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ORIGINAL ARTICLE

Assessment of psychosocial illness in children with type 1 diabetes mellitus

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ABSTRACT:

Background: T1DM is a prevalent pediatric ailment that impacts around 500,000 children under the age of fifteen. Almost one in five of these children are Indian.The present study was conducted to assess psychosocial illness in children with type 1 diabetes mellitus. **Materials & Methods:** 50 T1DM (group I) children of both genders and 50 non diabetic children (group II) were also selected. "DSM-5 parent/ guardian-Rated Level 1 & 2 Cross-Cutting Symptom Measure –Child age 6-17" was used to assess psychosocial illness, specific domains and severity. Socio-demographic variables were studied and HbA1c levels were measured. **Results:** Psychosocial illness in group I and group II subjects were somatic symptoms in 6and 1, sleep problemsin 4 and 2, inattentionin 8 and 0, depressionin 2 and 1, irritation in 1 and 0, anger in 3 and 1 and anxiety in 1 and 0 respectively. The difference was significant (P< 0.05). Out of 9 patients with good metabolic control, psychosocial illness was seen in 3 and out of 16 children with fair to poor metabolic control, 12 had psychosocial illness. The difference was significant (P< 0.05). **Conclusion:** This study confirms that T1DM is a significant risk factor for children's psychosocial disorder development. Most of children had significant psychological disease.

Keywords: Children, Psychosocial illness, diabetes

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INTRODUCTION

T1DM is a prevalent pediatric ailment that impacts around 500,000 children under the age of fifteen. Almost one in five of these children are Indian.[1] When type 1 diabetes develops, a person is sentenced to a challenging therapeutic regimen that lasts a lifetime and involves multiple daily insulin injections, blood glucose monitoring, following a meal plan, and regular exercise. However, the prevention of acute and chronic complications may only be partially achieved with these measures.[2,3]Emotional and psychological difficulties are among the additional obstacles associated with managing diabetes in children and young adults. Stress itself has the potential to dysregulate diabetes by altering self-management behaviors or triggering psycho-physiological processes. Treatment guidelines for diabetes include promoting appropriate social and emotional development in addition to metabolic goals. However, the psychological impact of the disease is sometimes overlooked, with a primary focus on the rigorous regulation of blood glucose levels.[4]

It has been noted that diabetes increases the incidence of psychiatric illnesses in adolescence, particularly internalizing behavioral issues like depression. Numerous studies have reported the co-occurrence of depression and diabetes in adolescents, albeit this is not always the case.[5] Poor glycaemic control has been linked to externalizing behavior difficulties, and diagnoses of externalizing behavior problems prior to diagnosis were linked to poorly controlled diabetes and externalizing behaviors during adolescence.[6]The present study was conducted to assess psychosocial illness in children with type 1 diabetes mellitus.

MATERIALS & METHODS

The present study was conducted on50 T1DM (group I) children of both genders.All parents were informed regarding the study and their written consent was obtained.Children with T1DM at least for 1 year was selected.

Data such as name, age, etc. was recorded. 50 non diabetic children (group II) were also selected. "DSM-5 parent/ guardian-Rated Level 1 & 2 Cross-Cutting Symptom Measure –Child age 6-17" was used to assess psychosocial illness, specific domains and severity. Socio-demographic variables were studied and HbA1c levels were measured.Data thus obtained were subjected to statistical analysis. P value < 0.05 was considered significant.

RESULTS

Table I Assessment of Psychosocial illness

Psychosocial illness	Group I	Group II	P value
Somatic symptoms	6	1	0.02
Sleep problems	4	2	
Inattention	8	0	

Depression	2	1	
Irritation	1	0	
Anger	3	1	
Anxiety	1	0	

Table I, graph I shows that psychosocial illness in group I and group II subjects were somatic symptoms in 6 and 1, sleep problems in 4 and 2, inattention in 8 and 0, depression in 2 and 1, irritation in 1 and 0, anger in 3 and 1 and anxiety in 1 and 0 respectively. The difference was significant (P< 0.05).

Graph I Assessment of Psychosocial illness

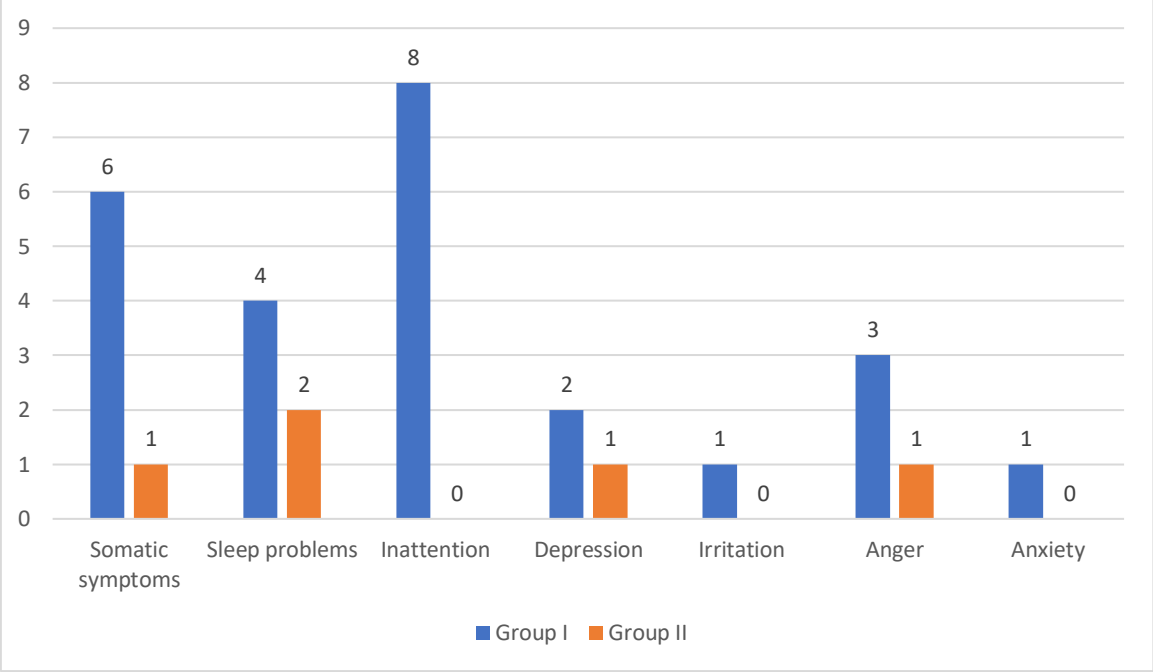

Table II Prevalence of psychosocial illness in relation to metabolic controlamong the T1DM children

Psychosocialillness	Metabolic control	
	Good (HbA1C<7.5) (9)	Fair to poor (HbA1C>7.5) (16)
Present	3	12
Absent	6	4
P value	0.01	

Table II shows that out of 9 patients with good metabolic control, psychosocial illness was seen in 3 and out of 16 children with fair to poor metabolic control, 12 had psychosocial illness. The difference was significant (P< 0.05).

DISCUSSION

It has been discovered that externalizing behavior issues lead to worse glycaemic control, and that diagnosing externalizing behavior issues prior to diagnosis was linked to both poorly controlled diabetes and externalizing behaviors during adolescence.[7,8] Research on the mental health issues that T1DM-affected children and adolescents face is necessary to enhance patient care.[9,10]The present study was conducted to assess psychosocial illness in children with type 1 diabetes mellitus.

We found that Psychosocial illness in group I and group II subjects were somatic symptoms in 6 and 1, sleep problems in 4 and 2, inattention in 8 and 0, depression in 2 and 1, irritation in 1 and 0, anger in 3 and 1 and anxiety in 1 and 0 respectively. Whittemore et al[11]determined correlates of depression in adolescents with type 1 diabetes.Fifteen per cent of adolescents in this sample demonstrated depressive symptoms (CDI > 13) at study entry and 10% at 2 years follow-up. Adolescents aged 14.1-16 years and those with diabetes > 10 years demonstrated the highest rates. When demographic/clinical variables were controlled, the DFBS warmth-caring subscale and the FACES adaptability subscale, but not DFBS guidance-control (p = 0.635), contributed significantly to the explained variance in depressive symptoms (R(2) = 0.27) at study entry. At 2 years follow-up, study entry CDI scores were the only significant predictor of depressive symptoms (R(2) = 0.40). By 2 years, adolescents with depressive symptoms had significantly higher HbA1c than those without (p = 0.03).

We observed that out of 9 patients with good metabolic control, psychosocial illness was seen in 3 and out of 16 children with fair to poor metabolic

control, 12 had psychosocial illness. Hood et al[12] found that on the CDI, 22 of 145 youth (15.2%) scored at or above the clinical cutoff. Youth with elevated depressive symptoms, as determined by an elevated score on the CDI, were more likely to be female (P = 0.008), have lower BGM frequency (P = 0.02), have higher A1C values (P = 0.02), have higher diabetes-specific conflict reported by both the youth (P = 0.0002) and parent (P = 0.02), have more youth-reported negative affect around BGM (P = 0.02), and have a higher degree of diabetes-specific burden reported by the parent (P = 0.003). A multivariate model predicting the youth's CDI score showed that higher levels of youth-reported diabetes-specific family conflict (P = 0.001), youth-reported negative affect around BGM (P = 0.03), and parent-reported diabetes-specific burden (P = 0.03) were significant predictors, [F(14,128) = 3.77, P < 0.0001, R2 = 0.29]. The shortcoming of the study is small sample size.

CONCLUSION

This study confirms that T1DM is a significant risk factor for children's psychosocial disorder development. Most of children had significant psychological disease.

REFERENCES

1. Grey M, Cameron M, Lipman T, Thurber F. Psychosocial Status of Children With Diabetes in the First 2 Years After Diagnosis. Diabetes Care. 1995;18(10):1330-36.
2. Lawrence J. Prevalence and Correlates of Depressed Mood Among Youth With Diabetes: The SEARCH for Diabetes in Youth Study. Paediatrics. 2006;117(4):1348-58.
3. Ciechanowski P, Katon W, Russo J. Depression and Diabetes. Arch Intern Med. 2000;160(21):3278.
4. Dantzer C, Swendsen J, Maurice-Tison S, Salamon R. Anxiety and depression in juvenile diabetes: A critical review. Clinical Psychology Review. 2003;23(6):787-800.
5. Bryden K, Peveler R, Stein A, Neil A, Mayou R, Dunger D. Clinical and Psychological Course of Diabetes From Adolescence to Young Adulthood: A longitudinal cohort study. Diabetes Care. 2001;24(9):1536-40.
6. Leonard B, Jang Y, Savik K, Plumbo P, Christensen R. Psychosocial factors associated with levels of metabolic control in youth with type 1 diabetes. Journal of Paediatric Nursing. 2002;17(1):28-37.
7. Akbaş S, Karabekiroğlu K, Ozgen T, Tasdemir G, Karakurt M, Senses A, et al. Association between emotional and behavioral problems and metabolic control in children and adolescents with Type 1 diabetes. Journal of Endocrinological Investigation. 2009;32(4):325-29.
8. Kovacs M, Obrosky D, Goldston D, Drash A. Major Depressive Disorder in Youths With IDDM: A controlled prospective study of course and outcome. Diabetes Care. 1997;20(1):45-51.
9. Northam E, Matthews L, Anderson P, Cameron F, Werther G. Psychiatric morbidity and health outcome in Type 1 diabetes - perspectives from a prospective longitudinal study. Diabetic Medicine. 2005;22(2):152-57.
10. Lin E, Katon W, Von Korff M, Rutter C, Simon G, Oliver M, et al. Relationship of Depression and Diabetes Self-Care, Medication Adherence, and Preventive Care. Diabetes Care. 2004;27(9):2154-60.
11. Whittemore R, Kanner S, Singleton S, Hamrin V, Chiu J, Grey M. Correlates of depressive symptoms in adolescents with type 1 diabetes. Paediatric Diabetes. 2002;3(3):135-43.
12. Hood K, Huestis S, Maher A, Butler D, Volkening L, Laffel L. Depressive Symptoms in Children and Adolescents With Type 1 Diabetes: Association with diabetes-specific characteristics. Diabetes Care. 2006;29(6):1389-89.