

# Level of Anxiety, Depression and Stress among Rural and Urban Diabetic Patients

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## ABSTRACT

The main objective of the present study was to assess the level of anxiety, depression and stress among rural and urban diabetic patients. It was hypothesized that there will be a significant difference between rural and urban diabetic patient with reference to anxiety, depression and stress. The researcher has adopted the quantitative descriptive research to gain the objectives of the present study. For the present research, work researcher has selected 320 diabetic patients (Type-II) age range between 30 to 65 years with the help of purposive random sampling techniques. Further, they were classified into 2 groups i.e. rural (160) and urban (160). Anxiety, Depression and Stress Scale was used; it was developed by Bhatnagar, P. et al. (2011). Data were analyzed by using means, standard deviation and F tests. Findings revealed that urban diabetic people have greater symptoms of anxiety whereas both rural and urban diabetic patients have more or less similar level of depression and stress.

## 1. Introduction

Illness behaviour means the ways in which symptoms are professed, evaluated and acted on by individuals (Mechanic, 1963). It can be conceptualized as having behavioural, cognitive and emotional aspects. Patients develop their own cognitive model of disease that comprises beliefs about aetiology, symptoms, the individual consequences of the illness, and the extent to which the disease is acquiescent to control (Weinman, Petrie & Moss-Morris, et. al. 1996). The perception of sickness has been shown to be interrelated to health outcomes together with the rate of improvement in chronic fatigue sufferers and come back to their occupation after a heart attack (Petrie, Weinman & Sharpe, et. al. 1996). Anxiety related to health is also influenced by illness behaviour and it refers to a concern about health in the absence of excessive concern when there is some degree of pathology (Lucock & Morley, 1996). High levels of health anxiety lead to actions intended at improving health or verdict out the presence of illness, including repeated consultations with medical professionals. Health anxiety may also lead to hyper-alertness for physical events and misinterpretations of usual physical sensation, thus contributing to somatic sensitivity.

Diabetes is often experienced as a burden and It can be hard to accept the disease, and feelings of depression, anxiety and frustration are common. Young women with Type-I diabetes are at risk for developing eating disorders. Many individuals who do not have diabetes find it difficult to understand the needs of someone with diabetes. Even if they mean well often, those without diabetes act in ways that are not supportive. For example, friends can encourage a person with diabetes to eat something they should not because once cannot hurt. Psychologists work with diabetic people in a number of ways. They can help the newly diagnosed diabetic person to understand the impact of diagnosis and their role in diabetes management. They can help them to modify their behaviours needed for successful diabetes management. They are trained to recognize and treat psychological distress,

including depression and anxiety that can develop when living with an unpredictable illness. Psychologists are cooperative in assisting the individuals to develop and lead the motivation requires following the daily routine of self-care. As well, family therapy and strategies to deal with social pressures are often beneficial to those with diabetes and their loved ones. Many people think that diabetes treatment is very simple, unfortunately, management is much more complicated. Psychological wellbeing is an important goal of medical care, and psychosocial factors are relevant to nearly all aspects of diabetes management. The International Diabetes Federation (IDF) estimated at least 285 million people worldwide are suffering from diabetes disease (about 6.4% of adults), with 46% of all those affected in the 40-59 age group; it is however predicted that it may reach up to 435 million by 2025 (IDF, 2010). Asia is one of the regions that have a high prevalence of diabetes mellitus.

Status of Diabetes Mellitus in India leads the world with the largest number of diabetic patients earning the dubious distinction of being termed the "diabetes capital of the world". As per the report of the Diabetes Atlas 2006 published by the International Diabetes Federation, the numbers of people with diabetes in India at present around 40.9 million and it is expected to rise to 69.9 million by 2025 unless imperative preventive steps are taken. According to Diabetes Atlas published by the International Diabetes Federation (IDF), there were an estimated 40 million persons with diabetes in India in 2007 and this number is predicted to rise to almost 70 million people by 2025.

Anxiety can be defined as a fear-based mental state, normally felt as a discomforting emotional state accompanied with physical sensations in the body. Anxiety is one of the most frequent diseases among all other psychiatric disorders. Knowledge of disease-specific and nonspecific risk factors facilitates the early identification of people at risk, which is important for further treatments. Anxiety-based mental

disorders (i.e. people diagnosed with SAD or GAD) are people who appear anxious about almost everything.

**Chew et al. (2016)** conducted a study to examine the prevalence of DRD and depression, and their associated factors in Asian adult T2DM patients. This study was conducted in three public health clinics measuring Diabetic Related Distress (DRD) (Diabetes Distress Scale, DDS), and depression (Patient Health Questionnaire, PHQ). Patients who were at least 30 years of age, had T2DM for more than one year, with regular follow-up and recent laboratory results (<3months) were consecutively recruited. Associations between DRD, depression and the combination DRD-depression with demographic and clinical characteristics were analysed using generalized linear models. From 752 invited people, 700 participated. It was revealed that DRD and depression were common and correlated in Asian adults with T2DM at primary care level. Socio-demographic more than clinical characteristics were related to DRD and depression.

## 2. Statement of Problem

The present investigation attempts to “**Level of Anxiety, Depression and Stress among Rural and Urban Diabetic Patients**”

## 3. The significance of the study

The researcher believes that anxiety affects patient's response to the feeling of discomfort, pain and whole health behaviour, with patients who are anxious about their health is more likely to consult physicians and report increased health problems. Another important aspect of this research work is stressful. Stress can have serious health implications, increasing the risk of exacerbating medical conditions such as diabetes, hypertension and depression. Stress is unavoidable, that is why it is globally accepted that in the modern era, stress plays a significant role in leading or causing various fatal diseases like chronic diabetes, hypertension. Diabetes, anxiety, and depression are frequent pathologies, and each constitutes a public health problem in our country. These pathologies are known to be more frequent in elderly people. Whereas diabetes is easy to detect and diagnose, this is not always the case with anxiety and mood disorders.

## 4. Objectives

To investigate the level of the Anxiety, Depression and Stress among Diabetic patients with reference to the locality of patient i.e. Rural and Urban.

## 5. Operational Definitions

**Anxiety:** Anxiety is a psychological and physiological state characterized by cognitive, somatic, emotional and behavioural components. These components combine to create an unpleasant feeling that is typically associated with uneasiness, fear or worry. Anxiety is a generalized mood or state that occurs without an identifiable triggering stimulus. Anxiety is a normal reaction to stress. It may help a person to deal with a difficult situation, for example at work or at school, by prompting one to cope with it. When anxiety becomes

excessive, it may fall under the classification of an anxiety disorder.

**Depression:** In the present study, the term “Depression” refers to symptoms of depression such as hopelessness and irritability, as well as physical symptoms that were measured by the Beck Depression Inventory, Beck & Beamesdefer, (1974).

**Stress:** Stress is a normal physical response to events that make you feel threatened or upset your balance in some way. When you sense danger—whether it's real or imagined—the body's defences kick into high gear in a rapid, automatic process known as the “fight-or-flight-or-freeze” reaction, or the *stress response*.

## Diabetes:

Type 1 diabetes results from the body's failure to produce enough insulin. This form was previously referred to as “insulin-dependent diabetes mellitus” (IDDM) or “juvenile diabetes”. The cause is unknown.

Type 2 diabetes begins with insulin resistance, a condition in which cells fail to respond to insulin properly. As the disease progresses a lack of insulin may also develop. This form was previously referred to as “non-insulin-dependent diabetes mellitus” (NIDDM) or “adult-onset diabetes”. The primary cause is excessive body weight and not enough exercise.

Patient with Diabetes In the present study, “Patients with Diabetes” implies to those who suffer from type 2 diabetes who are newly diagnosed (less than three months).

## 6. Hypothesis

- ( $H_{01}$ ) There will be no significant difference between Rural and Urban diabetic patients in relation to Anxiety level.
- ( $H_{02}$ ) There will be no significant difference between Rural and Urban diabetic patients in relation to Depression level.
- ( $H_{03}$ ) There will be no significant difference between Rural and Urban diabetic patients in relation to the Stress level.

## 7. Research Design

The present study was not possible experimentally because of the nature of the investigation. The researcher has adopted the quantitative descriptive research to gain the objectives of the present study. Quantitative Descriptive research includes data collection through questionnaire quantification of the responses of the respondents and fact findings. Quantitative Descriptive research involves collecting data in order to test a hypothesis or to answer questions concerning the current status of the subjects of the study.

## 8. Variables

The independent variable as the explanatory variable, it is presumed cause of changes in the values of the dependent variable, the dependent variable is the expected outcome of the independent variable. Dependent variables are also termed

criterion variables and independent variables, as predictor variables.

In the present investigation Locality of diabetic patients, was taken as Independent Variables whereas the level of Anxiety, Depression and Stress were selected as Dependent Variables. Independent variable is manipulated through the selection method.

**9. Sample**

For the present research, work researcher has selected 320 diabetic patients (Type-II) age range between 30 to 65 years with the help of purposive random sampling techniques. Further, they were classified into 2 groups i.e. Rural (160) and Urban (160).

**10. Criteria**

The following inclusion /exclusion criteria were followed in the present study:

**Inclusion Criteria**

- A. Only new diagnosed (less than three months) diabetic patients with type 2 diabetes were selected.
- B. All the patients were selected between the age ranges of 30 to 65 years.
- C. The patients must have at least a secondary school education.

**Exclusion Criteria**

- A. The patients should not have any other problem (complications) with diabetes.
- B. The patient should not have any Mood Disorders due to Bipolar disorder, Mood disorder and Substance-induced mood disorder.
- C. The patient should not have any Anxiety disorders due to Generalized Anxiety Disorder and Social Anxiety Disorder.
- D. The patients should not have any other acute / chronic illness.

**11. Tools**

The investigator after screening a number of available tests finally selected the following tool to collect the data:

**Anxiety, Depression and Stress Scale:** - This scale was developed by Bhatnagar, P. et al. (2011) and published by National Psychological Corporation. This scale consists of 48 items divided into Three Sub Scale –

- I. Anxiety,
- II. Depression and
- III. Stress.

This scale was administered to 1177 adults. This scale consists of satisfactory validity and reliability.

**12. The procedure of Data Collection**

The investigator with great interest planned the data collection soon after selecting the sample and finalizing the

research. General and private hospitals were approached and requested to grant permission for data collection. All of them asked about the aims and objectives of this research work. After fulfilling some official formalities and conditions, arrangements to meet the patients of diabetic (Type-II) were made. Personally established a good rapport with the subjects, only new diagnosed (less than three months) type- 2 diabetic patients were selected.

Each subject was given a questionnaire and requested to read statements one after the other and give their responses in the response column by choosing the appropriate response for each statement, whichever they felt correct and appropriate. The expectations of the questionnaire from the subjects were explained in detail. The investigator clarified and explained the doubts if they had any. There was no limitation of time to respond. The respondents were requested not to leave any item unanswered and incomplete.

**13. Scoring**

Scoring of the obtained data was done with help of respective manuals available for the tests in the present study. The data have been arranged in the respective tables according to the statistical tests applied.

**14. Statistical Analysis**

Descriptive statistical measures like mean and standard deviation were used to see the level of Anxiety, Depression and Stress among individuals with diabetes type-II of according to Gender. ANOVA (Analysis of variance) was computed to determine whether there is a significant mean difference between various pairs of diabetic patients.

**15. Result & Discussion**

**Table 1:- Showing Mean, SD & Mean difference between Rural and Urban diabetic patients for dependent variable Anxiety.**

Locality	N	Mean	SD	F	Sig. Level
<b>Rural</b>	160	7.75	3.13	14.76	<i>p</i> <.01
<b>Urban</b>	160	8.92	3.58		

Table no.1 shows F value and mean score for the locality in which mean difference and F ratio is reported significant  $F(1,160) = 14.76, p <.01$ . Mean score obtained by Rural patients is 7.75 (SD = 3.13) and for Urban patients is 8.92 (SD = 3.58), whereas the mean difference of both the groups is 1.17. Difference between both the mean value of rural and urban patients suggested that there is a wide difference among both the group on anxiety. Urban patients felt elevated anxiety level as compared to rural patients. Findings might be interpreted in terms of lack of awareness about diabetes among rural patients. Therefore,  $H_0_3$  was discarded.

**Table 2:- Showing Mean, SD & Mean difference between Rural and Urban diabetic patients for dependent variable Depression.**

Locality	N	Mean	SD	F	Sig. level
<b>Rural</b>	160	6.31	3.33	3.37	NS
<b>Urban</b>	160	6.89	3.03		

Table no. 2 reported a two way analysis of variance yielded the main effect for the locality,  $F(1, 160) = 3.37, p > .05$ , such that depression level of urban patients with type – II diabetes was observed slightly higher ( $M = 6.89, SD = 3.03$ ) than for rural type – II diabetic patients ( $M = 6.31, SD = 3.33$ ). Mean difference for both the group is 0.58. Findings indicated that both the groups are similar towards depression. Thus, both the groups are more or less equal level depression. Therefore,  $H_{02}$  is also accepted.

**Table 3:- Showing Mean, SD & Mean difference between Rural and Urban diabetic patients for dependent variable Stress.**

Locality	N	Mean	SD	F	Sig. level
Rural	160	7.88	3.36	.01	NS
Urban	160	7.91	3.03		

Table no.3 shows F value and mean score for the locality in which mean difference and F ratio is reported insignificant  $F(1,160) = 0.01, p > .05$ . Mean score obtained by Rural patients is 7.88 ( $SD = 3.36$ ) and for Urban patients is 7.91 ( $SD = 3.03$ ), whereas the mean difference of both the groups is 0.03. Difference between both the mean value of rural and urban patients suggested that there is a negligible difference among both the group on stress. Both urban and rural diabetic type – II

patients have felt equal stress. Findings might be interpreted in terms of lack of awareness about diabetes among rural patients. Hence,  $H_{03}$  was also maintained.

## 16. Conclusion

The aim of the present investigation was to study the effect of locality of diabetic patients on the level of Anxiety, Stress and Depression. As far as the role of Locality is concerned with the level of anxiety among diabetic patients, urban diabetic people have greater symptoms of anxiety. It has been noticed that rest of the two dependent variables i.e. depression and stress are not influenced by independent variable locality. Yet life stress is inevitable, and therefore, learning strategies for reducing and dealing with life stress and depression are critical to the psychological well-being of diabetic patients.

## 17. Implications of present research

- The finding of the present research work will be useful in achieving a better understanding of diabetic patients and also in training and counselling them.
- A complete understanding of the demographic factors acquired through the present research will be useful for the well being of the diabetics in the future.

## References

1. Bhatanager, P., Singh, M., Pandey, M., Dandhya, Amitabh (2011) Manual for Anxiety, Depression and Stress Scale, National Psychological Corporation, Agra.
2. Chew, B.H., Vos, R., Mohd-Sidik, S., Rutten, G.E. (2016). Diabetes-Related Distress, Depression and Distress-Depression among Adults with Type 2 Diabetes Mellitus in Malaysia. *PloS One*. 11(3). doi: 10.1371/journal.pone.0152095.
3. Edward L. Fox & Donald K. Mathews, (1981). Blood flow and gas transport, The Physiological basis of Physical Education and Athletes, New York: Saunders College Publishing, p.239.
4. Lucock, M. P. & Morley, S. (1996). The health anxiety questionnaire. *British Journal Health Psychology*, 1, pp.137-150.
5. Mechanic, D. (1963). The concept of illness behavior. *Journal of Chronic Disease*, 15, p.189.
6. Petrie, K. J., Weinman, J. & Sharpe, N. et al. (1996). Role of patient's view of their illness in predicting return to work and functioning after myocardial infarction: longitudinal study. *British Medical Journal*, 312, pp.1191-94.
7. Rajput, R., Gehlawat, P., Gehlan, D., Gupta, R. & Rajput, M. (2016). Prevalence and predictors of depression and anxiety in patients of diabetes mellitus in a tertiary care center. *Indian Journal of Endocrinology and Metabolism*. 20 (6), pp.746-51.
8. Shahi, M. & Mohammadyfar, M. A. (2017). Comparison of depression, anxiety, stress, quality of life, and alexithymia between people with type II diabetes and non-diabetic counterparts. *Personality and Individual Differences. Science Direct*. 104 (1). pp.64-68.
9. Surwit RS, van Tilburg MA, Zucker N, McCaskill CC, Parekh P, Feinglos MN, Edwards CL, Williams P, Lane JD (2002). Stress management improves long-term glycemic control in Type 2 diabetes. *Diabetes Care*. 25 (1), pp.30-34.
10. Surwit, R.S., Scovern, A.W., Feinglos, M.N. (1982). The role of behaviour in diabetes care. *Diabetes Care*. 26, pp.337-342.
11. Weinman, J., Petrie, K. J. & Moss-Morris, R. et al. (1996). The illness perception Questionnaire: a new method for assessing the cognitive representation illness. *Psychological Health*, 11, pp.431-445.