Short Communication

Self-Medication and its Associated Factors among University Students: A Cross-Sectional Study

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Abstract

Background: Self-medication is a global concern among professionals and non-professionals, with a rapid increase in prevalence. The study aims to assess the prevalence of self-medication and its associated factors among university students. **Materials and Methods:** A cross-sectional, descriptive study was conducted in three universities, and a total of 817 college students participated in this study. **Results:** About 75.40% of the participants reported using medications without a professional prescription. The category of analgesics was the most commonly used in self-medication (82.80%), while the most common symptom was a headache (81.50%). Almost 74.10% percent of participants who have practiced self-medication stated that the reason was the "lack of time to consult a physician." Most participants who have used self-medication (90.30%) stated that the source of knowledge was "previous prescription." **Conclusions:** Health education programs concerning self-mediation should be held in university settings to improve attitudes and practices toward self-mediation.

Keywords: *Cross-sectional studies, prevalence, Self-medication/statistics and numerical data, university students*

Introduction

The prevalence of self-medicated cases varies among countries, ranging from 12.7% to 95% in developing nations,[1] while in Western nations, the prevalence has been described as low as 3%.[2] Self-medication is a global health problem that has increased public health risks due to the effects of medication resistance, interactions, abuse, and organ damage.[3] It accounts for 3.70% of all global deaths.[3,4]

Self-medication is the use of medication to treat self-diagnosed symptoms.[5] It is a common practice for many illness episodes.[5,6] University students are at a higher risk of self-medication.[7] This is because of their age and high education.[7] Also, it is convenient since it relieves pain and reduces the cost of the treatment. However, it has complications,[2] it may have led to medication duplication, treatment failure, and masking of symptoms of health problems.[2] Self-medication signifies a health problem among university students. In Jordan, according to past studies, self-medication is common among private university students,[4] public school students,[8] and students of medical faculties in public universities.[9] This study assessed self-medication among public university students. Thus, this study aims to assess the prevalence of self-medication and associated factors among university students in three public universities.

Materials and Methods

A cross-sectional design was used to collect data on the prevalence of self-medication and associated factors among university

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students, and it was carried out between March and May 2022.

The study's participants were 817 undergraduate students who met the eligibility requirements. Three institutions chosen to represent the regions were surveyed by the researcher. The sample size was calculated using the Thompson formula. Based on a margin of error of 5%, a confidence level of 95%, a population size of 50,000, a response distribution at 50%, and the estimated measurement, the minimum appropriate sample size was 382 students. A convenience sampling technique was used to select the participants from the three universities. To overcome the deficient or missing data problem, a thousand emails were sent to invite students to participate in this study. A total of 817 participants returned a complete questionnaire, composing the final sample size with an 87% response rate.

Both being currently enrolled in an undergraduate program at their university and having signed a consent form indicating their willingness to participate in the study were requirements for inclusion. In addition, students with any medical conditions that prevented them from answering the study questionnaire and international students were excluded.

The researchers developed the questionnaire based on the literature review.[4,8-10] In addition, a panel of three academic staff assessed the questionnaire's content validity. Also, a pilot study was conducted on 10% of the original sample to assess the instrument's content validity and identify any administrative, clinical, ethical, or methodological problems that may arise. The pilot was also intended to identify anticipated problems or obstacles to the data collection procedure, the time needed to complete the questionnaire, and the suitability of the items. The questionnaire was divided into five sections. Prevalence of self-medication use, medical conditions that led to the use of self-medication, reasons affecting the use of self-medication, and sources of medication.

Statistical Package for the Social Sciences (SPSS) version 26 was used to analyze the data (SPSS Inc., Chicago, IL, USA). Descriptive analyses (frequencies, means, and standard deviations) were performed. Correlation tests examined the association between dependent and independent variables. Logistic regression analysis was used to determine predictors for students' use of self-medication. The level statistically significant was $p < 0.05$.

Ethical considerations

Ethical approval was obtained from Al al-Bayt University (24/142/2022, 20.1.2022). Informed consent was obtained from all participants. Anonymously, and the confidentiality of participants was protected.

Table 1: Demographic characteristics

Variables	*N* (%)
Age	
18–31 years	768 (94)
32–51 years	49 (6)
Gender	
Male	479 (58.60)
Female	338 (41.40)
Social status	
Single	718 (87.90)
Married	93 (11.40)
Divorced	4 (0.50)
Widowed	2 (0.20)
Occupation	
Employed	118 (14.40)
Un-employed	699 (85.60)
Monthly income	
Sufficient and can be saved from it	233 (28.50)
Sufficient	405 (49.60)
Insufficient	179 (21.90)
University Place	
Hashemite University	258 (31.60)
Al al-Bayt University	266 (32.60)
Al-Hussein University	293 (35.90)
College type	
Health	431 (52.80)
Humanistic	386 (47.20)
Educational year	
First-year	176 (21.50)
Second-year	180 (22%0)
Third-year	156 (19.10)
Fourth-year	281 (34.40)
Fifth-year	6 (0.70)
Sixth-year	18 (2.20)

Results

The demographic characteristics of the participants are delineated in Table 1. The highest percentage of participants (82.80%) used analgesics and cold medicines (76.70%). According to gender, the most commonly used medication among females was analgesics, followed by cold and cough medicines. While, among males, it was herbals, then antibiotics. Psychotropic (8.80%) and cardiovascular (10.40%) medications were the least frequently used among males and females. The most common symptoms resulting in self-medication were a headache (81.50%), followed by a cold and flu (76.50%). The least frequent symptoms were skin diseases (9.40%) and genitourinary infections (18.70%). The majority of participants who have practiced self-medication stated that the reason was a "lack of time to consult a physician" and "hospitals" medications do not work." Most self-medication participants stated that the source was a "previous prescription" and "health staff."

Table 2: Predictors of use of self-medication

Predictors	B	S. E	Wald	*p*-value	Exp (B)	95% CI for Exp (B)	
						Upper	Lower
Constant	−1.30	0.11	121.41	<0.001	0.271	-	-
Age	−0.97	0.44	4.78	0.02	0.37	0.15	0.90
Gender	0.40	0.16	5.98	0.01	1.49	1.08	2.07
Family monthly income	0.23	0.19	1.53	0.21	1.27	0.87	1.85

CI: Confidence interval

The findings revealed a significant difference (r^2 = 4.29, p = 0.038) between age groups in the incidence of self-medication. Similarly, there was a significant difference (r^2 = 5.6, p = 0.014) between males and females. The two factors that most impacted the use of self-medication were age (B =−0.98, OR = 0.38, p = 0.029) and gender (B = 0.40, OR = 1.50, p = 0.014) [Table 2].

Discussion

This study showed that the majority of the participants have practiced self-medication, which indicates that students believe that common symptoms such as headaches do not need a doctor's advice.[11] According to Al Essa *et al.*[12] most students self-medicated for headaches and migraines. In addition, most students bought antibiotics from pharmacies without a doctor's prescription.[13] Furthermore, people reported avoiding visiting physicians primarily because of the cost. More than 90% of university students in Karachi self-medicate. The rate is much higher among medical students, who believe they know enough to treat themselves without seeking professional advice.[14] Though, the prevalence of self-medication among students in some low-income countries was 46%.[7]

The study showed that the medications most commonly used were analgesics and antibiotics because these medications are legally available and allowed to be traded and taken without a doctor's prescription. Conversely, medications that are used very little are aspirin, antidepressants, and cardiovascular and psychotropic medications. This is because these are forbidden to be taken without a specialist doctor's approval. This study was consistent with the Abdi *et al.* study.[6]

This study indicated that colds, headaches, and fever are among the most motivating symptoms to use self-medication. This result agrees with a recent study.[15]

The result showed that the reasons for self-medication were lack of time to consult a physician, ease of access to medication, hospital medications that do not work, believing that health problems are mild, and having prior experience with the medication. There are other reasons, including the high cost of medical consultation, the unavailability of healthcare personnel, and previous experience with specific illnesses.[5] This study supports prior studies' findings.[6]

Regarding sources for self-medication, the results showed that the main sources were previous prescriptions and health staff. This was consistent with a previous study.[4]

The regression test illustrated that age is a factor that leads to self-medication among students; individuals between the ages of 32 and 51 are more likely to self-medicate. Because they are the most vulnerable group to common diseases and because of their previous experience with diseases.[5,6] Another factor was gender; males are more likely to self-medicate than females. This can be explained by men being economically stronger and having greater freedom to access medical stores.

The concept of "responsible self-medication" should be conveyed to healthcare providers, through the organization of seminars and continuing medical education. Besides, the government provides support to reduce access to medicines in pharmacies. University students should be educated about the value of seeing a doctor when they are sick. This study could be reapplied to private universities.

This study had some limitations, including the use of a cross-sectional design and the potential for recall bias.

Conclusion

There was a high prevalence of self-medication use among students. Self-medication is common, which is worrying. It is important to offer guidance on sensible options, to raise awareness of the caution that should be exercised while using medications, to provide information on side effects, and to evaluate patients for their illnesses. Also, it is important to educate the public about the irresponsible effects of self-medication.

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Conflicts of interest

Nothing to declare.

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