

Şükrü HATUN¹
Burhanettin KAYA¹
Temel YILMAZ²
Serpil SALMAN²
Zuhal SAĞLAM²
Mehmet SARGIN²
Ahmet ŞENGÜL²
Fatih SALMAN
Yücel YILMAZ²

Psychosocial Influence of IDDM on Children and Young Patients

Received: July 29, 1998

¹Department of Pediatrics and Psychiatry,
Faculty of Medicine, Kocaeli University, Kocaeli,
²DETAE Diabetes Centre, Faculty of Medicine of
Istanbul University, Istanbul-Turkey

Abstract: In this study, we evaluated 39 patients, who had been followed up in various centers, in order to determine the psychosocial effects of IDDM on children and young patients. The mean age of the patients was 15.58 ± 2.29 years and the mean duration of diabetes was 4.41 ± 3 years. We measured the depression and self-esteem scores in all patients using a standardized

questionnaire for Turkish children. Depression was found in four patients (10.3%), and the self-esteem scores of all patients were within the normal range. There was no correlation between depression or self-esteem scores and age, sex, puberty, duration of diabetes or metabolic control.

Key Words: IDDM, Children, Psychosocial Influence, Depression.

Introduction

Diabetes Mellitus is a chronic illness affecting multiple organ systems and causing impairment in the body's carbohydrate, lipid and protein metabolisms. Psychosocial factors impair blood glucose control and increase the frequency of long term complications (1). It is known that these effects might cause even more severe results in adolescent with Insulin Dependent Diabetes Mellitus (IDDM) (2).

As a result of the direct physiological effects of diabetes, some psychological symptoms may occur. These symptoms may also occur due to influences on life events and the illness itself. Studies have shown that depression is more frequently seen in diabetic patients and may lead to feelings of sadness, loneliness, frustration and difficulty in making friends (3). It has also been noted that passive-resistant, hysteric, depressive and manipulative personalities are seen more frequently in individuals with diabetes. In addition over-protective anxious, perfectionist, rejective or over-acceptative and tolerant family behaviour have a negative effect on metabolic control and psychological adaptation (2).

The purpose of this study was to determine the relationship between metabolic control levels and depression, self-esteem and some physical and sociodemographic variations and point out the psychosocial aspect of chronic illnesses in children who attended a summer camp.

Materials and Methods

Thirty-nine diabetic children and young diabetic patients from different parts of Turkey who attended a summer camp in 1997 were included in this study. The childrens Depression Inventory, "Coopersmith Self-esteem Inventory" and information forms for diabetic children which we developed were given to the participants in order to assess the association of illness with depression, self-esteem, age, sex, duration of diabetes, metabolic control, family awareness, parents's employment status and stage of adolescence. Likewise, the association between self-esteem and depression was investigated. Data were analyzed by computer using SPSS statistical programs and chi-square, correlation regression analysis and t-tests.

Results

The table shows the general characteristics of the cases. Thirty-nine children (17 males and 22 females) were studied. The mean age was 15.58 ± 2.29 years. Overall 83.8% of patients had social insurance. The mean duration of illness was 52.74 ± 35.79 months. The family history of the patients was positive in 10.31 % for Type 1, and 35.79% for Type 2 diabetes. 21% of the mothers and 94.3% of the fathers were employed at the time of the study. The percentage of patients on one dose of insuline was 2.6%, two doses 39.5%, three doses 47.4%, and four doses 10.5%. The mean HbA1c level

was 9,54±2,93 %. There was no correlation between metabolic control and was age, sex, number of doses, body weight or stage of puberty.

Depression was found in 10.3% of the patients (4 patients). The mean depression score in 26.3% of the cases was at moderate levels and 73.7% of the cases had high scores. The mean self-esteem scores were 42.32±7.94. A significant correlation was found between depression and self-esteem. Self-esteem scores were lower in those with depression (r: 0.68; p<0.0005) There was no significant correlation between depression or self-esteem with age, sex, duration of illness, metabolic control, insulin dosage or number of doses. Families awareness of diabetes was also significantly higher in children whose self-esteem scores were at high levels (p<0.05).

Table 1. The General Characteristics of Cases.

| n | Male 17 | Female 22 |
|--------------------------|------------|--------------|
| Age (years) | 5.83±1.58 | 15.41±2.75 |
| Duration of diabetes | 4.16±2.66 | 4.58±3.22 |
| HbA1c (%) | 9.81±3.54 | 9.32±2.42 |
| Insulin doses (U/kg/day) | 0.78±0.25 | 1.4±0.56 |
| Depression score | 8.29±6.99 | 8.68±5.32 |
| Self-esteem score | 43.53±7.14 | 41.33±8.57 |

Discussion

The relationship between diabetes and psychosocial factors has gained importance in recent years (4,5).

Reference

1. Kaplan HI, Sadock BJ, Grebb JA Kaplan and Sadock's syonpsis of Psychiatry. (Ed) Kaplan HI, Sadock BJ, Grebb JA, Sevent Edition, Baltimore, Wiliams and Wilkins, 626-628, 1994.
2. Rosenbloom AL Psychosocial Aspects of Diabetes Mellitus. Pediatric Endocrinology. Third Edition, (Ed) Lifshitz F, New York. Marcel Dekker Inc. 653-664, 1996.
3. Özkan S Psikiyatrik Tıp: Konsütüsyon Liyezon Psikiyatrisi, Istanbul Roche Yayınları, 94-99, 1993.
4. Gohr M. Ropcke B. Pistor K. Eggers C Autogenic training in children and adolescents with type I diabetes mellitus. Prax Kinderpsychol kinderpsychiatr. 46(4): 288-303, 1997.
5. Northam E. Anderson P. Adler R. Werther G. Warne G Psychosocial and family fuctioning in chidren with insulin dependent diabetes at diagnosis and one year later. J Pediatr Psychol, 21(5): 699-717, 1996.
6. Philotheau A Psychosocial issues associated with diabetes adolescents from underprivileged populations in developing countries. IDF Bulletin, 41(3): 10-16, 1996.
7. Milousheve J. Kobayashi N. Matsui I Psychosocial problems of chidren and adolescents with chronic disease: coping strategies. Acta Paediatr Jpn, 38(1): 41-45, 1996.
8. Akanji AO Clinical experience with adolescents diabetes in Nigeria teching hospital. J Natl Med Assoc. 88(2): 101-105, 1996.

Psychosocial influences on diabetes are of great cocern as especially stressful life events affect the blood glucose regulation, impair the metabolic control and lead to acute and chronic complications. At this point, children and adolescents with diabetes are in a more serious risk group (6).

We observed that the effect of depression and self-esteem level on metabolic control was not significant. Also there was no significant correlation with age, sex, parents' employment status, insulin dosage, number of insulin doses and body mass index (BMI). These results can be explained by the fact that our group consisted of individuals who were beging followed up regularly who were educated about diabetes. Self-esteem levels were low in those who had depression.

A review of literature revealed that diabetes education, stress management and treatment of families improve the clinical course, compliance with treatment and metabolic control (7, 8). This is supported by families' awareness of diabetes care in children whose self-esteem scores were at high levels. Although we could not find any correlation between self-esteem scores and metabolic control, the incidence of depression in 10.3% of diabetic patients is considerable and psychosocial support by all means should be provided for diabetic children. This conclusion should be regarded important as it indicates the necessity of management programs which should include psychosocial support and investigon of patient groups who lack sufficient treatment opportunities.