

## Frequency of Opium Use among Diabetic Patients and Their Attitude

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**Objective:** Opium was referred to as the ancient medicine's method of choice for treating diabetes mellitus. But in some recent studies, it is reported as the cause for higher blood sugar levels. The aim of this study was to evaluate the frequency of opium use among diabetic patients and attitude of them towards the effects of opium use on their disease.

**Methods:** This cross-sectional study was carried out on 202 diabetic patients referred to the endocrinology clinic who completed a self administered questionnaire about various variables including their demographic features, history of opium use, and attitudes towards the effects of opium use on diabetes mellitus. The relevant data were extracted and analyzed using parametric tests.

**Results:** Among the examinees, 10.9% reported the current use of opium. The attitude of patients who were married as well as the self-employed, the retired and those who were not on a diet prescribed by a physician was significantly more positive than the other group regarding opium use. Seventy two percent of those who had reported opium use were advised by others to use opium for treating their hyperglycemia. In comparison to the group with no opium use, the other group significantly neglected their diet and had more positive attitude about opium use.

**Conclusion:** Considering the findings, educating people on the harms of opium use in the diabetic population seems necessary. Moreover, assessment of diabetic patients in regard to their opium use and the required healthcare measures would be important.

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### Introduction

Diabetes is the most common endocrine disease and one of the most prevalent non-contagious diseases around the world (1, 2). According to the World Health Organization (WHO), there were more than 2 million diabetic patients in Iran in 2000 and the number would exceed 6.4 million in 2030 (3). In ancient medical sources, opium was referred to as the ancient medicine's method of choice for treating diabetes mellitus (before

the discovery of insulin). Gradually opium was considered to be an ineffective method for treating diabetes (4). In some recent studies, opium use is reported as the cause for higher blood sugar levels (5, 6). According to some specialists, drug abuse (particularly, opium) has a long history in treating illnesses which is the result of our cultural beliefs. One of these incorrect beliefs is the use of the drug as a treatment for some chronic diseases including diabetes (7, 8).

According to structured interviews and DSM-IV criteria, Ahmadi et al (Shiraz, 2001) have reported the following on opium use among hospitalized patients: Among 64 CRF (Chronic Renal Failure) patients, opium use dependence was reported at 9.4 % (9), and among 96 patients with cardiovascular diseases hospitalized in Shiraz hospitals, 9.4%

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had used opium once or more in their lives and 5.2% were dependent on opium (10).

Karimi (Shiraz, 2007) has reported 30% of opium dependence among 100 hemophilic patients selected randomly according to a questionnaire and DSM-IV criteria (11). In another study conducted on 132 diabetic males for evaluating the relationship between opium use and the accompanying diseases, 14.1% of the patients had used opium. (Shiri et al, 2006) (12).

In these studies, views of the patients towards the effects of opium on their disease were not examined and the onset of opium use was not specified with regard to the time of developing the disease.

Only in one study performed on the elderly (over 60 years old) hospitalized in the cardiology ward of Imam Khomeini hospital in Sari (Zarghami, 2000), causes of use were evaluated based on patients' views. In this study, among the 540 patients under study, 16.3% were addicted to opium; 33% of the opium dependent patients used opium as a pain killer and the rest used it for treating diabetes, hypertension, hyperlipidemia and other chronic diseases (7).

The present study evaluates the frequency of opium use in diabetic patients based on their self-report. Moreover, the study has focused on the attitude of the patients towards the effects of opium on diabetes and examines the relationship between demographic variables of the examinees and their attitude.

## Materials and Methods

Study population included a total of 202 diabetic patients (over 18 years old) referred to the endocrinology clinic of Taleghani hospital (Shahid Beheshti University of Medical Sciences) in November and December 2008. The method of present study is a cross-sectional study which also analyzes the relationship between the obtained data. Considering the lack of similar attitude-evaluation studies, the current research was conducted in two phases.

The first phase included designing and approving the validity and reliability of the questionnaire. In this phase, the first draft of the questionnaire was developed using the

available data, interviews with diabetic patients and comments of psychiatrists, psychologists and internal medicine specialists. The questionnaire contained demographic information and questions related to opium use. Twenty five questions on views of the patients towards the effects of opium use on diabetes were included in the questionnaire. These were five choice questions ranging from complete agreement to complete disagreement; the questions were scored according to the Likert scaling method.

The face validity of the questionnaire regarding the writing style, sentence making and the logical statement of questions was evaluated by 15 psychiatry and psychology professors in two stages and it was approved after making the amendments. Then, the pilot study was conducted on 30 subjects. After omitting one question, internal consistency of the questionnaire was indicated the Chronbach's Alpha of 0.70.

In the second phase of the study, the final, modified version of the questionnaire was filled out by the examinees under the supervision of the researchers. One of the researchers provided a brief explanation on the research and how to complete the questionnaire. It was emphasized that the subjects do not need to write their names on the questionnaire and they were guaranteed about the confidentiality of the information they volunteered. All patients gave informed consent before entering the study. Among the 212 questionnaires, 10 were not legible and were excluded from the study.

Data were analyzed by SPSS soft ware (version 16) using parametric tests of chi-square, independent t test, one way analysis of variance (ANOVA).

## Results

Out of 202 patients who were studied, 94 were male and 108 were female with the mean age of 51.3 years. Demographic features of the patients and the information on diabetes management characteristics are presented in tables 1 and 2.

Findings of the present study showed that 22 (10.9%) patients (18 males and 4 females) are currently using opium (daily or frequent

use). Amongst the cases who had reported opium use, 63.6% (14 patients) had started the use after developing the disease; the rest of them had increased the consumption after developing the disease. Information on frequency of opium use based on demographic variables is presented in table 3.

Furthermore, 72% of the users agreed with the choice stating "many people recommend opium use for management of hyperglycemia" and 25% (45 patients) of the non-users agreed with the choice, as well. There were 43.2% (71 patients) of the non-users who agreed with the statement that "opium use can recover chronic diabetic pains".

Table 1. Demographic characteristics of examinees

Demographic characteristics	Frequency n (%)
Married	18 (8.9)
Single	180 (89.1)
Divorced	4 (2)
Place of residence	
Tehran	155 (76.7)
Other towns/cities	47 (23.3)
Occupation	
Home-maker	88 (43.6)
Self-employed	51 (25.2)
Employee	24 (11.9)
Retired	39 (19.3)
Level of education	
Primary School	101 (50)
High School	55 (27.2)
Bachelor of Science	40 (19.8)
Higher than Bachelor of Science	6 (3)

Table 2. Information on diabetes status of examinees

Demographic characteristics	Frequency n (%)
Manner of consuming prescribed drugs	
Follow completely	133 (66)
Follow usually	67 (33)
Follow sometimes	2 (1)
Recommended diet	
Follow completely	51 (25.2)
Follow usually	122 (60.4)
Follow sometimes	16 (8)
Do not follow at all	13 (6.4)
Development of diabetic complications among examinees	101 (50)

Table 3. Use prevalence according to personal qualities.

Personal qualities	Frequency n (%)
Sex	
Male	18 (81.8)
Female	4 (18.2)
Occupation	
Home-maker	4 (18.2)
Self-employed	8 (36.4)
Employee	2 (9)
Retired	8 (36.4)
Level of education	
Primary School	16 (72.7)
High School	6 (27.3)
Bachelor of Science	-
Higher than Bachelor of Science	-

In comparison to the non-users group, opium users had a significantly more positive attitude towards the therapeutic effects of opium on diabetes ( $t=8.94$ ,  $P=0.0001$ ). In addition, married cases were significantly more positive about opium use compared to the single participants ( $t=3.24$ ,  $p=0.001$ ). In order to examine the relationship between occupational status and attitude of subjects, one way ANOVA was used. One way ANOVA showed that there is a significant difference between four groups in attitude about using of opium. Post hoc comparison (Tukey's HSD) was used to determine the source of any difference between four groups. Tukey's HSD test showed that the self-employed and the retired cases have significantly more positive attitude than employees' participants (Table 4). But one way ANOVA showed that there is no relationship between level of education and attitude about using of opium.

Table 4. Relationship between work status and attitude

Groups	Mean $\pm$ SD	F	p-value
Housewives	54.1 $\pm$ 10.9	4.54	0.003
Employees	46.7 $\pm$ 16.3		
Self employed	57.5 $\pm$ 14		
Retired	57.7 $\pm$ 12.1		

Beside the mentioned cases, patients who did not follow their diet ( $t= 3.93$ ,  $p=0.001$ ) and those with diabetic complications ( $t=3.59$ ,  $p=0.0001$ ) had a more positive attitude compared to the other group.

According to the mentioned tests, there was no relationship between sex, place of residence, medication noncompliance, and attitude towards opium use. Pearson correlation test indicated that age and attitude level are positively and significantly correlated ( $r = 0.15$ ,  $p < 0.05$ ).

Also, the chi-square test revealed that the opium users ignore the diet recommended by the physician more prevalently than the non-users (Table 5).

Table 5. Relationship between Opium Use and Following Diet \*

	Opium Users n (%)	Non-Users n (%)
Extent of following the diet		
Follow completely	4 (18.2)	47 (26.1)
Follow usually	4 (18.2)	118 (65.6)
Do sometimes	10 (45.4)	6 (3.3)
Do not follow at all	4 (18.2)	9 (5)

\* $\chi^2 = 56.97$ ,  $p < 0.0001$

## Discussion

Based on our knowledge, no similar studies have been conducted on views of diabetic patients towards opium use as well as the effective factors; this is the first time that the issue is put under question. The findings of the present study revealed that diabetic opium users view opium use more positively than the non-users. None of the studies carried out on the drug abuse (especially opium) in chronic diseases have considered the onset of use to see whether it was primary or secondary to the development of the disease (9 -12). In the present study, it was determined that 63.6% of the diabetic opium users had started to use opium after becoming diabetic and all previous users have increased their dosage after development of the disease.

For the first time, it was demonstrated that sex, place of residence and the medication noncompliance does not have any relationship with the attitude of patients towards opium use.

Married cases, the self-employed and retired (compared to employees), patients with diabetic complications and those who did not follow their diets were more positive about opium use.

Responses of the non-opium-users to questions 5 and 6 were interesting: 25% of the

group have stated that many people recommend opium for controlling their increased blood sugar and 43.2% of them agreed with the idea that opium can recover chronic diabetic pains. Considering the chronic nature of diabetes and the prevalence of the neuropathic pains, this object can be regarded as a risk factor for opium use in this group. It was further revealed that most diabetic opium users believe that many people recommend opium for treating diabetes; this shows the necessity of providing awareness and education for the public.

There is no independent study focusing on the prevalence of opium use among the diabetic patients. In a study published in 2006, 11.2% of the diabetic males under study reported opium use (12). A higher rate is reported in the current study of the diabetic men (19.4%).

In studies conducted on other chronic diseases, the rate of opium use was less: 9.4% of the CRF and 9.4% of the patients with cardiovascular diseases in Shiraz hospitals versus 10.9% of the diabetic patients (9, 10). The only study reporting higher doses of opium use was the one conducted on hemophilic patients; 30% of whom were dependent on opium based on DSM-IV criteria (11). One of the important reasons for this difference is the nature of hemophilia in which all cases under study were men.

Evidently, the prevalence of drug abuse in the general population is absolutely higher among men. In our country, 93.1% of the addicts (any kind of drug) are male (13).

Considering the problems of studying the prevalence of drug use in Iran, performing a precise comparison is not possible. However, the prevalence of opium use in the present study is definitely higher than the general population. In our study, 10.9% of the cases have reported opium use while official statistics on the use of opium compounds (addiction and abuse) was 2.8% in 2003 (14). Statistics presented in the present study demonstrates the different sex distribution of diabetic users compared to the general population. There were 18.2% female and 81.8% male addicts in this study; while the sex distribution of opium dependents/abusers in

the general population is 6.9 and 93.1 in females and males, respectively (13).

It can be concluded that the target population of the narcotic drugs (particularly opium) may change following the development of chronic diseases like diabetes, and the prevalence would increase in women.

### **Limitations of the Study:**

The first restriction was the lack of similar attitude evaluation studies which makes the comparison of the population under study and other populations (like the general population, patients with other chronic diseases, the medical staff, and so on) impossible.

Second, considering the lack of diagnostic para-clinical tests, there is a possibility that some users of opium had not reported their use. Accordingly, the prevalence would be under estimated.

### **Conclusion**

The present study offers the importance of informing and providing proper education for people regarding the incorrect belief of considering opium use as an effective treatment for diabetes. With regard to the fact that many diabetic patients are opium users and the non-users are recommended by other people to start using it for treating their disease, the significance of informing the public in general and the diabetics in particular, becomes more evident.

Diabetic users of opium do not carefully follow their diet. Apart from social, cultural, economic, and medical problems of opium abuse (15), it can be predicted that these patients may further suffer from less treatment compliance and the subsequent complications. As a result, assessment of opium use by diabetic patients and warning them of the side effects would be beneficial.

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