## Student Corner

# An Empirical Investigation of Association Among Emotional States, Quality of Life and Satisfaction with Life in Type-I and Type-II Diabetics

**Salbia Abbas, Safwa Batool, Muhammad Latif**

*Govt. College Women University Sialkot*

**Abstract**

**Objective:** Present Research examined association among emotional states, quality of life and satisfaction with life among Type-I and Type-II diabetics.

**Methods:** Current research is based on cross-sectional framework and quantitative research method. Sample comprised of 100 participants with Type-I and Type-II diabetics was recruited through convenient sampling. For the purpose of measurement, Self-administered demographic sheet along with World Health Organization Quality of Life Questioner (WHOQOL -BREF), The Problem Areas in Diabetes Scale (PAID-20), The Satisfaction with Life Scale (SWLS), standardized scales were administered. Data was analyzed by the application of SPSS.

**Results:** Findings of the current research revealed that emotional states and life satisfaction (r=.430**, p<0.01) are positively associated. Values of regression explored that emotional states positively predicts the quality of life (r=.331*, p<0.05).

**Conclusion:** Conclusively, three constructs are correlated with each other. Alteration in emotional states causes alteration in satisfaction with life and quality of life.

**Keywords:** diabetes, psychological well-being, quality of life, emotional state, life satisfaction.

**Corresponding Author:** Salbia Abbas      **Email:** salbia.abbas@gcwus.edu.pk

## Introduction

The bulk of meals are transformed into blood sugar and discharged into the body. The pancreas produ-ces insulin. When blood sugar levels rise, the pancreas produces insulin. Insulin functions like a key, allowing blood sugar to enter and be used as energy by cells. According to the Centers for Disease Control and Prevention, diabetes causes your body to produce insufficient insulin or to use it wrongly. When there is insufficient insulin or when cells stop responding to insulin, too much blood sugar remains in the bloodstream. This can lead to major health issues like renal disease, eyesight loss, and heart disease.[1] Diabetes is a complex metabolic disease whose prevalence has risen to epidemic proportions in recent decades. The International Diabetes Federation estimates that there are 382 million diabetics globally, with a projected increase to 592 million by 2035.[2]

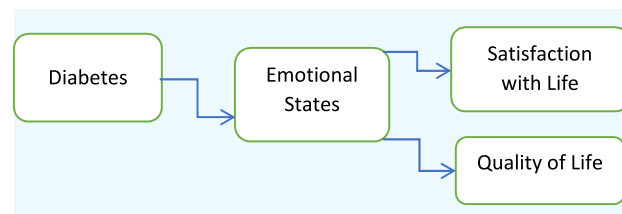Diabetes is classified into two categories. Diabetes type-1 has often been shown earlier in life and it's a genetic condition that usually appears during childhood or adolescence and is not related to a person's lifestyle. Diabetes 1 is caused by the pancreas's inability to produce adequate insulin. 5 to 10% of diabetics have diabetes 1, also known as juvenile diabetes or insulin-dependent diabetes, which is a chronic, progressive condition.[3]

In Diabetes 1, the immune system destroys the pancreatic cells that produce insulin, leading in a complete lack of the hormone. Insulin is used to control blood sugar levels in people with type 1 diabetes. Living with Diabetes type-1 necessitates strict adherence to a treatment schedule that includes giving insulin several times per day via injections or an insulin pump, checking blood glucose levels on a regular basis, counting carbohydrates, eating a healthy diet, working out frequently, and managing ongoing medical care.[4] Diabetes type-2 develops over time, usually appears later in life, and is often related to a person's lifestyle, such as diet and exercise.

Diabetes type-2 develops when our bodies are unable to create enough insulin or when the insulin produced by our pancreas fails to function effectively. Diabetes type 2 is far more deadly than diabetes type 1. This is a disease that causes serious health problems and leads to many other diseases.[4]

**Theoretical Model:** According to the bio psychosocial model, a person's response to diabetes will depend on a person's physiological, psychological, social, and environmental aspects.

According to the bio psychosocial concept, an imbalance between your body's physiological and psychological systems is what causes diabetes. According to this paradigm, the hormonal, genetic, and metabolic systems make up the body's physiological system, while the psychological system is made up of the cognitive, behavioral, and social systems. Together, these two systems help the body stay in a balanced state of health. However, if one system loses its equilibrium, it might affect the other system negatively. For instance, when the metabolic system is out of whack, hyperglycemia (high blood sugar) may result, which might trigger diabetic ketoacidosis. This occurs when the body responds to a high blood sugar level by producing an excessive number of ketones. Unfortunately, there is no permanent cure for diabetes. Even in this modern world, this disease has no cure yet. But we can enjoy life with diabetes by doing exercises, avoiding smoking, eating a well-balanced diet, and maintaining a healthy weight. Education has always proven to be an influential tool. While education may not be able to provide treatment to diabetics, it can spread awareness among the masses of the population regarding the prevention of diabetes. Diabetes statistics are concerning, but the good news is that diabetes can be managed and prevented. Overall, Pakistan has a 17% prevalence of diabetes 2.[2]



Empirical research aims to explore the association among three constructs emotional states, quality of life and satisfaction with life among diabetics.

Diabetes symptoms were originally recognized by Hesy-Ra, an Egyptian physician, in 1552 B.C., when he noted frequent urination as a symptom of a strange illness that also caused emaciation. At the same time, ancient healers noticed that ants seemed to be drawn to the urine of people who had this ailment.

Meo et al. (2016) in their article reported that Type 2 diabetes mellitus is currently 11.77% prevalent in Pakistan. Men have a prevalence of 11.20%, while women have a prevalence of 9.19%. The mean prevalence in Punjab province is 12.14% in men and 9.83% in females, whereas in Sindh province it is 16.2% in males and 11.70% in females. It is 9.2% for males and 11.60% for females in Khyber Pakhtunkhwa (KPK), compared to 13.3% for males and 8.9% for females in Baluchistan. The prevalence of type 2 diabetes mellitus in Pakistan is 14.81% in urban areas and 10.34% in rural areas. Type 2 diabetes mellitus is prevalent in 11.77% of Pakistanis.[5]

Trikkalinou et al. (2017) reported that diabetes prevalence is rising, which has an impact on life quality through increasing psychosocial issues. Thus, in the past ten years, it has become increasingly necessary to evaluate the emotional and mental health of patients with lifelong chronic conditions. This is crucial for determining the psychological characteristics that are most adversely affected. Additionally, it can assist in modifying the required interventions and therapies to better properly manage the disease and focus on the underlying psychological problems.[6]

Saeedi et al. (2019) predicted that by 2030, 578 million people worldwide are expected to have diabetes mellitus, with the majority of those affected living in metropolitan areas and high-income nations. The early warning signs and symptoms include increased hunger and thirst, frequent urination, weariness, recurring infections, and weight loss. Alarmingly, the majority of people with diabetes mellitus are unaware that they have the disease, and many go untreated for long periods of time, neglecting to seek treatment when necessary.[7]

Diabetes and Emotional State: Aljuaid et al. (2018) found that lowering suffering still depends on attending to the psychosocial needs of people with diabetes mellitus. The accompanying mental and behavioral adjustments that the person is expected to undertake after receiving a diabetes diagnosis are referred to as diabetes-related distress.[8]

***Depression:*** Diabetes patients may experience sorrow as a result of the increased stress of treating their condition or as a result of associated metabolic abnormalities.[9] Those with Type 1 and Type 2 diabetes mellitus are three times and twice as likely to have depression, respectively, as those without diabetes.[10] Thus, depression may be a side effect of diabetes as well as a risk factor. An Australian study indicated that the diabetes population had a higher prevalence of depression than the no diabetic population.[11]

***Anxiety:*** Diabetics live a life that is exceedingly demanding, tough, and uncertain. They are frequently concerned about maintaining normal blood glucose levels, medical difficulties, hypoglycemia and hyperglycemia

episodes, and other diabetes morbidity features. According to a cross-national survey, 2.8% of diabetic patients had several anxiety disorders and 18.0% had at least one type of anxiety disorder; generalized anxiety disorder was the most common (8.1%), followed by panic disorder (5.1%).[12]

*Diabetes and Quality of Life:* Constant monitoring and maintenance of normal blood glucose levels, the consistent use of anti-diabetic medications, the fear of hyper- or hypoglycemic episodes, the worry of developing medical complications, psychiatric comorbidities, limited food options, travel restrictions, the requirement to perform regular physical exercises, the cost of care, mobility problems, and decreased social interactions can all be difficult to manage. Diabetes patients experience a wide range of negative emotions, including anxiety, fear, anger, guilt, sadness, helplessness, hopelessness, frustration, and weariness, all of which severely reduce their quality of life.[13]

## Methods

Empirical research entails quantitative research method with cross-sectional research framework. A sample comprised of 100 participants suffering from diabetes both Type-I and Type-II. Sample was selected through convenience sampling technique and recruited by the investigator. For the collection of data standardized scales i.e., WHOQOL-BREF was developed by World Health Organization in 1995 and was revised in 2012 based on 26 items, The Problem Areas in Diabetes Scale (PAID-20) by Polonsky et al in 2005, based on 20 items and The Satisfaction with Life Scale (SWLS) developed by Dienear in 1985 based on 5 items were used. Analysis of data was accomplished through the application of both descriptive and inferential statistics. Correlation, regression and means were estimated by SPSS.

**Table 1:** *Person Product Movement Correlation Coefficient*

**Correlations**

| | | QOLT | EST | LST |
|---|---|---|---|---|
| **QOLT** | Pearson Correlation | 1 | .330** | .231* |
| | Sig. (2-tailed) | | .001 | .021 |
| | N | 100 | 100 | 100 |
| **EST** | Pearson Correlation | .430** | 1 | .416** |
| | Sig. (2-tailed) | .001 | | .000 |
| | N | 100 | 100 | 100 |
| **LST** | Pearson Correlation | .331* | .416** | 1 |
| | Sig. (2-tailed) | .021 | .000 | |
| | N | 100 | 100 | 100 |

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

## Results

Table 1 reveals that the value of (p=.021) for life satisfaction, (p=.001) for emotional states. It shows that there is a statistical significant difference between the variable value of (r=.330**) for emotional state depicting that there is a significantly positive relationship between Emotional State and Quality of Life. The value of (r= .2s31*) shows that there is a significantly minor positive relationship between Life Satisfaction and Quality of

**Table 2:** *Regression analysis summary for Quality of life, Emotional state, and Satisfaction with life among diabetics (N=100)*

| Variables | | $B$ | SE | T | P | 95.0% CI |
|---|---|---|---|---|---|---|
| **1** | Constant | 90.751 | 8.059 | 11.261 | .000 | (74.757, 106.745) |
| | EST | -.243 | .090 | -2.705 | .008 | (.422,-.065) |
| | LST | .281 | .259 | 1.084 | .281 | (.233, .794) |

Life.

Linear regression analysis was used to check the effect of EST and LST among diabetics. Results revealed that quality of life significantly predicts the emotional state and satisfaction with life among diabetics F (2, 97)=6.606, p<0.000 with an $R^2$ .120. The result revealed that emotional state has a negative impact on quality of life (β=-.283, p>.001) whereas satisfaction with life has a positive impact on quality of life (β=.114, p>.001)
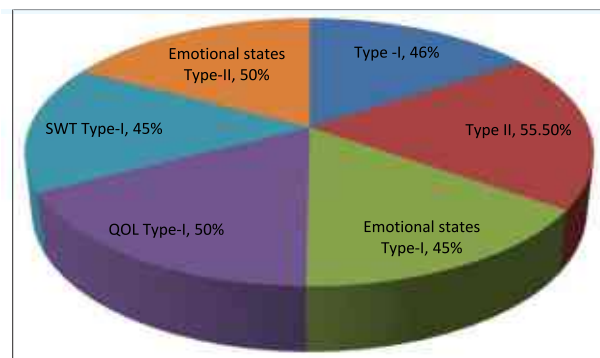


**Figure 1:** *Emotional States*

Pie chart elaborates that three mentioned constructs of the current research. Diabetics suffering from both Type-I and Type-II are equally affected with disturbances in their areas of functioning. This exploration reveals that if emotional states of the individuals with type-I or Type-II diabetes alter consequently, curve of their life satisfaction and quality of life will also be declined.

## Discussion

Diabetes is a chronic metabolic disease that impairs people's physical, social, intellectual, and psychological

well-being. Furthermore, neglected psychosocial concerns common in diabetes patients can have a negative impact on the patient's well-being and social life. This section expands on the important findings of recent research on the relationship between diabetes and quality of life (QOL), emotional state and satisfaction with life (SWL) in diabetics. The entire explanation has been attempted to be predicated on George Engel's (1977) Biopsychosocial model's plausible theoretical framework. This study also discusses Leventhal's (1984) and KK Browning's (2009) perspectives on self-regulation theory. Empirical study confirms the initial hypothesis that a negative correlation exists between emotional states and satisfaction with life.[11]

Findings of the current research explained that if emotional states of an individual suffering from diabetes improve consequently, it enhances quality of life and the basic hypothesis is that there will be a positive relationship between diabetics' quality of life and emotional condition. The data also suggest a moderately favorable connection between emotional state and quality of life. The reason for this is that when a person's quality of life improves, his or her negative emotional state improves as well. This occurs because as a person works on improving the quality of his or her life, he or she feels content with his or her life and the terrible emotional state improves. In addition, the results show a relatively favorable link between Life Satisfaction and Quality of Life.[8-13]

It demonstrates how an individual's emotional condition affects his quality of life and contentment with life. Literature backs up the evidence examined in empirical study. The current study showed a link between diabetics' quality of life, emotional state, and life satisfaction. Quality of life has a minor inverse association with emotional state and a strong positive link with life satisfaction.

## Conclusion

Empirical research highlighted the association among three constructs emotional states, quality of life and satisfaction with life. Diabetes is a collection of illness, current research evidently explored that emotional state in diabetics whether they are of type-I or type-II badly affects the quality of life which ultimately decreases satisfaction with life.

### Recommendations

Evidentially, it is recommended for future research to explore the impact of social support, stigma and other predictive factors responsible for the imbalance in emotional states and results an imbalance among quality of life and satisfaction with life.

## References

1. Aarthy R, Mikocka-Walus A, Pradeepa R, Anjana RM, Mohan V, Aston-Mourney K. Quality of Life and Diabetes in India: A scoping review. Indian J Endocrinol Metabol. 2021;25(5):365.

2. Aamir AH, Ul-Haq Z, Fazid S, Shah BH, Raza A, Jawa A, et al. Type 2 diabetes prevalence in Pakistan: what is driving this? Clues from subgroup analysis of normal weight individuals in diabetes prevalence survey of Pakistan. Cardiovasc Endocrinol Metabol. 2020; 9(4): 159.

3. Kharroubi AT, Darwish HM. Diabetes mellitus: The epidemic of the century. World J Diab. 2015; 6(6):850.

4. Daneman D. Type 1 diabetes. The Lancet. 2006; 367 (9513):847-58.

5. Meo SA, Zia I, Bukhari IA, Arain SA. Type 2 diabetes mellitus in Pakistan: Current prevalence and future forecast. J Pak Med Assoc. 2016;66(12):1637-42.

6. Trikkalinou A, Papazafiropoulou AK, Melidonis A. Type 2 diabetes and quality of life. World J Diab. 2017; 8(4):120.

7. Saeedi P, Salpea P, Karuranga S, Petersohn I, Malanda B, Gregg EW, et al. Mortality attributable to diabetes in 20–79 years old adults, 2019 estimates: Results from the International Diabetes Federation Diabetes Atlas. Diab Res Clin Pract. 2020;162(1):108086.

8. Aljuaid MO, Almutairi AM, Assiri MA, Almalki DM, Alswat K. Diabetes-related distress assessment among type 2 diabetes patients. J Diab Res. 2018; doi: https://doi.org/10.1155/2018/7328128.

9. Lloyd CM, Snelgrove RJ. Type 2 immunity: Expanding our view. Sci Immunol. 2018;3(25):eaat1604.

10. Roy T, Lloyd CE. Epidemiology of depression and diabetes: a systematic review. J Affect Disord. 2012; 142: S8-21.

11. Taylor A, Dal Grande E, Gill T, Fisher L, Goldney R. Detecting determinants of suicidal ideation: South Australian surveillance system results. Int J Public Health. 2007;52(6):142-52.

12. Chaturvedi SK, Gowda SM, Ahmed HU, Alosaimi FD, Andreone N, Bobrov A, et al. More anxious than depressed: prevalence and correlates in a 15-nation study of anxiety disorders in people with type 2 diabetes mellitus. Gen Psychiat. 2019;32(4):e100076.

13. Jing X, Chen J, Dong Y, Han D, Zhao H, Wang X, Gao F, Li C, Cui Z, Liu Y, Ma J. Related factors of quality of life of type 2 diabetes patients: a systematic review and meta-analysis. Health Qual Life Outcomes. 2018; 16(1): 1-4.