

The Impact of Anxiety, Depression & Cognitive Impairment on Functioning in the Physically Ill Elderly in Egypt

Hamza S, Haroun El Rasheed A, Kahla O

Abstract

In the elderly, depression as well as anxiety are often under-diagnosed in medical settings or simply dismissed as inevitable consequences of aging or unavoidable complication of other illnesses or treatments. So, this study was set out to detect the common psychological problems in an Egyptian sample of the physically ill elderly. Depression, anxiety state/trait and cognitive dysfunction and their relation to various medical problems as well as their impact on the different forms of functioning were studied. One hundred elderly patients recruited from the inpatient unit as well as the outpatient clinic in the Geriatric Medicine Department, Ain Shams University Hospitals, were assessed using Instrumental Activities of Daily Living (IADL), Activities of Daily living (ADL), health promotion questionnaire, Mini Mental State Examination (MMSE), Geriatric Depression Scale (GDS, 30 items), State-Trait Anxiety Inventory (STAI), as well as assessment for the different medical conditions. Only 26% had mild cognitive impairment according to MMSE, 64% were severely depressed according to GDS & 72% were suffering from anxiety as assessed by STAI & 35% had anxiety trait by the same scale. Moreover, 47% were dependant as regards IADL and 26% as regards ADL. Neither depression nor anxiety trait were associated with any socio-demographic or clinical variables ($P>0.05$). However, it was found that functional impairment on IADL was significantly associated with depression ($X^2=4.496$, $P=0.028$), and functional impairment on ADL showed a highly significant association with depression and anxiety trait ($X^2=13.167$, $P<0.001$ for both). Regardless of their cause, depression as well as anxiety should be disentangled from any other disorder, particularly from physical disorders, so that the most appropriate treatment can be prescribed as timely intervention can reduce the incidence of undesirable consequences including suicide.

Introduction

The developmental demands of late life are many; coping with physical illness, disability, or diminished capacity for physical activity. Also, risk for mood disturbances in late life remains high. Depression is one of the most common psychiatric disorders among the elderly. The prevalence of clinically significant depressive symptoms ranges from 8-15% among community dwelling elderly persons and is about 30% among the institutionalized elderly. Moreover, some medical disorders are associated with

depression, e.g. cancer, myocardial infarction, hyperthyroidism, hypothyroidism and Parkinson diseases (Blazer, 2000).

Three factors combine to make depression in late life a primary concern in worldwide public health. First, the global population is growing older, gaining nearly 30 years of life expectancy (Lebowitz et al., 1998). Second, the appreciation of the disabling consequences of depression has been underscored by landmark report of the World Health Organization on the "global

burden of disease” (Murray & Lopez, 1996). Third, the tools of contemporary neuroscience have significantly enhanced our understanding of the pathophysiologic and etiologic mechanisms of depression (Duman et al., 1997; Kumar et al., 1998; Musselman et al., 1998). Moreover, majority of people older than the age of 65 years have at least one chronic physical disorders, so it is not surprising that comorbidity between depressive disorders and physical illnesses is substantial among elderly.

Also, problems with anxiety are common among the elderly, affecting 5-20% of the population older than 65 years at any given time. Persistent anxiety can diminish functional capacity and quality of life as well as negatively influence a number of medical disorders. On the other hand, there are many medical disorders that may cause anxiety in the elderly such as cardiac arrhythmias, delirium, dementia, depression, hyperthyroidism, hypoglycemia; some drugs may also cause anxiety as anticholinergic drugs and pseudoephedrine (Blazer & George, 1991; Limdesay, 1991; Blazer, 2000). Despite all these facts systematic studies of anxiety disorders among the physically ill elderly are rather scant.

Many reports indicate that patients with combined chronic illness and depressive and/or anxiety symptomatology have more disability than those with physical illness alone, which may influence physician visits. Studies suggest that these combined conditions are unevenly accommodated by the delivery system and non-psychiatric physicians often fail to recognize or treat these symptoms.

Also, dementia is one of the most serious disorders affecting the elderly. The

prevalence of dementia increases rapidly with age and doubles every 5 years (Marcantonio, 2000). Moreover, dementia is present in a significant proportion of patients admitted to general inpatient units. Patients with dementia are admitted for different reasons than patients without dementia and appear to have longer stays, which are associated with higher costs (Lyketsos et al., 2000). Systemic metabolic illnesses and nutritional deficiencies are common among elderly patients and may be associated with dementia. These dementias can be treated by recognizing and treating the underlying conditions (Scharre and Cummings, 1998).

Although age is not a risk factor for either anxiety or depression-factors associated with aging-such as increased medical burden of independence-are substantial risk factors for development of both conditions. Moreover, there is a close association in older people with untreated mental illness and exacerbation of physical illness. So, this study was set out to detect the common psychological problems in an Egyptian sample of the physically ill elderly (Depression, Anxiety state/trait and Cognitive Dysfunction) and their relation to the various medical problems as well as their impact on the different levels of functioning.

Methods

Hypotheses:

I-Psychological problems in the Egyptian physically ill elderly patients (Depression, Anxiety state/trait and Cognitive Dysfunction) are positively associated with their medical conditions.

II-Functional impairment is positively associated with depression and/or anxiety in the Egyptian physically ill elderly.

Subjects:

The study was conducted on a convenient sample of 100 elderly recruited from both the inpatient unit as well as the outpatient clinic in the Geriatric Medicine Department, Ain Shams University Hospitals. The department is formed of 22 inpatient beds and has four outpatient clinics weekly.

The study was performed in the period from May 2005-October 2005. Elderly patients over 60 years of age were included in the study irrespective to gender, marital status, educational level, or socio-economic status. All patients included in the study, had been only included after an oral informed consent.

All the participants were patients suffering from single or multiple system(s) disease related to the various body systems.

Patients with any of the following criteria were excluded:

- 1- Severely ill or uncooperative patients.
- 2- Patients with delirium.
- 3- Patients with moderate to severe dementia.
4. Patients with previous history of psychiatric disorders.

Tools:

Each participant was subjected to:

I-Health Promotion Questionnaire:

Included questions about routine check up, routine investigations, vaccination, cancer screening, exercise and diet control.

II-Assessment for the following medical conditions by history, examination, as well as investigations when needed:

- Auditory Problem
- Chest diseases
- Diabetes mellitus

- Falls
- GIT diseases
- Hypertension and other heart diseases
- Liver disease
- Nervous system diseases
- Osteoarthritis
- Prostatic diseases
- Renal diseases
- Sleep disturbance
- Urinary incontinence
- Visual problem

III-Functional assessment:***1- Instrumental Activities of Daily Living (IADL) (Lawton & Brody, 1969):***

These abilities are high level abilities that allow a person to function independently at home or in the community. Early functional loss often occurs in the area of transportation and housework. It includes the following:

- 1- Using the telephone.
- 2- Get to places beyond walking distance.
- 3- Go shopping.
- 4- Preparing meals.
- 5- Doing housework or handyman work.
- 6- Taking medications.
- 7- Handling money.

Only the highest level (i.e., needs no help or independent) of functioning receives a score of 2, while a score of 1 means that the patient needs some help (i.e., assisted), and 0 stands for the inability to do that activity at all (i.e., dependent). These scores are useful for indicating specifically how a person is performing at the present time.

2-Activities of Daily Living (ADL) (Katz et al., 1963):

These are the basic activities a person must possess to remain at home independently. These abilities allow a person to do basic self-care tasks, which are referred to as

activities of daily living. It is divided into 6 categories:

- 1- Bathing.
- 2- Dressing.
- 3- Toileting.
- 4- Transfer.
- 5- Continence of bowel and bladder.
- 6- Eating.

If an elderly is independent in all ADL, then elderly is able to function at home without assistance. Clients are scored yes/no for independence in each of the six functions. A score of 6 indicates full function (independent), 4 indicates moderate impairment (assisted), and 2 or less indicates severe functional impairment (dependent).

IV-Assessment of Cognitive functions:

This was done using Mini Mental State Examination (Folstein et al., 1975) Arabic version (El Okl, 2002). Cognitive impairment is stated when the patient's score on MMSE is equal to or less than 24.

V-Assessment of depression by Geriatrics Depression Scale (GDS)

It was conducted to assess the mood state in the elderly patients. The Geriatrics Depression Scale (GDS) was designed originally by Yasavage et al. (1983). It represents a reliable and valid self-rating depression screening scale for elderly population. It was translated and validated on Egyptian population by Abdel Sameea (1997). The scale included 30 items, taking only 10-15 minutes to administer, and if the subject scored 11 or higher positive items, he/she is considered depressed. If the patient scored 11-20 he/she is considered mildly depressed, however, if the patient scored 21-30, he/she is considered to be severely depressed.

VI-Assessment of Anxiety by State-Trait Anxiety Inventory (STAI):

The State-Trait Anxiety Inventory (STAI) was originally designed by Spielberger (1970). It is a definitive instrument for measuring anxiety in adults. The STAI clearly differentiates between the temporary condition of "state anxiety" and the more general and long-lasting quality of "trait anxiety". The essential qualities evaluated by the STAI are feelings of apprehension, tension, nervousness, and worry. It included two questionnaires, one for assessment of anxiety state and the other for trait assessment. It is formed of 40 items taking only 15-20 minutes to administer, provides an acceptable and valid screening test for anxiety in the elderly subjects. The Arabic version used in this study is by Abd El Khalek (1992).

Statistics

Statistical Package for social science (SPSS) program, version 11.0.1 was used for analysis of data as follows:

- 1-Descriptive statistics were carried out in the form of mean, standard deviation, and range for all quantitative values.
- 2-Frequency and percentage was done for qualitative variables.
- 3- Analytic statistics in the form of chi-square and t-test.

Results

1-Socio-Demographic Data

Our sample was formed of 100 patients, 52 (52%) males and 48 (48%) females. The mean age was 65.64 (± 5.57) years. As regards their marital status, 57 (57%) were married, 40 (40%) were widowers/widows, 2 (2%) were single, and only one (1%) was divorced. Eighty-five patients (85%) were

not currently working, while 15 (15%) were working. Most of the patients 62 (62%) were illiterate, 18 (18%) can only read and write, 11 (11%) had not finished primary education, 7 (7%) received from 6-12 years of education, and only 2 (2%) finished university.

It was found that 38 (38%) were living with a spouse and kids, while 27 (27%) were living with their kids only, and 13 (13%) with a spouse only. Only 22 (22%) were currently living alone.

2- Clinical Characteristics of the Patients

Regarding their smoking status, 53 (53%) were non-smokers, 26 (26%) quit smoking, and 21 (21%) were currently smokers.

Regarding the psychiatric manifestations in our sample, 64 (64%) patients were severely depressed according to the Geriatric Depression Scale. They were divided into 30 males (i.e., 57.7% of males) and 34 (i.e., 70.8% of females). On the other hand, 72 (72%) were suffering from anxiety state as assessed using STAI. They were divided into 37 males (i.e., 71.2% of males) and 35 females (i.e., 72.9% of females). On the other hand, 34 (34%) had anxiety trait as assessed by STAI; they were divided into 18 males (i.e., 34.6% of males) and 16 females (i.e., 33.33% of females). Regarding the cognitive impairment in our patients, 74 (74%) showed no impairment as assessed by Mini Mental Status Examination, and only 26 (26%) had mild impairment. They were divided into 12 males (i.e., 23.1% of males) and 14 females (i.e., 29.2% of females). There were 46 (46%) suffering from insomnia. They were equally divided into 23 males (i.e., 44.2% of males) and 23 females (i.e., 47.9% of females). There was no statistically

significant difference ($P>0.05$) as regards sex distribution of the different psychiatric symptomatology in our sample.

As regards functioning in our sample, none were totally independent either on ADL or IADL, while 47% of the patients were dependent as regards IADL and 26% as regards ADL.

It was found that health promotion in this sample was quite poor. None of our patients took the essential vaccinations, or followed cancer-screening program. The female patients never went for cancer screening for breast or cervix.

Neither depression nor anxiety trait was significantly associated with any of the socio-demographic variables, smoking, health promotion, or physical illnesses ($P>0.05$). However, anxiety state showed a highly significant association ($X^2=28.901$, $P=0.001$) with diabetes, cardiovascular diseases, osteoarthritis, renal disease, chest disease, as well as multiple systems affection. It is worth mentioning that none of the patients with Parkinsonism or liver disease had anxiety state, yet most of them had severe depression (75% and 66.67% respectively).

Moreover, we found that non-depressed state showed a statistically significant ($P<0.01$) association with high anxiety state and trait. It is worth mentioning that 100% of those with anxiety trait ($n=34$) had anxiety state ($P<0.001$). However, insomnia was not significantly associated with any of the psychological problems of the studied group ($P>0.05$).

Impaired mental state as detected by Mini Mental State Examination was significantly associated ($X^2=8.270$, $P=0.041$) with living alone, however, those with good MMSE were living with spouse and/or kids. It was

not significantly associated with depression ($X^2=0.607$, $P=0.292$), anxiety state ($X^2=0.422$, $P=0.352$), or trait ($X^2=1.868$, $P=0.129$). It should be mentioned that those with delirium or moderate to severe dementia were excluded from the study.

On comparing patients with only one physical illness with those having multiple physical illnesses, the association between depression, anxiety state or trait, and cognitive impairment with the number of physical illnesses was not statistically significant ($P>0.05$).

It was found that functional impairment on IADL was significantly associated with depression ($X^2=4.496$, $P=0.028$), and functional impairment on ADL showed a highly significant association with depression and anxiety trait ($X^2=13.167$, $P<0.001$ for both). Moreover, having multiple physical illnesses showed a highly significant association with functional impairment as detected by IADL ($X^2=60.720$, $P<0.001$) as well as by ADL ($X^2=50.721$, $P<0.001$).

Table (1) Instrumental Activities of Daily Living (IADL) & Activities of Daily Living (ADL) in the Study Group

	IADL		ADL	
	Number	Percent	Number	Percent
Dependent	47	47	26	26
Assisted	53	53	74	74
Independent	0	0	0	0
Total	100	100	100	100

Table (2) Health Promotion in the Study Group

Health Promotion	Patients				
	No	%	Yes	%	Total
Regular check up	95	95	5	5	100
Routine analysis	90	90	10	10	100
Exercises	88	88	12	12	100
Diet control	79	79	21	21	100
Vaccinations	100	100	0	0	100
Cancer Screening in Females	48	100	0	0	48

Table (3) Depression in Relation to Physical Illnesses

Physical Illnesses	Depressed Pts		Non-Depressed Pts		Total
	Number	Percent	Number	Percent	
Diabetes	2	3.1	1	2.8	3
Hypertension	3	4.7	3	8.3	6
Other cardiovascular disease	2	3.1	1	2.8	3
Osteoarthritis	3	4.7	2	5.6	5
Peptic Ulcer	4	6.3	1	2.8	5
Renal disease	1	1.6	0	0	1
Chest disease	2	3.1	1	2.8	3
Stroke	1	1.6	1	2.8	2
Parkinsonism	3	4.7	1	2.8	4
Liver disease	2	3.1	1	2.8	3
Multiple systems	41	64.1	24	66.7	65

Pts=Patients

$X^2=2.473$, $P=0.991$

Table (4) Anxiety State in Relation to Physical Illnesses

Physical Illnesses	Pts with Anxiety State		Pts without Anxiety State		Total
	Number	Percent	Number	Percent	
Diabetes	3	4.2	0	0	3
Hypertension	4	5.5	2	7.1	6
Other cardiovascular disease	3	4.2	0	0	3
Osteoarthritis	5	6.9	0	0	5
Peptic Ulcer	3	4.2	2	7.1	5
Renal disease	1	1.4	0	0	1
Chest disease	3	4.2	0	0	3
Stroke	1	1.4	1	3.6	2
Parkinsonism	0	0	4	14.3	4
Liver disease	0	0	3	10.7	3
Multiple systems	49	68	16	57.1	65

Pts=Patients

 $X^2=28.901, P=0.001$ **Table (5) Anxiety Trait in Relation to Physical Illnesses**

Physical Illnesses	Pts with Anxiety Trait		Pts without Anxiety Trait		Total
	Number	Percent	Number	Percent	
Diabetes	0	0	3	4.5	3
Hypertension	3	8.8	3	4.5	6
Other cardiovascular disease	1	2.9	2	3	3
Osteoarthritis	1	2.9	4	6.1	5
Peptic Ulcer	2	5.9	3	4.5	5
Renal disease	0	0	1	1.5	1
Chest disease	0	0	3	4.5	3
Stroke	2	5.9	0	0	2
Parkinsonism	2	5.9	2	3	4
Liver disease	1	2.9	2	3	3
Multiple systems	22	64.7	43	65.2	65

Pts=Patients

 $X^2=11.771, P=0.301$

Table (6) Cognitive Impairment in Relation to Physical Illnesses

Physical Illnesses	Pts with Cognitive Impairment		Pts without Cognitive Impairment		Total
	Number	Percent	Number	Percent	
Diabetes	1	3.8	2	2.7	3
Hypertension	1	3.8	5	6.8	6
Other cardiovascular disease	1	3.8	2	2.7	3
Osteoarthritis	1	3.8	4	5.4	5
Peptic Ulcer	0	0	5	6.8	5
Renal disease	0	0	1	1.4	1
Chest disease	0	0	3	4.1	3
Stroke	0	0	2	2.7	2
Parkinsonism	1	3.8	3	4.1	4
Liver disease	1	3.8	2	2.7	3
Multiple systems	20	76.9	45	60.8	65

Pts=Patients

 $X^2=8.003, P=0.629$ **Discussion**

The most common psychiatric disorders in later life, with the exception of dementia, are depression and anxiety (Fernandez et al., 1995). Psychiatric morbidity in the elderly is a major cause of disability. Depression in older people is a significant public health problem. It is the cause of unnecessary suffering for those whose illness is unrecognized or inadequately treated, and it burdens families and institutions providing care for the elderly. Because of the stereotypic notion that older people are necessarily beset by many physical illnesses as well as social and economic problems, some clinicians, family members, and older people themselves often conclude that depression is an inevitable part of aging or as another complication of other constitutional illnesses. Moreover, the significance of illness burden attributable to depression increases with age weighing and thus will grow further by the year 2020 based upon

projected demographic shifts towards an older population (Reynolds, 1999).

In our study 64 % of the patients were severely depressed according to the GDS; this is remarkably higher than studies done in other countries, which found that the prevalence of clinically significant depressive symptoms reaching from 15% to 27% in some estimates (Fitten, 1998). However, the prevalence is very similar to that found earlier by Ashour et al. (1993) who reported 65% prevalence rate of depressive symptomatology in patients attending Ain Shams University Hospital. On the contrary, it is lower as regards prevalence of depressive symptoms than the study done in 1998 at the same university hospital on physically ill elderly as well, which found that 79.2% suffer from depressive symptoms using Geriatric Depression Scale (15 items) (Omar et al., 1998). We can conclude that depressive symptoms are really higher in elderly

patients in our country, which can be explained by the fact that elderly loose their function, and this is particularly true for the physically ill elderly. If we compare this with western society, we will find that elderly may start a new career at that age and they certainly continue to enjoy being productive and active. Moreover, this variation may be due to the use of different instruments and rating scales in the assessment of depression.

Furthermore, there appears to be no clear delineation between depressive symptoms and depressive disorders among very old, physically ill adults (Kennedy & Marcus, 2005). Also, Schneider et al. (2000) found that in old age there is substantial danger of confounding major depression, subclinical depression and organic mood disorders, thus leading to erroneously high prevalence rates of major depression and underestimation of organic mood disorder if depressive symptoms are recorded only by self-report scales or a symptom checklist. Moreover, evidence is mounting to support the notion that clinically significant depression is a spectrum disorder rather than a categorical disease entity, particularly in this age group.

Depression was not significantly associated with any of the socio-demographic or clinical variables ($P>0.05$). So, the practitioners need to know that advanced age, physical illness and depression need not go hand in hand. However, these findings were controversial, so Blazer (1999) agreed with our study in that the onset of depression was not related to sociodemographic factors at either sex. On the contrary, other studies found that female sex as well as low socioeconomic level are risk factors for depression in this population (Helmer et al., 2004). This might explain

the high prevalence of depression in our patients, as they all came from low socioeconomic class.

Despite the fact that symptoms of anxiety are considered to be common in the elderly. These numbers were remarkably high (72%) in our study. Community studies in other countries as USA show that anxiety symptoms are present in about 20% of aged individuals (Blazer & George, 1991). Heun et al. (2000) in Germany as an example of European community, found that although 4.9% of the subjects had a diagnosis of major depression, 31.8% had either minor or recurrent depression, 6.6% had a major anxiety disorder, and 18.5% had a subthreshold anxiety disorder.

In our study, the best predictor of having anxiety state in the physically ill elderly was having anxiety trait ($P<0.001$). Also, it was found that non-depressed state was associated with statistically significant ($P<0.001$) high anxiety state and trait. So, this led us as many other clinicians to question whether anxiety disorders in the elderly are indeed distinct or simply different expressions of major depressive disorder. Also, Heun et al. (2000) in Germany did not find increased comorbidity between major and subthreshold depressive and anxiety disorders. This contradicts with what Reynolds (1999) found that in the elderly depression and anxiety are highly correlated, as depressed elderly may present with anxiety symptoms. Moreover, Lenz (2003) found that elderly patients with depression commonly suffer from concurrent symptoms of anxiety or comorbid anxiety disorders. Such comorbidity is associated with a more severe presentation of depressive illness, including greater suicidality.

Our results showed that there was no statistically significant association ($P > 0.05$) between any certain medical disorder and depression despite the high frequency of depression in general in this sample of physically ill elderly. This was true when this group of physically ill elderly were compared among themselves (i.e., when those with single physical illness were compared with those with multiple illnesses). This contradicts with the general conclusions from the available literature that medical illness can be both cause and a consequence of depression (Katz, 1999). A previous Egyptian study in general medical inpatient departments had shown that depression was significantly related to heart failure, renal failure, liver failure, cerebrovascular stroke and cancer. However, it had a highly significant relation to hypertension, and an insignificant statistical relation to Parkinsonism, diabetes mellitus, peptic ulcer, chest disease, visual and hearing handicap (Omar et al., 1998).

It was found that functional impairment on IADL was significantly associated with depression ($X^2 = 4.496$, $P = 0.028$), and functioning on ADL showed a highly significant association with depression ($X^2 = 13.167$, $P < 0.001$). This agrees with the suggestion that adjustment disorders account for many depressive symptoms exhibited by older adults. According to this explanation, depressive symptoms frequently ensue as a reaction to a chronic or painful physical illness that decreases functional capacity, which was considered the commonest factor (Blazer, 1999). Thus, we can conclude that it is the disability rather than the type of the physical illness that is associated with depressive symptoms. On the other hand, Omar et al. (1998), has shown that there was no significant statistical relation between

depression and functional impairment as measured by ADL, this draws our attention that there must be a change in the social structure of our country, which used to be mainly formed of extended families where the elderly are respected and served with dignity even if physically ill, towards a society that is formed mainly of nuclear families where physically-ill elderly lack social support and have to depend on themselves, hence they suffer according to the degree of their functional impairment.

Unfortunately, no measure of the level of disability resulting from the health event or the severity of health event is currently available. Moreover, IADL are affected to some extent in all the physically ill elderly, so it is not an accurate measure of dysfunction in this group, however, when it comes to impairment on ADL, this is perceived by the elderly as severe dysfunction as they cannot manage the simplest requirement for living unassisted at their homes.

Anxiety state showed a highly significant association ($X^2 = 28.901$, $P < 0.001$) with physical illness in general and this anxiety was more prevalent among patients suffering from more perceived decline in their functioning (diabetes, cardiac, osteoarthritis, kidney, chest, as well as multiple systems affection). On the other hand, in France, it was found that neurological diseases, renal insufficiency, osteo-articular disease, insulin-dependent diabetes and coronary heart disease were more often considered as responsible for the concomitant major depressive episode and more often followed up in psychiatric settings than other pathologies (Consoli, 2003). Moreover, functioning on ADL showed a highly significant association with anxiety trait ($X^2 = 13.167$, $P < 0.001$).

This agrees with what de Buijs et al. (1999) found that anxiety has a clear negative impact on the functioning and well-being of older subjects. They also found that the similarity of participants with an anxiety disorder and those having merely anxiety symptoms regarding quality of life variables and health care use was quite striking.

However, neither depression nor anxiety state was significantly associated ($P > 0.05$) with stroke in our sample, despite the seriousness of their illness, as those suffering from stroke were only two, which is small number to assess the significance of association. It is worth mentioning that all patients with stroke had anxiety trait, which might be a predisposing factor, but this needs larger sample to conclude. Also, none of the patients with Parkinsonism or liver disease had anxiety state, despite the fact that most of them had severe depression (75% and 66.67% respectively). This suggests that depression in these patients is organic rather than reactive to their symptoms. Also, this needs a larger sample to conclude.

In our study there were 46 (46%) suffering from insomnia, this was an expected finding as sleep is affected both by depression and anxiety. However, it was not significantly associated with any of the psychological problems of the studied group ($P > 0.05$). It is worth mentioning that other causes related to the medical problems may affect the sleep patterns such as: benign prostatic hypertrophy and uncontrolled diabetes, both due to increased tendency to urinate at night either due to frequency in the former or due to polyuria in the later, as well as parasthesia which is more severe at night in diabetes. Also, sleep

problems were found in heart failure patients who tend to have dyspnea at night.

One of the important findings in our study was that impaired mental state as detected by Mini Mental State Examination was significantly associated ($P < 0.05$) with living alone, however, those with good MMSE were living with spouse and/or kids. This can be explained by the fact that having somebody living with elderly might delay cognitive impairment by providing input into memory. However, it should be noticed that those with moderate to severe dementia were excluded from our study.

Despite its prevalence and seriousness, depression and/or anxiety in late life remains under-appreciated as a source of disability and suffering for older people and their families. It is also worth mentioning that treatment of depression, regardless of the clinical context in which it occurs, can have a positive effect on the quality of life, functioning, and health. Yet, despite the fact that effective treatments are available, negative attitudes on the part of professionals and of elderly themselves about psychiatric treatment remain barriers to treatment.

Primary care providers are charged with greater responsibility for diagnosis, treatment, and long-term management in all health care, including care of older patients with mental disorders. Regardless of its cause, depression and/or anxiety requires careful evaluation by the clinician, for it must be disaggregated from other diseases, so that the most appropriate therapy can be prescribed. Effective treatment and management are available for both disorders, and timely intervention can reduce the incidence of undesirable consequences such as lowered quality of life, isolation, high mortality rate,

diminished functional capacity, added medical morbidity, and suicide. Also, efforts to identify dementia early during hospitalization could improve patients' care and reduce costs. It seems advisable therefore to consult geriatric specialists in all but the most uncomplicated and treatment-responsive cases.

Our study had limitations, as the number of patients was relatively small, so when the statistics were done for each physical illness the numbers were rather small. Also, the sample of patients was not representative of the physically ill elderly in general as those presenting for the Geriatric Unit in a University Hospital are usually those with the most severe cases, also they come from low social class as compared to those presenting to hospitals from the private sector. So, future studies should include a larger sample preferably multi-center to include more patients from many other social classes. We also need to reevaluate the cut off point of the GDS (Arabic version) to our culture in the new Millennium.

References

Abdel Khalek A (1992): State-Trait Anxiety Inventory. Arabic Version. Cairo: Anglo Egyptian Press.

Abdel Sameea A (1997): Geriatric Depression Scale. Arabic Version. Cairo: Anglo Egyptian Press.

Ashour A, Dwedar AA, Ghanem M, Ashour S, and Awady M (1993): Memory disorder over 60: The role of depression. *Sci Med J Cai Med Synd*; Vol. 5:1.

Blazer DG (1999): Depression. In: Hazzard WR, Blass JP, Ettinger WH, Halter JB, Ouslander JG, editors. *Principles of Geriatric Medicine and Gerontology* (4th

ed.) New York: Mc-Graw-Hill. P. 1331-1339.

Blazer DG (2000): Psychiatric Disorders. In: Beers MH and Berkow R, eds: *The Merck Manual of Geriatrics*. 3d ed. Whitehouse Station, NJ, Merck Research Laboratories. P. 307-341.

Blazer DG, George LK (1991): The epidemiology of anxiety disorders, an age comparison. In: Salzman C, Lebowitz BD, editors. *Anxiety in the elderly*. New York: Springer Publishing. P. 197-214.

Consoli SM; Depression and Organic Diseases Study (2003): Depression and associated organic pathologies, a still under-estimated comorbidity. *Results of the DIALOGUE study*. *Press Med*; 32 (1): 10-21.

de Beurs E, Beekman AT, van Balkom AJ, Deeg DJ, van Dyck R, van Tilburg W (1999): Consequences of anxiety in older persons: its effect on disability, well-being, and use of health services. *Psychol Med*; 29(3): 583-93.

Duman RS, Heninger GR, Nestler EJ (1997): Molecular and cellular theory of depression. *Arch Gen Psychiatry*; 54(7):579-606.

El Okl M (2002): Prevalence of Alzheimer dementia and other causes of dementia in Egyptian elderly. MD thesis, Faculty of Medicine, Ain Shams University.

Fernandez F, Levy JK, Lacher BL, Small GW (1995): The management of depression and anxiety in the elderly. *J Clin Psychiatry*; 56 Suppl (2): 20-9.

Fitten LJ (1998): Common psychiatric disorders. In: Yoshikawa TT, Cobbs EL, Brummel-Smith K, editors: *Practical*

Ambulatory Geriatrics. Missouri, Mosby-Year Book, Inc. P. 302-312.

Folstein MF, Folstein SE, McHugh PR (1975): Mini Mental State "A practical method of grading cognitive state of patients for clinicians. *J Psychiatr Res*; 12(3):189-198.

Helmer C, Montagnier D, Peres K (2004): Descriptive epidemiology and risk factors of depression in the elderly. *Psychol Neuropsychiatr Vieil*; 2 (Suppl 1):S7-12.

Heun R, Papassotiropoulos A, Ptak U (2000): Subthreshold depressive and anxiety disorders in the elderly. *Eur Psychiatry*; 15(3): 173-182.

Katz IR (1999): Depression in late life: psychiatric-medical comorbidity. *Dialogues in Clin Neuroscience*; 1(2): 81-94.

Katz S, Ford AB, Moskowitz AW, Jackson BA, Jaffe MW (1963): Studies of illness in the aged. The index of ADL: a standardized measure of biological and psychosocial function. *JAMA*; 185: 914-919.

Kennedy GJ, Marcus P (2005): Use of antidepressants in older patients with comorbid medical conditions: guidance from studies of depression in somatic illness. *Drugs Aging*; 22(4): 273-87.

Kumar A, Jin Z, Bilker W, Udupa J, Gottlieb G (1998): Late-onset minor and major depression: early evidence for common neuroanatomical substrates detected by using MRI. *Proc Natl Acad Sci USA*; 95(13): 7654-7658.

Lawton MP, Brody EM (1969): Assessment of older people: self maintaining and instrumental activity of daily living. *Gerontologist*; 9(3):179-186.

Lebowitz BD, Pearson JL, Cohen GD (1998): Older Americans and their

illnesses. In: Salzman C, editor. *Clinical Geriatric Psychopharmacology*. 3rd edition. Baltimore, Md: Williams & Wilkins. P. 3-20.

Lenze EJ (2003): Comorbidity of depression and anxiety in the elderly. *Curr Psychiatry Rep*; 5(1): 62-67.

Limdesay J (1991): Phobic disorders in the elderly. *Br J Psychiatry*; 15: 531-541.

Lyketsos CG, Steinberg M, Tschanz JT, Norton MC, Steffens DC, Breitner JC (2000): Mental and behavioral disturbances in dementia: findings from the Cache County Study on Memory in Aging. *Am J Psychiatry*; 157 (5): 708-715.

Marcantonio E. (2000): Dementia. In: Beers MH, Berkow R, editors: *The Merck Manual of Geriatrics*. New Jersey, Merck & Co., Inc. P. 357-378

Murray CL, Lopez AD, editors (1996): *The Global Burden of Disease: A comprehensive assessment of mortality and disability from diseases, injuries and risk factors in 1990 and projected to 2020*. Cambridge, MA: Harvard University Press on behalf of the World Health Organization and the World Bank. P. 295-324.

Musselman DL, Evans DL, Nemeroff CB (1998): The relationship of depression to cardiovascular disease: epidemiology, biology, and treatment. *Arch Gen Psychiatry*; 55(7): 580-592.

Omar AN, Haroun A, Nagy NE (1998): Prevalence of depressive symptoms in physically-ill elderly inpatients. *Current Psychiatry*; 5 (2):145-155.

Reynolds CF III (1999): Long-term course and outcome of depression in later life.

Dialogues in Clin Neuroscience; 1(2): 95-99.

Scharre DW, Cummings JL (1998): Dementia. In: Yoshikawa TT, Cobbs EL, Brummel-Smith K, editors: Practical Ambulatory Geriatrics. Missouri, Mosby-Year Book, Inc. P. 290-301.

Schneider G, Kruse A, Nehen HG, Senf W, Heuft G (2000): The prevalence and differential diagnosis of subclinical depressive syndromes in inpatients 60 years and older. Psychother Psychosom; 69(5): 251-60.

Spielberger CD, Gorsush RL, Lusheme RE (1970): Manual for State-Trait Anxiety Inventory (STAI) (Self Evaluating Questionnaire). Palo Alto, CA: Consulting Psychologist Press, Inc.

Statistical Package for the Social Science (SPSS) 2001, version 11.0.1, USA: Echo Soft Corp.

Yasavage JA, Brink TL, Rose TL, Lum O, Huang V, Adey M, Leirer VO (1983): Development and validation of geriatric

depression screening scale: A preliminary report. J Psychiatr Res; 17(1):37-49.

Authors

Hamza S.

Lecturer in Geriatric Medicine
Department of Geriatrics Medicine
Faculty of Medicine
Ain Shams University

Haroun El Rasheed A.

Assistant Professor in Psychiatry
Institute of Psychiatry
Faculty of Medicine
Ain Shams University

Kahla O.

Clinical Psychologist in Geriatric Medicine
Department of Geriatrics Medicine
Faculty of Medicine
Ain Shams University

Address of Correspondence:

Haroun El Rasheed A.

Assistant Professor in Psychiatry
Institute of Psychiatry
Faculty of Medicine
Ain Shams University

تأثير القلق والإكتئاب وقصور الوظائف المعرفية
على الحالة الوظيفية للمرضى المسنين

%

%

%

%

%

%