Review Journal of Social Psychology & Social Works
http://socialworksreview.com
ISSN-E: 3006-4724 Volume: 3
ISSN-P: 3006-4716 Issue: 1 (2025)

Prevalence of Mental Health Problems among Diabetic Patients: A Comparison among Gender with Different Types of Diabetes

***Muhammad Sajjad[1], Dr. Aqeel Ahmad Khan[2]**

1. PhD Scholar, Department of Applied Psychology, The Islamia University of Bahawalpur, Pakistan E-mail: sajjad198712@gmail.com *(**Corresponding Author**)
2. Assistant Professor, Department of Applied Psychology, The Islamia University of Bahawalpur, Pakistan E-mail: aqeel.ahmad@iub.edu.pk

Abstract
Diabetes is considered as a chronic illness and its victims experience many mental health problems. This is an acknowledged fact that when a patient receives an unexpected diabetic diagnosis, they experience stress, anxiety, depression and many other psychological issues. This study was carried out to address the prevalence of mental health issues among diabetic patients and to compare these mental health issues among gender with different types of diabetes. For this purpose a sample of (N=198) diagnosed diabetic patients were included by using purposive sampling method. The level of mental health problems was measured by using three valid and reliable scales. The results from the collected data revealed overall prevalence of mental health issues among diabetic patients but the difference among various types was not significant. However, level of stress was higher among the patients with type-1 diabetes. On the other hand, gender differences showed a higher level of overall mental health issues among female diabetic patients. Hence, the study concluded that the stress is the core psychological cause among the diabetic patients and this should be addressed at initial level to uplift the mental well-being of diabetic patients.

Keywords: Mental Health Problems, Diabetic distress, Pre-Diabetes, Type-1 & 2 Diabetes

Introduction
Diabetes mellitus (DM) is one of the most prevalent public health concerns worldwide. It is a chronic metabolic disorder characterized by persistently high blood glucose levels due to impaired insulin secretion, resistance to insulin action, or both. Diabetes mellitus is associated to a group of metabolic disorders characterized by chronic hyperglycemia, resulting from impaired carbohydrate, lipid, and protein metabolism. Symptoms include frequent urination, increased thirst, and hunger, necessitating early treatment and lifestyle modifications to prevent complications (Fagninou, 2019). Moreover the chronic hyperglycemia of diabetes is associated with long-term damage, dysfunction and failure of various organs, especially the eyes, kidneys, nerves, heart and blood vessels (Chaudhary & Tyagi, 2018). The overall prevalence of diabetes reflects a concerning trend across various regions, with significant variations based on demographics and geographic factors.

According to an estimate In Korea, the prevalence of diabetes among adults aged 30 and older is reported at 15.5% for 2021-2022, with a notable increase to 29.3% in those aged 65 and older however the awareness and treatment rates are relatively high, yet only 32.4% achieve optimal glycemic control, highlighting gaps in effective management (Park et al., 2025). Likewise, in India, diabetes prevalence is projected to rise from 10.35% in 2023 to 13.46% by 2035, translating to an increase from 97.5 million to 139 million affected individuals This upward trend underscores the need for comprehensive public health interventions to manage the growing burden of diabetes (Newtonraj & Kannan, 2024). The increasing incidence of diabetes is linked to both genetic and environmental factors, necessitating a multifaceted approach to prevention and management ((Rashidi et al., 2024). The prevalence of diabetes in Pakistan is a significant public health concern, with estimates indicating that approximately 17.1% of the adult population is affected as of 2024. This translates to around 33 million individuals living with Type 2 diabetes mellitus (T2DM) in the country, positioning Pakistan among the highest globally for diabetes prevalence (Rizvi, 2024).

Diabetes is primarily caused by either the pancreas's inability to produce insulin or the body's decreased sensitivity to insulin (Shoback & Gardner, 2018). Although diabetes is not curable, it can be effectively managed to maintain a near-normal lifestyle. The primary goal of treatment is to regulate blood glucose levels and prevent complications. If left uncontrolled, diabetes leads to long-term vascular damage, increasing the risk of cardiovascular diseases by twofold (Kaur et al., 2018). In low- and middle-income countries, diabetes contributes to over 70% of disease-related morbidity and accounts for 88% of diabetes-related deaths (American Diabetes Association, 2019).

Literature Review

Diabetes represents a significant global health crisis in the twenty-first century. Globally, around 537 million adults are affected by diabetes, accounting for 10.5% of the population aged 20 to 79. The projection indicates an increase to 783 million by 2045, particularly in middle-income countries and urban regions (Li, 2025). Another estimate indicates that diabetes prevalence trends from 1990 to 2022 across 200 countries and territories show significant increases in global diabetes cases, based on a pooled analysis of 1108 population-representative studies involving 141 million participants (Zhou et al., 2024). The prevalence of diabetes in Pakistan has exhibited a concerning upward trend over the past five years (Aslam, 2022). The prevalence of diabetes in Pakistan is notably high, presenting significant implications for public health. Current estimates indicate that approximately 33 million adults are living with Type 2 diabetes mellitus (T2DM), placing Pakistan as the third highest globally in diabetes prevalence (Rizvi, 2024). Although a great deal of research has been done on the physical side effects of diabetes, including cardiovascular disorders, neuropathy, nephropathy, and retinopathy, the psychological effects of diabetes have received a lot of attention lately. Diabetes patients frequently struggle with mental health conditions such depression, anxiety, and diabetes distress, which can have a significant negative influence on their physical or psychological health.

Anxiety and depression are the primary disorders, while eating disorders are frequently worsened by inadequate glycemic control and complications related to diabetes (Ahmed et al., 2016). Integrating mental health care into diabetes management is essential for effectively addressing these challenges. Recent studies indicate a correlation between poor glycemic control and elevated anxiety or depression scores (Rahimoon et al., 2024).

A comorbid disorder that is prevalent among diabetes populations is anxiety, which is characterized by a preponderance of concern regarding a variety of situations that occur on a

regular basis. As opposed to non-diabetics, 14% of diabetic patients report generalized anxiety disorder, 27% have sub-syndromal anxiety disorder, and 40% have elevated anxiety symptoms, as consistent research indicates that diabetes increases the likelihood of anxiety disorders and symptoms. According to (Chima, et al., 2011), approximately 60% of diabetes patients who manifest with anxiety have disabilities and worse treatment outcomes. Anxiety is consistently present from the moment of diagnosis, and reports indicate that it contributes to elevated blood pressure through decreased self-care behaviors and increased sympathetic nervous system stimulation. Consequently, anxiety assessments are essential, although clinicians should differentiate between anxiety and hypoglycemic episodes due to their similar clinical characteristics (Trento et al, 2011).

Depression serves as a barrier, as it has a well-established inverse relationship with self-management and quality of life. Individuals with chronic conditions such as diabetes exhibit a threefold increased likelihood of experiencing depression. According to the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders (DSM-5), diabetes is classified as a mood disorder that comprises various symptoms impairing an individual's functioning. Diabetes distress, unlike depression—a broad mental health disorder characterized by persistent sadness, reduced interest, and a range of cognitive and physical symptoms is specifically related to the experience of managing diabetes (Fisher et al., 2014). Distinguishing between diabetes distress and depression is crucial for effective patient management. Research demonstrates that diabetes distress is more closely associated with glycemic control than with depression, suggesting that addressing diabetes-specific emotional challenges may more effectively improve health outcomes. Conversely, depression correlates with reduced quality of life, increased mortality rates, and heightened healthcare utilization.

Objectives of the Study

1. To check the prevalence of mental health problems among diabetes patients.
2. To compare the severity of mental health problems among diabetes patients according to types of diabetes.
3. To compare the severity of mental health problems among both gender.

Hypothesis of the Study

1. Mental health problems will be higher among diabetic patients.
2. Level of mental health problems would significantly differ among male and female diabetic patients.
3. There will be a significant difference in the severity of mental health problems among the diabetic patients with type-1, type-2 & pre-diabetes.

Method of the Study

In this study, various steps were taken to quantify the variables. Hence, a detail discussion about the methods and material used in this study is as under:

Participants of the Study

The participants of this study were (N=303) diabetic patients with different types (type-1, type-2 & pre-diabetes) out of which the desired data screen out for this study were (N=198) patients. All the patients were already diagnosed however their current sugar serum readings were measured by the researcher. In this research diabetic patients of both gender participated and all the respondents were belonging from different demographic areas having different demographic characteristics.

Study Variables

There were three main variables of this study i.e. mental health, diabetic distress and level of aggression. Each variable further consists of different facts. Level of diabetes was independent variables of this study while the dependent variable was mental health issues due to diabetes.

Research Design

This study was quantitative with cross-sectional research design. The sample included in this study was (N=198) patients with type-1, type-2 and pre-diabetes and these were approached by using purposive sampling method. The sample of this study was calculated by using online G. Power sample calculator. In present study, the researcher selected all the diabetic patients from three hospitals i.e. Sadiq Abassi Hospital Bahawalpur, Bahawal Victoria Hospital Bahawalpur and from Nishtar Hospital Multan.

Study Instruments

The data was collected by using three valid and reliable scales. The level of depression, anxiety and stress was measured by using DASS-42 item scale. Similarly, level of diabetic distress was quantified by using Diabetic Distress Screening Scale (DDSS) and aggression was measured by using Buss Perry Aggression Questionnaire (BPAQ).

Inclusion and Exclusion Criteria

All the patients with diabetes from last six months with type-1, type2 & pre-diabetes having age from 30 years to 70 years were included.

Ethical Consideration

The patients with diabetes from less than 6 months of below age 30 or above 70 already taking psychiatric medicine were excluded from this study.

Results of the Study

Table 1 *Means and Standard Deviations of Mental Health Problems among Patients with Different types of Diabetes*

Variable	Pre-diabetes		Type 1		Type 2		F	P	η^2
	M	SD	M	SD	M	SD			
Depression	30.56	5.47	31.70	4.31	32.59	5.54	2.59	.078	.03
Anxiety	30.02	5.31	29.59	5.34	28.15	7.86	1.60	.205	.02
Stress	32.59	5.64	33.98	4.44	31.50	5.23	3.89	.022*	.04
Emotional Burden	4.16	1.08	4.09	1.04	4.33	1.03	.88	.417	.01
Physical Distress	4.21	1.18	4.26	1.18	4.45	1.04	.85	.430	.01
Regimen Distress	4.16	1.13	4.10	1.13	4.22	1.12	.19	.826	.01
Interpersonal Distress	4.17	1.09	4.13	1.05	4.36	1.01	.87	.422	.01
Diabetes Distress	16.71	4.44	16.66	4.28	17.52	4.02	8.59	.425	.01
Physical Aggression	11.58	3.64	12.74	4.12	11.41	3.95	2.28	.105	.02
Verbal Aggression	13.42	3.71	13.64	4.21	14.00	4.92	.30	.740	.01
Anger	15.92	4.41	16.67	3.88	17.24	5.81	1.27	.284	.01
Hostility	14.80	2.83	15.57	2.83	15.51	3.85	1.19	.308	.01
Aggression	55.72	11.27	58.61	11.23	58.16	15.19	.99	.373	.01

M = Mean; SD = Standard Deviation; η^2 = Eta-squared effect size. *p < .05. **p < .01.

Note: The above table shows the prevalence of mental health problems among diabetic patients measured on different mental health domains.

Table 2 *Gender Differences in Mental Health Problems across Different Diabetes Types*

Diabetes Type	Measure	Female		Male		T	p	Cohen's d
		M	SD	M	SD			
Pre-diabetes	Depression	32.11	4.93	28.70	5.58	2.64	.011*	0.65
	Anxiety	31.17	5.12	28.63	5.27	1.98	.053	0.49
	Stress	33.22	5.71	31.83	5.57	1.00	.323	0.25
	Emotional Burden	4.48	1.00	3.76	1.06	2.84	.006**	0.70
	Physical Distress	4.60	1.12	3.74	1.09	3.14	.003**	0.78
	Regimen Distress	4.50	1.08	3.75	1.07	2.82	.006**	0.70
	Interpersonal Distress	4.51	1.01	3.76	1.06	2.96	.004**	0.73
	Diabetes Distress	18.13	4.12	15.00	4.26	3.03	.004**	0.75
	Physical Aggression	12.08	2.96	10.97	4.29	1.25	.217	0.31
	Verbal Aggression	13.75	3.78	13.03	3.63	0.78	.438	0.19
	Anger	16.69	3.91	15.00	4.85	1.57	.121	0.39
	Hostility	15.42	2.32	14.05	3.23	2.00	.050*	0.49
	Aggression	57.94	10.08	53.05	12.20	1.79	.079	0.44
Type 1	Depression	31.63	4.34	31.75	4.35	-0.11	.914	-0.03
	Anxiety	28.70	5.03	30.33	5.55	-1.24	.219	-0.31
	Stress	34.13	4.42	33.86	4.52	0.25	.806	0.06
	Emotional Burden	4.14	1.03	4.05	1.06	0.35	.730	0.09
	Physical Distress	4.41	1.13	4.13	1.21	0.97	.335	0.24
	Regimen Distress	4.16	1.10	4.06	1.16	0.35	.728	0.09
	Interpersonal Distress	4.21	1.03	4.07	1.08	0.53	.599	0.13
	Diabetes Distress	17.04	4.15	16.34	4.41	0.66	.514	0.16
	Physical Aggression	11.83	2.87	13.50	4.83	-1.66	.102	-0.41
	Verbal Aggression	13.30	3.38	13.92	4.83	-0.59	.558	-0.15
	Anger	16.27	3.37	17.00	4.27	-0.76	.448	-0.19
	Hostility	15.07	2.15	15.99	3.26	-1.32	.190	-0.33
	Aggression	56.47	8.49	60.40	12.94	-1.43	.158	-0.35
Type 2	Depression	33.24	5.09	31.94	5.97	0.96	.343	0.24
	Anxiety	29.15	8.33	27.15	7.34	1.04	.305	0.26
	Stress	31.45	5.54	31.55	4.99	-0.07	.944	-0.02
	Emotional Burden	4.50	0.94	4.15	1.10	1.39	.168	0.34
	Physical Distress	4.64	0.92	4.25	1.12	1.54	.127	0.38
	Regimen Distress	4.27	1.13	4.18	1.12	0.33	.742	0.08
	Interpersonal Distress	4.54	0.91	4.18	1.08	1.46	.149	0.36
	Diabetes Distress	18.26	3.61	16.79	4.33	1.50	.139	0.37
	Physical Aggression	11.39	3.01	11.42	4.76	-0.03	.975	-0.01
	Verbal Aggression	14.42	5.26	13.58	4.60	0.70	.488	0.17
	Anger	17.48	4.80	17.00	6.73	0.34	.737	0.08
	Hostility	15.73	3.92	15.29	3.84	0.46	.647	0.11
	Aggression	59.03	14.38	57.29	16.14	0.46	.645	0.11

Pre-diabetes: n = 36 females, 30 males; Type 1: n = 30 females, 36 males; Type 2: n = 33 females, 33 males. *p < .05, **p < .01.

Note: The above table shows a comparison of different mental health problems in relation with diabetic type or among gender.

Findings and Discussion

The core aim of this study was to identify the mental health issues among diabetic patients as diagnosed with different types. The data was collected to accept or reject the hypothesis of the study. The results from the collected data in table (1) indicated no significant differences in depression, anxiety, or aggression across diabetes groups, supporting the hypothesis. Depression levels are slightly higher in Type 2 diabetes patients (M = 32.59, SD = 5.54) compared to Type 1 (M = 31.70, SD = 4.31) and pre-diabetes (M = 30.56, SD = 5.47), but the difference is not statistically significant (p = .078). Similarly, anxiety scores do not differ significantly (p = .205), with pre-diabetes patients reporting slightly higher anxiety (M = 30.02, SD = 5.31) than those with Type 1 (M = 29.59, SD = 5.34) or Type 2 (M = 28.15, SD = 7.86). Aggression, including its subcomponents (physical, verbal, anger, and hostility), also shows no significant group differences (p-values > .05), suggesting that diabetes type does not meaningfully impact these psychological variables. However, stress levels do show a statistically significant difference (p = .022), with Type 1 patients reporting the highest mean stress scores (M = 33.98, SD = 4.44) compared to pre-diabetes (M = 32.59, SD = 5.64) and Type 2 diabetes (M = 31.50, SD = 5.23). This suggests that stress may be more prominent in Type 1 patients, although the effect size remains small (η^2 = .04). Other psychological distress factors, including emotional burden, physical distress, and diabetes distress, exhibit no significant differences across groups (p-values > .05). Hence, the findings are in line with the studies conducted in past such as a study revealed that the mental health issues are common among diabetic patients in Pakistan, significantly affecting their quality of life and disease management (Javaid et al., 2024).

Moreover, the table (2) presents gender differences in psychological measures across diabetes types, highlighting significant variations in depression, diabetes distress, and aggression-related outcomes. In individuals with pre-diabetes, females report significantly higher levels of depression (p = .011, d = 0.65), emotional burden (p = .006, d = 0.70), physical distress (p = .003, d = 0.78), regimen distress (p = .006, d = 0.70), and interpersonal distress (p = .004, d = 0.73) compared to males. Additionally, overall diabetes distress is significantly higher in females (p = .004, d = 0.75), suggesting that women with pre-diabetes experience greater emotional and physical strain related to their condition. While hostility is significantly higher in females (p = .050, d = 0.49), no significant gender differences are observed in stress, physical aggression, or overall aggression levels. For type-1 diabetes, no significant gender differences are found across depression, anxiety, stress, diabetes distress, or aggression measures, indicating similar psychological experiences for males and females. Small effect sizes further support this lack of substantial gender-based differences in emotional and behavioral responses among individuals with type 1 diabetes. In type 2 diabetes, gender differences are not statistically significant across most psychological measures, though females tend to report slightly higher emotional burden (p = .168, d = 0.34), physical distress (p = .127, d = 0.38), and overall diabetes distress (p = .139, d = 0.37) compared to males. Despite the absence of significant differences, the effect sizes suggest a potential trend where females may experience greater psychological burden than their male counterparts. Overall, the findings suggest that gender differences in psychological measures are more pronounced in individuals with pre-diabetes, where females report significantly higher distress levels. In contrast, gender differences are minimal in type-1 and type-2 diabetes, indicating that disease progression and management factors may play a role in moderating gender-related emotional responses. Hence, the findings are in consistent with the previous findings such as a study concluded a higher mental health issues among women (Trento et al, 2011).

Conclusion

Diabetes is one of the prevailing diseases among both genders in all over the world. The symptoms of diabetes are associated with mental health issues. As this study revealed a prevalence of different mental health issues among both genders therefore, the findings from this study emphasize the need for tailored psychological support, particularly for women in the early stages of diabetes, to address emotional distress and improve overall well-being.

References

Ahmed, B., Enam, S. F., Iqbal, Z., Murtaza, G., & Bashir, S. (2016). Depression and anxiety: a snapshot of the situation in Pakistan. *International Journal of Neuroscience and Behavioral Science*, *4*(2), 32-56.

Aslam, R., Suhail, S., Sajid, R., & bin Younis, B. (2022). Type 2 Diabetes Mellitus (T2DM) in Pakistan: Prevalence, Trends and Management Strategies. *Annals of King Edward Medical University*, *28*(2), 247-254.

Chaudhary, N., & Tyagi, N. (2018). Diabetes mellitus: An Overview. *International Journal of Research and Development in Pharmacy and Life Sciences*, *7*(4), 3030–3033. https://doi.org/10.21276/IJRDPL.2278-0238.2018.7(4).3030-3033

Chima, C. C., Swanson, B., Anikpezie, N., & Salemi, J. L. (2021). Alleviating diabetes distress and improving diabetes self-management through health coaching in a primary care setting. *Case Reports*, *14*(4) 99-112. https://doi.org/10.1136/BCR-2021-241759

Fagninou, P. U. Nonsito, A. (2019). Diabetes mellitus: classification, epidemiology, physiopathology, immunology, risk factors, prevention and nutrition. *International Journal of Approximate Reasoning*, *7*(7), 855–863. https://doi.org/10.21474/IJAR01/9433

Javaid, M. A., Akhter, M. Y., Ansar, M. A., Rauf, M. A., Irfan, M., & Zaka, N. (2024). Comparative Study on the Prevalence and Management of Diabetes Mellitus among Educated and Uneducated Populations in Pakistan. *1*(5), 12–19.

Kaur, A., Ghawat, M. D., Gopale, A. V., Phutane, M. S., & Joseph, S. (2018). Cultural Aspects of Type-2 Diabetes-related Social Stigma: A Cultural Epidemiological Study among General Community Members in Urban Pune, India. *Indian Journal of Community Medicine*, *50*(1), 234–241. https://doi.org/10.4103/ijcm.ijcm_894_22

Li, X. (2025). The Research of Influence Factors and Preventive Measures that Possibly lead to Diabetes. *Theoretical and Natural Science*, *73*, 275-282.

Newtonraj, A., & Kannan, K. S. (2024). Time Series Forecasting and Projection of Diabetes Prevalence in India from 2023 to 2035: A Cross-sectional Study. *Journal of Clinical & Diagnostic Research*, *18*(10) 44-57.

Park, S. E., Ko, S. H., Kim, J. Y., Kim, K., Moon, J. H., Kim, N. H., ... & Cha, B. S. (2025). Diabetes fact sheets in Korea 2024. *Diabetes & Metabolism Journal*, *49*(1), 24-36.

Rahimoon, M., Channar, H. B., Syed, B. M., Raza, S., Salam, M. U., & Jabbar, A. (2024). A Study to Evaluate Relationship between Anxiety Depression and Glycemic Control among Type 2 Diabetes Mellitus Patients. *Indus Journal of Bioscience Research*, *2*(02), 673-680.

Rashidi, M., Channar, H. B., Syed, B. M., Raza, S., Us Salam, M., & Jabbar, A. (2024). A Study to Evaluate Relationship between Anxiety Depression and Glycemic Control among Type 2 Diabetes Mellitus Patients. *Indus Journal of Diabetes. 5*(3), 55-68.

Rizvi, F. (2024). Achieving Large-Scale Remission in Type 2 Diabetes Mellitus: The Role of Diet and Lifestyle Interventions. *Journal of the Dow University of Health Sciences*, *18*(3), 22-36. https://doi.org/10.36570/jduhs.2024.3.2383

Shoback, M. T., Baan, C. A., & Pouwer, F. (2018). Depression and quality of life in patients with diabetes: a systematic review from the European depression in diabetes (EDID) research consortium. *Current diabetes reviews*, *5*(2), 112-119.

Trento R., K. (2011). Psychosocial aspects of diabetes management: dilemma of diabetes distress. *Translational Pediatrics*, *6*(4), 383–396. https://doi.org/10.21037/TP.2017.10.04

Zhou, B., Rayner, A., Gregg, E. W., Sheffer, K. E. & Carrillo-Larco, R. M. (2024). Worldwide trends in diabetes prevalence and treatment from 1990 to 2022: a pooled analysis of 1108 population-representative studies with 141 million participants. *The Lancet*. 7(1),77-88, https://doi.org/10.1016/s0140-6736(24)02317-1