

Original Research Article**TO STUDY THE RELATIONSHIP BETWEEN PSYCHIATRIC CO-MORBIDITIES IN INDIVIDUALS WITH DIABETES MELLITUS AND QUALITY OF LIFE.****Dr. Vineet Agrawal¹ (Assistant Professor)**Dept. of Psychiatry, Amaltas Institute of Medical Sciences, Dewas, M.P.¹

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Abstract

Background & Methods: The aim of the study is to study the relationship between psychiatric co-morbidities in individuals with diabetes mellitus and quality of life. Study was conducted at 100 Patients attending diabetology outpatient department with a diagnosis of type 2 diabetes mellitus with no other major medical complications.

Results: Among those with normal values, (n=40) had no psychiatric co morbidities, (n=04) had Major depressive episode with melancholia and (n=02) had dysthymia P value for fasting blood sugar, post prandial blood sugar and HbA1c was 0.711, 0.576 and 0.381 respectively all of which showed no significance.

Conclusion: Our study identifies the presence of psychiatric co-morbidities among individuals with long standing diabetes mellitus as in previous studies. In addition, the clinical and treatment variables of diabetes, might influence the development of psychiatric conditions as well as impair the health related quality of life, although it is of less significance in our study.

Keywords: psychiatric, co-morbidities, diabetes mellitus & life.

Study Design: Cross sectional study.

1. Introduction

Diabetes mellitus is behaviourally demanding making fast and radical lifestyle modification a necessity. Such rapid changes result in many problems for both the individual and their family. The demands of self-care in diabetes are constant with no relaxation of rules[1]. The emotional and psychological facets of this chronic medical condition is often paid less attention to, when medical management is taken into consideration[2].

Depression and anxiety are the two most common co morbid conditions associated with diabetes mellitus. A prevalence study on community and hospital based samples showed depression as commonly associated with diabetes mellitus. Depression may be especially prevalent in people with diabetes and diabetes doubles the risk of co morbid depression[3].

Anxiety disorders associated with diabetes mellitus has resulted in less favourable glycemic control, where in a systemic review has shown 40% of subjects with diabetes mellitus to have elevated anxiety symptoms and among which generalized anxiety disorder was found in as

many as 14% of patients with diabetes mellitus, higher in those with type 2. Anxiety is a risk factor for poor glycemic control[4].

However such Psychiatric co-morbidities are often undetected, hence undertreated or in some cases left untreated. Such unattended psychiatric illnesses are associated with still higher rates of morbidity and even mortality. The likelihood of co-existence of psychiatric morbidity and diabetes may worsen the other[5-7].

2. Material and Methods

Present study was conducted at 100 Patients attending diabetology outpatient department with a diagnosis of type 2 diabetes mellitus with no other major medical complications.

Mini International Neuropsychiatric Interview scale (M.I.N.I)

The M.I.N.I was first developed with a view of efficient and accurate assessment of DSM IV psychiatric disorders. The M.I.N.I is a brief structured interview for the major Axis I psychiatric disorders in DSM IV and ICD-10. The interview has very precise questions regarding psychological problems requiring a yes or no answer.

The M.I.N.I is divided into modules identified by letters, each corresponding to a diagnostic category. Validation and reliability studies have been done comparing the M.I.N.I to the SCID-P and the CIDI. These studies yielded results that revealed M.I.N.I to have acceptably high validation and reliability scores.

Inclusion Criteria:

1. Patients with diagnosis of diabetes mellitus more than 5 years.
2. Patients in age group between 30 years to 50 years.

Exclusion Criteria:

1. Patients with diagnosis of psychiatric illness and treatment.
2. Juvenile onset diabetes mellitus.
3. Patients with diagnosis of mental retardation.

3. Result

Table 1: Marital status of the study sample

Marital status	Frequency	Percent (%)
Married	26	26
Unmarried	74	74

76 % of participants were from middle socioeconomic status whereas participants from low socioeconomic status were 24% of the entire sample.

Table 2: Mean diabetes onset and duration of the study

Study Group	MEAN ± SD
Diabetes onset	38.87±7.3
Diabetes duration	11.53±5.1

The duration of diabetes mellitus showed a mean of 11.53 ± 5.1 years in the study population.

Table 3: Psychiatric co morbidities and glycemc profile of the study sample

		None	Major P Value depressive episode	Major depressive episode with melancholia	Dysthymia	P Value
Fasting Blood Sugar	Elevated	28	00	00	00	0.711
	Normal	64	02	04	02	
Post Prandial Blood Sugar	Elevated	32	02	02	00	0.576
	Normal	60	00	02	02	
HbA1C	Elevated	52	02	00	00	0.381
	Normal	40	00	04	02	

Among those with normal values, (n=40) had no psychiatric co morbidities, (n=04) had Major depressive episode with melancholia and (n=02) had dysthymia P value for fasting blood sugar, post prandial blood sugar and HbA1c was 0.711, 0.576 and 0.381 respectively all of which showed no significance.

TABLE 4: Association of Quality of life with Fasting blood sugar

Quality of life	Fasting blood sugar	MEAN±SD	P value
Physical	Elevated	56.71 ± 5.8	0.267
	Normal	57.9 ± 8.1	
Psychological	Elevated	56.64 ± 7.9	0.413
	Normal	59.03 ± 8.7	
Social	Elevated	66.50 ± 9.2	0.699
	Normal	67.67 ± 7.4	
Environmental	Elevated	63.14 ± 7.4	0.307
	Normal	65.19 ± 6.8	

In the domain of Physical health fasting blood sugar was in the normal range in a majority of the subjects with a mean of 57.9 ± 8.1 and elevated among a mean of 56.71 ± 5.8 .

4. Discussion

Ours was a cross sectional study to evaluate the prevalence of psychiatric comorbidities in patients with long standing diabetes mellitus attending diabetology. In addition to that, we also assessed the impact of glycemic control on psychiatric comorbidities[8]. The relationship between diabetes mellitus and various domains of quality of life were assessed.

This study showed the prevalence of psychiatric disorders in adults with T2DM to be 27% and 32% for current and lifetime, respectively. These percentages seem to be slightly lower than reported for previous versions of the DSM—48%, 34%, and 37%, respectively for DSM-III, DSM-III-R, and the DSM-IV. A similar tendency was observed for specific diagnostic categories[9]. The current prevalence of anxiety (16%), mood (4%), and behavioral disorders—8% in our study, was lower than 17%, 17%, and 20%, respectively, for the same groups of disorders reported by Northam et al. Similarly, the lifetime prevalence of mood (4%) and behavioral disorders (8%) was lower than those (20% and 16%) found by Kovacs et al. in their 10-year follow-up study. Only 19% of the lifetime prevalence of anxiety disorders seemed to match 19% reported[10]. These differences are unlikely to be related to changes in the diagnostic classification, which would likely lead to an increase in the prevalence of psychiatric disorders. Observed decreases in the prevalence of psychiatric disorders might, however, reflect the advances in diabetes mellitus care such as the introduction of an intensive insulin treatment in children, allowing more flexible lifestyle and dietary freedom than in previous conventional insulin regimens. Nevertheless, we cannot exclude that the differences in prevalence are caused by discrepancies in the study methodologies[11].

5. Conclusion

Our study identifies the presence of psychiatric co-morbidities among individuals with long standing diabetes mellitus as in previous studies. In addition, the clinical and treatment variables of diabetes, might influence the development of psychiatric conditions as well as impair the health related quality of life, although it is of less significance in our study.

6. References

1. R.A. Gubitosi-Klug Group DER. The diabetes control and complications trial/epidemiology of diabetes interventions and complications study at 30 years: Summary and future directions *Diabetes Care*, 37 (1) (2014), pp. 44-49
2. K.A. Reynolds, V.S. Helgeson with diabetes compared to peers: Depressed? Distressed? A meta-analytic review *Ann Behav Med*, 42 (1) (2011), pp. 29-41
3. Pouwers A. Diabetes mellitus. In: Kasper DL, Braunwald E, Fauci A, Hauser C, Longo D, Jameson JL, editors. *Harrison's Principles of Internal Medicine*. New York: McGraw Hill; 2005. p. 2158.
4. Anderson RJ, Freedland KE, Clouse RE, Lustman PJ. The prevalence of comorbid depression in adults with diabetes: A meta-analysis. *Diabetes Care*. 2001;24:1069–78.
5. Balhara YPS. Diabetes and psychiatric disorders. *Indian J Endocrinol Metab*. 2011;15:274–83.
6. Brown ES, Varghese FP, McEwan BS. Association of depression with medical illness: Does cortisol play a role? *Biol Psychiatry*. 2004;55:1–9.
7. Knol MJ, Twisk JW, Beekman AT, Heine RJ, Snoek FJ, Pouwer F. Depression as a risk factor for the onset of type 2 diabetes mellitus. A meta-analysis. *Diabetologia*. 2006;49:837–45.
8. Mezuk B, Eaton WW, Albrecht S, Golden SH. Depression and type 2 diabetes over the lifespan: A meta-analysis. *Diabetes Care*. 2008;31:2383–90.
9. Chaudhry R, Mishra P, Mishra J, Parminder S, Mishra BP. Psychiatric morbidity among diabetic patients: A hospital-based study. *Ind Psychiatry J*. 2010;19:47–9.
10. Janet Thomas, PHD, Glenn Jones, Isabel Scarinci, PHD, Phillip BrantleyA. Descriptive and Comparative Study of the Prevalence of Depressive and Anxiety Disorders in Low-Income Adults With Type 2 Diabetes and Other Chronic Illnesses. *Diabetes Care* . August 2003 ; Volume 26, Number 8.
11. Ana Claudia C, De Ornelas Maia, Arthur De Azevedo Braga, FláviaPaes, Sergio Machado, Antonio EgidioNardi, Adriana Cardoso Silva. Psychiatric Comorbidity In Diabetes Type 1: A Cross-Sectional Observational Study. *Rev Assoc Med Bras*. 2014; 60(1):59-62.