

**Comparative study**

## **Comparative study of neurotic patterns, depression and mental health among diabetic type I and diabetic type II patients**

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### **ABSTRACT**

The present study tries to investigate difference if any between the type I diabetic patients and type II with regard to their Neurotic pattern, Depression, and Mental health level. Diabetes mellitus is now recognized as serious global health problem. The current prevalence of 41.5 core person worldwide is projected to increase to 64.2 core by 2040. Diabetes mellitus is a chronic metabolic disease characterized by hyperglycemia which may be due to the disturbances of carbohydrate, fat and protein metabolism. It is associated with an absolute or relative deficiency in the secretion and/or action of the insulin. In people with diabetes, blood sugar levels remain high. The sample for the study consists of a total of 200 individuals, in which type 1 100 patients and type 2 diabetics 100 patients. The age range of the individuals was between 18 and 60 years in the type 1 diabetic and type 2 diabetic patients groups. The individual samples will select from the hospitals and Three tools are used name as mental health inventory, medico-psychological questionnaire and depression anxiety and stress scale. There were significant differences between the type 1 diabetic patients and type 2 diabetic patients. Diabetes type I patients are normal good mental health neurotic pattern and depression but type II diabetic patients poor mental status psychotic abnormality and depression level increased. For the purpose of the analysis and interpretation of the data, the mean, standard deviation and t- test statistical techniques were applied.

**Keywords:** *Diabetes mellitus, Neurotic pattern, Depression, Mental health*

### ***Diabetes mellitus type I***

Type I diabetes mellitus is characterized by the abrupt onset of symptoms which result from lack of insulin production by the beta cells of the pancreas. The disorder may result from viral infection or autoimmune reactions. In Type I diabetes, the immune system attacks and destroys the insulin- producing beta cells in the pancreas. The pancreas then produces little or no insulin. Type I diabetes usually develops relatively early in life, between the ages of 5 and 6 or latter between 10 and 13 years (Tailor, 2006) Type I diabetes is a serious, life-threatening illness accounting for about 10% of all diabetes. It is managed primarily through direct injections of insulin hence the name insulin-dependent diabetes (American Diabetes Association, 1999). The type I diabetes is especially vulnerable to

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hyperglycemia. When this occurs, the skin is flushed and dry, and the individual feels drowsy and has deep, labored breathing. Hyperglycemia may require medical intervention because coma may result, requiring hospitalization.

### ***Diabetes mellitus type II***

Type 2 DM is characterized by insulin resistance, which may be combined with relatively reduced insulin secretion. The defective responsiveness of body tissues to insulin is believed to involve the insulin receptor. However, the specific defects are not known. Diabetes mellitus cases due to a known defect are classified separately. Type 2 DM is the most common type of diabetes mellitus. In the early stage of type 2, the predominant abnormality is reduced insulin sensitivity. At this stage, high blood sugar can be reversed by a variety of measures and medications that improve insulin sensitivity or reduce the liver's glucose production.

Type 2 DM is due primarily to lifestyle factors and genetics. A number of lifestyle factors are known to be important to the development of type 2 DM, including obesity (defined by a body mass index of greater than 30), lack of physical activity, poor diet, stress, and urbanization. Excess body fat is associated with 30% of cases in those of Chinese and Japanese descent, 60–80% of cases in those of European and African descent, and 100% of Pima Indians and Pacific Islanders. Even those who are not obese often have a high waist–hip ratio.

Dietary factors also influence the risk of developing type 2 DM. Consumption of sugar-sweetened drinks in excess are associated with an increased risk. The type of fats in the diet is also important, with saturated fats and trans fatty acids increasing the risk and polyunsaturated and monounsaturated fat decreasing the risk. Eating lots of white rice also may increase the risk of diabetes. A lack of exercise is believed to cause 7% of cases.

### ***Gestational diabetes***

Gestational diabetes mellitus (GDM) is hyperglycemia with onset or first recognition during pregnancy. involving a combination of relatively inadequate insulin secretion and responsiveness. It occurs in about 2–10% of all pregnancies and may improve or disappear after delivery. However, after pregnancy approximately 5–10% of women with gestational diabetes are found to have diabetes mellitus, most commonly type 2.

### ***Sign and Symptoms***

- Abnormal thirst and a dry mouth (Polydipsia)
- Frequent urination (Polyuria)
- Lack of energy
- Sudden weight loss
- Slow – healing wound
- Recurrent infections
- Blurred vision

### ***Neurotic patterns***

The term “neurotic pattern” used to psychiatrists for most of the 20th Century to describe a broad category of conditions that were associated with poor function, mental and physical but were clearly differentiated from “psychotic” in that in construct to individuals in the

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latter category, neurotics-maintained contact with reality and were rarely engaged in highly deviant, socially unacceptable behavior.

The most important thing to distinguish when using the term "neurotic pattern" is to know whether it is referring to personality traits or character adaptations. Personality traits are longstanding patterns of thoughts, feelings, and actions which tend to stabilize in adulthood and remain relatively fixed. There are five broad trait domains, one of which is labeled Neuroticism, and it generally corresponds to the sensitivity of the negative affect system, where a person high in Neuroticism is someone who is a worrier, easily upset, often down or irritable, and demonstrates high emotional reactivity to stress .

There are five broad traits in neurotic patterns. This trait changes to behavior in special condition of the person such 1 habits, 2 emotions, 3 relations, 4 defenses, and 5 beliefs (verbal cognitions).

### ***Depression***

Depression is a disorder of mood that has been described from ancient times with continued efforts to clarify the nature of this aspect of the human condition; there are many commonalities between ancient and contemporary descriptions of the phenomenology of depression.

Depression is the state of helplessness and hopelessness with a feeling of loneliness and poor self-image. It is an affective disorder characterized by a disturbed mood or feeling. Depression affects physical, mental and emotional well-being becomes negative, often characterized by a cognitive triad, consisting of negative beliefs of information about the self, the world and the future. Studies have shown that the thinking about self among depressed is more negative and shows less positive automatic self-referential thinking.

Depressed persons typically experience high levels of anxiety and intense anger that is turned inward, resulting in feelings of low self-esteem, hopelessness and thoughts of death. Persistent depressive can also produce behavioral and physical symptoms such as fatigue, insomnia, frequent crying, chronic aches and pain, and excessive gain or loss of weight. Thus, depression is a complex multifaceted syndrome that is comprised of a number of underlying dimensions. Not just temporary or situational sadness, but a persistent and pervasive feeling of sadness or hopelessness that is often associated with weight loss (or gain); sleep disturbances, constipations, disturbances or sexual function, and feelings of guilt of self-blame. In the fourth edition of the Diagnostic and Statistical Manual of Mental disorders (DSM-IV), the presence of depressed mood or sadness, or loss of pleasure in life, is an important diagnostic criterion for depression. Daily fatigue, lack of energy, insomnia and hypersomnia are indicators of a depressed mood. Some researchers report that 89% of people with depression feel fatigue.

### ***Symptoms, Causes & Effects of Depression***

Everyone has success & failure, ups & downs but feeling down for an extended time may be a sign of depressive illness. There are several types of depressive disorders but all depressed person exhibit at least some of these symptoms:-

- Persistent sad, anxious or empty moods.
- Feeling of hopelessness or pessimism.
- Feeling of guilt, worthlessness or helplessness.

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- Loss of interest or pleasure in ordinary activities.
- Decreased energy, a feeling .
- Difficulty in concentrating, remembering or making decisions.
- Restlessness or irritability & sleep disturbances.
- Loss of appetite and weight or weight gain.
- Thoughts of death or suicide, including suicide attempts.

Lack of purpose or meaning in life; feelings of isolations; lack of compassion or a committed loving relationship; lack of family or social connection; feeling disconnected from God/Spirit are some of the spiritual dimensions linked with depression.

### ***Mental Health***

World Health Organization defines A state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community. WHO stresses that mental health is not just the absence of mental disorder.

Wikipedia Dictionary (2010) explains the meaning of mental health as a state of emotional and psychological well-being in which an individual is able to use his or her cognitive and emotional capabilities, function in society and meet the ordinary demands of everyday life. Good mental health and wellbeing makes a vital contribution to the overall health and wellbeing of individuals and our communities. It also influences social and economic outcomes for individuals of all ages and cultural backgrounds, affecting lives of many people in our community, their families and friends. The impacts of poor mental health on individuals, cares, families and the wider community can be significant.

### ***Elements of mental health***

1. Physical health
2. Intellectual health
3. Emotional health
4. Interests and Aptitudes

### ***Objectives of the study***

1. To study of the differences in neurotic patterns between type 1 diabetic patients and type 2 diabetic patients.
2. To study of the differences in depression between type 1 diabetic patients and type 2 diabetic patients.
3. To study of the differences in mental health between type 1 diabetic patients and type 2 diabetic patients.

### ***Hypotheses***

The following hypotheses are formulated for this study.

1. There will be no significant differences between the type 1 diabetic patients and type 2 diabetic patients with regard to their neurotic pattern.
2. There will be no significant difference between the type 1 diabetic patients and type 2 diabetic patient with regard to their depression level.
3. There will be no significant difference between the type 1 diabetic patients and type 2 diabetic patients with regard to their mental health level.

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## METHODOLOGY

The present study was conducted on 200 clinically established diabetes patient. Research design helps the researchers in testing the hypotheses by reaching valid and objective conclusions regarding the relationship between independent and dependent variables. The present research was undertaken basically to compare Neurotic pattern, Depression, and Mental health in type 1 and type 2 diabetic patients.

### Sample

The sample for the study consist of a total of 200 individuals, in which diabetic type 1 total 100 patient and type 2 diabetics 100 patients. The age range of the individuals was between 18 and 60 years in the type 1 diabetic and type 2 diabetic patients groups. The individual samples will select from the privet hospital. Doctor refer to type I and type II diabetic patients and I explain relevant to questionnaire after that I asked question of the patients and fulfill questionnaire.

### Tools

Following tools will use in the present study.

- 1. Medico-Psychological Questionnaire (MPQ):** Measurement of neuroticism and related areas of maladjustment is one of the problems of central importance in the fields of clinical psychology and psychiatry. The Medico-Psychological Questionnaire devised by Bharath raj (1986) was considered as an effective tool for measuring neuroticism. The information was collected by directly interviewing respondents
- 2. Depression Anxiety and Stress Scale (DASS):** Depression anxiety and scale (DASS) developed by Lovibond and Lovibond,1995 is one of most widely used to scale clinical and non-clinical population in across in the globe including India. The DASS questionnaire in which includes three self-report scales designed to measure the negative emotional states of depression, anxiety and stress.
- 3. Mental Health Inventory (MHI):** Mental health inventory (MHI) developed by Jagdish and Srivastav (1983) was utilized to access positive aspects of mental health. This test can be used as a group or an individual test, for ages 15 and above, no time and age limit is enforced in the testing. Each item from 1 to 56 given in the test booklet to be rated on 4 point rating scale. It covers the following 6 dimensions of sound mental health.

### Statistical techniques

**Table 1: Mean and SD of E score of Diabetic Type I and Diabetic Type II Patients**

Health Status	Diabetes Type	No	Mean	SD	T value
Neurotic patterns	Diabetic type 1	100	30.25	11.68	2.15
	Diabetic type 2	100	50.65	13.51	
Mental Health	Diabetic type 1	100	179.02	12.19	9.70
	Diabetic type 2	100	143.86	14.75	
Depression	Diabetic type 1	100	10.25	4.46	3.55
	Diabetic type 2	100	17.17	7.17	

## RESULT

**In order to the Hypothesis 1:** There is no significant difference between the type I diabetic patients and type II patients with regard to their neurotic pattern. Form above able it is

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evident that our 't' value is 2.15 at 0.05% level of significance. The table value 1.97 at 0.05 for 298 degree of freedom. Our calculated 't' value that is 2.15 is greater than table value 1.97 at 0.05 level. Therefore, our calculated value is significant at 0.05 level of significance. Hence the null hypothesis is rejected. Mean score of neurotic pattern diabetic type I 30.25 with SD 11.68 and mean score of neurotic pattern diabetic type II is 50.65 with SD 13.51. So, it can be concluded that there is significant difference in diabetes type I and diabetes type II. The mean score of diabetic type II is 50.65 which is more than of mean score diabetic type I 30.25. High score means indicated to physical and psychological abnormalities. So, it is concluded that diabetes type II patients suffering from physical and psychological abnormalities.

***In order to the Hypothesis 2:*** There is no significant difference between the type I diabetic patients and type II patients with regard to their mental health. From above able it is evident that our 't' value is 9.70 at 0.05% level of significance. The table value 1.97 at 0.05 for 298 degree of freedom. Our calculated 't' value that is 9.70 is greater than table value 1.97 at 0.05 level. Therefore, our calculated value is significant at 0.05 level of significance. Hence the null hypothesis is rejected. Mean score of mental health diabetic type I 179.02 with SD 12.19 and mean score of mental health diabetic type II is 143.86 with SD 14.75. So, it can be concluded that there is significant difference in diabetes type I and diabetes type II. The mean score of diabetic type I is 179.02 which is more than of mean score diabetic type II 143.86. High score means indicated to mentally health. So, it is concluded that diabetes type II patients suffering from poor mental health.

***In order to the Hypothesis 3:*** There is no significant difference between the type I diabetic patients and type II patients with regard to their mental health. From above able it is evident that our 't' value is 3.55 at 0.05% level of significance. The table value 1.97 at 0.05 for 298 degree of freedom. Our calculated 't' value that is 3.55 is greater than table value 1.97 at 0.05 level. Therefore, our calculated value is significant at 0.05 level of significance. Hence the null hypothesis is rejected. Mean score of diabetic type I 10.26 with SD 4.46 and mean score of diabetic type II is 17.17 with SD 7.17. So, it can be concluded that there is significant difference in diabetes type I and diabetes type II. The mean score of diabetic type II is 17.17 which is more than of mean score diabetic type I 10.26. High score means indicated to depression. So, it is concluded that diabetes type II patients suffering from depression.

### CONCLUSION

The present study tries to investigate differences if any between the type 1 diabetic patients and type 2 with regard to their Neurotic pattern, Depression, and mental health level. Diabetes is a behaviourally, psychologically, and sociologically demanding disease. Considering the importance of psychological factors in the management of diabetes, the rapidly increasing adult patients with diabetes (mostly Type 2), and the tremendous and growing public health burden of diabetes, the development and clinical implementation of effective psychological counseling interventions are critical needs. Such interventions could help patients improve self-care behaviours and glycemic control, thus reducing their risk of health complications and improving their quality of life.

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***Conflict of Interest***

The author declared no conflict of interest.

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