

## Physical Co-Morbidity according to ICD-10 Criteria among Patients with Depressive Disorder

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### ABSTRACT

**OBJECTIVE:** To detect the prevalence of physical co-morbidities according to International Classification of Diseases (ICD-10) among patients with Depressive disorder.

**DESIGN:** Descriptive cross sectional study.

**SETTING:** Psychiatric consultation clinic of JPMC Karachi.

**METHODS:** Patients of either gender and age >18 years were consecutively selected after informed consent, Ethical issues were addressed according to Institutional Review Board (IRB), JPMC, Karachi. Patients with psychotic symptoms, personality disorders, dementia, and history of substance use were excluded. ICD-10 criteria, beside complete history, physical examination & lab investigations were used to confirm the diagnosis of depression and physical co-morbid. Prescribed questionnaire was used to collect the data and analyzed in SPSS version-17. Descriptive statistics were calculated for age, gender, marital status, education, socioeconomic status and co-morbidity.

**RESULTS:** Total 100 cases fulfilled the inclusion criteria. Their Mean  $\pm$ SD age was 32.7  $\pm$ 16.7 years. Both genders were equally vulnerable, (50% each). Fifty three percent had moderate, 31% mild and 16% had severe depressive disorder. Hypertension was the most common (18%) in male patients & sinusitis was the most common (28%) in female patients with depression. Other co-morbidities included Diabetes Mellitus, Epilepsy, Migraine, HCV, Anemia, Chronic Kidney Disease (CKD), Urinary Tract Infection (UTI) & Menopausal syndrome (in women), Obesity, Asthma and Facial pain.

**CONCLUSION:** Physical co-morbidities are prevalent among patients with depressive disorder. Presence of physical co-morbid may decrease the chances of treatment compliance, increase risk of treatment failure, relapse of depression, worse prognosis and elevated the treatment cost. Early detection and simultaneous management of these co-morbid with depression are suggested.

**KEY WORDS:** Depression, Physical comorbidities, Hypertension, Sinusitis.

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### INTRODUCTION

Depressive disorder is a common mental disorder that presents with depressed mood, loss of interest or pleasure, decreased energy, guilt feelings or low self-worth, disturbed sleep or appetite, and poor concentration<sup>1</sup>. It is the most common chronic condition encountered in psychiatric & general medical practice, second only to cardiovascular disease<sup>2</sup>. Its prevalence in general population is documented as 2-9%<sup>3</sup>. Worldwide an estimated 350 million people currently suffer from Depressive Disorder<sup>4,5</sup>. Although population without depressive disorder may be suffering from many diseases which are unreported and undiagnosed or these may be accidentally diagnosed as co-morbidities, yet it is a fact that depression is associated with in-

creased physical morbidity and mortality<sup>6</sup>.

According to a survey in USA, 68% of adults with mental disorders have medical conditions<sup>7</sup>. Depression is a risk factor for a variety of physical illness and is often associated with physical co-morbidity. These may include co-existing physical, mental health, use of alcohol/ other drug (AOD), or somatic problems such as cardiovascular and cerebrovascular disease, diabetes mellitus, irritable bowel syndrome and cancers<sup>8,9</sup>. Depression alone produces a level of disability equivalent to any other chronic disease and, when combined with other physical illness, this effect is multiplied. The prevalence of multi-morbidity in the general population is estimated to be as much as 29%. This association gets worse with increasing age<sup>10,11</sup>. Evaluation of physical co-morbid in patients with

depressive disorder is important because it usually increases burden of illness and disability, lead to or exacerbates the relapse, may potentially worsen the suicidal tendency & may also hamper the effectiveness of antidepressant (drug-drug interaction)<sup>12</sup>. Emotional stress can precipitate severe, reversible left ventricular dysfunction in patients without coronary disease<sup>13</sup>. Thus the cost of treatment and consumption of health care resources are increased<sup>14</sup>. Physical co-morbidity with depression is associated with 17%–46% increase in health costs<sup>14,15</sup>. In our day to day practice many patients of depression are seen which are also having other physical co-morbidities. These co-morbidities are less discussed by the patients and thus are not taken care of or treated simultaneously. This leads to not only lengthening of psychiatric illness but also increases the morbidity, mortality and cost of care. Therefore this study aimed to investigate the issue and examine the frequency of physical co-morbidity among patients presenting with depressive disorders in Karachi & bring the magnitude of burden to the pool of evidence. There is no data available in local context which justifies the necessity of this study.

**METHODS**

This cross sectional study was conducted at Psychiatric consultation clinic of Jinnah Postgraduate Medical Center Karachi using interview-administered survey from November 2013 to March 2014. One hundred out of 431 patients of depressive disorder (clinically diagnosed in OPD as per ICD-10 criteria) having age ≥18 years, of either gender were included in the study. Patients having psychotic symptoms, personality disorders, dementia, with history of psychoactive substance use, were excluded from the study. We strictly followed these criteria to control potential bias and confounders.

The assessment included detailed history, physical examination, mental state examination supported with laboratory tests and consultation with physician in selected cases. Co-morbidity was defined as “the co-occurrence of mental and physical disorders in the same person, regardless of the chronological order in which they occurred or the causal pathway linking them.”<sup>16</sup> For diagnostic purpose, criteria of ICD-10 including all other chapters related to physical disorders in addition to Chapter-V related to mental and behavioral disorders were applied. Patients having history of recent weight gain/ obesity were excluded from the study.

HAM-D score 8 to 17 labeled as mild, 18 to 24 moderate, while score of 25 and above was labeled as severe depression.

A valid written consent was taken from all participants and ethical issues were addressed according to IRB

committee of JPMC, Karachi. A pre-tested questionnaire was used to collect the data. Data entered in SPSS version-17 for analysis. The statistics were calculated for age, gender, marital status, education, socioeconomic status and co-morbidity and presented as mean ±SD/proportion.

**RESULTS**

Table I shows the demographic statistics. Mean ± SD age of all patients was 32.7 ± 16.7 years. Both genders were equally sampled. (50% each). A vast majority was married (79%). Eleven percent were either widowed or separated. Slightly less than one quarter (23%) of patients was preliterate while 70% were educated up to middle or higher. Up to 59% patients had monthly family income of 10,001-30,000 PKR/ month. More than half of all patients 53% had moderate, 31% mild & 16% had severe Depression. (Table I).

Figure I, shows frequency of co-morbidity in male and female patients with Depression according to which hypertension was the most common (18%). On the other hand sinusitis was found to be the most common (28%) co-morbidity in female patients with Depression.

**TABLE I: DEMOGRAPHIC DATA OF PATIENTS WITH DEPRESSION (n=100)**

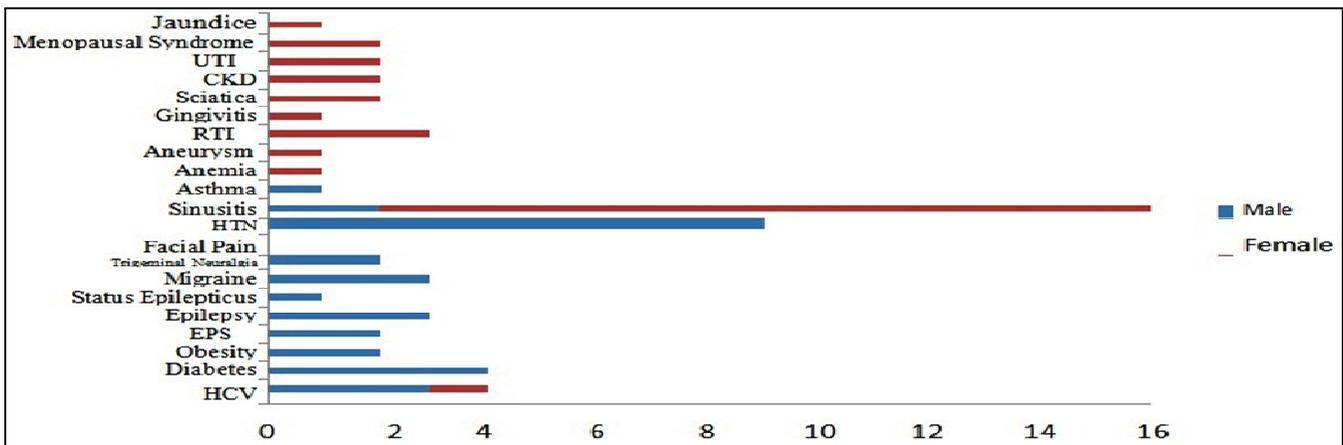
Variable	Value
<b>Age</b> (mean ± SD)	45.7± 11.2
<b>Gender</b> (Percent %)	
Male	50
Female	50
<b>Marital status</b> (Percent %)	
Married	79
Widow/ Separated	11
Single	10
<b>Educational status</b> (Percent %)	
Preliterate	23
Primary	06
Middle	16
Matriculation (SSC)	21
Intermediate (HSC)	27
Graduate and above	07
<b>Socio-economic status</b> (Percent %)	
<10,000 (PKR/ month family income)	17

10,001-30,000 (PKR/ month family income)	59
30,001-50,000 (PKR/ month family income)	19
≥50,001 (PKR/ month family income)	5
<b>Severity of depression</b>	
Mild	31
Moderate	53
Severe	16

## DISCUSSION

Depression is the most common of all psychiatric disorders. It is a major shareholder of the global burden of disease. It is prevalent all around the world and thus it affects us all directly or indirectly. A multicenter survey found that as much as 5% of entire world population at least once had an episode of depression in the previous year<sup>4,5</sup>. Although depression can be well treated with available efficacious and cost-effective treatment regimen; yet a larger proportion of

**FIGURE I: PHYSICAL CO-MORBIDITY IN MALE AND FEMALE WITH DEPRESSION (n=100)**



ICD-10	Diseases	Male	%	Female	%
B18	HCV	3	6%	1	2%
E14	Diabetes	4	8%	0	0%
E66	Obesity	2	4%	0	0%
G21	Extra Pyramidal Side effects	2	4%	0	0%
G40	Epilepsy	3	6%	0	0%
G41	Status Epilepticus	1	2%	0	0%
G43	Migraine	3	6%	0	0%
G50	Trigeminal Neuralgia	2	4%	0	0%
G51	Facial Pain	2	4%	0	0%
I10	Hypertension	9	18%	0	0%
J32	Sinusitis	2	4%	14	28%
J45	Asthma	1	2%	0	0%
D 50	Anemia	0	0%	1	2%
I 72	Aneurysm	0	0%	1	2%
J 22	Respiratory Tract Infection	0	0%	3	6%
K 05	Gingivitis	0	0%	1	2%
M 51	Sciatica	0	0%	2	4%
N 18	Chronic Kidney Disease	0	0%	2	4%
N 30	Urinary Tract Infection	0	0%	2	4%
N 95	Menopausal Syndrome	0	0%	2	4%
R 17	Jaundice	0	0%	1	2%

depressed patients either do not get or leave the depression treatment partially completed. Reasons of this include the lack of resources, lack of trained providers, and the social stigma associated with mental disorders. One important reason of hampering antidepressant treatment is presence of co-morbid physical illness<sup>6-9,12,17</sup>.

The current study evaluated the presence of physical co-morbidities among patients presenting with depression. For this purpose ICD-10 criteria was used. The study found that among depressed patients physical co-morbidity with chronic medical diseases is prevalent. The study found that 56% depressed patients had one or other co-morbid physical disorder (especially related to ICD-10 code J=Respiratory=18%, G=Neurological=14% and I=Cardiovascular system=8%). These were diagnosable according to ICD-10 criteria.

Findings of the current study are comparable with similar studies. One such study from Slovenia reported that prevalence of co-morbidity with depression was 40.7%. The study further reported that prevalence of hypertension was 26%<sup>18</sup>. Although Hypertension in our study was 18%, yet it is the most common co-morbid in both studies. The similar study noted that Diabetes mellitus was detected among 8.6%<sup>19</sup> and the current study found it to be 8% in depressed patients. However; the gender distribution was different as the mentioned study had nearly two third females (62%). These findings are comparable with western studies where increased association has been found between depression and chronic respiratory diseases,<sup>19</sup> hypertension<sup>20</sup> and peptic ulcer disease<sup>21</sup>.

Apart from above mentioned; the occurrence of physical co-morbidity with depression found in some studies include, coronary heart disease, malignant disease, chronic pulmonary disease, chronic bowel disease & ulcers, gastritis, GERD, dysphagia etc. The current study found that hypertension, diabetes, HCV & migraine were more common among males while sinusitis, RTI, Sciatica, CKD, UTI & menopausal syndrome were common among female patients having depression. According to a comparative study depressed patients were 1.20 times (for cardiovascular conditions) to 2.08 times (for trauma and iatrogenic conditions) more likely than the control (non-depressed) group to have a physical condition<sup>22</sup>.

Selic P et al<sup>19</sup> had reported that among patients having depression, 22.1% patients had lower than primary school education while only 9.4% has university and

higher education. Almost identical finding of this study highlights potential association between level of education and prevalence of depression

In the current study proportion of married patients was slightly more than some of other international studies. This difference may be due to the regional difference. In western world separation or divorce had been more common than our eastern culture however; the trend of separation & divorce are also increasing rapidly in our society<sup>10-12,17,20</sup>. This factor by itself may be the possible explanation of increasing prevalence of depression in our society. Frequency of co-morbidity with depression is affected by the age of patients. It increases with the increase age & severity of depression<sup>8,9,12,14,19</sup>. The mean age of patient in this study was 32.7 ±16.7 years, younger & mildly depressed patients had lesser frequency of co-morbidity.

Although current study has highlighted an important aspect, yet the results may not be generalized; as this study is from a single center with small sample. Further study at community level will be helpful for most appropriate representation.

## CONCLUSION

Physical co-morbidities with depression may decrease the chances of treatment compliance, increase risk of treatment failure, relapse of depression, worse prognosis and elevated the treatment cost. Early detection and simultaneous management of any co-morbid with depression is suggested.

## RECOMMENDATIONS

Patients having simultaneous depression & physical co-morbidity usually first present to primary health care provider which is a general practitioner in our setup<sup>4,11</sup>. These first contact care providers should be educated to assess such patients thoroughly for any chronic disorders whenever a patient present to them with symptoms of depression. The new version of ICD-11 should have some quotes from the dental section as with appropriate coding readily available. It is highly likely that these patients improve quickly if both (or all) morbidities are treated simultaneously<sup>23,24</sup>.

**Conflict of Interest:** None.

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