

A sociological study of self-medication among 18-50 year-old people in Ahvaz

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ABSTRACT

Self-medication is one of the problems encountered in treatment cycles. Unfortunately, given the prevailing social perception of medicine as a safe and healing substance, the problem of self-medication not only seems inevitable, but it should also be considered a social pathology. Thus, the present study was aimed at identifying the factors associated with indiscriminate use of drugs among 18-50 year-old citizens in Ahvaz. The present research is a descriptive cross-sectional study conducted as a survey in 2013. Cluster random sampling was used to select 229 citizens of Ahvaz aged between 18 and 50 years as the sample. The required data were collected through a questionnaire accompanied by an interview. Research findings showed that diazepam pills and cold tablets had the highest frequency of consumption among the statistical population. Acetaminophens and antihistamines were ranked next. The findings also indicated that awareness of the consequences of drug use, awareness of drug use practices, public health level, and age had significant relationships with self-medication. Society's unawareness and common misconceptions and false beliefs among the public (drug use culture) are the most important reasons for irrational and indiscriminate use of drugs in Iran, as compared to the global standards. Correcting wrong drug use practices, especially self-medication, requires comprehensive public education and culture-building at the societal level.

KEY WORDS: SELF-MEDICATION, SELF-TREATMENT, DRUG

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INTRODUCTION

Medicine and its various branches are aimed at maintaining and improving public health level and helping patients regain their health. These goals are realized through a series of factors. Provision, distribution and consumption of drugs are among the keys to achieving this goal (Afkar, 2006). In fact, drug use, as one of the links of the treatment chain, is inevitable. Medical experts believe that accurate and systematic use of drugs can lead to patient recovery in many cases. Today, scientific and industrial advancements in medical and pharmaceutical fields have provided access to a wide range of drugs. Unsystematic access to drugs can cause many problems such as indiscriminate and improper use of drugs (Arab *et al.*, 2014; Dejman *et al.*, 2015). As deduced from the discussions, drug use is linked to all cultural, social and ideological aspects of society. Unfortunately, society only perceives drugs as safe and healing substances, while the medical literature considers any drug as a double-edged sword. One edge of the sword fights with the causes of disease and the other one can put human health at risk due to the lack of awareness regarding the correct use of the drug (Moghadam Nia and Ghadimi, 2000).

Currently, self-medication and improper use of drugs is considered as one of the major healthcare problems in many countries, especially Iran (Bennadi, 2014; Moghadam Nia and Ghadimi, 2000). The findings of studies conducted in various countries, including Iran, are indicative of a high prevalence of self-medication and irrational use of drugs. According to the statistics provided by the U.S. National Institute on Drug Abuse (NIDA), the prevalence rate of self-medication has increased from 22.1% in 2002 to 32.71% in 2003 (Awad *et al.*, 2008). Furthermore, the prevalence rates of self-medication in Bangladesh, Tanzania, Nigeria, and Nepal were reported 81%, 56%, 63%, and 75%, respectively (Mortazavi and Hajebi, 2003).

Given Iran's consumption culture, the country's situation regarding irrational use of drugs is more critical. According to the latest statistics, Iran's prevalence rate of self-medication is almost three times the global average rate. Thus, Iran is ranked the twelfth country with the highest prevalence rate of self-medication in the world. In Asia, it is ranked number two only after China (Moghadam Nia and Ghadimi, 2000; Mortazavi and Hajebi, 2003; Persell, 2011). The attempts made to adjust Iran's pattern of drug use have failed to bring success and the country's pharmaceutical system is still faced with the problem of improper and indiscriminate use of drugs and self-medication. This has caused bacterial resistance, failure of optimal treatment, unintentional poisoning, unintended side effects and complications, pharmaceutical market disruption, financial

loss, and an increase in pharmaceutical expenditure per capita in Iran (Sattari *et al.*, 2012). Adjusting Iran's pattern of drug use and developing appropriate healthcare policies aimed at preventing the increasing prevalence of self-medication requires, in the first place, a detailed understanding of the factors influencing the consumption behavior of individuals and scientific explanation of the phenomenon.

METHODS

This research was a descriptive-survey study. The statistical population consisted of all 18-50 year-old citizens who had visited 24-hour pharmacies in Ahvaz. The individuals would be considered in the study if they were older than 18 years, at least literate and willing to participate. The data collection tool was a researcher-made questionnaire. The questionnaire consisted of two parts. The first part dealt with demographic characteristics, including gender, marital status, age, education, and job. The second part covered research. The variables were evaluated based on 40 items and a five-point Likert scale (very high, high, medium, low, very low).

The questionnaire's face and content validities were measured. Accordingly, the questionnaire was prepared based on the credible sources and books on the subject and presented to two experienced scholars in the fields of social and cultural studies for approval. Upon approval, 40 questionnaires were distributed among the population. Next, faculty members (from different universities) with adequate experience and expertise reevaluated the results obtained through completed questionnaires. Their comments and corrections were applied to the questionnaire. Ultimately, the questionnaire's validity was confirmed. Cronbach's alpha coefficient was used to measure the questionnaire's reliability. The value of alpha was 0.814. Therefore, the questionnaire had an appropriate degree of reliability. Frequency, percentage and mean values (descriptive statistics), Pearson's correlation coefficient, Spearman's correlation coefficient, and analysis of variance (ANOVA) (inferential statistics) were used to analyze the collected data.

RESULTS

According to the descriptive statistics, the sample consisted of 94 females (41%) and 135 males (59%). Of the 229 residents, 109 individuals were married (47.59%), 86 were single (37.55%), and 34 were divorced (14.88%). Frequency distributions of other demographic variables are shown in the demographic variables table (Table 1).

The findings showed that more than 92% of respondents had practiced self-medication at least once last year.

Variable		Number	Percent
Gender	Female	94	41%
	Male	135	59%
Marital status	Married	109	47.60%
	Single	86	37.56 %
	Divorced	34	14.84
Education level	elementary	39	17.03%
	Junior	44	19.21%
	Diploma	105	45.85%
	Bachelor	22	9.61%
	Graduate	19	8.30%
Employment status	Practitioner	58	25.33%
	Jobless	171	74.67%

In addition, 34% of respondents had visited pharmacies to buy drugs without a prescription. The prevalence of self-medication was highest (35.4%) in the 30-49 age group. The lowest prevalence of self-medication (7.2%) was seen among teenagers (18-20 age group). Diazepam pills and cold tablets had the highest frequency

of consumption among the statistical population. Acetaminophens and antihistamines were ranked next and Magaldtrate suspension had the lowest frequency of consumption (Figure 1).

In the inferential statistics section, Pearson's correlation coefficient was used to test research hypotheses. As shown in Table 2, awareness of the consequences of drug use, awareness of drug use practices, public health level, and age had significant relationships with self-medication. The relationship between self-medication and awareness of the consequences of drug use is negative. In other words, an increase in awareness of the consequences of drug use leads to a decrease in self-medication. The relationship between age and self-medication is positive, meaning self-medication increases with age (Table 2).

As education is an ordinal variable, Spearman's correlation coefficient was used to test the related hypothesis. The results showed that there was a significant relationship between education and self-medication. The relationship was very strong and negative, i.e., self-medication decreased with education level (Table 3). In addition, the results showed that no significant relationship was found between gender, marital status, and job of the respondents and self-medication.

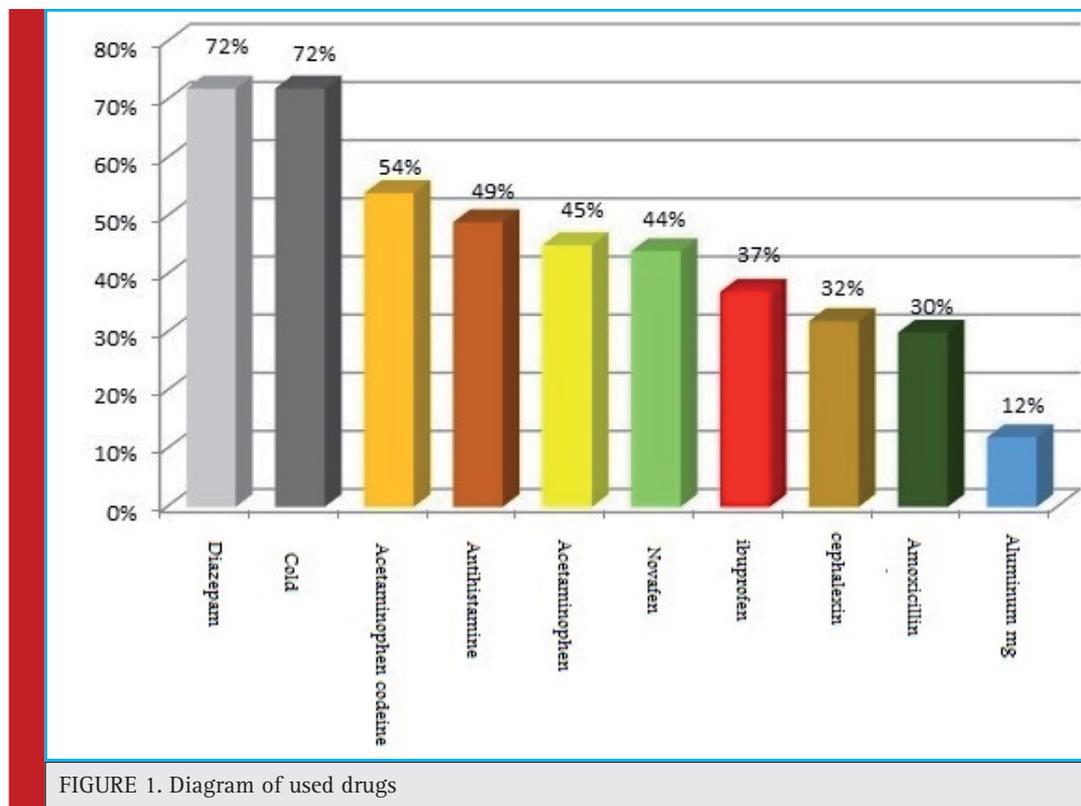


Table 2: The relationship between awareness of the consequences of drug use, awareness of drug use practices, Public health level and age

Variable	Data interpretation		
awareness of the consequences of drug use	The pearson correlation coefficient	1	-0.206
	Significant level	0	0.002
	Number	229	229
awareness of drug use practices	The pearson correlation coefficient	1	-0.147
	Significant level	0	0.026
	Number	229	229
Public health level	The pearson correlation coefficient	1	-0.152
	Significant level	0	0.021
	Number	229	229
Age	The pearson correlation coefficient	1	-0.170
	Significant level	0	0.010
	Number	229	229

Table 3: The relationship between Education level and Drug use

	Data interpretation	Education level	Drug use
Education level	correlation coefficient	1000	-0.189**
	Significant level	0	0.004
	Number	229	229
Drug use	correlation coefficient	-0.189**	1000
	Significant level	0.004	0
	Number	229	229

DISCUSSION

According to the findings of the present study, the following drugs had respectively the highest percentage of consumption among the respondents: diazepam, cold tablets, acetaminophen-codeine, antihistamines, Novafen, ibuprofen, cephalixin, and amoxicillin. Drugs such as diazepam and lorazepam depress the central nervous system. Although rational prescription of such drugs by a physician has the desired effects on the recovery of patients, indiscriminate and irrational use of them can be very destructive (Buusman et al., 2007). Given the pain-relieving properties and hypnotic effects of these drugs, individuals will be more inclined to use them over time and eventually become physically and mentally dependent on them (Gunja, 2013).

Cold tablets are one of the drugs that are very widely used for self-medication in Ahvaz. The results of new studies published in the Journal of Pediatrics shows that cold tablets can cause apnea (shortness of breath) in children. In January 2008, U.S. Food and Drug Association (FDA) strictly prohibited over-the-counter cold and cough medicines for children who are under age two (Asta; Food and Administration, 2013)

Acetaminophens are one of the most commonly used drugs in Iran. Most people take acetaminophens for the slightest feeling of pain. Despite society's perception of acetaminophens as simple and safe substances, long-term use of these drugs can cause poisoning, which in turn might lead to liver and kidney failure. In addition, use of codeine-based drugs and narcotic analgesic combinations can cause physical dependence over time (Noshad et al., 2010).

From the pathological point of view, the results of the present research indicated that there was a significant relationship between the awareness of the consequences of drug use and self-medication. It seems that Iranians' mental image of drugs as safe and healing substances plays an important role in their drug consumption behavior and self-medication practices because many respondents believed that drugs used for self-medication do not have significant side effects. Selling of over-the-counter drugs by pharmacies has also endorsed the aforementioned false belief. These results are consistent with the results of two studies conducted by Mohammadi et al. (2010) and Karimy et al. (2010) (Al-Mohamadi et al., 2013; Karimy et al., 2011).

Naturally, drug use increases with age. Unfortunately, self-medication and indiscriminate use of drugs also tend to increase with age. Financial impotence and physical disability are among the factors that contribute to self-medication among the elderly (Azami-Aghdash *et al.*, 2015). Education was another variable that had a significant relationship with indiscriminate use of drugs and self-medication. Increase in the level of education will not affect self-medication and indiscriminate use of drugs in itself (Machado-Alba *et al.*, 2014). Education acts more like a mediator variable. Individuals with a higher level of education are more aware and adopt better decisions when faced with problems, diseases, etc (Azami-Aghdash *et al.*, 2015).

Although findings showed no significant relationships between the respondents' gender, marital status, and job and self-medication, the results indicated that females, married people and employed individuals practice self-medication more frequently than males, single people and unemployed individuals. Unemployed females show a stronger tendency towards use of traditional drugs and home remedies.

CONCLUSION

The problem of self-medication and indiscriminate use of drugs has become a culture in the Iranian society and is widely prevalent in the country. Unaware of the dire consequences of self-medication for their health, many people are very careless in using unprescribed drugs. Society's unawareness and common misconceptions and false beliefs among the public (drug use culture) are the most important reasons for irrational and indiscriminate use of drugs in Iran, as compared to the global standards. Correcting wrong drug use practices, especially self-medication, requires comprehensive public education and culture-building at the societal level. Pharmaceutical macro-plans and policies should change direction so that intervention measures can be taken in order to minimize the underlying factors of drug abuse and use of harmful drugs. These measures include: (1) limiting society's unconditional access to drugs (2) educating people on the rational use of drugs and restricting the amount and type of drugs stored at home, (3) improving the quality of health and medical services and increasing public access to healthcare delivery system, and (4) instructing people on how to use and store drugs (by physicians and pharmacists).

AUTHORS CONTRIBUTIONS

All authors had equal role in design, work, statistical analysis and manuscript writing.

Conflict of interest

The authors declare no conflict of interest.

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