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Original Article

Prevalence of Self-Medication and Its Factors among University Students in Bandar Abbas City

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Abstract
Background: Self-medication can lead to the latency of the real severity of disease, delay in diagnosis, a complication of treatment, threatening side effects, and unexpected intoxication. The present research aimed to explore the prevalence of self-medication and its factors among students affiliated to Bandar Abbas universities in 2016. **Materials and Methods:** This Descriptive Analytic study was performed on 600 students affiliated to the universities in Bandar Abbas; Islamic Azad University, Payam-e-Noor University, and University of Medical Sciences. The sample was selected through a stratified sampling method, and the data were collected by a questionnaire comprised of two parts, demographic information (6 items), and risk factors of self-medication and self-medicated drugs (26 items). SPSS version 19 was used to analyze the data through the required tests. **Result:** The mean age of the students was 24.11±5.85 years. One hundred and ninety-one subjects (31.8%) were male, and 409 (68.2%) were female. The results revealed the prevalence of self-medication in the target population was 80.2%., the main reasons for self-medication were reported underestimating the disease 461(77.0%), previous experience of the disease 457(76.4%), repeated prescription 441(73.6%), and easy access to drug 423(70.6%). The most prevalent drugs self-medicated by students were acetaminophen, herbal medicines, antibiotics, other drugs, sedatives, and anti-acids, respectively. **Conclusion:** Considering the high prevalence of self-medication (80.2%) revealed in this research, there is a need for more attentive care for consistent education and drug consumption culture promotion. Specific approaches can help the provision of easy access to medical services in universities.
Keywords: Self-Medication, Drugs, University, Bandar Abbas

Introduction

Self-medication is defined as obtaining and using one or more medicine(s) with no prescription or under no supervision. It involves both herbal and chemical medicines (1). The huge scientific advancement made today has provided access to a wide array of medicines. Such facile access to different medications has now turned into a social disaster that is an unwarranted consumption of medicines upon one's choice (2). Among the consequences of self-medication is the latency of the real severity of disease, delayed diagnosis, complicated treatment, life-threatening side effects and such adverse effects as medical poisoning (3). Others include nausea, indigestion, stomachache, loss of appetite, headache, dizziness, narrow-sightedness, raised heart rate, diarrhea, skin inflammation, and latent bleedings (4). It can also raise bacterial resistance, below-optimal treatment, disrupted medical market, loss of money and the financially increased annual rate of drug consumption per capita (5). Today, unsupervised and self-driven drug consumption, generally known as self-medication, is considered a main social, health-related and economic issue in different communities including Iran (3). The prevalence of self-medication on an international scale has been reported as 68% in Europe, 77% in the USA, 92% in Kuwait, 31% in India and 59% in Nepal (6). The prevalence rate of self-medication in Iran is three times as high as the global rate. That is why Iran is among the first ten countries in the world with the highest rate

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of self-medication. In Asia, Iran ranks second only after China regarding self-medication (7). Also, 83.3% of the Iranian population is estimated to try self-medication (8). One reason why people tend to self-medicate is that they prefer to be given many drugs upon visiting a doctor. Other reasons can be the visit fee they are supposed to pay, transportation fee, time wasted, work interrupted and long distance especially from distant rural areas to urban healthcare centers (9). The most prevalent diseases which motivate self-medication have been found to be respectively respiratory, neurological, gastric, arthritic, dermatologic, cardiac and allergic diseases. The most common self-medicated medicines are sedatives, antibiotics, digestives, vitamins, and psychiatric drugs respectively. The most common preparations have respectively been tablets, liquid, capsules, injections, topical medicines, drops, and suppositories (10). The significance of the target issue motivated the present researchers to explore the prevalence of self-medication and its co-factors among university students in Bandar Abbas at 2016.

Materials and Methods

In the present cross-sectional research, the target population was all students affiliated with the universities of Bandar Abbas including the University of Medical Sciences, Islamic Azad University, and Payam-e-Noor university at 2016. As there existed no precise knowledge of the rate of self-medication among university students in this context, a pilot test was initially run with 15 subjects 9 of whom had the experience of self-medication. Accordingly, the rate of self-medication was estimated at 60%, which was used to calculate the required sample size later on. The precision was taken as 5% and the required sample size was finally estimated at 188 To improve precision, the sample size was increased to 200 for each university. The sampling method was convenient and stratified. The sample was divided into three strata (University of Medical Sciences, Islamic Azad University, and Payam-e-Noor university) and then each stratum was provided with 200 questionnaires. As for the University of Medical Sciences, firstly three strata were conceived of: Health faculty, Paramedicine/Midwifery/Nursing faculty, and Medical/Dentistry faculty. From each stratum, 67 subjects were selected and provided with a questionnaire. The overall sample size required for this purpose was 600. The inclusion criterion was affiliation to the university for at least two semesters (1 academic year) while the exclusion criterion was one's reluctance to participate in the study. The procedures followed by the very first step of having the project approved and supported by the university committee of ethics. Then the target universities were visited in person to see the subjects. The purpose of the research was revealed to the mand they were ensured of the confidentiality of the data they produced and the freedom to be included or excluded. The data were collected in a questionnaire comprised of two parts, demographic information (6 items) and related factors of self-medication and self-medicated drugs (26 items). The reliability and validity of the questionnaire have been already reported and confirmed in Sharifi et al. (11). To discriptive quality variables, frequency and percent were reported. The statistical analysis was performed using the Chi-squared test in SPSS version 19.0. The level of significance was set at $p<0.05$

Result

The present research was conducted among university students in Bandar Abbas. The universities included were Islamic Azad University, Payam-e-Noor university and University of Medical Sciences. The mean age of the students was 24.11±5.85 years. Of them, 191 (31.8%) were male, and 409 (68.2%) were female. Regarding marital status, subjects 419 (69.8%) were single while 181 (30.2%) were married. Concerning education, subjects 16 (2.7%) had an associate degree; 426 (71%) had a bachelor's degree; 97 (16.2%) held a master's degree, and 61 (10.2%) were general practitioners. Two hundred and fifty subjects (41.7%) lived with parents; 211 (35.2%) lived in the dormitory, and 136 (22.7%) lived on their own. The frequency and percentage of the research subjects universities are presented in Table-1. The prevalence of self-medication among university students was 479 (80.2%). The mean age of those with self-medication was estimated at 24.06±6.059 years. Among the students who tried self-medication, 332 (69.3%) were female and 147 (30.7%) were male. Also, 340 of these students (71.2%) were single and 178 (29.8%) were married. No statistically significant correlation was found between the prevalence of self-medication and demographic variables. The prevalence of self-medication among the university students of Bandar Abbas is summarized in Table-2. The most common medicines students self-medicated were acetaminophen,

Table 1. Frequency and percentage of research samples in each university

Target University	N	%
Medicine/Dentistry faculty	67	11.2
Nursing/Midwifery/Paramedicine faculty	67	11.2
Health faculty	66	11.0
Islamic Azad University	200	33.3
Payam-e-Noor	200	33.3
Total	600	100

herbal medicines,antibiotics, other medicines, sedatives, and antacids, respectively. The distribution of the main causes of self-medication are presented in Table-3. The subjects showed to gain most of their medical information respectively from the internet (39%), medical staff (27.3), books and magazines (18.2%), and radio/television (15.5%).

Discussion

The present research aimed to explore the prevalence of self-medication and its related factors among university students of Bandar Abbas. In this study, the prevalence rate of self-medication was estimated at 80.2%, which is consistent with previous studies in Iran. Self-medication among university students in Birjand was 86% (6). In Yazd, this rate was reported to 83% (12), whereas in Shiraz it was estimated at 83.7% (13). In Ardabil, the prevalence of self-medication was more than 80% (14), and in Qazvin, it showed 83.3% (10). The present findings are also consistent with some international researches. As an instance, the prevalence of self-medication was 76% in Karachi (15). However, there have been cases that reported a lower rate of self-medication in other contexts. Eslami et al. reported a prevalence of 14% among university students in Isfahan. Other cities included Zahedan (20%) (16), Tehran (35.7%) (17), Bojnord (41.9%) (11) and Torbat-e Heydarieh (18%) (5). These different findings can be due to the different research samples as in a number of these studies the sample was smaller than that of the present research. Among the university students in Bandar Abbas, the highest rate of self-medication was 33.9%, which belonged to the University of Medical Sciences. This is consistent with research such as Ramezani et al., Tabiei et al., and Eslami et al. (5, 6, 18). The higher rate of self-medication among these students might be their more knowledge of medicines, medical effects on the body and adverse effects which could have made them more positive toward self-medication as compared to students from non-medical fields of study. In other words, medical students' knowledge of medicines gave them the courage to use them more. This finding was different from some other research (14, 19). These differences could be explained by differing sample sizes or sample selection methods. In the study just mentioned, a larger sample was used, and the sampling method was random. In the present research, the most commonly used categories of medicine used by students were respectively acetaminophen (n=239, 40%) due to the ease of access and unawareness of the type of disease and symptomatic treatment of the disease, herbal medicine (n=103, 17.3%), antibiotics (n=62, 10.4%), other medicines (n=41, 6.9%), sedatives (n=28, 1%), and anti-acids (n=6, 1%). These findings were consistent with the results obtained by Tabiei et al. (6)., Ramezani et al. (5), Sahebi et al. (20), and Sharifi et al. (11). However, they do not agree with the findings reported by Pour-Reza et al. (17), and Shamsi et al. (1). This could be due to the different research samples in these studies. In the present research, the leading cause of self-medication was admitted by students to be an underestimation of the disease, previous experience of the disease, repeated prescription, easy access to medicines. These are in agreement with Ghanei et al. (3) , Zafar et al. (15), and Shankar et al. studies (21). However, in some other research by Pour Reza et al., university students mentioned the main causes of self-medication was the previous experience of the disease, easy access to the medicine and underestimating the disease (17). Ramezani et al. mentioned other reasons for self-medication such as feeling no need to visit a doctor, previous prescription of a drug

Table 2: Prevalence of self-medication among university students in Bandar Abbas

Universities	N	%
Medical Sciences	162	33.9
Payam-e-Noor	160	33.4
Islamic Azad University	157	32.8

Table 3: Distribution of the main causes of self-medication

Cause of self-medication:	N	%
Underestimating the disease	461	77
Previous experience of the disease	457	76.4
Repeated prescription	441	73.6
Easy access to medicine	423	70.6
No access to doctor	412	68.8
High doctor's visit fee	441	67.3
Insufficient time to visit a doctor	389	64.9
Unawareness of the adverse effects of medicines	373	62.3
Availability of medicines at home or dormitory	369	61.5
Lack of medical insurance	361	60.5
Peer effect on self-medication	331	55.3
Lack of confidence in doctor's work	312	52.2
Belief in possibility of treatment without medicine	312	52.1
Appearance and the manufacturing company of the medicine	301	50.3
Disbelief in adverse effects of medicines	233	38.8

and over-the-counter drugs (5). Sharifi Rad et al. mentioned the patient's prior experience of taking medicine, minor symptoms of the disease and no need to visit a doctor as the main causes of self-medication (22). The reason for these different findings can probably be the participants' cultural and individual differences. In the present research, students' main sources of medical information were respectively the internet (n=234, 39%), other sources (n=164, 27.3%), the press (n=109, 18.2%), TV and radio (n=93, 15.5%). However, Pour Reza et al. found the main sources of information were scientific publications (50%), friends or acquaintances (40%), medical centers (31%), the internet (29%), TV, radio and the press (24%), and non-scientific press (16%) (17). In some other research, Ghafouri et al. also pinpointed the main sources of medical information, which included the books (43.6%), TV (25.3%) and books (18.81%) (11). The primary sources of medical information in Eslami et al.'s investigation showed to be respectively the doctors (94.3%) and publications (16.3%) (18). The probable cause of these different findings might be university students' more knowledge gained from the internet as compared to the past. Moreover, they tend more than ever before to surf the net to obtain information.

Conclusion

The present findings revealed that a great number of university students practiced self-medication under the effect of many factors. To cut down on the consequences of self-medication among university students, it is suggested to hold educational courses on the logical consumption of drugs and awareness of the adverse effects of drug abuse. It is further needed to practice consistent education and promote the culture of drug consumption. Such strategies as facilitating students' access to medical services in universities can be helpful. For further research, it is suggested that the consequences of self-medication be investigated among university students.Limited cooperation of students was the main limitations of the present research.

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Conflict of interest

None

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