

## Smoking in Diabetic Patients in Kirkuk City/Iraq

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**Introduction:** Smoking is an important Vascular risk for diabetic patients as for other population. In diabetics it increases significantly the risk of vascular complications termed recently (Vasculopathy). This study's purpose is to analyze the pattern of smoking as an amplifier for other risks in diabetics who already are very risky group of patients.

**Materials and Methods:** This work is a cross-sectional, descriptive study and carried out in the outpatient department of Azadi General hospital in 10 years duration between January 2009-january 2019.. The study population included 100 diabetic patients and studied their demographic data according to interview questionnaire about their smoking habit and its adverse effects.

**Results:** From patients enrolled in the study, overall 32% of responders were smokers, 13% ex smokers. Cigarette smoking was the most frequent mode of tobacco smoking 93% and one third of them consumed more than 20 cigarettes per day. Water pipe (shisha) smoking was most common habit 8.6% and associated with lower age in both groups.

**Discussion:** Smoking got very remarkable magnitude to risks of diabetes. Being classified recently as Vasculopathy all the very known disorders encountered are either appear early, be more severe, or very complicated and resist therapy until absolute quitting of smoking is targeted.

**Keywords:** Smoking; Habit; Diabetic; Kirkuk

**Introduction**

Diabetes is a group of diseases characterized by hyperglycemia. Most of carbohydrates consumed are converted to glucose for the body's cells to use it as energy. The pancreas secretes a hormone called insulin that helps glucose enter into the body's cells. In presence of diabetes, either body doesn't make enough insulin or can't use the insulin very well. Less glucose gets into the cells and instead accumulates in the blood [1]. There are different types of diabetes. Type 2 is the most common in adults and accounts for more than 90% of all diabetes cases. Fewer people have type 1 diabetes, which most often develops in children, adolescents, or young adults.

Smoking is implicated as a cause for type 2 diabetes. Smokers are 35% more likely to develop type 2 diabetes than nonsmokers. And people with diabetes who smoke are more likely than nonsmokers to have problems with their disease managements [3]. The more cigarettes any person smoke, the higher the risk for type 2 diabetes [3]. Whatever the type of diabetes, smoking makes it harder to control.

Diabetes and smoking, are more likely to have serious health problems from any one alone. Smoking amplify risks for serious long term complications, including [4].

Macrovascular involving large vessels in body.

- Heart CAD.
- Brain CVA.
- PAD Poor blood flow in the legs and feet that can lead to infections, ulcers, and possible amputation.

Microvascular involving small vessels in body.

- Retinopathy in Eyes
- Nephropathy in Kikneys
- Peripheral neuropathy (damaged nerves to the legs more than arms and causes numbness, pain, weakness, and poor coordination.

## Results and Discussion

### Results

From the 100 patients enrolled to study, 32 patients were smokers (32%) while the 61 patients were not smoker (61%) 7 patients were non responders (7%). The mean age of the participants was 56.5 years for smokers against 62.5 years for non-smokers. The average duration of diabetes was 15 years for diabetic patients who smoke versus 10 years for those who don't. Mean HbA1c value was at 9.5% for smokers compared to 7.5%

for non-smokers. responders were smokers, 2.9% ex smokers. Cigarette smoking was the most frequent mode of tobacco smoking 93% and one third of them consumed more than 20 cigarettes per day. Water pipe (shisha) smoking was most common habit 8.6% and associated with lower age in both male and female. The macro vascular complications included: myocardial infarction diagnosed by ECG in 55% of smoker patients versus 35.5% of non-smoker patients (P = 0.055), peripheral arterial disease Diagnosed by studying ankle-brachial indices in 16% of smokers versus 9.5% of non-smokers (P = 0.820) and stroke diagnosed with CT brain in 12% of smokers versus 4.5% of non-smokers (P = 0.09). Diabetic retinopathy diagnosed by slit lamp exam. After dilation of pupil was found in 35% of smokers and 12.2% of non-smokers (P = 0.302). Diabetic smokers were more likely and significantly to develop a diabetic Nephropathy (P = 0.05). 13.4% of smoker diabetic patients experienced diabetic Nephropathy evidenced by proteinuria or diminished renal function indices versus 11.1% of non-smoking patients (P = 0.212).

Informed consent was filled from patients whose data were used in these information and Administrative personal in working place informed on design and purpose of the study.

Variable	Mean age (Year)	Average duration For diabetes (year)	Mean HbA1C %	Myocardial infarction	Peripheral Arterial disease %	Stroke	Peripheral retinopathy %	Diabetic neuropathy %
Smokers	56.5	15	9.5	55	16	12	35	13.4
Non smoker	62.5	10	10	35.5	9.5	4.5	12.2	1.11
P. value				0.055	0.820	0.09	0.302	0.05

**Table 1:** Percent distribution of sample study by complications of smoking in diabetes.

### Conclusion

Probably one of the best advices for diabetics is don't smoke. Smoking increases your chance of having type 2 diabetes [4]. Lose weight if you are overweight or obese [6]. Stay active. Physical activity can prevent or delay type 2 diabetes in adults who are at high risk for the development of disease .With above treatment and management of Diabetes can be intensified and can include [7]:

- A healthy diet and physical activity program
- Weight loss (if overweight or obese)

- Medicines to control blood sugar by helping the body use insulin better
- Insulin taken by injections or by using an insulin pump
- Patient education to address problem-solving and coping skills needed to help manage diabetes and its complications
- Medicines to control cholesterol and blood pressure.

### Recommendations

For any smoker with diabetes, quitting smoking will benefit overall general health right away. People with diabetes who quit have better control of their blood sugar levels [5].

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