

The Frequency of Opium Addiction and Cofactors in Diabetic Patients Referred to Karaj Dr. Shariati Hospital in 1389-90

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ABSTRACT

Background: Diabetes mellitus is one of the most common and complicate endocrine disease in Iran. Also, opium addiction is one of the most prevalent social problems in Iran. The goal of this study was to determine the frequency of opium addiction and diabetic vascular complications in diabetic patients.

Methods: This study was a cross-sectional study conducted in two years (1389- 90) in Karaj Dr. Shariati hospital. Sampling method was non-probability convenience sampling. Sample size was 384 patients. Data collection forms filled with patient's files evidences. Statistical analysis of data was performed with SPSS.

Results: 384 diabetic patients with age ranging from 13 to 91 years old (mean age 59.1 years) were evaluated. 40 patients (10.4%) were opium addict and 75 patients (19.5%) were smoker. After elimination of smoking effect, frequency of retinopathy, neuropathy and diabetic foot ulcer were significantly more in opium addicts than other diabetic patients.

Conclusion: Opium abuse in diabetic patients can accelerates and progresses some of diabetic vascular complications.

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► *Implication for health policy/practice/research/medical education:*
Opium Addiction and Cofactors in Diabetic Patients

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1. Introduction:

Diabetes mellitus is one of the most

common endocrine disease in Iran. According to 2010 studies, the prevalence of DM is 8% in Iran (1), on the other hand, due to the effect of various factors such as genetics, BMI, lodging and the DM prevalence may vary 5 to 16.3% (2-5).

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DM is a multisystem disease, with broad spectrum complications such as vascular complications. Vascular complications divided to two categories, microvascular (retinopathy, nephropathy, neuropathy) and macrovascular (cerebrovascular, cardiovascular and peripheral vascular diseases) (6).

Estimated suggest that as much as about 600 million dollars is expense for DM patients annually in Iran (7), on the other, opium addiction is one of the most common social issues in Iran, so that Iran has the second position of addiction in the world (8).

Due to wrong belief of public opinion based on therapeutic effect of opium in DM, there is the higher addiction rate in DM patients than normal population (11.2 against 2.8%) (9-11).

Till now, several studies was done about opium addiction on biochemical parameters in DM patients (12-19), but there is no study about opium effects on DM vascular complications. This study was done in order to opium effects on vascular complications of DM, so this study's outcomes can produce beneficial upshots for next application.

2. Materials and Methods:

This is a cross-sectional study during two years (1389-90) in Karaj Dr. Shariati hospital. The samples are selected by non-probability convenience sampling method. Sample size calculated 384 diabetic patients who admitted to Dr. Shariati hospital during these two years with single proportion estimation formula and $\alpha=0.05$, $p=0.1$ (prevalence of opium addiction in DM patients due to references), $d=0.03$ (accuracy). The data collection forms were the check list completed on documented patient's information and if there was any question or suspicion about information, there were rechecked by phone call. DM diagnosis was done when $FBS>126$ or $BS>200$ or there was positive past medical history of DM. Opium addiction diagnosed by self-reporting of DM patients. DM vascular complications diagnosis was done

by report of internal medicine specialist and consult with ophthalmologist and cardiologist. Then, statistical analysis of collected data was performed with SPSS statistic software version 19. The central index of mode and median and distribution index of standard deviations were calculated. Mantle-Haenszel test, chi-square, T-test, Fisher exact test and Levene's were used. The acceptable rate of type 1 error was 0.05 and all results reported by 95% of confidence interval.

3. Results:

The all samples were 384 patients. Between all studied diabetic patients, we found 40 opium addicted patients (due to self-patient report) (10.4%) and 75 patients were cigarette smoker (19.5%). the mean age was 59.1 (15.3 standard deviation) years, the youngest patient was 13 years old and the oldest one was 91. The age distribution in this study was normal shape. 367 persons (95.6%) of these patients were married and 17 persons (4.4%) were single, 274 persons (71.4%) were female and 110 persons (28.6%) were male. The duration of diabetes disease and admitting blood glucose level is scheduled in graph number 1 and 2.

22.4% of diabetic patients have hypercholesterolemia (serum cholesterol equal or more than 200 mg/dl) and 22.9% have hypertriglyceridemia (serum triglyceride equal or more than 200 mg/dl). Retinopathy was the most common microvascular complications and HTN is the most common macrovascular complications.

The prevalence of each diabetes mellitus complications studied in all cases and separately in addicted and non-addicted patients, scheduled as table number 1.

Based on resolution analysis:

1. The prevalence of retinopathy in addicted DM patients was significantly more than other patients.

$P=0.005$, $OR=2.55$ 95% CI (1.31- 4.96)

2. The prevalence of neuropathy in addicted DM patients was significantly more than others.

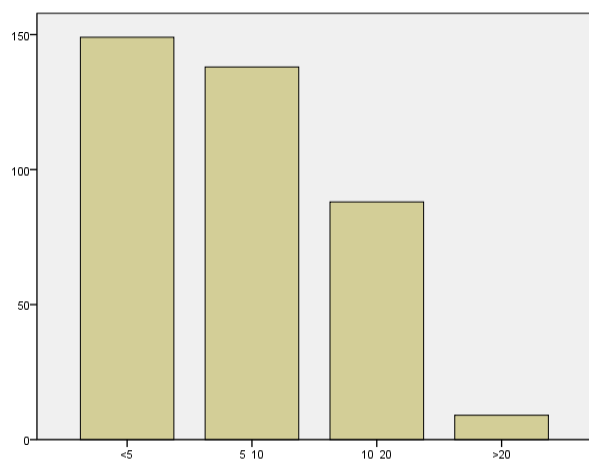


Fig. 1. Distribution of DM du ration in all patients.

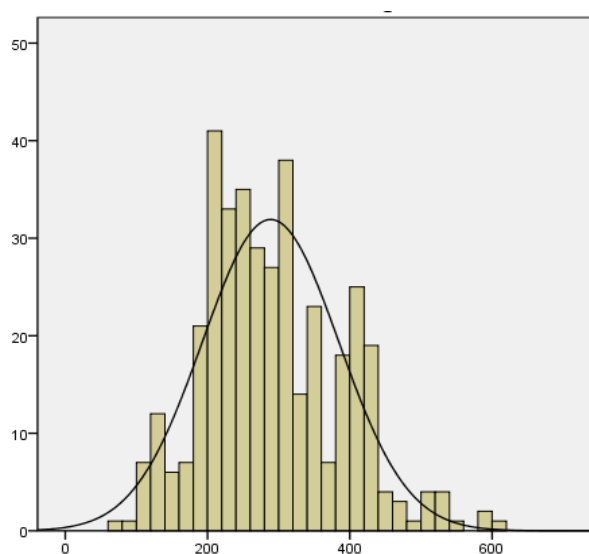


Fig. 2. Distribution of blood glucose level in DM patients.

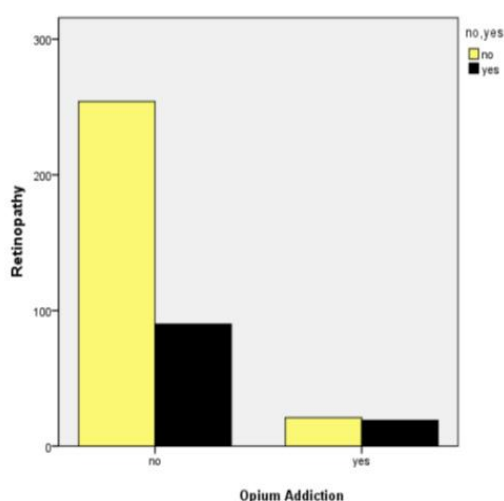


Fig. 3. Relation of opium addiction and retinopathy.

$P=0.000$, $OR=8.29$ 95% CI (4.09- 16.83)

3. The prevalence of diabetic foot ulcer in DM addicted patients was significantly more than others.

$P=0.000$, $OR=8.82$ 95% CI (4.29- 18.11)

But the prevalence of other DM complications and biochemical parameters such as glucose, cholesterol and triglyceride did not have any significant differences ($P>0.05$).

Other analysis was done to eliminate confounding effect of age and cigarette smoking.

There was no significant difference between mean age in DM opium addicted patients (59.03) and non-opium addicted patients (59.18) ($P=0.93$).

The smoking confounding effects was investigated with Mantel-Haenszel test and chi2 test and the results are:

1. The prevalence of retinopathy in DM opium addicted patients was more than others after omitted the smoking effect.

$Sig=0.032$ Mantel-Haenszel test common $OR=2.21$ 95% CI (1.10- 4.41)

2. The prevalence of neuropathy in DM opium addicted patients was more than others after omitted the smoking effect.

$Sig=0.000$ Mantel-Haenszel test common $OR=4.76$ 95% CI (2.26- 10.01)

3. The prevalence of diabetic foot ulcer in DM opium addicted patients was more than others after omitted the smoking effect.

$Sig=0.000$ Mantel-Haenszel test common $OR=4.90$ 95% CI (2.29- 10.51)

In these analysis it was founded that the most common time for detecting retinopathy in non-addicted DM patients was 10 to 20 years after DM onset, which this time in addicted DM patients was about 5 to 10 years after DM onset, in the other words, these is the shorter duration for retinopathy detection in addicted diabetic patient in comparison of non-addicted patients.

$Sig=0.016$, $Chi2=10.39$

4. Discussion:

Due to ministry of health and medical education reports, there are about 1.5 to 2 million permanent addicted persons and it

Table 1: Frequency of diabetic vascular complications in studied patients

Vascular complications	Frequency in all diabetic patients (%)	Frequency in opium addicted diabetic patients (%)	Frequency in non-opium addicted diabetic patients (%)	Chi2 value)	(p
Retinopathy	28.4	47.5	26.1	0.005	
Nephropathy	17.2	25	16.2	0.166	
Neuropathy	14.8	50	10.7	0.000	
Foot ulcer	13.3	47.5	9.3	0.000	
Heart failure	20.3	20	20.3	0.95	
Hypertension	58.9	55	59.3	0.60	

means the person who cannot tolerate without opium more than 72 hours (8).

The addiction prevalence in the whole world is about 0.4%, and Iran with 2.2 to 2.8% has second grade after Afghanistan (8, 20).

Although, these reports are depended on age, sex, socio-economical level, underlying disease, place and...; for example in Khademi and colleagues study (21), 50000 adult persons in Golestan eparchy, the highest prevalence of addiction (about 17%) depended on the geographic place. In Shiri and colleagues study (10) the addition prevalence in diabetic men was about 11.2% due to underlying scheduled patient's disease. In our study, the prevalence of addiction in diabetic patients was 10.4% and it is acceptable with attention to this point that the most our cases are diabetic women (71.4%) and the addiction prevalence in women is less than men.

In many study, it is documented that opium is an important risk factor for pulmonary and atherosclerosis and coronary heart disease, and some malignancy such as esophagus and bladder cancers (16-22).

OR=1.86 95% CI (1.68- 2.06)

The results of our study, demonstrate that opium can intensification and precipitation of detection diabetic vascular complications. As above, the diabetic complications in DM opium addicted patients such as retinopathy and neuropathy and diabetic foot ulcer are more than non-addicted, even with omission of smoking confounding effects.

The other variables with probable confounding effects in vascular damage such as age, high blood pressure and hyperlipidemia in two addicted and non-addicted patients, did not have significant difference ($P>0.05$).

This study couldn't proved the statistic correlation between opium and nephropathy and cardiovascular complications and heart failure, it is maybe due to lower power of study for detection of this correlation.

Also, this study show that addicted patients in comparison of non-addicted patients developed by retinopathy in shorter time duration. So this item can association of synergetic effect of opium and high blood glucose in diabetic retinopathy, and keep in your mind the confirmation of it needs future studies.

Unfortunately due to retrospective based on our study and without involvement of HbA1C data in patient's files, we couldn't evaluate the glucose level effect and control on vascular complications of diabetes.

Thence, it is possible, the opium dependent patients have low blood glucose control in comparison of non-addicted patients, it could be have confounding effects of study results, so we hope the providential studies could investigate this issue.

The end, we apply the health authorities, due to high prevalence of addiction and DM in our society, plan the training level of IRIB to correct of false social views about beneficial effects of opium in diabetes and control of complications, detect it, so maybe it is step towards prevention of vascular complications and

health promotion in these group and reduce the high medical costs.

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