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Drugs abuse and increase in referral to hospital to prevent Recurrence of diabetic foot ulcer infection

Reasearch Article

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Abstract

Introduction: Diabetic foot ulcer is one of the complications of diabetes. This study was aimed to determine drugs abuse and increase in referral to hospital to prevent recurrence of diabetic foot ulcer infection. Materials and Methods: In this retrospective cross-sectional analytical descriptive study, 1693 patients with diabetes between 2015-17 were enrolled. Files of this number of diabetic patients admitted to khatam-ol-Anbia hospital in shoushtar city were studied. Data were entered into SPSS software version 18 and analyzed using descriptive statistics, analytical tests. Results: In this study 1693 patients with diabetes mellitus with a mean age of 52.13 ± 53.22 years. In the case of diabetic foot ulcers, 9.5% of the patients had diabetic foot ulcers and 4.8% had a history of amputation and 2.4% of the patients had a history of surgery on their diabetic ulcer. In this study, a significant relationship was found between education level and diabetic foot ulcer ($p < 0.003$). Also, there was a significant relationship between limb amputation and drug abuse or smoking ($P = 0.009$). In this study, patients who had drug and smoking or smoking 4.3% more than those who did not consume, they were referred to the hospital to prevent recurrence of foot ulcer infection. In this study, there was a significant relationship between drug abuse or smoking and the rate of surgery in diabetes mellitus ($P = 0.007$). Conclusion: Given that in this study, patients who had drug and smoking or smoking 4.3% more than those who did not consume, they were referred to the hospital to prevent recurrence of foot ulcer infection. In this study, there was a significant relationship between drug abuse or smoking and the rate of surgery in diabetes mellitus. Therefore, there is a suggestion to reduce the consumption or abandonment of drugs and smoking.

Keywords: Diabetes, Drug abuse, Diabetic foot ulcer, Recurrence of ulcer infection, Smoking.

Introduction

Diabetes is one of the most commonly diagnosed diseases of metabolic disorders and is a global challenge (1,2). It is a chronic, metabolic and genetically heterogeneous disease characterized by increased levels of blood glucose and carbohydrate metabolism disorders, protein and lipids. Inappropriate combination (low physical activity and unhealthy foods) has led to an uncontrollable increase in the prevalence of diabetes in the world. Complications of diabetes are very common among patients (3-7). In diabetic patients, depression is one of the most common psychiatric disorders (8). One of the most common and debilitating problems of youth and adolescents is depression and is so wide spread that among mental disorders it is referred to as a mental cold. (9,10). Depression and daily occupational stress may cause some disorders in mental, and physical health of patients (11). The high occupational stress status is known as a psychosocial factor in cardiovascular disease (12). Diabetes mellitus also is one of the most common endocrine complications in thalassemic patients (13). Thalassemia syndrome is a hereditary blood disease. In general, the annual incidence of thalassemia disease is estimated at one in 100,000 worldwide (14-18). Due to late and dangerous complications of diabetes, it has been paying more attention every day. The disease has spread in the late 20th century and there is currently no sign of stopping it (19). The diabetes association refers to the disease as a growing, costly and cancer-related disease and a major health concern (20). Patients with diabetes are at greater risk than the general population of the growing urinary tract, liver, biliary, pancreatic, colon, endometrial, and kidney cancer. Several confounding factors are directly related to the clinical differences in diabetes at various levels of metabolic

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control, diabetes duration, anti-diabetic treatment profiles, and the presence of complications or association with disease (21). Diabetic foot ulcer is another complication of diabetes. Foot ulcer is a major complication of diabetes mellitus with high morbidity, mortality, and associated costs (22). The risk of having foot ulcer in diabetic patient is high (23). These foot ulcers are often infected with diabetic patients and have potential for cellulite development and if it is treated quickly and appropriately, it leads to blood and gangrene infections, and sometimes leads to amputation (24).

Because some previous studies have shown that diabetic patients' knowledge about the disease is very weak, in the study, Javadi et al., 58.3% had poor knowledge (25). The lack of follow-up and prevention of diabetic foot ulcers will cause more infections and amputations. As well as drug abuse and smoking may increase the risk of diabetic ulcer infections, and that little research has been done on diabetic foot ulcers in Khuzestan province. Therefore, this study was conducted on diabetic patients admitted to Khatam-ol-Anbia hospital in Shoushtar, Khuzestan province, aimed to determine drugs abuse and increase in referral to hospital to prevent recurrence of diabetic foot ulcer infection.

Materials and methods

In this study, which evaluated 1693 diabetes patients and a retrospective cross-sectional descriptive study, records of this number of diabetic patients admitted to Khatam-ol-Anbia Hospital in Shoushtar city were studied. The patients who were diagnosed with diabetes and had a history of the disease that referred to Khatam-ol-Anbia hospital, Shoushtar, from 2015 to 2017, were entered in the study.

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The data needed for the study were extracted from patients' medical records during the years mentioned in the medical records section of the hospital. The inclusion criteria included all patients with a medical diagnosis and a history of any type of diabetes, and in each age group, and the exit criteria included other records of patients who had non-diabetic medical diagnosis as well as incomplete cases. In order to study the files and collect data, a written letter of introduction was submitted by the Vice-Chancellor for education and research of Shoushtar University of Medical Sciences. Then, the files of patients referring to Khatam-ol-Anbia Hospital in the archives section were used. The required information was collected through a researcher checklist from the records.

The data in this study included demographic and clinical data of patients such as gender, age, BMI, BS, marital status, occupation, economic status, educational level, having or not having diabetic foot ulcer, limb amputation, history of surgery on diabetic ulcer, Family history of diabetes, having or not having a nephropathy, duration of diabetes, type of anti-diabetes drug, number of hospital referral for ulcer infection, history of drug abuse or smoking. Then data were entered into SPSS software version 18 and were analyzed using descriptive statistics including enumerated tables, mean, standard deviation and variance, and analytical tests including T test, ANOVA, chi-square and chi-square Pearson and at the significant level of $P < 0.05$.

Results

In this study 1693 individuals with diabetes mellitus with a mean age of 52.13 ± 53.22 years. Of these, 956 (56.4%) were male and the rest were female. (Figure 1)

The mean BMI in these individuals was 25.13 ± 2.03, indicating patients with overweight. Also, the average blood glucose level in these patients was 221.43±83.71.

In this study, 1005 (59.3%) of the patients had A lower degree than a diploma and the rest had diplomas and higher. Also, 66.3% were married, 12.4% were widows, and the rest were single. In terms of economic situation, 40.4% of the people with poor financial status were, 22.3% average and the rest had a good economic situation.

Also in terms of diabetic foot ulcer, 9.5% had diabetic foot ulcers and 4.8% had diabetes induced amputations and 2.4% of the patients had a history of surgery on their diabetic ulcers. (Figure 2)

In examining the proteinuria performed for patients (24-hour urine protein screening), 79.6% normal and the rest were diabetic nephropathy. Of which 20.4%, 15.6% mild and 4.8% were severe. There was a significant relationship between diabetic nephropathy with age ($p = 0.008$) and type of antidiabetic medicine ($p = 0.009$) and diabetic foot ulcer ($p = 0.006$).

Also, 213 people (12.5%) had a family history of diabetes and the rest did not. Also, 209 (12.3%) had a history of drug abuse or smoking. (Figure 3)

ANOVA test showed a significant relationship was found between education level and diabetic foot ulcer ($p < 0.003$). Also, there was a significant relationship between limb amputation and drug abuse or smoking ($P = 0.009$), that means people who had more drugs or tobacco had more history of limb amputation.

In this study, patients who had drug abuse or

smoking, 4.3% more than the non-consumer referred to the hospital to prevent recurrence of foot ulcer infection.

Chi-square test showed there was a significant relationship between drug abuse or smoking and the rate of surgery in diabetes mellitus (P = 0.007). In the same way, patients who were more to use drugs or tobacco, had more surgery on their ulcers.

In this study, there was no significant relationship between BMI with diabetic foot ulcer and limb amputation (P = 0.05).

Figure 1: Frequency of males and females in diabetic patients.

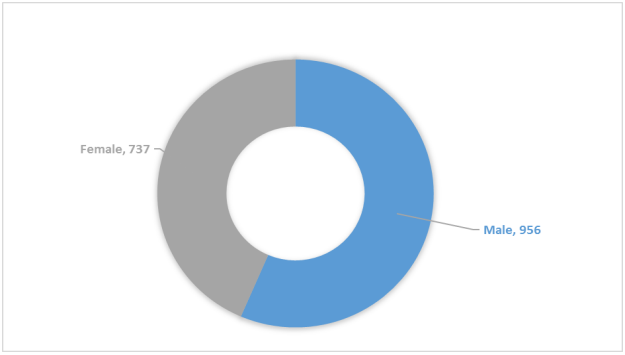


Figure 2: Frequency comparison of diabetic patients with a history of diabetic foot ulcer, limb amputation and surgery history on diabetic ulcer according to gender.

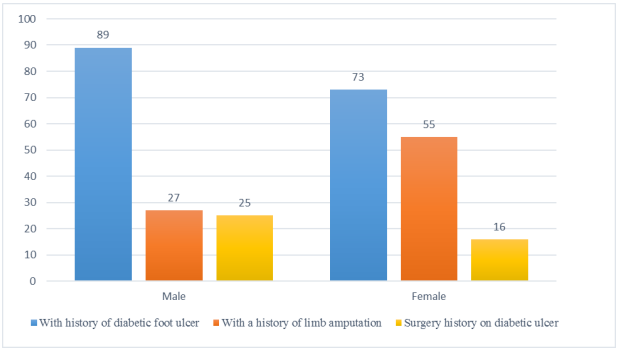
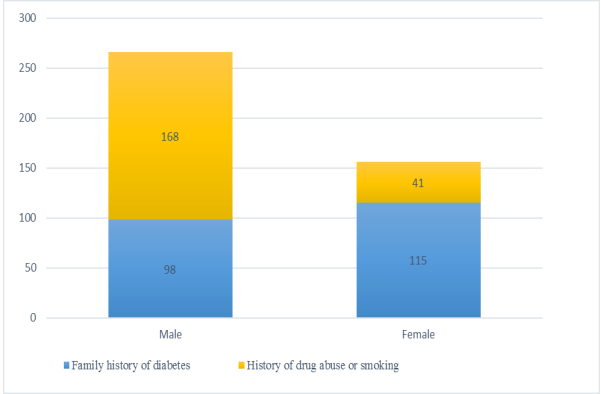


Figure 3: Frequency of family history of diabetes and history of drug abuse or smoking in patients with diabetes According to gender.



Discussion

The most common cause of hospitalization of diabetic patients is diabetic foot ulcer (26) So that about 50% of diabetics are admitted to the hospital due to diabetic foot problems (27). Because some previous studies have shown that diabetic patients' knowledge about the disease is very weak, (25) and that the lack of follow-up and prevention of diabetic foot ulcers will cause more infections and amputations. As well as drug abuse and smoking may increase the risk of diabetic ulcer infections, and that little research has been done on diabetic foot ulcers in Khuzestan province, therefore, this study was performed on diabetic patients admitted to Khatam-ol-Anbia Hospital in Shoushtar, Khuzestan province.

In this study, 9.5% of the patients had diabetic foot ulcers. In the study of Madmoli et al. (4), the prevalence of lower limb ulcer was 9.1%. In another study, the prevalence of foot ulcer was 7.2%, which is in line with the results of this study (28). In another study, it was 0.34% (29). Considering the different ulcer prevalence in the present study with some studies, it can be attributed to the effective prevention and treatment of foot ulcers, as well as the important role of genetics, lifestyle, nutrition and education.

Most people with diabetes in this study were male. In many studies (4,30,31), most people with diabetes were women, that was not consistent with the present study. But in the study of Frykberg et al., 90.3% of the population was male (32) and in another study, the number of men and women was equal (33). In many studies, the population of diabetic women is greater than men, which may be attributed to their gender characteristics, but in terms of complications of diabetes, men are more likely to become infected.

In this study, 12.5% of the patients had a family history of diabetes and the rest did not. Diabetes can greatly increase the chance of developing cancer. In a study entitled diabetes and the risk of cancer, in men, the risk of overall cancer has increased by 27% in those with a history of diabetes. HR was very high for people with liver, pancreatic and kidney cancer. This study demonstrated an increased risk of colon cancer and gastric cancer with borderline significance. In women, the incidence of cancer was significantly increased at the borderline, while the incidence of gastric cancer and liver cancer was statistically significant and the incidence of ovarian cancer was observed at the border (34). The association between diabetes and primary liver cancer in a case-control study in Italy in 428 confirmed cases of cancer cell carcinoma with histology, 59 cases with gall bladder cancer and 1502 cases was in the hospital for diseases non-acute, that sixty-four cases of hepatocellular carcinoma have been reported against 87 diabetes mellitus (35).

In this study, there was no significant relationship between BMI with foot ulcer and limb amputation. In many studies of diabetes, obesity and high BMI

increased the risk of obesity-related cancer. The results of the study showed that adults overweight and glucose increased the risk of obesity-related cancer twice, while overweight adults with normal glucose increased the risk by 50%. Adults with normal weight with increased glucose did not have the risk of excessive cancer (36).

In total alcohol consumption and drug abuse increases the risk of infection with diabetic foot ulcers and various diseases. In this study there was a significant relationship between limb amputation and drug abuse or smoking. That is, people who had more drugs or tobacco had more history of limb amputation. In this study, patients who had drug abuse or smoking, 4.3% more than the non-consumer referred to the hospital to prevent recurrence of foot ulcer infection. In this study, there was a significant relationship between drug abuse or smoking and the rate of surgery in diabetes mellitus, In the same way, patients who were more to abuse drugs or tobacco, had more surgery on their ulcers. The results of some studies demonstrated women with estrogen receptor-positive breast cancer, consumers received alcohol seven times or more per week compared to those who did not consume, 90% had a higher risk of developing maladaptive breast cancer (37). Another study also found that alcohol consumption was associated with lower survival (38). Recently, some cohort meta-analysis studies showed that there was a 17% increased risk of recurrence of cancer among the highest and lowest alcohol users (39). Other studies also found that increased mortality from breast cancer or recurrence with moderate to high alcohol drinking was observed (40,41).

In a study, the prevalence of diabetic nephropathy among smokers (more than 10 cigarettes a day for more than a year) was higher by non-smokers compared to 19.2% versus 12.1%. With increasing smoking, the frequency of nephropathy increases. No difference was found in the prevalence of proliferative retinopathy between smokers and non-smokers. Overall, the study concluded that smoking is a risk factor for developing nephropathy in people with type 1 diabetes (42). Also, in another study, there was no relationship between the risk or severity of retinopathy and the number of daily smoking cigarettes or the number of years of smoking compared to diabetes. These data suggest that there is no risk of retinopathy in smokers or with a history of smoking compared to those who have never smoked (43).

Conclusion

Diabetic foot is associated with an increased risk of death in diabetic patients. The most common cause is neuropathy, foot deformity, foot trauma, upper foot pressure and peripheral vascular disease that leads to lower limb amputation if not treated properly that is associated with an increase in mortality, high costs for treatment and a decrease in quality of life.

Given that in this study, patients who had drug abuse and smoking 4.3% more than those who did not consume they were referred to the hospital to prevent recurrence of foot ulcer infection. In this study, there was a significant relationship between drug abuse or smoking and the rate of surgery in diabetes mellitus. Therefore, there is a suggestion to reduce the consumption or abandonment of drugs and smoking. It is also better that the ministry of Health through the media, as well as the medical team, and especially the nurse, who have direct and close links with the patient, had a planning to help stop drug abuse and improve diabetic foot ulcer.

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Conflict of interest

There are no conflicts of interest in this article.

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