

Study to assess the level of depression among diabetic patients in selected hospital

JHARNA BAG, SAHELI SENAPATI

Abstract

Introduction : Depression occurrence is two to three times higher in people with diabetes mellitus, the majority of the cases remaining under-diagnosed. An important aspect for the diabetic specialist would be the understanding of the common origins of diabetes and depression and the awareness of this quite common comorbidity, in order to improve the outcomes of both diseases. **Background** There is evidence that the prevalence of depression is moderately increased in prediabetic patients and in undiagnosed diabetic patients, and markedly increased in the previously diagnosed diabetic patients compared to normal glucose metabolism individuals. The prevalence rates of depression could be up to twice as high in people with type 2 diabetes compared with the general population worldwide. **Materials and methods:** The quantitative research approach, nonexperimental, descriptive survey research design was adopted among 60 type 2 diabetes mellitus patients. The study was conducted in selected medical wards of Midnapore medical college and hospital, Paschim Medinipur. The conceptual framework was based on input, process, output model from system theory of Ludwig Von Bertalanffy model. The Beck's Depression Inventory (BDI) is a 21 item self report rating inventory was used to assess depression. Sampling was done by nonprobability purposive sampling. **Results :** The study results that 13.34% of diabetic patients have mild mood disturbance, 10% diabetic patients have borderline clinical depression, 36.67% diabetic patients have moderate depression, 16.67% diabetic patients have severe depression and 3.34% diabetic patients have extreme depression. **Conclusion :** The following conclusion is drawn from the study and this study shows that 80.02% diabetic patients are affected in depression. Diabetes & depression occur together as frequently as would be predicted by chance alone.

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I. Introduction

The chronic metabolic disorder diabetes mellitus is a fast-growing global problem with huge social, health, economic consequences^[1]. About 422 million people worldwide have Diabetes Mellitus, the majority living in low and middle income countries and 1.5 million deaths are directly attributed to diabetes each year^[2].

Diabetes is the most psychologically & behaviorally demanding of chronic medical illness, it may be particularly affected by depression.

In recent year Diabetes has become one of the leading causes of death worldwide. Diabetes Mellitus is a common disease with a crude mortality rate is 627 per 100,000 person in a year and standardized mortality ratio is 519^[3].

II. Background of the study

Diabetes Mellitus represents a spectrum of metabolic disorders and has emerged as a major health issue worldwide. Diabetes is a growing challenge in India with estimated 8.7% Diabetic population in the age group of 20 to 70 years^[4]. In 2019, diabetes was the direct cause of 4.2 million deaths^[5]. Life analyses by the Kaplan Meier method indicated cumulative survival rate 92.1% at 20 yrs & 79.6% at 30 yrs duration of diabetes^[6].

The population based study from India to report on depression shows that the prevalence of depression was 15.1%^[7]. India is home to estimated 57 million people affected by depression^[8].

Diabetes & depression occur together as frequently as would be predicted by chance alone. Comorbid diabetes and depression are a major clinical challenge as the outcome of both condition are worsened by the others.

The International Diabetes Federation estimates the total no. of people in India with diabetes to be around 72.9 million in 2017 rising to 134 million by 2045^[9].

Kumar K. N, Katkuri S. (2018) conducted a study to assess prevalence of diabetes mellitus and its associated risk factors among adults. A cross sectional study carried out in population 30 yrs and above in rural area of Khamman district of Telanga. Near about 74(8.1%) were diagnosed as type2 DM. The prevalence of DM was 16.22% in 30-40 years age group, 24.32% in 41 – 50 years age group, 43.34% In 51- 60 years age group and 16.2% in 61 – 70 years of age group^[10].

Edah J (2020) conducted a study to highlight undiagnosed depression among adults with diabetes mellitus. A descriptive cross-sectional study results that one hundred and eighty-four (59.35%) of the study population were females and the mean age (SD) of the study population was 53 ± 11 yrs and that of males was 54 ± 12 yrs with no significant statistical difference ($P=0.35$), 249 (80.32%) of population were urban dwellers with 140 (45.16%) earning $>N500,000$ (794USD) yearly. Current major depression was found in 35(11.3%) patients among whom 7(2.3%) had current depression..^[11]

Problem statement

Study to assess the level of depression among diabetic patients in selected hospital, West Bengal

Objectives

➤ To assess the level of depression among diabetic patients in selected hospital, West Bengal

Conceptual framework:-

The model consists of three components input, process and output.

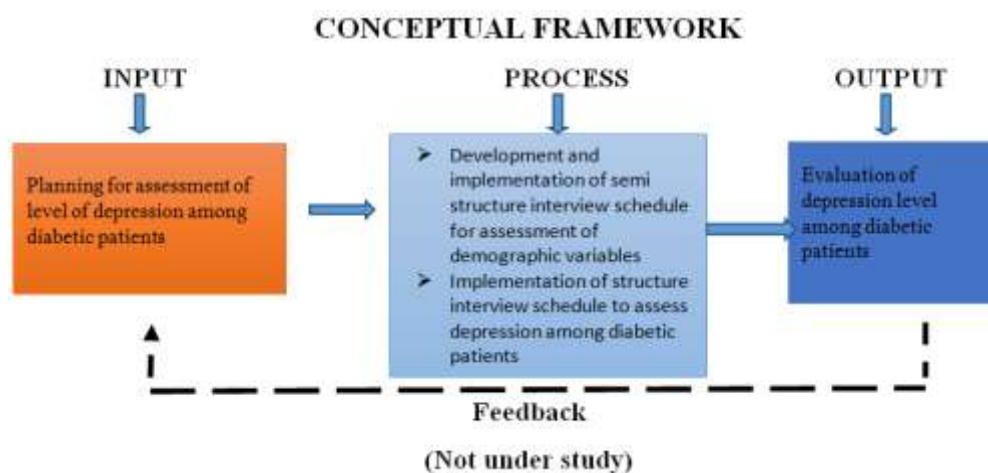


Fig.1: Conceptual frame work using system model of Ludwig Von bertalanssny (1950) for assessing level of depression among diabetic patients.

Research approach

The researchers adopted quantitative approach for this study.

Research design

The researchers adopted descriptive survey design for the study.

Variables under study

- Demographic variable:
Age (in year), sex, height (in cm), weight (in kg), educational background, occupation, monthly income (in rupees), fasting blood glucose level
- Research variable:
Level of depression among diabetic patients.

Setting of the study

The present study was conducted in Male Medicine Emergency & Female Medicine Emergency Wards of Midnapore Medical College and Hospital.

Sample

The samples were diagnosed type 2 diabetic patients of Male Medicine Emergency & Female Medicine Emergency ward of Midnapore Medical College and Hospital who met the inclusion criterias.

Sample size

Sample size is 60.

Sampling technique

Sampling technique is the process of selection of the portion of population for the study. In this study we have adapted non probability purposive sampling technique.

Inclusion criteria

- Diagnosed type 2 diabetic patients.
- Those who are willing to participate.
- Those who can understand Bengali.
- Fasting blood sugar level ≥ 100 mg/dl

Exclusion criteria

- Those who are not willing to participate.
- Type 1 diabetes mellitus patients
- Pregnant mothers with diabetes

Tools for data collection**Tool-1**

Demographic data which gives baseline information of age, sex, height, weight, educational background, occupation, income in month, fasting blood glucose level

Tool-2

Standard tool on Beck's Major Depression Inventory.

Validity of the tool:

The tool is given to the five experts of College of Nursing, Midnapore Medical College & Hospital, Paschim Medinipur. The experts are requested to give their opinions and suggestions regarding the appropriateness, accuracy, relevance of the item.

Reliability:

The Beck's Depression Inventory (BDI) is a 21 item self report rating inventory that measures characteristics, attitudes and symptoms of depression(Beck, 1961).Internal consistency for the BDI ranges from 0.73 to 0.92 with a mean of 0.86(Beck, Steer, Garbin, 1988).The BDI demonstrates high internal consistency with alpha coefficients of 0.86 and 0.81 for psychiatric and nonpsychiatric populations respectively (Beck, 1988).^[12]

Analysis and interpretation:

- **Section-I:** Findings related to description of participants in terms of demographic information.
- **Section-II:** Findings related to description of participants in terms of level of depression related to diabetes mellitus.

Organization :- Tool -1 findings related to characteristics of the sample in term of age, sex, BMI, heredity, education, occupation, monthly income.

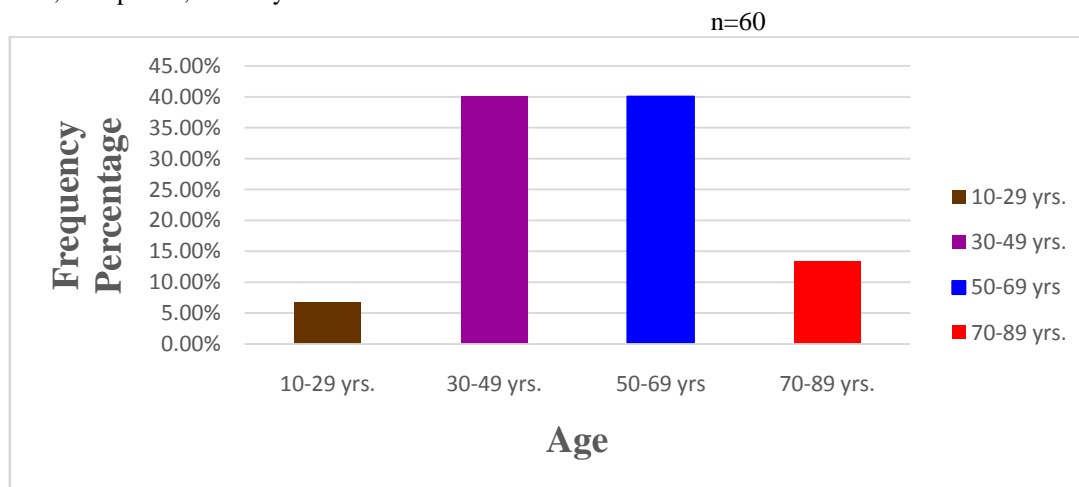


Fig-2: This bar diagram shows that 6.67% of samples are between 10-29 yrs, 40% of the sample are between 30-49 yrs, 40% of samples are between 50-69 yrs, 13.30% of samples are between 70-89 yrs.

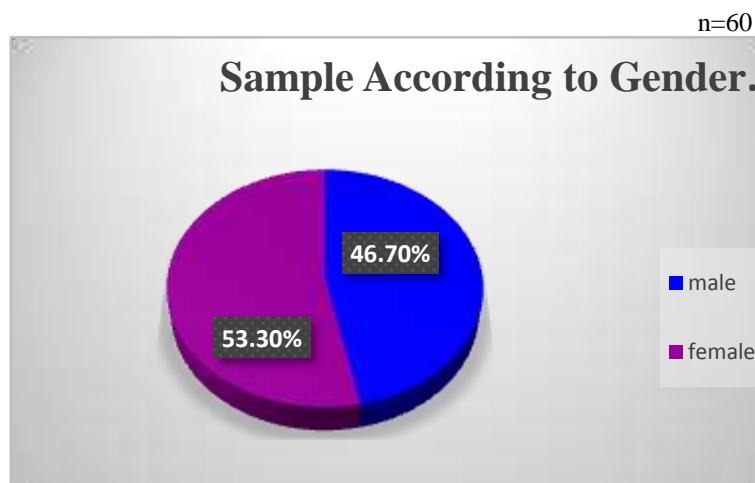


Fig-3: This pie diagram shows that 53.3% of female and 46.7% of male are affected from diabetes mellitus.

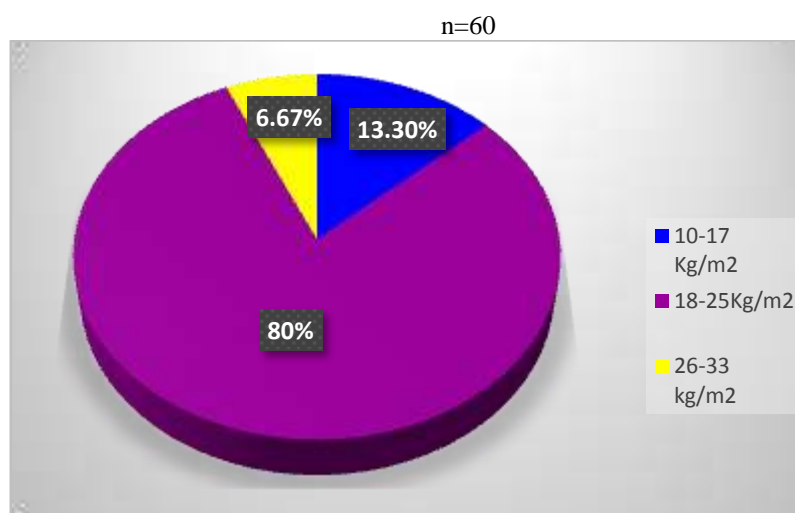


Fig- 4 : This pie diagram shows that 13.3% of samples have BMI in between 10-17 Kg/m² which is normal, 80% of samples have BMI in between 18-25 Kg/m² which is over weight, 6.67% of samples have BMI in between 26-33 Kg/m² which denotes obesity.

Table 1: Frequency and Percentage distribution according to the duration of illness.
n=60

Duration of illness (yr)	Frequency	Percentage (%)
<5	52	86.67%
6 -10	4	6.66%
11 -15	0	0%
16 -20	4	6.66%

This table shows that 86.67% of sample have duration of illness <5 yr, 6.66% of sample have duration of illness in between 6 yr-10 yr, 0% of sample have duration of illness in between 11 yr-15 yr, 6.66% of sample have duration of illness in between 16 yr-20 yr.

n=60

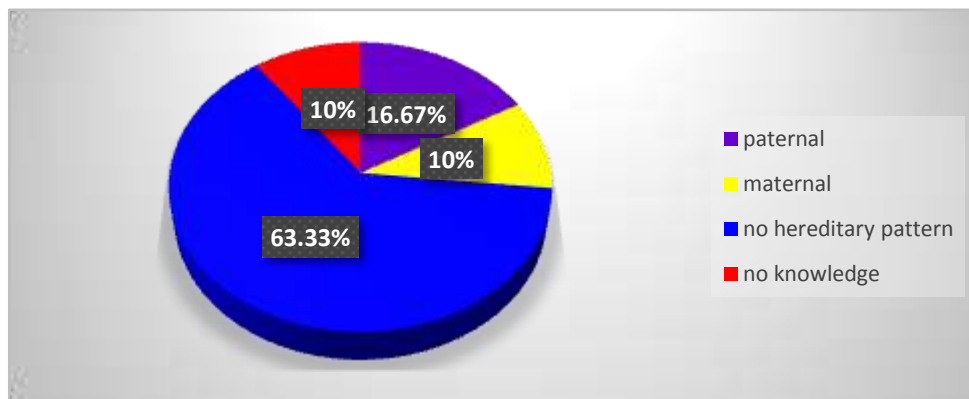


Fig 5: This pie diagram shows that 16.67% of samples has paternal type hereditary pattern, 10% of samples has maternal type heredity, 63.33% of samples have no hereditary link & 10% of samples have no knowledge regarding hereditary pattern.

n=60

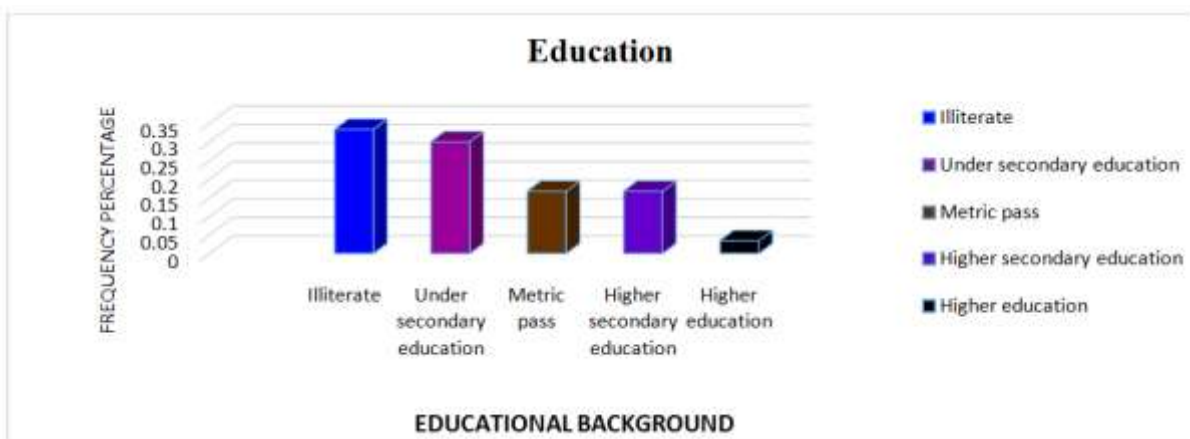


Fig 6: This bar diagram shows that 33.34% of samples are illiterate, 30% of samples are under secondary education, 16.66% of samples are metric passed, 16.66% of samples are higher secondary passed, 3.34% of samples are higher educated.

n=60

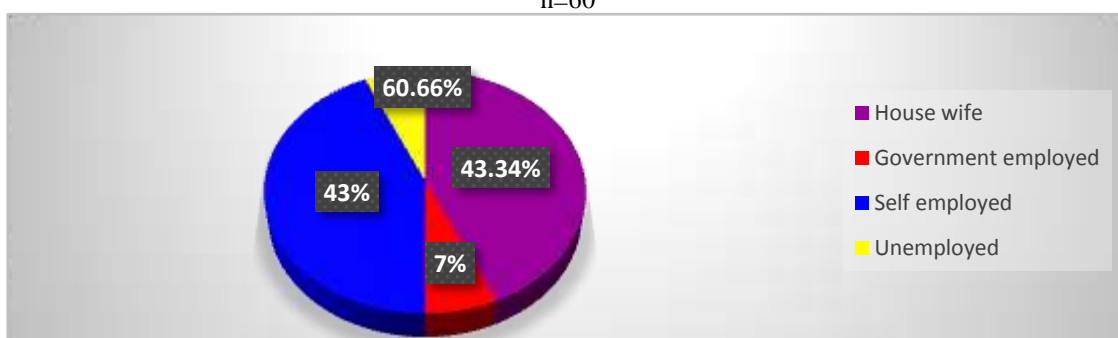


Fig 7: This pie diagram shows that 43.34% of samples are house wife, 6.66% of samples are government employed, 43% of samples are self employed, 6.66% of samples are unemployed.

Table 2 :Frequency and Percentage distribution according to the monthly income (in Rs.) per capita.

Monthly income (Rs)	Frequency	Percentage (%)
0-7000	44	73.34%
8000-15000	12	20%
16000-23000	2	3.33%
>23000	2	3.33%

This table shows that 73.34% of samples have monthly income per capita Rs.0-7000, 20% of samples have monthly income per capita Rs.8000-15000, 3.33% of samples have monthly income per capita Rs.16000-23000, 3.33% of samples have monthly income per capita Rs. >23000.

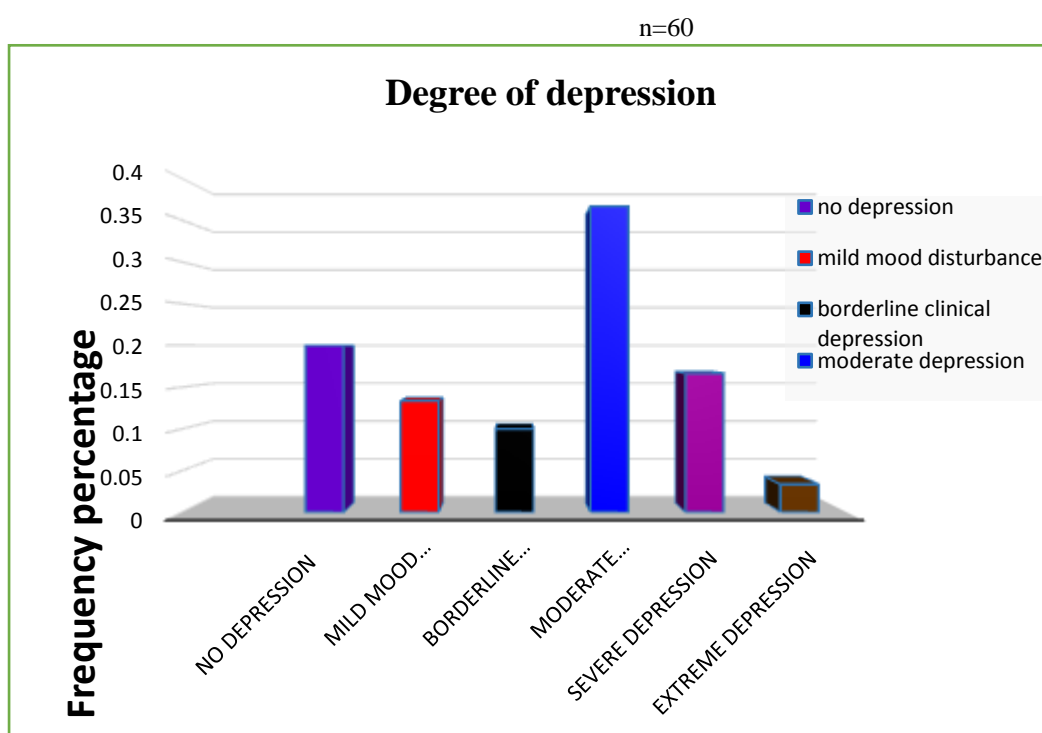


Fig8: This bar diagram shows that 20% of samples suffer from no depression, 13.34% of samples suffer from mild mood disturbance, 10% of samples suffer from borderline clinical depression, 36.67% of samples suffer from moderate depression, 16.67% of samples suffer from severe depression, 3.34% of samples suffer from extreme depression.

Major findings :

Findings relayed to the description of samples according to their demographic characteristics.

82.02% of diabetic patients are affected by depression. Majority of the people (36.67%) have moderate depression. 20% of samples have no depression, 13.34% of samples have mild mood disturbance, 10% samples have borderline clinical depression. 36.67% samples have moderate depression, 16.67% samples have severe depression, 3.34% samples have extreme depression.

III. Conclusion

The following conclusion is drawn from the study and this study shows that 80.02% diabetic patients are affected in depression. In which 13.34% of samples have mild mood disturbance, 10% samples have borderline clinical depression, 36.67% samples have moderate depression, 16.67% samples have severe depression, 3.34% of samples have extreme depression.

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