Research Article

A Study of Geriatric Depression in Outpatients Medical Clinics in Minia University Hospital

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Abstract

Background: Depression is one of the commonest psychiatric disorders among elderly patients attending outpatient medical clinics. The consequence of unrecognized and untreated depression in the elderly population may include excessive use of health care services, decreased treatment compliance and increased morbidity and mortality related to underlying medical illness or suicide.

Aim: To evaluate clinical presentation, prevalence and the main associated factors of geriatric depression in outpatient medical clinics in Minia University Hospital in order to reach possible ways of planning for future services. **Subjects and Methods**: A cross-sectional study was carried out including ٣٠٠ elderly patients aged ٥٥ years and older who were randomly selected from the outpatient medical clinics in Minia University Hospital. The Mini-Mental State Examination (MMSE) was used for the assessment of cognitive functioning (Subjects scoring <٢٤ were excluded) and the patients scoring more than ٢٤ were included. A Comprehensive Geriatric Assessment has been applied, besides, Geriatric Depression Scale-short Arabic version- (for screening of depressive symptoms). The clinical diagnosis was made according to DSM-IV-TR for syndromal depression while the sub-syndromal symptomatic depression (SSD) was diagnosed when two or more simultaneous symptoms of depression, present for most or all of the time for at least ٢ weeks, associated with evidence of social dysfunction, occurring in individuals who do not meet criteria for minor depression, Major depression or dysthymia.Appropriate statistical analysis was applied.

Results: The prevalence of elderly depression in the current study was ٣٨.٧٪; major depression was ٧٪, minor depression was ١٤٪, dysthymic disorder was ٢.٧٪ and sub-syndromal symptomatic depression was ١٥٪ of the studied sample. Depression in elderly medical outpatients was found to be significantly associated with presence of past and/or family history of depression. Also, depression was found to be significantly correlated with the number of psychosocial stressors, the multiplicity of physical illnesses, multiplicity of prescribed drugs and the number of previous hospitalization.

Conclusions: Depression in elderly medical outpatients is significantly associated with presence of past and/or family history of depression and is significantly correlated with the number of psychosocial stressors, the multiplicity of physical illnesses, multiplicity of prescribed drugs and the number of previous hospitalization.

Key words: Elderly, Geriatric, Depression and Medical outpatient clinics.

Introduction

Depression is assumed to be the second leading cause of disability worldwide by ٢٠٢٠. There are difficulties in diagnosing the condition especially in the elderly age group. The presence of multiple medical problems further confuse the diagnosis and the priority of treatment given to the patient. In the outpatient setting, there are tendencies by the health care providers to miss the diagnosisand not giving proper treatment to the patients (Susman et al., ١٩٩٥).

Furthermore, depression tends to be denied by the elderly people, making diagnosis difficult. Other co-morbid medical conditions, the

tendency of patients to somatise, cognitive deterioration, and multiplicity of life events for example, bereavement,or retirement, further complicate the diagnostic process. There is a bias among health professionals and the community in general to accept lower functioning and more symptoms in older people (Alexopoulos, ١٩٨٩).

There have been some studies in the geriatric medical outpatient settings. Among these studies were the two held in Veterans Administration Hospitals in America that were predominantly studying male patients (Norris et al., ١٩٨٧ and Okimoto et al., ١٩٨٢). These studies reported prevalence rates of depression as ٢٩٪ and ٣٨٪, respectively, Al-Shammari and Al-Subaie (١٩٩٩)study gave prevalence rates of ٣٩٪. In Egypt, Ashraf et al. (٢٠١٠) found the prevalence of depressive disorders in elderly with type ٢ diabetes in primary health care settings to be ٣٢.١٪ while Khattri and Nepal (٢٠٠٦) found that the prevalence of depression in elderly patients attending out-patient clinics to be about ٥٣٪ and Imran et al. (٢٠٠٩) reported that the prevalence rate of depression among elderly patients in outpatient clinics was only ١٣.٩٪.

It is generally accepted that the burden of depression in the elderly is high. Depression causes increased morbidity and mortality (Mitchell and Subramaniam, ٢٠٠٥). It increases demand on relatives, social and health services. Depression causes disability in its own right and also adds to disability from physical disorder when present and leads to greater physical decline (Sherina et al., ٢٠٠٣). Moreover, it leads to greater risk of hospitalization (Huang et al., ٢٠٠٠) and inappropriate use of hospital bed (Ingold et al., ٢٠٠٠).

Depression is also considered as an independent risk factor for other illnesses. It has been shown that it is associated with stroke, linked with heart failure and in women over ٥٠, it is associated with a higher than expected rate of hip fracture (Imran et al., ٢٠٠٩).

Due to that increase in morbidity and mortality, the recognition of geriatric depression is very important (Mitchell and Subramaniam, ٢٠٠٥). However, this condition usually goes unnoticed and undermanaged. Therefore there is a need to evaluate the burden of this problem locally and to elucidate its possible associated factors in order to refine a system for reliable detection which can be utilized widely throughout the local health services in Minia University Hospital.

The objective of this studyis to determine the prevalence of depression and its associated factors among elderly patients attending outpatient medical clinics in Minia University Hospital.

Subjects and methods

This is a cross sectional study involving ٣٠٠ elderly patients whom age was ٥٥ years and older. This study has been conducted in outpatient medical clinics in Minia University Hospital. Minia University Hospital is one of the teaching hospitals in Egypt. The clinics includedare situated in the samebuilding and include; general medicine, cardiology, chest, gastroenterology and hepatology, nephrology and endocrinology clinics.

Subjects were recruited from all elderly patients aging ٥٥ years and older who were attending the outpatients medical clinics. The patients were selected by using systemic random sampling statistical method over a period of one year. Patients with cognitive impairment, severe medical illness or those who refused to participate in the study were excluded. All subjects have been inter viewed by using various sections of a comprehensive psycho-geriatric assessment battery.

Tools:

Comprehensive psycho-geriatric assessment which was adapted from different sources designed by professor Abdel MoniemAshour, professor of geriatric psychiatry, Ain Shams University, Egypt and included:

١. Personal history, medical history, assessment of the cognitive status by using the Arabic version of the Mini Mental state examination (MMSE), The test score is based on ٣٠ total points, and impairment is indicated by a score of ٢٤ or lower (Folstein et al., ١٩٧٥). Assessment of depressive symptoms has been achieved by using the Geriatric Depression Scale (GDS) (١٥

items version). It has simple Yes/No format which makes its administration easy by older person. Scoring ٥-١٥ diagnosed depressed case, while scoring ٠-٤ is normal (Shiekh and Yesavage, ١٩٨٦)

A- Clinical diagnosis of depression was done using DSM-IV-TR for syndromal depression (American Psychiatric Association, ٢٠٠٠), while the subsyndromal symptommatic depression (SSD) was diagnosed when two or more simultaneous symptoms of depression, present for most or all of the time, for at least ٢ weeks, associated with evidence of social dysfunction, occurring in individuals who do not meet criteria for minor depression, Major depression and / or dysthymia (Judd et al., ١٩٩٤).

B- Functional assessment using Activities of Daily Living (Katz et al., ١٩٧٠), assessment of social resourses and social support system, assessment of economic resourses and assessment of the psychosocial stressors (Weinert and Brandt ١٩٨٧).

Results

The total sample of the study included ٣٠٠ outpatients whom age was ٥٥ years and older, ١١٦ patients were depressed while ١٨٤ patients were non-depressed.

Table (١): Comparison between depressed (No=١١٦) versus non-depressed (No=١٨٤) groups regarding socio-demographic characteristics

	Item	Depressed (١١٦)	Non-depressed (١٨٤)	Sig.
١	**Age group (N (%))**			
	٥٥-٦٠	٦٢ (٥٣.٤ %)	١٢٤ (٦٧.٤ %)	.١٤٥
	٦١-٦٥	٢٧ (٢٣.٣٪)	٣٤ (١٨.٥ %)	
	٦٦-٧٠	١٦ (١٣.٨ %)	١٥ (٨.٢ %)	
	٧١-٧٥	١٠ (٨.٦٪)	٩ (٤.٩ %)	
	More than ٧٥	١ (.٩ %)	٢ (١.١ %)	
٢	**Sex**			
	Male	٥٠ (٤٣.١ %)	٩٦ (٥٢.٢ %)	.٠٧٩
	Female	٦٦ (٥٦.٩ %)	٨٨ (٤٧.٨ %)	
٣	**Marital status**			
	Single	٠ (٠ %)	٢ (١.١ %)	.٠٣٢
	Married	٧٨ (٦٧.٢ %)	١٤٦ (٧٩.٣ %)	
	Divorced	٠ (٠ %)	١ (.٥ %)	
	Widowed	٣٨ (٣٢.٨ %)	٣٥ (١٩ %)	
٤	Total number of living childrenMean (SD)	٥.١ (٢.٥)	٥.٣ (٢.٢)	.٥٥٦
٥	**Education level (N %)**			
	Illiterate	٨٩ (٧٦.٧ %)	١٥٦ (٨٤.٨ %)	.١٢٢
	Read and write	١٥ (١٢.٩ %)	١٢ (٦.٥ %)	
	Primary	٦ (٥.٢ %)	١٠ (٥.٤ %)	
	Intermediate	٢ (١.٧ %)	٠ (٠ %)	
	Secondary	٣ (٢.٦ %)	٦ (٣.٣ %)	
	University	١ (.٩٪)	٠ (٠ %)	
٦	**Current job**			
	Not working	٤٥ (٣٨.٨ %)	٤٢ (٢٢.٨ %)	.٠٠٢
	House wife	٣٧ (٣١.٩ %)	٧٨ (٤٢.٤ %)	
	Farmer	١٧ (١٤.٧ %)	٤٥ (٢٤.٥ %)	
	Non skilled	٩ (٧.٨ %)	٦ (٣.٣ %)	
	Semi skilled	٣ (٢.٦ %)	٠ (٠ %)	
	Skilled	٠ (٠ %)	٣ (١.٦ %)	
	Retired from paid job	٥ (٤.٣ %)	١٠ (٥.٤ %)	
٧	**Previous job**			
	Not working	١٣ (١١.٢ %)	٩ (٤.٩ %)	.٠٥
	House wife	٥٠ (٤٣.١٪)	٨٥ (٤٦.٢ %)	
	Farmer	٢٩ (٢٥ %)	٦٧ (٣٦.٤ %)	
	Non skilled	١١ (٩.٥ %)	٨ (٤.٣ %)	
	Semi skilled	٣ (٢.٦ %)	٢ (١.١ %)	
	Intermediate	١ (.٩ %)	٠ (٠ %)	
	Skilled	٨ (٦.٩ %)	١٣ (٧.١ %)	
	Military officer	١ (.٩ %)	٠ (٠ %)	
٨	**Religion**			
	Muslim	١٠٤ (٨٩.٧ %)	١٧٩ (٩٧.٣ %)	.٠٠٦
	Christian	١٢ (١٠.٣ %)	٥ (٢.٧ %)	

Table (١) demonstrates that the majority of the sample (٦٢ %) was at the age group ٥٥-٦٠ years old, married (٧٤.٧ %) and illiterate (٨١.٧ %). Comparison between depressed and non-depressed groups regarding socio-demographic characteristics, the depressed sample was older, had more females (٥٦.٩٪ of depressed in contrast to ٤٧.٨٪ of the non-depressed subjects), had significantly more non married subjects, significantly more not working individuals and a significantly higher number of Christians (١٠.٣٪ of depressed patients compared to ٢.٧٪ in the non-depressed group).

Table (٢): Clinical assessment of depression in the studied population

Depression	No.	%
Major depression	٢١	٧
Minor depression	٤٢	١٤
Dysthymic disorder	٨	٢.٧
Sub syndromal symptomatic depression	٤٥	١٥
No clinical depression	١٨٤	٦١.٣
Total	٣٠٠	١٠٠

Table (٢) shows clinical assessment of depression in the studied population, where we found that ٤٥ subjects (١٥ %) have had sub-syndromal symptomatic depression, ٤٢ patients (١٤ %) with minor depression, ٢١ patients (٧ %) were diagnosed with major depression, ٨ patients (٢.٧ %) with dysthymic disorder while ١٨٤ subjects (٦١.٣ %) had no clinical depression.

Table (٣): Family and past history of depressive disordersin the studied sample

			Depression		Sig.
			Depressed	Non-depressed	
Family history of Depressive disorder	**Yes**	**No.**	١٧	٦	.٠٠٠
		%	١٤.٧	٣.٣	
	No	**No.**	٩٩	١٧٨	
		%	٨٥.٣	٩٦.٧	
Past history depressive disorder	**Yes**	**No.**	٢٢	١٧	.٠٠٠
		%	١٩	٩.٢	
	No	**No.**	٩٤	١٦٧	
		%	٨١	٩٠.٨	
Total		**No.**	١١٦	١٨٤	
		%	١٠٠.٠٪	١٠٠.٠٪	

As shown in table (٣), ١٤.٧٪ of the depressed patients had a positive family history of depressive disorders in comparison to only ٣.٣٪ of those non-depressed group and that difference was statistically significant. Also, ١٩٪ of the depressed group had a past history of depressive disorders in comparison to ٩.٢٪ only of the non-depressed group and that difference was also statistically significant.

Table (٤): Correlation between severity of depressive symptoms (as measured by GDS, MADRS or syndromal and subsyndro maldiagnoses) and cognitive functioning on one hand and variables related to general medical condition (number of physical illnesses, hospital admissions and prescribed drugs) on the other hand

		Number of Physical illnesses	Number of hospital dmissions	Number of prescribed drugs
Age	**Correlation**	.٣٠١	.٠٩٩	.١٩٥
	Sig.	.٠٠٠	.٠٨٨	.٠٠١
Sex	**Correlation**	-.٠٤٠	.٠٤٨	-.١٢٩
	Sig.	.٤٨٧	.٤٠٨	.٠٢٩
Educational level	**Correlation**	-.٠٠٤	.٠٣٦	-.٠٠٥
	Sig.	.٩٤١	.٥٣٥	.٩٢٦
Religion	**Correlation**	.١٢٧	.١١٦	.١٠٦
	Sig.	.٠٢٧	.٠٤٥	.٠٦٦
MMSE	**Correlation**	-.٤٤٠	-.٣٥٦	-.٤٤٦
	Sig.	.٠٠٠	.٠٠٠	.٠٠٠
GDS	**Correlation**	.٥٩٠	.٨٠٧	.٥٨٥
	Sig.	.٠٠٠	.٠٠٠	.٠٠٠
MADRS	**Correlation**	.٥٨٤	.٨٠٦	.٥٦٥
	Sig.	.٠٠٠	.٠٠٠	.٠٠٠
Clinical assessment of depression	**Correlation**	.٥٩٠	.٨١٧	.٥٧٣
	Sig.	.٠٠٠	.٠٠٠	.٠٠٠

Table (٤) shows correlations between socio-demographic and independent variables on one hand and dependent variables on the other hand. As predicted, there were significant correlations between the scores of MMSE, GDS, MADRS, syndromal and sub-syndromal diagnoses (representing severity of depressive symptoms) on one hand and the number of physical illnesses, number of hospital admissions and number of prescribed medications on the other hand. The better the cognitive functioning as measured by MMSE, the less the number of physical illnesses, hospital admissions and prescribed medications. The more the severity of depressive symptoms as measured by GDS, MADRS or syndromal and sub-syndromal diagnoses, the more the number of physical illnesses, hospital admissions and prescribed medications and all these correlations were statistically significant.

Table (٥): Hierarchicalregression analyses predicting the impact of the number of psychosocial stressors, the number of physical illnesses, the number of hospital admission andthe number of prescribed medications on severity of depressive symptoms as measured by the GDS score

Step	Variables (s)	Partial correlation	B	Multiple R^2	Chang R^2
٢	**No. of psychosocial stressors**	.٣٨٢***	.٣٨٥***	.١٥٢***	.١٤٣***
٢	**No. of physical illnesses**	.٥٩٤***	.٦١٨***	.٣٥٧***	.٣٤٦***
٢	**No. of hospital admission**	.١٥٥**	.١٥٤**	.٠٣١**	.٠٢٤**
٢	**No. of prescribed medications**	.٥٩٥***	.٦٠٣***	.٣٥٩***	.٣٤٨***

*= ***P***< .٠٥. **= ***P***< .٠٠٥. ***= ***P***< .٠٠١

As shown in table (٥), the number of psychosocial stressors, the number of physical illnesses, the number of prescribed drugs and the number of previous hospitalizations contributed significantly in the prediction of severity of depressive symptomatology as measured by the GDS in the hierarchical regression analyses.

Table (٦): Hierarchical regression analysis predicting the impact of the number of psychosocial stressors, the number of physical illnesses, the number of hospital admissions and the number of prescribed medicationson the severity of depressive symptomatology according to syndromal and sub-syndromal diagnoses

Step	Variables (s)	Partial correlation	B	Multiple R²	Chang R²
٢	**No. of psychosocial stressors**	.٣٧٦***	.٣٧٩***	.١٤٨***	.١٣٩***
٢	**No. of physical illnesses**	.٥٥٦***	.٥٧٩***	.٣١٥***	.٣٠٤***
٢	**No. of hospital admission**	.١٤٥***	.١٩٤***	.٠٤٥***	.٠٣٧***
٢	**No. of prescribed medications**	.٥٦٨***	.٥٧٦***	.٣٢٨***	.٣١٧***

*= ***P***< .٠٥. **= ***P***< .٠٠٥. ***= ***P***< .٠٠١

Table (٦) demonstrates that the number of psychosocial stressors, the number of physical illnesses, the number of prescribed drugs and the number of previous hospitalizations contributed significantly in the prediction of severity of depression as diagnosed clinically according to syndromal and sub-syndromal depressive symptom-matology in the hierarchical regression analyses.

Discussion

The prevalence of elderly depression in the current study was ٣٨.٧٪; major depression was ٧٪, minor depression was ١٤٪, dysthymic disorder was ٢.٧٪ and sub-syndromal symptomatic depression was ١٥٪. This is almost similar with the ones found in previous studies looking at the prevalence of depression in patients attending outpatient clinics.

However the prevalence rate reported in this study is partially similar with prevalence found in previous similar studies, e.g., Habib, (٢٠٠٩) found prevalence rate of depression in elderly attending primary care was ٤٦٪, Borson et al. (١٩٨٦) found that the prevalence of depression in elderly medical out patients was ٢٤٪ and the prevalence of a major depression was estimated at ١٠٪, Jai and Mahendral (٢٠٠٦) in Nepal found that the prevalence of depression in elderly patients attending out-patient clinics to be ٥٣٪ of the sample found to experience depressive illness according to GDS and ٤٤٪ of the sample were diagnosed clinically with the ICD-١٠DCR,Al Haddad (٢٠٠٠) found

prevalence rate of depression in elderly attending primary care was ٢٣.١٪, Norris et al. (١٩٨٧) in their study of depression in geriatric medical out patients found that the prevalence of depression was ٢٩٪, Okimoto et al. (١٩٨٢) in their study of screening of depression in geriatric medical patients, found that the prevalence of depression was ٣٨٪ and Lenore et al. (٢٠٠٥) found ٣٠٪ of elderly patient in out-patient clinics especially those with multiple medical comorbidities were depressed.

Another studies reported lower prevalence, e.g., McCrea et al. (١٩٩٤) who found that the prevalence of depression in geriatric medical out-patients was ١٣٪, Callahan et al. (١٩٩٤) reported that the prevalence rate of depression in elderly medical out-patient was ١٥٪, Imran et al. (٢٠٠٩) reported that the prevalence rate of depression among elderly patients in outpatients clinics was ١٣.٩٪ and studies of Norsiah and sherina (٢٠٠٤) and Sherina et al. (٢٠٠٣) reported prevalence rate of elderly depression in outpatients clinics was ١٤٪ and ١٨٪ respectively.

The prevalence of elderly depression in the current study is lower than that reported among other Egyptian studies, e.g., BeniSuef elderly, where the prevalence was about ٨٩.٧ % in geriatric homes and ٥٦.٧ % of elderly attending geriatric club (El shabrawy et al., ٢٠٠٩). Also

prevalence of depression among elderly in Zagazig District was ٤٦.٦٪ (Abdo et al., ٢٠١١). Also on the other hand it is higher than that reported by Mohamed and AbdElhamed (٢٠١١) in Assiut city; where they found the prevalence of geriatric depression was ٢٥.٣٪ among attendants of geriatric clubs in Assiut City.

These differences between studies regarding the prevalence of depression in elderly; probably due to the difference in methodology, differences in criteria used in defining depression or the selection of the sample, sample bias, sample characteristics (gender, age, physical disease, physical impairment, and cognitive impairment), social and cultural background and different settings.

In this study, five factors were found to be significantly associated with the diagnosis and increased severity of depressive symptoms that are; presence of past and/or family history of depression, the number of psychosocial stressors, the multiplicity of physical illnesses, multiplicity of prescribed drugs and the number of previous hospitalization.

The first factor, presence of past and/or family history of depression was significantly associated with the diagnosis and increased severity of depressive symptoms. This is consistent with findings of previous similar cross-sectional and longitudinal studies showing that individuals who had experienced an episode of depression were at greater risk for recurrence (Sabry et al., ٢٠١٠; Martin and Nandini, ٢٠٠٣ and Heun and Hein, ٢٠٠٥). Also prior history of depression was found to be significantly associated with a higher prevalence of depression in other previous similar studies (Onya and Stanley, ٢٠١٣and Heun and Hein, ٢٠٠٥).Also family history of depression was found to be significantly associated with a higher prevalence of depression in other previous similar studies (Lieb et al., ٢٠٠٢ and Peiyuan et al., ٢٠١١).

The second factor, the number of psychosocial stressors was significantly associated with the diagnosis and increased severity of depressive symptoms. This is consistent with significant association between psychosocial stressors and elderly depression in similar previous studies (Shehatah et al., ٢٠٠٩; Eman and Mohamed, ٢٠١١ and Wang et al., ٢٠١٠).

The third factor, multiplicity of physical illnesses was significantly associated with the diagnosis and increased severity of depressive symptoms. Other studies also support the association between number of physical illnesses and elderly depression (Ines et al., ٢٠١٠ and El Kady and Ibrahim, ٢٠١٣).

The fourth factor, multiplicity of prescribed drugs was significantly associated with the diagnosis and increased severity of depressive symptoms. Other similar previous studies (Ines et al., ٢٠١٠; Kotlyar et al., ٢٠٠٥ and El Kady and Ibrahim, ٢٠١٣) found significant association between number of prescribed drugs and elderly depression.

The fifth factor, the number of previous hospitalization was significantly associated with the diagnosis and increased severity of depressive symptoms. This is in line with strong association between number of previous hospitalization and elderly depression in similar previous studies (Covinsky et al., ١٩٩٧; Herrman et al., ٢٠٠٢; Marin et al., ٢٠٠٣; Sayers et al., ٢٠٠٧; Cullum et al., ٢٠٠٨, El Kady and Ibrahim, ٢٠١٣ and Ciro et al., ٢٠١١).

In this study no significant differences were found between major depression and non-major depression subgroups when they were compared regarding factors related to the development of depression e.g socio-demographic data (Age, sex, marital state, occupation, total number of living children), prescribed drugs, decrease mobility due to illness, multiplicity of comorbid physical illness. Accordingly, similar patient characteristics were associated with both major and non-major depression, except for past history of depression, family history of depression, multiplicity of life events that were particularly associated with major depression. This is in agreement with findings of Sabry et al., (٢٠١٠) and McCusker, et al., (٢٠٠٥) and support the evidence that both major and non-major depression in the elderly has common psychosocial etiology and similar presenting characteristics but differ in severity.

Conclusion

The prevalence of elderly depression in the current study was ٣٨.٧٪ and is significantly associated with presence of past and/or family history of depression, the number of psycho-social stressors, the multiplicity of physical illnesses, multiplicity of prescribed drugs and the number of previous hospitalization. Both Major and non-major depression are similar in patient characteristics and social correlates which suggests that both lie on one continuum in elderly patients with medical illness

Recommendations

Screening for depression among the elderly is important and necessary, as depression in out patient's clinics is under diagnosed and undertreated. The health care providers and patient's family members need to be trained and educated regarding elderly depression. The health care providers should be aware of them agnitude of the problems and the availability of means to overcome it. The society at large should take the same stance and be more vigilant when dealing with the elderly people.

Limitations Of the Study:

A. Firstly, the cross-sectional design of our study allows only description of an association between depression and associated factors; it does not allow inferring causality. Also the cross-sectional nature of the data leaves open the possibility of reverse causality. Longitudinal studies are needed to test the direction of cause-effect.

B. In addition to that, subjects with minor or symptomatic depression may have been in the starting or recovery phase of a major depression, which might explain the fact that associations with vulnerability factors did not differ much between minor and major depression.

C. Also, since the participants were limited to attendants of outpatient medical clinics in Minia University Hospital, whether the conclusion apply to elderly people elsewhere (e.g. inpatient, primary care) needs further confirmation.

D. Moreover, during the interviews, the respondents might not release their true feelings to the interviewer since the relationship is not yet built up. Therefore, the respondents might only give positive answer to please themselves or to project a socially desirable image. Such bias might affect the validity of the findings.

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