Epidemiological study of depressive disorders among patients attending outpatient clinics of Assiut University Hospitals

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Background

Depression is a common mental health problem, seen frequently in general medical settings. Primary care physicians are more likely to see patients with depression than with any other disorder, except hypertension.

Aim

To estimate the percentage of depressive disorder among patients attending outpatient clinics of Assiut University Hospitals.

Methods

A cross-sectional study was carried out during a 1-year period from 1 June 2006 to 31 May 2007; 2304 individuals 15 years of age and older were screened for depression using the Beck Depression Inventory. Patients who scored 4 or more were further evaluated using a psychiatric sheet especially prepared for the present work. The psychiatric diagnosis of patients was made on the basis of the DSM-IV-TR criteria.

Results

Depression was found in 202 patients, representing 8.8% of the entire sample, with 167 patients (82.7%) classified as having major depressive disorder, 28 patients (13.9%) with depressive disorder NOS, 26 patients (12.9%) with minor depression, two patients (1%) with postpartum depression, five patients (2.5%) with dysthymic disorder, and finally two patients with bipolar disorder, depressive episode. Depression was found to be significantly higher among female patients, highly educated, literate individuals, nonworking men, and among divorced/widowed/separated individuals. Depressive disorders were also significantly higher among patients with certain medical conditions (e.g. malignancy, disfiguring conditions, autoimmune conditions, renal diseases, and hepatic diseases).

Conclusion

Depression is a common mental health problem, seen frequently in general medical settings, and necessitates close psychiatric attention and management.

Keywords:

depression, medical disorders, prevalence

Introduction

Depression is a common mental health problem, seen frequently in general medical settings. Major depressive disorders (MDDs) are diagnosed by structured psychiatric interviews and specific diagnostic criteria; they are present in 5–13% of patients seen by primary care physicians (Katon and Schulberg, 1992). The prevalence of this disorder in the general population is about 3–5% (Myers et al., 1984). In the National Comorbidity Survey (Blazer et al., 1990) of 8098 individuals, aged between 15 and 54 years, the estimated prevalence of current major depression was 4.9%. Depression is more common in individuals who are young, females, single, divorced, separated, seriously ill, or who have a previous history or a family history of depression (Weissman, 1987).

MDD can result in serious sequelae. The suicide rate in depressed patients is at least eight times higher than that in the general population; the most significant effect of major depression may be on the quality of life and productivity rather than suicide. This effect is widespread and has been shown to be comparable with that associated with major chronic medical conditions such as diabetes, hypertension, or coronary heart disease (Wella et al., 1989). Moreover, depressed individuals frequently present with a variety of physical symptoms three times the number of somatic symptoms of controls in one study (Waxman et al., 1985). If their depression is not diagnosed, these patients may be subjected to the risk and costs of unnecessary diagnostic testing and treatment.

It has been documented repeatedly that primary care providers do not identify major depression in approximately half of their adult patients with this disorder

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(Coyne *et al.*, 1991). Because the majority of individuals with depression are seen by nonpsychiatric physicians, and because effective treatment drugs, psychotherapy, or a combination of the two are available for the treatment of depression, screening could result in improved identification and earlier treatment of depression, with improved patient outcome (Elkin *et al.*, 1989).

Clinical trials have shown that the use of depression screening tests in the primary care setting can increase clinician detection of depression (Attkisson and Zich, 1990). A large number of studies have shown that depression screening can lead to increased identification and treatment of depression in primary care patients.

Population and methods

The present work is a cross-sectional study of patients attending outpatient clinics of Assiut University Hospitals during a 1-year period from 1 June 2006 to 31 May 2007, with the aim of estimating the percentage of depressive disorders among patients attending various outpatient clinics of Assiut University Hospitals. The sample size was determined on the basis of the following equation:

$$N = (Z_{1-a/2})^2 P(1-P)/D^2,$$

where N is the sample size; $Z_{1-a/2}$ is the number of SE from the mean; P is the proportion of the best guess about the value of the proportion of the interest; D is the absolute precision required on either side of the proportion or the distance; how close to the proportion interest.

The estimate is desired to be when confidence interval = 95%. Every 10th patient attending the clinic was selected for screening.

Study samples in the present work included 2304 patients, 15 years of age and older, who attended outpatient clinics of Assiut University Hospitals. Most patients attending outpatient clinics of Assiut University Hospitals were those seeking treatment for the first time and not referred from other primary or secondary care centers. Patients were studied at different outpatient clinics.

Inclusion criteria:

(1) 15 years of age or older, of both sexes;
(2) willing to participate in the study.

Exclusion criteria:

Patients with disturbed level of consciousness, aphasia, and mental retardation were excluded.

Table 1 lists the distribution of the individuals studied in different outpatient clinics of Assiut University Hospitals.

Methods

(1) An initial sheet was used to collect data such as name, sex, residence, educational level, marital status, family size, and special habits of the studied group. The sheet also included data of the clinical

Table 1 Distribution of the studied individuals in different clinics (N = 2304)

Variables	N (%)		
	Males	Females	Total
Internal medicine	100 (4.3%)	136 (5.9%)	236 (10.2%)
Dermatology	109 (4.7%)	106 (4.6%)	215 (9.3%)
ENT	101 (4.4%)	94 (4.1%)	195 (8.5%)
Orthopedics	86 (3.7%)	90 (3.9%)	176 (7.6%)
Physiotherapy	79 (3.4%)	97 (4.2%)	176 (7.6%)
Ophthalmology	100 (4.3%)	76 (3.3%)	176 (7.6%)
General surgery	74 (3.2%)	81 (3.5%)	155 (6.7%)
Gynecology and obstetrics	–	118 (5.1%)	118 (5.1%)
Neurology	50 (2.2%)	68 (3%)	118 (5.1%)
Psychiatry	45 (2%)	53 (2.3%)	98 (4.3%)
Chest	51 (2.2%)	47 (2%)	98 (4.3%)
Urology	52 (2.3%)	28 (1.2%)	80 (3.5%)
Gastroenterology	33 (1.4%)	25 (1.1%)	58 (2.5%)
Cardiology	26 (1.1%)	32 (1.4%)	58 (2.5%)
Dentistry	22 (1%)	36 (1.6%)	58 (2.5%)
Neurosurgery	23 (1%)	16 (0.7%)	39 (1.7%)
Diabetes	25 (1.1%)	14 (0.6%)	39 (1.7%)
Fever	21 (0.9%)	18 (0.8%)	39 (1.7%)
Hypertension	16 (0.7%)	14 (0.6%)	30 (1.3%)
Nephrology	12 (0.5%)	10 (0.4%)	22 (1%)
Vascular	12 (0.5%)	8 (0.3%)	20 (0.9%)
Plastic	8 (0.3%)	12 (0.5%)	20 (0.9%)
Cardiothoracic	14 (0.6%)	6 (0.3%)	20 (0.9%)
Oncology	8 (0.3%)	12 (0.5%)	20 (0.9%)
Hepatitis viruses clinic	16 (0.7%)	4 (0.2%)	20 (0.9%)
Epilepsy	10 (0.4%)	10 (0.4%)	20 (0.9%)
Total	1093 (47.4%)	1211 (52.6%)	2304 (100%)

diagnosis (as made by specialists in the outpatient clinic), often confirmed by an appropriate investigation that was also picked up in the initial sheet. Finally, the initial sheet was concluded by inquiring about the history of any psychiatric illnesses and their duration.

(2) All selected patients were then screened for the presence of depressive symptoms by the Beck Depression Inventory (BDI) (Beck, 1988). The BDI is a 13-question multiple-choice self-report inventory, one of the most widely used tools for measuring the severity of depression.

(3) Once diagnosed with depression (scoring ≥ 4 on a BDI scale), selected depressed individuals were further subjected to psychiatric sheet analysis, especially prepared for the present work and used to conduct the psychiatric interview. The diagnosis was made on the basis of the DSM-IV-TR criteria (American Psychiatric Association, 2000) from the interview. The data from medical and neurological examination were also included in the sheet.

Ethical considerations

(1) A written consent was taken from all patients who participated in the study according to the ethics committee of Assiut University.
(2) This study was designed to be carried out using questionnaires; therefore, no physical harm was inflicted on the individuals who participated in this study.
(3) Data collected from the patients who participated in the study were kept confidential.

Statistical analysis

Numerical data were represented as mean ± SD. Nominal data were represented as frequencies and percentages. The t-test was used to compare any two groups or categories. One-way analysis of variance was used to compare more than two groups or categories. The χ^2-test was used to determine the relations or comparisons in nominal data. A P-value of less than 0.05 was considered significant.

Results

This cross-sectional study included 2304 patients; of these, 1093 were men and 1211 were women, with a male to female ratio of 1 : 1.11. Overall, 1607 (69.6%) patients were from rural areas, 578 (25.1%) patients were illiterate, 1603 (69.6%) patients were literate, and only 123 (5.3%) patients were highly educated, 1055 (45.8%) patients were housewives, 839 (36.4%) were nonskilled workers, and 1841 (79.9%) were married (Table 2).

Administration of the BDI to surveyed individuals (2304 individuals) yielded 202 patients with current depressive disorders, representing 8.8% of the entire sample.

Of the 202 patients with depressive disorders, 167 patients (82.7%) were classified as having MDDs, 28 patients (13.9%) were found to have depressive disorder NOS [26 patients (12.9%) with minor depression and only two patients (1%) with postpartum depression], five patients (2.5%) were found to have dysthymic disorder, and two patients (1%) with bipolar disorder, depressive episode (Table 3).

Out of 2304 studied individuals, 202 (8.8%) were classified as having current depressive disorder, of whom 70 were

men and 132 were women, with a male to female ratio of 1 : 1.89. One hundred and thirteen (57.9%) patients were from rural communities and 89 (42.1%) were from urban communities. Thirty-six (17.8%) patients were illiterate, 146 (72.3%) patients were literate, and 20 (9.9%) patients were highly educated. One hundred and ten patients (54.5%) were housewives and 39 (19.3%) were nonskilled workers. Twenty-seven (13.4%) patients were single, 153 (75.7%) were married, and 22 (10.9%) were divorced/widowed/separated (Table 4).

Out of 1095 studied male patients, depression was found in 70 male patients (6.4%), whereas out of 1209 studied female patients, depression was found in 132 female patients (10.9%). The difference was statistically significant ($P < 0.01$).

The percentage of depression was significantly higher among women in the age group between 35 and younger than 45 years ($P < 0.05$) and in the age group 45 to younger than 55 years ($P < 0.01$) (Tables 5 and 6).

With respect to education, the percentage of depression was significantly higher among individuals who were highly educated or literate compared with the illiterate patients ($P < 0.01$). With respect to residence, the percentage of depression was significantly higher among patients from urban communities compared with those from rural communities ($P < 0.001$) (Table 7).

The percentage of depression was significantly higher among nonworking patients in the studied sample ($P < 0.01$) (Table 8).

Table 9 shows that the percentage of depression was significantly higher among divorced/widowed/separated patients ($P < 0.05$).

Table 2 Demographic characteristics of the screened individuals

	N (%)		
Variables	Males ($N = 1093$)	Females ($N = 1211$)	Total ($N = 2304$)
Age group (years)			
15	153 (6.6%)	118 (5.1%)	271 (11.8%)
25	195 (8.5%)	254 (11%)	449 (19.5%)
35	265 (11.5%)	383 (16.6%)	648 (28.1%)
45	266 (11.5%)	321 (13.9%)	587 (25.5%)
55	172 (7.5%)	124 (5.4%)	296 (12.8%)
65	41 (1.8%)	9 (0.4%)	50 (2.2%)
75–85	1 (0.00004%)	2 (0.0008%)	3 (0.0013%)
Residence			
Rural	707 (30.7%)	897 (38.9%)	1604 (69.6%)
Urban	386 (16.8%)	314 (13.6%)	700 (30.4%)
Education			
Illiterate	206 (8.9%)	372 (16.1%)	578 (25.1%)
Literate	803 (34.9%)	800 (34.7%)	1603 (69.6%)
Highly educated	84 (3.6%)	39 (1.7%)	123 (5.3%)
Occupation			
Nonskilled workers	816 (35.1%)	23 (1%)	839 (36.4%)
Skilled workers	88 (3.8%)	9 (0.4%)	97 (4.2%)
Employees	93 (4%)	25 (1.1%)	118 (5.1%)
Housewives	–	1055 (45.8%)	1055 (45.8%)
Not working in mean time	56 (2.4%)	73 (3.2%)	129 (5.6%)
Students	40 (1.7%)	26 (1.1%)	66 (2.9%)
Marital state			
Single	216 (9.4%)	107 (4.6%)	323 (14.0%)
Married	828 (35.9%)	1013 (44%)	1841 (79.9%)
Divorced/widowed/separated	49 (2.1%)	91 (3.9%)	140 (6.1%)

With respect to medical and psychiatric diagnosis, Table 10 lists the most frequently encountered diagnosis associated with depressive disorders in the study. The percentage of depression was significantly higher among patients with different malignant conditions (50% of the studied patients), followed by those with disfiguring conditions [i.e. skin conditions (psoriasis and vitiligo), scars, ulcers, and burns] (45.8%), then autoimmune conditions (SLE, rheumatoid arthritis, ITP, and DS) (36.4%) and loss of vision (36%). Depression was found in 33.3% of patients with renal impairment, the same percentage in patients with liver diseases,in about 27.3% of patients with infertility,and in 25% of patients with TB chest. Patients presenting with depression in the psychiatry clinic were excluded from the table

Table 11 lists the most frequently encountered symptoms of depression in patients presenting with mild, moderate, and severe forms of depression. Note that the item mild included minor and mild depressions in the previous classification for severity.

Discussion

The diagnosis of depression in the primary care setting is particularly difficult because psychological and physical symptoms of depression may overlap with other physical illnesses, which makes the diagnosis of depression among patients with severe or multiple chronic illnesses challenging. Moreover, patients do not present with clearly identifiable symptoms, fail to reach the threshold diagnostic criteria for MDD, do not accept the diagnosis, or have multiple medical and mental health comorbidities that compete for clinical attention (Klinkman, 2003).

In the present work, out of 2304 studied individuals, we reported 202 (8.8%) patients with depressive disorders; of these, 167 (7.25%) patients had MDD. In agreement,

Table 3 Distribution of depressive disorders in the studied sample

Depressive disorders	Frequency (%)	Total (%)
Major depressive disorder		82.67
Mild	53 (26.2%)	
Moderate	43 (21.3%)	
Severe	71 (35.1%)	
Without psychotic features	38 (18.8%)	
With mood-congruent psychotic features	32 (15.8%)	
With mood-incongruent psychotic features	1 (0.5%)	
Bipolar disorder, depressive episode		1.0
Mild	–	
Moderate	2 (1.0%)	
Severe	–	
Dysthymic disorder	5 (2.5%)	2.5
Depressive disorder NOS		13.9
Minor depression	26 (12.9%)	
Postpartum depression	–	
Mild	–	
Moderate	–	
Severe	2 (1.0%)	
Total	202	100

Table 5 Relationship between sex and depression in the studied sample

	Depressed [N (%)]	Not depressed [N (%)]	Total
Male	70 (6.4%)	1023 (93.6%)	1095
Female	132 (10.9%)	1079 (89.1%)	1209
Total	202 (8.8%)	2102 (91.2%)	2304

$\chi^2 = 14.516$.
$P < 0.001$.

Table 4 Demographic characteristics of patients with depressive disorders in the studied sample

	N (%)		
Variables	Males (N=70)	Females (N=132)	Total (N=202)
Age group (years)			
15	7 (3.5%)	9 (4.5%)	16 (7.9%)
25	14 (6.9%)	25 (12.4%)	39 (19.3%)
35	12 (5.9%)	37 (18.3%)	49 (24.3%)
45	17 (8.4%)	46 (22.8%)	63 (31.2%)
55	17 (8.4%)	14 (6.9%)	31 (15.3%)
65	3 (1.5%)	1 (0.5%)	4 (2%)
Residence			
Rural	38 (18.8%)	75 (37.1%)	113 (57.9%)
Urban	32 (15.8%)	57 (28.2%)	89 (42.1%)
Education			
Illiterate	6 (3%)	30 (14.9%)	36 (17.8%)
Literate	55 (26.7%)	91 (45%)	146 (72.3%)
Highly educated	9 (4.5%)	11 (5.4%)	20 (9.9%)
Occupation			
Nonskilled workers	35 (17.3%)	4 (2%)	39 (19.3%)
Skilled workers	15 (7.4%)	–	15 (7.4%)
Employees	10 (5%)	7 (3.5%)	17 (8.4%)
Housewives	–	110 (4.5%)	110 (54.5%)
Not working in mean time	9 (4.5%)	10 (5%)	19 (9.4%)
Students	1 (0.5%)	1 (0.5%)	2 (1%)
Marital state			
Single	14 (6.9%)	13 (6.4%)	27 (13.4%)
Married	50 (24.8%)	103 (51%)	153 (75.7%)
Divorced/widowed/separated	6 (3%)	16 (7.9%)	22 (10.9%)

Table 6 Different age groups in relation to sex and depression in the studied sample

Variables	Males [N (%)]		Females [N (%)]		χ^2	P-value
	Depressed	Not depressed	Depressed	Not depressed		
Age group (years)						
15	7 (4.6%)	146 (95.4%)	9 (7.6%)	109 (92.4%)	1.117	0.212
25	14 (7.2%)	181 (92.8%)	25 (9.8%)	229 (90.2%)	0.986	0.206
35	12 (4.5%)	253 (95.5%)	37 (9.7%)	346 (90.3%)	5.902	0.010*
45	17 (6.4%)	249 (93.6%)	46 (14.3%)	275 (85.7%)	9.750	0.001**
55	17 (9.9%)	155 (90.1%)	14 (11.3%)	110 (88.7%)	0.152	0.419
65–75	3 (7.3%)	38 (92.7%)	1 (11.1%)	8 (88.9%)	0.144	0.560

*$P < 0.05$.
**$P < 0.01$.

Table 7 Education and residence in relation to depression in the studied sample

	Depressed [N (%)]	Not depressed [N (%)]	Total	χ^2	P-value
Education				13.76	0.001
Illiterate	36 (6.5%)	542 (93.8%)	578		
Literal	146 (9.1%)	1458 (90.9%)	1604		
Highly educated	20 (14.4%)	102 (83.6%)	122		
Residence				19.58	0.000
Rural	113 (7.0%)	1491 (93%)	1604		
Urban	89 (12.7%)	611 (87.3%)	700		

Table 8 Relationship between depression and occupational status in the studied sample

	Depressed [N (%)]	Not depressed [N (%)]	Total
Working	61 (5.9%)	976 (94.1%)	1037
Nonworking	9 (16.1%)	47 (83.9%)	56

$\chi^2 = 9.202$.
$P = 0.002$.

Table 9 Relationship between depression and marital status in the studied sample

	Depressed [N (%)]	Not depressed [N (%)]	Total
Single	27 (8.4%)	296 (91.6%)	323
Married	153 (8.3%)	1688 (91.75%)	1841
Divorced/widowed/separated	22 (15.4%)	118 (84.3%)	140

$\chi^2 = 8.994$.
$P = 0.011$.

Berardi et al. (2002) reported a point prevalence of depression in the range of 7.8 and 9% in primary care units in three Italian areas. In the USA, Katon and Schulberg (1992), US Department of Health and Human Services (1993), and Olfson et al. (2000) reported that, in the primary care setting, the point prevalence of major depression ranges from 4.8 to 8.6%.

The mean age of onset of depression in studied individuals was 40.69 ± 11.99 years, which is in agreement with Myers et al. (1984), who reported that the mean age of onset for depression is ~ 40 years in 1440 studied depressed patients. In another study carried out by Ongur et al. (2005) to determine the age of onset of MDD in 263 patients with MDD, the mean age of onset was 39.5 ± 10.5 years.

The present study reports a steady increase in the percentage of depressive disorders among women until the age of 55 years, peaking in the age group of 45–55 years. This finding is in partial agreement with Martin et al. (1957), who reported that for women, depression increases with age up to 65 years.

We reported a higher percentage of depression in female patients compared with male patients; the difference was statistically significant. Among patients with depressive disorders, the female to male ratio was 1.89 : 1. This is almost consistent with Kessler et al. (2003), who studied the prevalence of depression in 9090 patients and reported a female to male ratio of almost 2 : 1.

The percentage of depression was significantly higher in highly educated compared with literate and illiterate individuals. These findings are inconsistent with those of Riolo et al. (2005), who reported a lower level of depression among individuals with higher education (≥ 8 years in school) compared with those with lower education. The difference was only significant for African-American and Mexican-American individuals, but not for Whites. Vega et al. (1984) found that the association between depressive symptoms and educational level is that the educational level highly correlated with both income and occupational status. In fact, this may not be the case in the current study, as the vast majority of studied patients were of middle and low socioeconomic status. In addition, highly educated individuals are probably more aware of the seriousness of their medical condition, expectant outcome (e.g. disability, recurrence, persistent impairment, etc.), treatment costs, and possible side effects.

Depression was significantly higher among urban residents compared with rural residents in the studied sample. This finding is not in agreement with Janice et al. (2006), who reported that the prevalence of major

Table 10 Relationship between depression and medical or psychiatric diagnosis in the studied sample

	Depressed [N (%)]	Not depressed [N (%)]	Total
Malignant conditions	19 (50%)	19 (50%)	38
Disfiguring conditions	11 (45.8%)	13 (54.2%)	24
Autoimmune conditions	8 (36.4%)	14 (63.6%)	22
Loss of vision	9 (36%)	16 (64%)	25
Liver diseases	12 (33.3%)	24 (66.7%)	36
Renal diseases	9 (33.3%)	8 (66.7%)	27
Infertility	3 (27.3%)	8 (72.7%)	11
TB chest	3 (25%)	9 (75%)	12
Weakness	4 (21.1%)	15 (78.9%)	19
IBS	5 (16.7%)	25 (83.3%)	30
Cerebrovascular accidents	8 (16.3%)	41 (83.7%)	49
Diabetes and its complications	9 (15.8%)	48 (84.2%)	57
Cardiac conditions	6 (15.4%)	33 (84.6%)	39
Painful conditions	28 (14.7%)	163 (85.3%)	191
Obstructive airway disease	7 (12.5%)	49 (87.5%)	56
Other psychiatric conditions	9 (11.7%)	68 (88.3%)	77
Epilepsy	25 (7.4%)	2 (92.6%)	27
Hypertension	3 (5.4%)	53 (94.6%)	56
Other medical conditions	32 (2.1%)	1461 (97.9%)	1493
Total	187 (8.2%)	2102 (91.8%)	2289

$\chi^2 = 351.022$.
$P < 0.001$.

Table 11 The most frequently encountered symptoms of depression in the studied sample

	N (%)			
Symptoms	Mild	Moderate	Severe	Total
Depressed mood	84 (100%)	45 (100%)	73 (100%)	202 (100%)
Anhedonia	58 (69.08%)	35 (77.78%)	62 (84.93%)	155 (76.7%)
Inability to concentrate/indecisiveness	55 (65.48%)	33 (73.33%)	64 (87.67%)	152 (75.25%)
Appetite				
Decreased	69 (82.14%)	37 (82.22%)	64 (87.67%)	170 (84.16%)
Increased	8 (9.53%)	2 (4.44%)	–	10 (4.95%)
Disruption of social functioning	39 (46.43%)	26 (57.78%)	57 (78.08%)	122 (60.4%)
Decreased sexual drive	27 (32.14%)	19 (42.22%)	53 (72.6%)	98 (48.5%)
Psychomotor activity				
Retardation	66 (78.57%)	38 (84.44%)	67 (91.78%)	171 (84.65%)
Agitation	1 (1.19%)	2 (4.44%)	4 (5.48%)	7 (3.47%)
Lack of energy	55 (65.48%)	32 (71.11%)	66 (90.41%)	153 (76%)
Guilt feelings	12 (14.29%)	7 (15.56%)	25 (34.25%)	44 (21.78%)
Feeling of worthlessness	9 (10.71%)	12 (26.67%)	34 (46.58%)	55 (27.23%)
Sleep disturbances				
Insomnia	48 (57.14%)	32 (71.11%)	48 (65.75%)	128 (63.37%)
Hypersomnia	9 (10.71%)	3 (6.67%)	–	12 (5.94%)
Occupational impairment	50 (59.52%)	39 (86.67%)	69 (94.52%)	158 (78.22%)
Death wishes	24 (28.57%)	15 (33.33%)	47 (64.38%)	86 (42.57%)
Somatic symptoms				
Headache	68 (80.95%)	34 (75.56%)	48 (65.75%)	150 (74.3%)
Pain	59 (70.24%)	32 (71.11%)	42 (57.53%)	133 (65.84%)
GIT symptoms	45 (53.57%)	26 (57.78%)	24 (32.88%)	95 (47.03%)
Psychotic features	–	–	33 (45.21%)	33 (16.34%)
Mood-congruent	–	–	32 (43.84%)	32 (15.84%)
Delusions	–	–	32 (43.84%)	32 (15.84%)
Delusion of guilt	–	–	11 (15.07%)	11 (5.45%)
Delusion of poverty	–	–	22 (30.14%)	22 (10.89%)
Nihilistic delusions	–	–	15 (20.55%)	15 (7.43%)
Hallucinations (auditory)	–	–	2 (2.74%)	2 (0.99%)
Mood-incongruent	–	–	1 (1.37)	1 (0.495%)
Delusions	–	–	1 (1.37%)	1 (0.495%)
Delusion of persecution	–	–	1 (1.37%)	1 (0.495%)
Delusion of reference	–	–	1 (1.37%)	1 (0.495%)
Hallucinations (auditory)	–	–	1 (1.37%)	1 (0.495%)

depression was significantly higher among rural (6.11%) than among urban (5.16%) populations. Janice *et al.* (2006) also reported that rural residents are more likely to live in poverty than urban residents; poverty is associated with more morbidity. Moreover, rural residents are more likely than their urban peers to experience circumstances, conditions, and behaviors that challenge health and may increase the prevalence of depression. Again, this may not be the case in the present study as most urban residents were of middle and low socio-economic status. Burdened by their unfavorable economic conditions, more expenses, and less social support in the

city, urban residents are more likely to experience depression.

With respect to marital status, the percentage of depressive disorders was significantly higher among divorced, widowed, and separated individuals compared with single and married patients. These findings are in partial agreement with Scarinci *et al.* (2002), who studied the prevalence of depression in 1407 Black women recruited through the National Black Women's Health Project. Scarinci *et al.* (2002) reported that single and divorced women showed significantly higher levels of depression compared with women who were married or living together with an intimate partner. It is possible that the huge burden of physical illness in the absence of a supportive partner, together with the social burden in our community, contribute toward the higher percentage of depressive disorders among divorced, widowed, and separated individuals.

Among the patients with medical illnesses, depression was found in almost 50% of studied patients with various malignant conditions. This is in partial agreement with the result of Grassi *et al.* (1996), who identified depression in 45% of home care patients with various cancer types.

Depression was reported in about 33.3% of studied patients with renal diseases in the present study, which is in agreement with Wilson *et al.* (2006), who documented depression in 38.7% of patients undergoing dialysis at the London Health Sciences Center.

Depression was identified in almost 16.3% of studied patients with cerebrovascular accidents, which is in partial agreement with Robinson (2003), who found prevalence rates for major depression of 19.3% among hospitalized patients and 23.3% among outpatient samples.

We have documented depression in about 15.8% of studied patients with diabetes whether or not associated with diabetic complications. These results are in agreement with the findings of Cohen *et al.* (1997), who studied 49 patients with diabetes (including both types of diabetes) for the presence of depression. Depression was found in 14.3% of diabetic patients studied.

We reported depressed mood in 100% of the studied patients with depressive disorders. Psychomotor retardation was reported in 84.65%, anhedonia in 76.6%, lack of energy in 76%, inability to concentrate in 75.25%, death wishes in 42.5%, feeling of worthlessness in 27.23%, and guilt feelings in 21.78% of the studied patients with depressive disorders. These results are in agreement with most other community-based or hospital-based studies carried out among patients with depressive disorders.

In terms of depressed mood, Kandil *et al.* (1991) in Upper Egypt, Keegstra (1986) in Ethiopia, and Majodina and Johnson (1983) at Ghana reported this symptom in 100% of studied depressed populations. Depressed mood is an essential DSM-IV diagnostic criterion of depression.

Johnson (1998) reported psychomotor retardation in almost 93.8% of studied inpatients and outpatients who were given the clinical diagnosis of depressive disorder at Port Moresby General Hospital (Papua, New Guinea). Majodina and Johnson (1983), World Health Organization (WHO) (1983), and Keegstra (1986) reported this symptom with a percentage ranging from 54 to 92%.

With respect to anhedonia, Kandil *et al.* (1991) and Johnson (1998) documented this symptom in 76.3 and 75% of studied patients, respectively.

In terms of the inability to concentrate, Kandil *et al.* (1991) reported this symptom in almost 79.1%. Similarly, Mathew *et al.* (1981), Majodina and Johnson (1983), Keegstra (1986), and Johnson (1998) reported this symptom in the range of 75–97%.

In terms of lack of energy, Majodina and Johnson (1983), Kandil *et al.* (1991), Johnson (1998), and Carney *et al.* (2007) reported this symptom in 58–99.5% of their studied patients.

Kandil *et al.* (1991) and Johnson (1998) reported death wishes in almost 34.9 and 25% of their studied patients, respectively.

In terms of feelings of worthlessness, Kandil *et al.* (1991) and Johnson (1998) reported this symptom in 36.4 and 29% of studied patients, respectively.

With respect to feelings of guilt, Johnson (1998) reported this symptom in 26–50% of the patients, which is in partial agreement with the results of the present work. In contrast, WHO (1983) reported that feelings of guilt and self-reproach were present in 68% of cases in Basel, 58% in Montreal, 48% in Tokyo, 41% in Nagasaki, and only 32% in Teheran. This difference can be attributed in part to the religious nature of our community, where patients probably overcome guilt feelings by their belief in God. The word 'guilt' in Arabic is equivalent to 'sin' and is associated with antireligious behavior. Hamdi *et al.* (1997) support the view that guilt feelings are less readily elicited in Arabs.

In terms of vegetative symptoms in the present work, decreased appetite was reported in 84.16% and increased appetite in only 4.95% of the studied depressed patients. Sleep disturbances were also common, with insomnia reported in 63.37% and hypersomnia in 5.94% of studied depressed patients. Finally, decreased sexual drive was identified in almost 48.5% of the patients.

Again, these results are in agreement with most other community-based or hospital-based studies among patients with depressive disorders.

With respect to loss of appetite, Majodina and Johnson (1983), Kandil *et al.* (1991), Johnson (1998), and Afridi *et al.* (2009) reported this symptom to be present in almost 67.7–89.2% of depressed patients. Also, Afridi *et al.* (2009) reported increased appetite in almost 4.1% of studied depressed patients.

In terms of sleep disturbances, Johnson (1998) reported insomnia in almost 75% of depressed patients in their studies. Similarly, Kandil *et al.* (1991) identified hypersomnia in 8.6 and 10% of their studied patients, respectively.

The WHO (1983) studied decreased sexual drive, and a percentage ranging from 51 to 75% was found. Similarly, Kandil *et al.* (1991) reported this symptom in 56.6% of studied depressed patients in Upper Egypt. In a large European study designed to evaluate sexual function in both treated and untreated depressed patients, more than two-thirds of men and women reported decreased libido (Bonierbale *et al.*, 2003).

In terms of somatic symptoms in the present study, headache was identified in 74.3%, pain symptoms in 65.84% and GIT symptoms (e.g. constipation, heart burn, indigestion, etc.) in 47.03% of studied patients with depressive disorders. Similar findings have been reported in other community-based or hospital-based studies among depressed patients.

Kandil *et al.* (1991) reported headache in almost 76.1% of their studied sample. Similarly, Mathew *et al.* (1981) and Keegstra (1986) found headache in 76.5 and 69% of their depressed patients, respectively.

With respect to pain symptoms, Williams *et al.* (2003) reported this symptom in 70% of depressed patients. Similarly, a US study carried out in 573 patients with depression reported that more than two-thirds (69%) of the patients complained of pains of variable severity (Bair *et al.*, 2004).

Kandil *et al.* (1991) reported GIT symptoms in 48.5% of their studied patients. Similarly, Johnson (1998) and Afridi *et al.* (2009) reported these symptoms in 50 and 35.19% of their studied patients, respectively.

With respect to disruption of social functioning, this symptom was identified in 60.4% of studied patients with depressive disorders. This is in partial agreement with Kandil *et al.* (1991) and Majodina and Johnson (1983), who reported this symptom in 76.3 and 54% of studied patients, respectively.

In terms of psychotic features in the present work, it was found that out of 33 (16.34%) studied depressed patients, 32 (15.84%) had mood-congruent psychotic features and only one (0.5%) had mood-incongruent psychotic features.

This is in agreement with Ohayon and Schatzberg (2002), who reported psychotic features in 18.5% of depressed patients in a community-based study. Similarly, Johnson *et al.* (1991) found that 14% of patients with a lifetime diagnosis of major depression had psychotic features.

Coryell *et al.* (1996) carried out a study to determine the long-term prognostic significance of psychotic features in depression. Seven-hundred and eighty seven depressed patients were enrolled in the study; of these, 144 (18.3%) had psychotic depression. Patients provided follow-up interviews at 6-month intervals for 5 years and annually thereafter; 98 of those with psychotic depression and 434 of those with nonpsychotic depression were followed for 10 years. The results showed that those who began follow-up with psychotic depression had fewer weeks with minimal symptoms in each of the 10 years of follow-up and reported more psychosocial impairment at both 5 and 10 years, respectively.

In conclusion, when we compared the common presenting symptoms in the present work with most other community-based and hospital-based studies, we did not find any significant differences in the distribution of the common presenting depressive symptoms. Thus, it follows that depressive symptoms among medically ill patients are just similar to those in the general population. This might facilitate the detection of depression in patients with organic disorders. Also, training nonpsychiatric physicians in identifying depression requires no more effort than expected. However, considerable research in this area is still needed.

Conclusion

Depression is a common mental health problem, frequently seen in the general medical setting, and necessitates close psychiatric attention. The point prevalence of depression is as frequent in this study as elsewhere. The percentage of depression was significantly higher among female patients, highly educated and literate individuals, unemployed men, and among divorced/widowed/separated individuals. The percentage was also significantly higher among patients with certain medical conditions (e.g. malignancy, disfiguring conditions, autoimmune conditions, renal diseases, and hepatic diseases). The majority of patients with depression are seen by nonpsychiatric physicians, and effective treatments such as drugs, psychotherapy, or a combination of the two are available for the treatment of depression, so, we recommend the use of depression screening tests together with providing sufficient training for nonpsychiatric clinician in primary care settings to help them detect early cases. Also, efficient communication between the psychiatry units (and clinics) and other departments, which is very beneficial for patient outcome.

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