



CODEN [USA]: IAJPBB

ISSN: 2349-7750

**INDO AMERICAN JOURNAL OF  
PHARMACEUTICAL SCIENCES**<http://doi.org/10.5281/zenodo.3901154>Available online at: <http://www.iajps.com>

Research Article

**THE PREVALENCE OF DEPRESSION WITH RELATION TO  
MARITAL STATUS IN SAMPLE POPULATION OF  
DISTRICT LAHORE****Dr. Reema Aijaz<sup>1</sup>, Dr. Abdullah Bin Sana ullah<sup>1</sup>, Dr. Faisal Iqbal<sup>2</sup>**<sup>1</sup>Jinnah Hospital Lahore,<sup>2</sup>Medical Officer at District Headquarter Hospital Kasur.**Article Received:** April 2020**Accepted:** May 2020**Published:** June 2020**Abstract:**

**Introduction:** Depression is the most common mental disorder among diabetics. Evidence points to Depression relates to an increased risk of developing diabetes. Depression is the main cause of the global burden of disease and the second leading cause of years lived in disability (YLD) in 2010 (Gale EMA et. al.). Women and Adults of working age group are more affected. Whilst Global disease burden has increased by 37.5% between 1990 and 2010. Approximately 15% of the population and 6–8% of all outpatients fulfill the diagnostic criterion for depression. However often it is left undiagnosed. Male to female ratio is 1:2 (Alvin C Powers et. al.).

**Methodology:** Setting: This study is conducted at Diabetic clinic of Jinnah Hospital, Lahore.

Sample size: the total sample size estimated using 95% diabetic patients 250, 5% margin of error with an expected percentage of depression 14.7%.8

Sample Selection: Consecutive non-probability sampling

**Results:** Depression among the married people with 54.1% of the married people being depressed. Among the singles this prevalence was 45.1% where was divorcees had this prevalence of 68.2%. This has p-value of 0.54 so it can be stated with confidence that depression was most prevalent with divorced individuals. However none of the patients in this group suffered from extreme depression.

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Please cite this article in press Reema Aijaz et al., *The Prevalence Of Depression With Relation To Marital Status In Sample Population Of District Lahore.*, Indo Am. J. P. Sci, 2020; 07(06).

**INTRODUCTION:**

Depression is the most common mental disorder among diabetics. Evidence points to Depression relates to an increased risk of developing diabetes. Depression is the main cause of the global burden of disease and the second leading cause of years lived in disability (YLD) in 2010 (Gale EMA *et. al.*). Women and Adults of working age group are more affected. Whilst Global disease burden has increased by 37.5% between 1990 and 2010. Approximately 15% of the population and 6–8% of all outpatients fulfill the diagnostic criterion for depression. However often it is left undiagnosed. Male to female ratio is 1:2 (Alvin C Powers *et. al.*). International Classification of Diseases (ICD-10) classifies Depressive disorders or ‘episodes’ as mild, moderate or severe, with or without somatic symptoms. Among the individuals with severe depressive episodes, presence or absence of psychotic symptoms can help further differentiate the affected population. Depressive disorder, clinical or ‘major’ depression, indicates depression, regimen, speech, energy disorder and frustration. Symptoms should end at least 2 weeks and cause a significant inability to understand the illness (e.g. trouble working or relating to others) (Ahmed AM *et. al.*). Since there are markedly variable results among studies done locally, with local data suggesting prevalence as low as 14.7% to as high as 60% [6,7,8]. I want to determine the frequency of depression in patients with diabetes mellitus myself. Which will help determine the more accurate prevalence of depression in diabetics among local community attending diabetic clinic at Jinnah Hospital Lahore. International Classification of Diseases (ICD-10) classifies Depressive disorders or ‘episodes’ as mild, moderate or severe, with or without somatic symptoms. Among the individuals with severe depressive episodes, presence or absence of psychotic symptoms can help further differentiate the affected population. Depression disorder indicates clinical or "basic" depression mode, speech, energy and disadvantages of thoughts. Symptoms should last at least 2 weeks and cause significant disability (for example, problems related to work or issues related to others), be considered a disease (White P *et. Al.*).

Depressive illness is the leading cause of Global Burden of Disease and the second leading cause of years lived in disability (YLD) in 2010. Women and Adults of working age group are more affected. Whilst Global disease burden has increased by 37.5% between 1990 and 2010 (Ferrari AJ *et. at.*) Approximately 15% of the population and 6–8% of all outpatients fulfill the diagnostic criterion for depression. However often it is left undiagnosed. Male to female ratio is 1:2.

**METHODOLOGY:**

Setting: This study is conducted at Diabetic clinic of Jinnah Hospital, Lahore.

Sample size: the total sample size estimated using 95% diabetic patients 250, 5% margin of error with an expected percentage of depression 14.7%.8

Sample Selection: Consecutive non-probability sampling

Inclusion Criteria

- Both Genders with ages 18 years - 60 years
- Both Genders taking Oral hypoglycemic or subcutaneous Insulin for at least 3 months or more determined by history.

Exclusion Criteria

- Mental Retardation determined through history, physical examination along with previous medical records and consultant opinion in this regard.
- Malignancy determined by going through previous medical records.
- Chronic schizophrenia indicated by any positive history of psychotic episodes, hallucinations and through physical examination along with previous medical records and consultant opinion in this regard.
- Drug addiction determined through history.

Study Design: Descriptive cross-sectional study

Data Collection

250 patients visiting Diabetic clinic for their diabetic follow up will be included per criteria in study after taking informed consent. After selection of patient study Performa will be filled by me. After inquiring all the questions from Beck’s depression inventory II scale, final score will be allocated to each patient according to respective responses.

**DATA ANALYSIS**

Data will be analyzed in SPSS version 21. Frequency and percentage will be determined for qualitative variables i.e. gender and presence of depression and its severity. Mean and standard deviation will be calculated for quantitative variables i.e. age. Data will be stratified for the duration of diabetes, control of diabetes (HbA1c), economic status, Marital status, smoking status and history of exercise. Chi-square test will be applied post-stratification with p-values less than or equal 0.05 considered as significant.

**RESULTS:**

Relationship of severity of Depression with marital status

Table below showed that depression among the married people with 54.1% of the married people being depressed. Among the singles this prevalence was 45.1% where was divorcees had this prevalence of 68.2%. This has p-value of 0.54 so it can be stated with confidence that depression was most prevalent with divorced individuals. However none of the

patients in this group suffered from extreme depression.

#### Frequency of Depression with relating to marital status

Count		Marital Status			Total
		Single	Married	Divorced	
Depression status	Normal	39	62	14	115
	Depressed	32	73	30	135
Total		71	135	44	250

Table 1. Frequency of Depression with relating to marital status {P-value 0.054}

#### Relationship of smoking status with Depression

Table below shows that majority of the depressed population belonged to non-smoker group among whom 55.8% of the nonsmokers were depressed. Whereas among smokers this percentage was 52.2%. While Ex-smokers 47% were suffering from some sort of depression. 74 out of 172 nonsmokers were suffering from mild clinical depression and moderate depression with 37 each in both groups, however p-value was 0.625 which made this finding inconclusive.

#### Depression status \* Smoking Status Crosstabulation

Count		Smoking Status			Total
		Non Smoker	Smoker	Ex-Smoker	
Depression status	Normal	76	21	18	115
	Depressed	96	23	16	135
Total		172	44	34	250

Table 2. Frequency of Depression with relation to Smoking status ,P-value = 0.625

#### Prevalence of depression over various age groups

Table below shows that most depressed people lied in their sixth decade of age with majority suffering from mild clinical depression i.e. 21 of 89 (23.5%) along with moderate depression i.e. 23 of 89 (25.8%) of the patients who were within age group of 50 years to 60 years. It showed that depression was least prevalent among the ages of 12-19 years of age as 84.6% of these patients has no detectable depression. It is also noted that in other age groups depression was within ranges of 58.4% to 50.9% among the rest of the study populations. However due to non-significant p-value of 0.381 this could not be concluded. Also prevalence of depression steadily increased among diabetic patients as their age increased i.e. 12 year – 19 year was 1.5%, 20 year – 29 year was 11.1%, 30 year – 39 year was 21.5%, 40 year to 49 year was 27.4%, 50 year – 60 year was 38.5%. This has p-value of 0.381, which made this finding insignificant.

#### Beck Depression Inventory - II Score \* Age Groups Crosstabulation

Count		Age Groups					Total
		12yr - 19yr	20yr - 29yr	30yr - 39yr	40yr to 49yr	50yr - 60yr	
Beck Depression Inventory - II Score	Normal (BDI - II score Less Than 17)	11	12	28	27	37	115
	Mild clinical depression (BDI- II score: 17 – 20))	0	6	12	12	21	51
	Moderate depression (BDI- II score: 21 – 30)	1	6	9	16	23	55
	Severe depression (BDI- II score: over 31 )	1	3	8	9	8	29
Total		13	27	57	64	89	250

Among the 250 patient's mild clinical depression was seen in 20.4%, moderate depression was seen in 22%, severe depression was seen in 5.2% and extreme depression was seen in 6.4% patients. 54% of the married people

were depressed. Among the singles this prevalence was 45% where as divorcees had this prevalence of 68%. (P-value less than 0.01, significant).

### DISCUSSION:

Depressive syndromes are defined in Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) diagnoses major depressive disorder if when more than five of the below mentioned conditions are present more than 2 weeks. These conditions have to be present more most of the time of the day, every day (Moller-Leimkuhler AM *et. al.*).

- Emotional symptoms:
  - o Depressed mood\*
  - o Loss of interest / pleasure in most activities\*
- Neurovegetative symptoms:
  - o Loss of sleep or excessive sleep
  - o Alteration in appetite or weight (5%)
  - o Psychomotor retardation or agitation
  - o Low energy
  - o Diminished ability to think or concentrate
- Ideational symptoms:
  - o Thoughts of worthlessness or guilt
  - o Recurrent thoughts about death or suicide

\*One of the first two are essential symptoms absolutely necessary to diagnose are depressed mood or loss of interest or pleasure and one of them have to make it among the 5 symptoms if major depressive disorder is to be labeled

DSM – 5 has proposed to include following forth group of “anxiety symptoms” among this list but is not yet adapted

- Irrational worry
- Obsession with unpleasant worries
- Troubled relaxing
- Tense feelings
- Fear that something awful might happen

Diagnosis is made based upon clinical history and examination which involves interviewing the subjects him/herself and the account of their family members. Interview revolves around establishing presence of following:

- Psychiatric symptoms: These have been discussed above. Also determine their chronologic order, assess their functional status, and determine any aggravating factors
- Mental status examination: This is to detect presence of alterations in speech, psychomotor activity, mood and affect, thought processes, and suicidal thought content
- Medical history: specifically current and past medical history along with use of medications and systemic review

### CLINICAL PRESENTATION

Apart from the symptoms listed above following observations have been made

- Gender variances
  - o Women may be more likely to report neurovegetative and emotional symptoms.

- o Men present often with irritability.

### Classification of Depression

- Major depression with atypical features  
Atypical characteristics may include signs with sluggish behavior or complete paralysis.
- Seasonal affective disorder:  
This occurs in recurrent fashion with waxing and waning of weather pattern.
- Major depression with melancholic features  
They have Non-reactive mood along with severe neurovegetative symptoms.
- Major depression with psychotic features  
This subset of patients have features of psychotic (delusions and hallucinations) symptoms.

### SCREENING

Following are well-established screening tools  
Geriatric Depression Scale (GDS) (Sheikh JI *et. al.*)  
It's valid for younger adults as well despite its name. Its 5-item version has 5 question and score of 2 is necessary to screen positive for a patient. Its sensitivity ranges from 50% to 97% with median of 85%. While specificity is from 51% to 98% with median of 74%.

Patient Health Questionnaire - Nine Item (PHQ-9) (Lowe B *et. al.*)

The PHQ-9 establishes the clinical diagnosis of depression, and does not require further confirmation. It has 9 questions which are given score and can be categorized into mild, moderate, moderately severe and severe depression.

Beck Depression Inventory for Primary Care (BDI-PC) (Beck AT *et. al.*)

It has 7 questions from the extensively validated 21-item Beck Depression Inventory The score of 4 points out of 7 establishes diagnosis of major depression. It has 97% sensitivity and 99% specificity.

### Beck Depression Inventory – II

It contains 21 questions given in annexure-I, with each option scaled at value of 0 to 3. Based on cumulative score It categorizes depression into following states based on severity:

- 0–13: minimal depression
- 14–19: mild depression
- 20–28: moderate depression
- 29–63: severe depression.

It has sensitivity (87%) and specificity (79%) for screening depression (Homaifar BY *et. al.*).

These individuals should be referred to a proper mental health facility as it was detected in meta-analysis screening/case-finding interventions alone

has no or minimal impact management, or outcome of depression by clinicians in general settings (Gilbody S et. al.).

#### Laboratory evaluation

These may include Complete blood count, Serum electrolytes and glucose, Serum urea and creatinine, Liver function tests, Thyroid stimulating hormone (TSH), Screening for syphilis, Serum B12 and folate, Urine routine examination. Electrocardiogram may be done to find a source of possible embolic cerebral infarct, and MRI brain for clinically occult vascular or mass lesions.

#### CONCLUSION:

In our study Incidence of depression steadily increased among diabetic patients as their age increased i.e. 12 year – 19 year was 1.5%, 20 year – 29 year was 11.1%, 30 year – 39 year was 21.5%, 40 year to 49 year was 27.4%, 50 year – 60 year was 38.5%.(p-value = 0.381) which could not be confirmed, perhaps we needed a larger sample size to confirm these findings. Perhaps age takes its toll along with other psychological stressors to increase the depression incidence in older population. Prevalence of depression among the divorced were maximum of the 3 groups (single, married and divorced) which was 68% (p-value less than 0.01) which can be associated as a risk factor for development of depression in our population. Thus, suggesting a stricter screening should be carried out for diabetics who were divorcee.

Smoking couldn't be established as a risk factor for depression as it was evenly distributed among smokers and non-smokers (p-value = 0.903).this is in contrast to international study according to which patients with depression are more prone to smoking.

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