

Familial History and Psychological Problems: High Risk Factors for Type 2 Diabetes in Hamedan (Northwestern Iran)

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II. MATERIAL AND METHODS

Abstract—Diabetes is among the common disorders in Iran. The aim of this study was to determine risk factors associated with type 2 diabetes in Hamedan – Northwestern Iran. This cross sectional retrospective study was conducted to investigate patients with type 2 diabetes referred to care centers in Hamedan and documentarily profiled. Individual questionnaire and face to face interview were used to collect the data. The data was analyzed using Chi-square test and ANOVA. The frequency of diabetes was higher in females than males ($p < 0.05$). Family history of diabetes (first degree relatives) was observed in 48.5% of patients. 35.96% of patients reported a history of psychological problems and 74.17% of patients reported a history of negative life events. Our findings indicated that occurrence of diabetes was more common in females than males. Family history and history of psychological problems were among the important causes associated with diabetes occurrence.

Keywords— Type 2 Diabetes, Risk factors, Hamedan, Iran.

I. INTRODUCTION

DIABETES is the most common metabolic disorder in the world [1]. The prevalence of diabetes is increasing worldwide [2], [3]. Research suggest that factors such as increasing urbanization, declining life expectancy, poor diet, lifestyle as well as factors such as employment, economic status and education level are associated with the prevalence of diabetes [4], [5]. Other factors such as age, gender, obesity, lack of exercise, overeating, underlying diseases, genetics, family history, pregnancy and smoking also affect on epidemiology of diabetes [6]-[11]. The studies show that prevalence of diabetes in Iran is increasing and this increasing is of extremely importance because influencing community health. Diabetes is the most important leading cause of death in women and men in world as well as Iran [12]-[15]. On the other hand, studies have shown that there is a significant association between gender and diabetes [16]. Also, several underlying diseases are associated with diabetes occurrence [17]-[18]. Several reports also suggest the significant effect of genetic inheritance on diabetes occurrence [19]-[22].

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A. Subjects

449 patients with type 2 diabetes who were referred to care centers in Hamedan and documentarily profiled, were studied.

B. Protocol of Study

This was a retrospective cross-sectional study conducted on type II diabetic patients (from newly diagnosed to severe stage) who admitted to hospital or medical centers in Hamedan, during 2007-2009. Data were collected using questionnaire and interviewing which was designed by the project researchers. We used also personal information standard questionnaire including questions about personal or familial variables.

C. Statistical Analysis

All values are presented as mean \pm S.E.M. Statistical significance was evaluated by one-way analysis of variance (ANOVA) and Chi-square using SPSS 19. Differences with $P < 0.05$ were considered significant

III. RESULTS

Table 1 indicates demographic information of patients with diabetes type II.

TABLE I
DEMOGRAPHIC INFORMATION OF PATIENTS WITH DIABETES TYPE II.

Variables	Type II diabetes (n=449)
Age	
men	74.51 \pm 16.94
women	58.55 \pm 10.94
Sex	
male	36.53 %
female	63.47 %
Education	
literate	23.6 %
primary school	38.5 %
secondary school	13.4 %
diploma degree	18.8 %
associate degree	1.8 %
bachelor degree	3.9 %

Age is indicated as Mean \pm SD.

Our findings show that the number of female patients was significantly more than male ($p < 0.001$). It is also shown that most diabetic patients are poorly educated. It is noticeable that most patient's parents educational levels were illiterate or in primary school level (59.14% of fathers and 62.58% of mothers). Family history of diabetes (first degree relatives) was observed in 48.5% of patients. 35.96% of patients reported a history of psychological problems and 74.17% of patients reported a history of negative life events.

IV. DISCUSSION

The results of this study indicated that the prevalence of diabetes in Hamedan is considerable. In this regard, studies show an increasing trend in the prevalence and incidence of diabetes in the world [22]-[24]. Studies that have been conducted in various parts of Iran also show that the prevalence of the disease is very significant [25]-[26]. On the one hand, in line with our findings, there are other studies in Iran reporting that in many regions of Iran there is higher prevalence of type 2 diabetes than type 1 diabetes [25].

Our finding also indicated that mean age of patients with diabetes type 2 was 74 and 58 in males and females, respectively. This finding is also consistent with the prevalence of diabetes by age in other populations [27]-[28] as well as other regions of Iran [29]-[30]. The results of this study show that the number of patients with diabetes type 2 was higher in females than males. This finding is also consistent with the findings of other researchers in this regard. Several studies have reported that the prevalence of diabetes is higher in women than men [31]-[33]. Our findings also show that family history of diabetes (first degree relatives) was observed in 48.5% of patients. In line with this finding, other studies show significant association between genetic background and diabetes occurrence [34]-[36]. In our study, a considerable proportion of patients also reported a history of psychological problems and a history of negative life events. The results of other studies also show that stressful situations can greatly influence insulin secretion [37]. There are also associations between psychological problems and diabetes occurrence in patients suffering mental disorders [38]-[39].

V. CONCLUSION

Our findings indicated that occurrence of diabetes was more common in females than males. Family history and history of psychological problems were among the important causes associated with diabetes occurrence.

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