

Original Research Article

Knowledge, Attitude and Practice of self-medication among Pharmacy Students in North Cyprus

Aim: The aim of our study is to assess the attitude, knowledge and practice of self-medication among fifth year Pharmacy Students at Near East University in Northern Cyprus.

Study design: A cross sectional study.

Place and Duration of Study: The study was conducted in faculty of pharmacy in Near East University in Northern Cyprus on December 2018.

Methodology: Self-administered questionnaires was conducted using which comprise 7 parts among fifth year pharmacy students who were available during the study time.

Results: A total of 77 questionnaires were distributed to be filled by respondents, all of them were filled completely and collected. ~~Among the participants, 39 (51%) with the prevalent age group of 22-26 years, 39(51%) of the participants in our study were in the prevalent age group of 22-16 years and most of these students in our study~~ were from Turkey 42 (58.3%). 25.7% of students ~~are visiting~~ visited a physician when they ~~have had~~ a disease, however 25% of them ~~didn't~~ didn't comply with physician's prescription. Headache (16.8%) and common cold (14.0%) were the most frequently reported illness for which self-medication was taken. Analgesic medicines (37.4%), followed by vitamins (29.7%) and antibiotic (13.5%), ~~are were~~ used commonly as self-medication. Nearly all of students 95.9% ~~kn~~ knew the meaning of OTC and prescription only drugs. About 30.7% of students medicated themselves because ~~of~~ it isn't a serious disease. The main source of information about self-medication for students was ~~taking~~ taking the advice from pharmacist (29.7%). 26.8% of students ~~were~~ agreed that pharmacists are good source of information for minor medical problems, 23.0% and 18.2% ~~were~~ agreed that self-medication is acceptable for pharmacy students however 4.1% ~~accepted~~ accepted that self-medication is not acceptable at all and it would be harmful.

Conclusion: The practice of self-medication is prevalent amongst fifth year pharmacy students even with adequate knowledge and awareness about the consequences. Proactive pharmacist may contribute in management of minor illness and rationalized self-medication.

Keywords: self-medication; pharmacy students, self-care;, prevalence, clinical pharmacy, North Cyprus

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A 7- part self administered questionnaire was used among fifth year pharmacy students who were available during the study time.

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1. INTRODUCTION

Self-medication is a global component of self-care practice and can be defined as “the selection and use of medicines/medicinal products, including herbal and traditional products on one’s own initiative, or on the advice of another person, without consulting a physician either for diagnosis, prescription or surveillance of the treatment [1, 2].

The practice of self-medication is a growing trend [3] which generally involves over-the-counter (OTC) medications which are available without prescription in pharmacies but also includes prescription-only medicines (POM) [4], reutilizing/resubmitting a previous prescription, sharing medications with relatives or members of one’s social circle, consuming leftover medicines already available at home, failure to comply with prescribed recommendations either prolonging it or interrupting it too early or decreasing or increasing the originally prescribed dose [5].

Self-medication has both benefits and risks. If done appropriately, self-medication can readily relieve acute medical problems, save scarce medical resources from being wasted on minor conditions, reduce the burden on medical services, decrease the time spent in waiting to see the physician, and save cost especially in economically deprived countries with limited healthcare resources [6,7]. On the contrary, inappropriate self-medication can lead to irrational drug usage, wastage of resources, increased chances of microbial resistance to antibiotics, increased risk of adverse reactions, drug interactions, drug addiction and prolonged morbidity [6, 8].

Self-medication patterns vary among different populations and are influenced by various features such as age, gender, income, self-care orientation, educational level, medical knowledge, previous experience, satisfaction, and seriousness of illnesses [9].

Self-medication is widely prevalent worldwide, especially in developing countries [10] like Northern Cyprus where not only OTC drugs, even most of the prescription only medicines (POM) are also easily accessible without prescriptions in community pharmacies. A published study in 2014 in Northern Cyprus reported that 87% of patients bought unprescribed medication at least once during their life and most commonly used medications are painkillers (32.9%) and antibiotics (29.3%) [11].

Studies have also shown that, self-medication is much more common among physicians, nurses, pharmacists and medical students as compared to general population [12]. There are many factors that influence their self-medication practice like easy availability of drugs, advertising of drug manufacturers, previous experiences with symptoms or disease, self-confidence about accurate drug knowledge, home-kept prescription drugs and easy access to information [13].

Pharmacy students are future pharmacists who have a potential role in counselling the patients about the advantages and disadvantages of self-medication. The academic curriculum of pharmacy students teaches them about rational use of medicines and consequences of irrational use but there was a lack of understanding of disease diagnosis [9]. Hence, it is important that the various patterns of self-medication be studied in them. This study aims to assess the knowledge, attitude, and practice (KAP) of self-medication among pharmacy students of Near East University in Northern Cyprus.

2. MATERIAL AND METHODS

2.1 Study Setting

A cross-sectional survey study conducted using self-administered questionnaires among pharmacy students (fifth year) in Near East University on December 2018. The study population consisted of all fifth-year pharmacy students that were available at the time of the study.

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68 **2.2 Data management system**

69 **2.2.1 Data collectors**

70 The self-administered questionnaires were distributed and collected by the
71 investigators from the students' class rooms, after providing an explanation
72 regarding the study purpose and impact.

73 **2.2.2 Data collection tool and Sampling**

74 Questionnaires prepared in English and translated to Turkish which consists of 7
75 parts were distributed to collect all relevant data. The questionnaires include;
76 demographic information's which includes gender, age and nationality, the second
77 part consists of disease or symptoms frequently self-treated by the students,
78 procedures taken for the illness, source of information for self-medication and finally
79 the students' attitude of towards self-medications. Descriptive statistics were used to
80 describe the frequency of variables contained in the questioner.

81 Convenient sampling technique was used because we took all fifth-year pharmacy
82 students [14].

83 **2.2.3 Data analysis**

84 Data were analyzed using SPSS and Microsoft Excel. Descriptive statistics were
85 used to describe demographic information as well as variables contained in the
86 questioner in order to assess practice, attitude, and knowledge of self-medication
87 practice among pharmacy students.

88 **2.2.4 Ethical issues**

89 A detailed explanation of the aim and objectives of the study was given to obtain the
90 consent of students prior to data collection. They were also informed that
91 participation is confidentiality and voluntary and would be maintained throughout the
92 study.

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94 **3. RESULTS AND DISCUSSION**

95 A total of 77 questionnaires were distributed to be filled by respondents, all of them
96 were filled completely and collected.

97 The study was composed of 38 (49%) males and 39 (51%) female pharmacy
98 students from fifth year. Most of the respondents were in the age 22-26 years
99 (88%).

100 Also most of our sample were from Turkey 42 (58.3%), and the second higher
101 percentage were from KKTC 14 (19.4%), and other nationalities like Iraqi (11.1%),
102 Syrians (5.6%), Nigerian (2.8%), Lebanese (1.4%), and Egyptian (1.4%).

103 Regarding to procedures taken for the illness between the students, 25.7% of
104 students are visiting a physician when they have a disease, while 20.9% are taking
105 medicines from the pharmacy without prescription and 19.4% take medicine that
106 remained from previous use. From 25.7% of students who usually visit a physician,
107 about 25% of them don't comply with physician prescription. [Figure 1]

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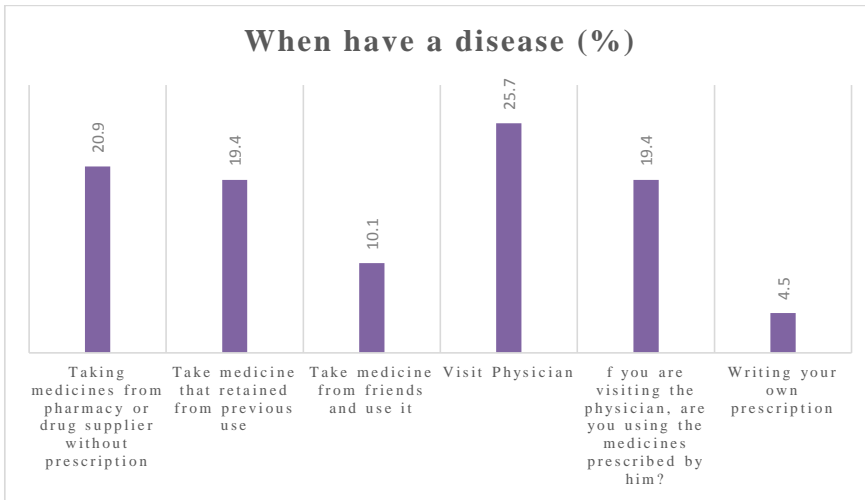


Figure 1: What are you usually doing when you have a disease

And for the diseases that the students were medicated themselves, the highest percentage was for headache (16.8%) and common cold (14.0%) and 10.3% constipation, 6.3% for vomiting, and a very small ratio for other diseases, which are: skin disorder, chest pain, ear disease, eye disease, and chest pain. [Figure 2]

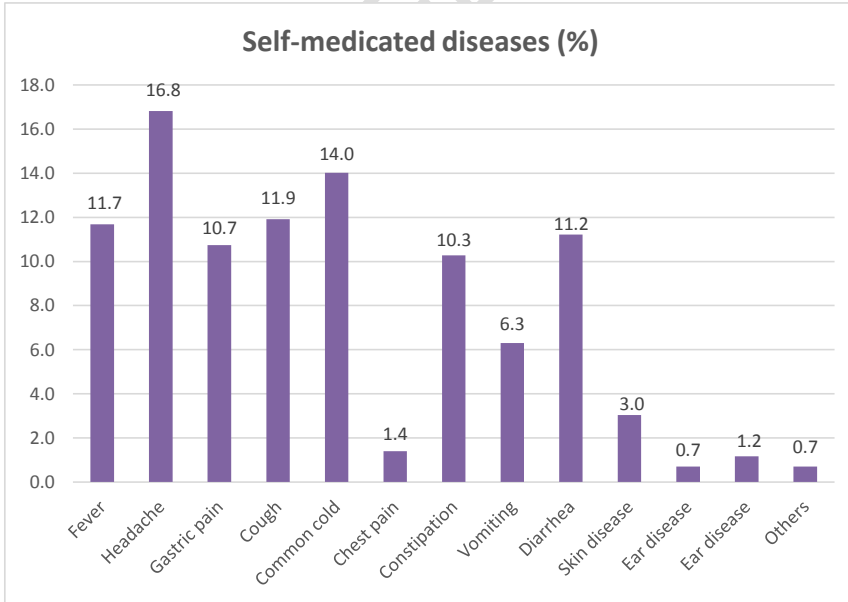
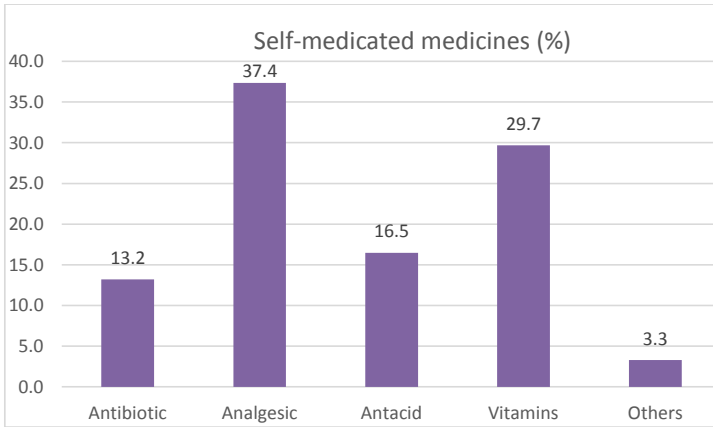


Figure 2: In which of the following diseases do you medicate yourself

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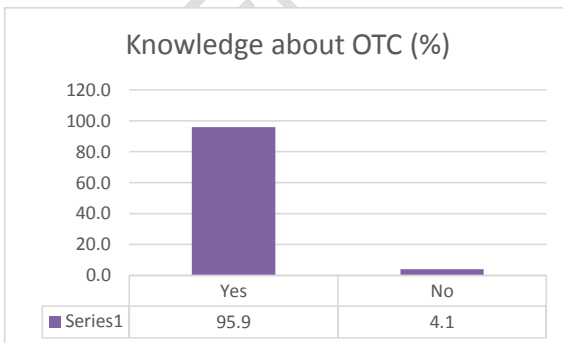
When we asked about the medicines which are used commonly as self-medication, we found that the highest percentage was for Analgesic medicines (37.4%), followed by Vitamins (29.7%), Antacid (16.5%), antibiotic (13.5%), and other medicines like aspirin and metformin where used in (3.3%) as self-medication among the students. [Figure 3]



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Figure 3: According to you, which of the following medicines do you usually use to medicate yourself?

And from our sample, 95.9% of our sample differentiate OTC and prescription only drugs, while 4.1% didn't. [Figure 4]

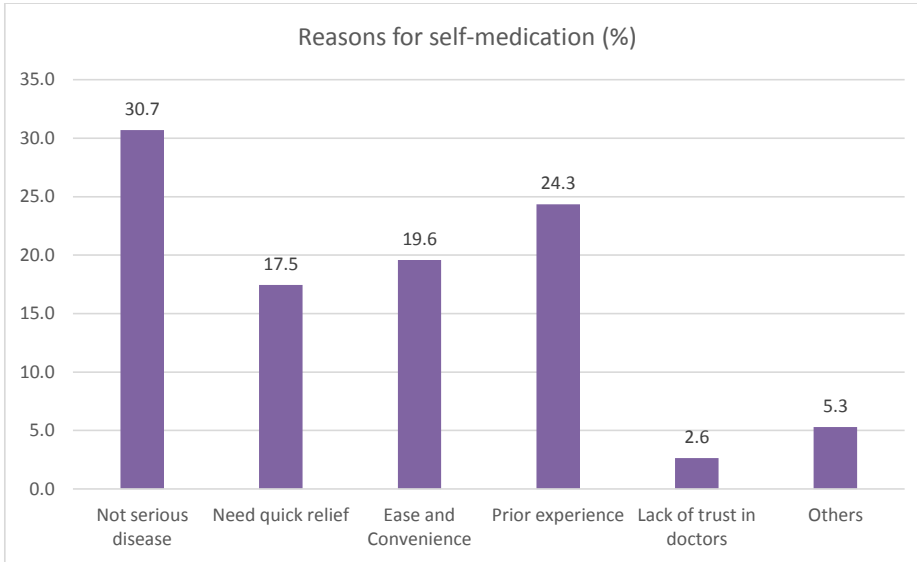


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Figure 4: Knowing the medication classification "Over the Counter OTC and prescription only drugs"

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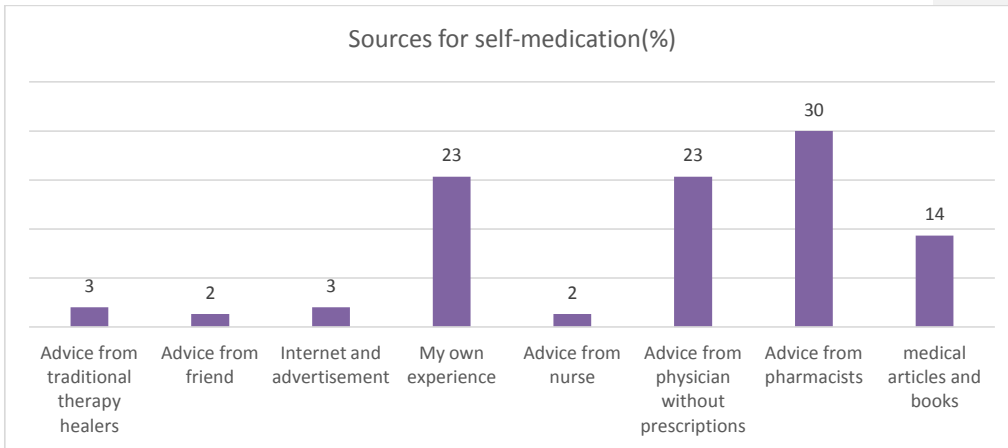
The reasons for self-medicated between the students was shown as, 30.7% of students said that the disease is not serious, 24.3% of them had self-medicated because his prior experience while 19.6% answered “ease and convenience”. [Figure 5]



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Figure 5: The reason(s) for medicating yourself

For the students' sources of information about self-medication were 29.7% taking the advice from pharmacist, while 23.6% were ask the physician but without taking prescription and 21.8% depend on their own experience. [Figure 6]



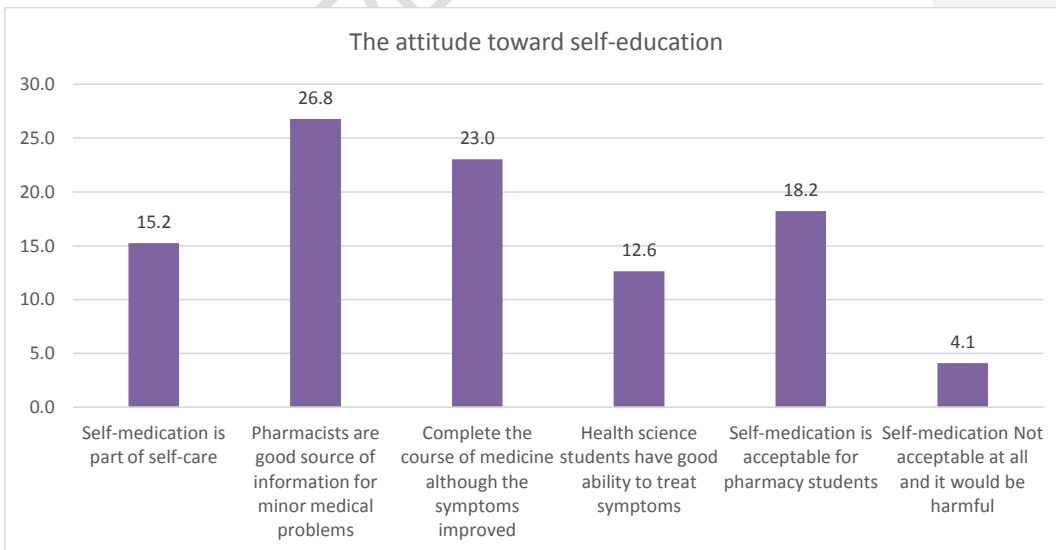
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Figure 6: The source(s) of information for medicating yourself

162 Data regarding attitude toward self-medication was 26.8% of students agreed that
 163 pharmacists are good source of information for minor medical problems, 23.0%
 164 were agree with completing the course of medicines although the symptoms
 165 improved and 18.2% were agree that self-medication is acceptable for pharmacy
 166 students. [Figure 7]

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Figure 7: What do you think about self-medication practice?

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DISCUSSION

The study was conducted among fifth year pharmacy students in Near East University in Northern Cyprus. Frequency of self-reported medication is highly variable in different parts; these results are may be due to the differences in study subjects, working definition of self-medication and tool used to collect the response of the participants [16].

People have always been very cautious about their personal health status and for this they have used self-medication, a feature of healthcare, from ancient times. Although self-medication has many pros and cons it depends on who uses it and how it is used for self-treatment. We focused on pharmacy students because they have adequate knowledge of medicine in theory and are more cautious about the safety of drugs which is lacking in other student groups or in the general population. Thus a pharmacy student's view on the self-medication practice can be considered as a major factor to judge the characteristics of their future prescription pattern [13]. In Turkey and North Cyprus the duration of undergraduate pharmacy education has increased to five years, consisting of more clinical contents making a good opportunity for further implementation of the concept [15].

The students of our study frequently use self-medication, and gender difference has not been shown to have any influence on the practice of self-medication. The reason behind insignificant gender differences in the overall exercise of self-medication may be the study format that allowed the respondents to select drugs by themselves.

In our study we found that about 68% of the students self-practice different types of medication. A similar type of study was conducted by Kumar et al. in coastal south India and signified that the amplitude of self-medication practice was 78.90% among medical students. Other similar studies also demonstrated the prevalence rate of self-medication ranged between 57.1% and 92% among the medicals students in India.

Several research works carried out in other developing countries revealed that the prevalence of self-medication was 38.5% and 43.2% among medical, pharmacy, and health science students in Ethiopia, 51% among citizens in Slovenia, 55.3% and 55% among medical students in Pakistan and Egypt respectively, 56.9% among medical undergraduate students in Nigeria, and 80.9% among female university students in Malaysia. The major influential reason behind the higher propensity of self-medication might be the unregulated easy availability of all categories of medicine without prescription [13].

Similar to some previously published articles, headache, common cold, fever, and vomiting were the most common symptoms for self-administration of medications mentioned by the respondents. ~~It was quoted in our research report that~~ The most common causes for self-treatment with drugs in our study ~~were non seriousness of disease that they see it not a serious disease and the insignificance of the illness~~ which did not require a doctor's visit. Similar outcomes were reported by the study conducted in India.

~~As stated earlier,~~ Antipyretics, analgesics, antacids, and anti-diarrheal drugs were the most common classes of drugs self-prescribed for treatment by almost all of the respondents in our study[17][18][19].

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217 Almost identical observations were found in the studies conducted in India,
218 Pakistan, Iran, and Ethiopia where these common classes of drugs were frequently
219 used by medical students.

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220 Furthermore, the use of antibiotics was different to that of analgesics and
221 antipyretics.

222 This tendency is because of the knowledge of pharmacy graduates on the
223 resistance and side effects of antibiotics. It is well known that proper medicinal
224 knowledge can promote a good prescribing pattern of pharmacists. However, at the
225 same time inappropriate or irrational use of these drugs can lead to various
226 hazardous effects including the reduction in the capability of microbial flora to resist
227 detrimental microorganisms, the development of multidrug resistance, addiction,
228 toxicity, and other related syndromes. Therefore, such kind of practice should be
229 discouraged [13].

230 We found from our study that the key factor for self-medication practice by the
231 participants was their adequate pharmacological knowledge which they had
232 gathered from their academic courses, and they trust themselves as pharmacists.
233 These findings are similar to those from studies conducted in Nepal, India, Malaysia,
234 Ethiopia, and Pakistan. The second major source of information on self-prescribed
235 drugs was from previous prescriptions for the same illness and this result was
236 analogous to the findings of the study conducted in India. Further, other researches
237 conveyed in India and Ethiopia reported the internet as another common source of
238 knowledge on self-prescribed medicines which was the third common source of
239 information in our study results [13].

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240 About 15.2% of the students believed that self-medication is a part of self-
241 medication this is less than studies conducted in India, Ethiopia, and Pakistan. Self-
242 medication can only be considered a part of self-care if legitimate use of
243 medicaments can be ensured. It may lead to accidental drug toxicity as there is
244 always a risk of using expired drugs and also sharing with friends or taking
245 medicines that have been actually prescribed for other problems. [13][18]

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246 And 26.8% of these students considered the pharmacists as a good source for self-
247 medication; it is similar to some studies that were done in Ethiopia, which
248 considered pharmacists a very trustful source for self-medication.

249 23% of our sample was agreed with completing the course of medicines although
250 the symptoms of the illness were improved, 18.2% were agree that self-medication
251 is acceptable for pharmacy students, 15.2% consider self-medication as a part of
252 self-care, 12.6% were agree with acceptability of self-medication for pharmacy
253 students, but 4.1% accept that self-medication is NOT acceptable at all and it would
254 be harmful.

255 Our study had some limitations and we faced some complications during it. First of
256 all, we covered only fifth year pharmacy students in Near East University due to
257 shortage of time for the research work. So, if we had conducted the study among
258 more years we would have got a more extensive scenario on the self-medication
259 practice. Second, we couldn't reach the hall number of students because the
260 semester was almost finished and the lectures had been finished, so collecting data
261 from them was slightly difficult. Third, we did the study in just one university (Near
262 East University), though if we conducted it among many universities, we would get
263 more comprehensive results. Finally, social desirability bias may have impacted the
264 responses since the interviews were done in personally.

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265 Also, the survey didn't differentiate between the uses of OTC drugs in self-
266 medication vs. prescription drugs such as antibiotics and may have resulted in
267 misunderstanding and confusion among respondents.

268 4. CONCLUSION

270 The practice of self-medication is prevalent amongst fifth year pharmacy students
271 even with adequate knowledge and awareness about the consequences.

272 The high prevalence of self-medication is driven by multi factors, some of them
273 cannot be modified easily as healthcare. Proactive pharmacist may contribute in
274 management of minor illness and rationalized self- medication.

276 277 COMPETING INTERESTS

278 Authors declare no competing interests.

280 281 ETHICAL APPROVAL

282 The study was approved by the Near East Institutional Reviews Board (IRB) of Near East
283 University Hospital that assigned this research as an observational study.

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