-medication

Conclusion

The prevalence of self-medication was alarmingly high among university students in Assiut University. Most of studied students had unsatisfactory knowledge and practice about self-medication

The majority of the studied students were used self-medication and the majority of them were take analgesic.

Recommendations

Periodic health education programs regarding self-medication are needed to enhance awareness among university students.

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