

The Prevalence of Depression Among Elderly Warded in a Tertiary Care Centre in Wilayah Persekutuan

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Summary

Depression is characterized by symptoms like disturbance in behavior, cognition and mood. This is commonly known to affect people aged 60 years and above especially those who are also afflicted with illnesses. The objectives of this study were to determine the prevalence of depression and its associated factors among the elderly in a tertiary care centre in Wilayah Persekutuan. A cross sectional study design was done. Stratified cluster sampling method was used to select the respondents. All elderly patients were selected from the orthopaedic, surgical, gynaecology and medical wards in a government hospital in Wilayah Persekutuan. A 30-item Geriatric Depression Scale questionnaire was used as a screening instrument. Out of the 246 elderly subjects, 198 were interviewed giving a response rate of 80.5%. The results showed that 54% of the elderly respondents were found to have depressive symptoms. Age ($p=0.022$), sex ($p=0.008$), ethnicity ($p=0.022$) and functional disabilities in bathing ($p=0.001$), grooming ($p=0.007$), dressing ($p=0.007$), using the toilet ($p=0.002$), transferring from bed to chair and back ($p=0.000$), mobility ($p=0.000$) and climbing stairs ($p=0.000$) were all found to be significantly associated with depression among the elderly respondents. The outcome of this study will have an important impact on the implementation of the health policy for the elderly patients admitted to hospitals.

Key Words: Elderly, Depression, Hospital, Associated-factors

Introduction

One common stereotype of growing older is that there is a high chance of becoming depressed. This stereotype has fostered the exploration of depression as a natural aspect of aging and how depression and age are related. Depressive disorders are characterized by depressive symptoms such as disturbance in mood, cognition and behaviour¹. The depressive symptoms that were found relate to lower levels of social support, accumulation of chronic medical disorders, general stress, and the number of stressful life events experienced by the elderly².

Depression is the most common mental illness among persons over age 60 years old. Depression is widespread with at least 16% of patients receiving care in a primary care setting. A higher percentage in hospitals and nursing homes exhibiting depression³. Approximately 15% of older Americans suffer from significant depression⁴. In community-dwelling elderly, the prevalence of major depression is approximately 2%, and of minor depression 15 to 30%⁵. In medical outpatients, the prevalence of depression ranges from 7 to 36%⁶. Patients hospitalized for medical reasons experience depression at a rate of 10 to 30%⁷.

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In Malaysia, a community based study was conducted by *Sherina et al* (2004) to determine the prevalence of depression among elderly in Sepang, Selangor. The study found that the prevalence of depression among elderly in the community was 7.6%⁸.

Two other local studies on depression among the elderly in primary health care clinics showed higher prevalence of 14% and 18%. The prevalence of depression of 14% was found in the study conducted by Norsiah, (1998) which assessed the elderly attending Klinik Kesihatan Pokok Sena⁹. Whereas, the study conducted by Sherina, (2002) in Klinik Kesihatan Butterworth obtained the prevalence of depression among elderly of 18%¹⁰. Thus, a conclusion can be made by stating that prevalence among elderly ranged from as low as 2% to as high as 35% according to the community, primary health care and hospital levels.

During the past decade, there have been significant research findings concerning depression in the aging and the aged in the community and primary health clinics in Malaysia, but none has yet to be done in secondary or tertiary care centres. The aims of these research are to find answers to numerous questions concerning depression in the aging which is such a major public health concern. New research findings have suggested that depression in late life occurs in the context of numerous social, physical, and related disability problems.

The objective of this study was to determine the prevalence of depression among elderly aged 60 years and above warded in a tertiary care centre in Wilayah Persekutuan.

Materials and Methods

This study was conducted in the third class Orthopaedic, Surgery, Geriatric, Gynaecology and Medical Wards in a tertiary government hospital in Wilayah Persekutuan. A cross sectional study was conducted for a duration of 10 weeks from 11th March to 27th May 2004. The study population included all elderly patients aged 60 years and above admitted to the selected wards.

There were 246 elderly patients aged 60 years and above admitted to the Orthopaedic, Surgery, Geriatric, Gynaecology and Medical wards during the study period. Out of these 246 elderly patients, 198 were interviewed in this study giving a response rate of

80.5%. Thirty four patients were excluded because of significant communication problems (n=18), and severe disability (n=16). Fourteen did not consent to participate in the study and were classified as non-respondents. Sample size was calculated using EPI-INFO and the sample size required for this study was 150 respondents.

The sampling method used to select the wards was stratified cluster sampling. The hospital was stratified into the different types of third class wards available. From there, the following seven medical wards, five orthopaedic wards, three surgery wards, one gynaecology ward and one geriatric ward were selected.

All elderly patients aged 60 years and above admitted to the selected wards were interviewed face-to-face using a structured, pre-tested questionnaire. The interviewers were trained in interviewing techniques to reduce interviewer bias. The questionnaire comprised of three sections. Section A was based on socio-demographic and socio-economic characteristics such as age, gender, ethnicity, marital status, living arrangement and level of education. The 30-item Geriatric Depression Scale (GDS-30) made up section B, while section C consisted of the Barthel Index which comprised of ten questions on activities of daily living. The GDS-30 was validated both in English and Bahasa Malaysia versions.

The Geriatric Depression Scale (GDS-30) consists of 30 questions. The score is obtained by summation of the positive and negative responses. Cut off score of 11 or more were used to identify depression. The GDS scores ranged from 0 to 30. This scale was created by Yesavage et al and has been tested and used extensively to measure depression among the elderly. It has been found to have a high sensitivity (92% to 100%) and specificity (84% to 87%) in the identification of depression¹¹.

The Barthel Index was used to assess each respondent's ability to perform functional activities such as: i) feeding, ii) bathing, iii) dressing, iv) grooming, v) bowels control, vi) bladder control, vii) toilet use, viii) transfers (from bed to chair and back), ix) mobility on level surfaces, and x) climbing stairs¹².

Data was analyzed using SPSS Version 11.5. The statistical tests used were Chi-square test and t-test. Where Chi-square test was not valid, Fisher's exact test

was used. A p value of less than 0.05 was used to indicate that the association between each factor and depression was significant.

Results

There were 246 elderly patients aged 60 years and above admitted to the selected wards during the study period. Out of these 246 elderly patients, 198 were interviewed in this study giving a response rate of 80.5%. Elderly patients who did not respond were those who refused to participate, as well as also excluded cases due to significant communication problems and severely disabled patients. Ages of the respondents ranged from 60 to 88 years old. The mean age of the elderly respondents was 69.2 years with a standard deviation of 6.21.

Table I shows that 115 respondents (58.1%) were males while 83 (41.9%) were females. Majority were Malays (48.5%) followed by Chinese (34.3%) and Indians (14.6%). Most were married (63.6%) and living with their family (90.4%), 37.9% of the respondents had no formal education at all. As assessed by the Barthel Index, most respondents (99.5%) had problems in climbing stairs. This was followed by 88 (44.4%) elderly respondents who had problems with mobility on level surfaces. These included those who were immobile, wheelchair dependent and those who needed help while walking. (Table II)

The prevalence of depression among elderly respondents was 54% in which 107 out of 198 elderly respondents were found to have GDS scores of 11 and above. Depression was found to be significantly associated with age, sex, ethnicity and functional disabilities in bathing, grooming, dressing, toilet use, transferring, mobility and climbing stairs among the respondents in this study ($p < 0.05$). (Tables III and IV).

Discussion

Depression is widespread with at least 16% of patients receiving care in a primary care setting and a higher percentage in hospitals and nursing homes exhibiting depression⁴. In this study, it was found that the prevalence of depression among elderly admitted to a tertiary care centre was 54%.

The high prevalence of depression among elderly in a hospital setting is probably due to the severe conditions and chronic illness that triggers the depression among

the elderly patients. Reynolds and Kupfer (1999) reported that older individuals often develop depression in the face of one or more general medical conditions³.

In this study, elderly aged 70 years and above had significantly higher prevalence of depression (64.1%) compared to those aged 60 to 69 years (47.5%). This result was consistent with the one obtained in the study by Sherina et al, (2004) which found that depressive symptoms occurred more frequently in the elderly aged 70 years and above (8.9%) compared to elderly aged 60 to 69 years (6.6%)⁸. In their study on major and minor depression among older people, Penninx et al (1999) also found that depression increases with the increase of age¹³.

The relationship between biological sex and prevalence of depression where female depressives outnumber male on the order of two to one has been reported as early as 20 years ago by Wing & Bebbington (1985)¹⁴. In our present study, we found that the prevalence of depression was also significantly higher among the females (65.1%) compared to the males (46.1%). Steffens et al (2000) also found that the prevalence of depression in older adults was twice as high in women compared to men¹⁵.

This study found that depression was also significantly associated with ethnicity. Depression was more common among the Indians compared to the Malay's and Chinese. In their study, Sherina et al also found that the prevalence of depression was higher among Indians (11.1%), compared to Malays (6.7%) and Chinese (7.7%) among elderly community residents⁸. Chan and Davanso (1996) reported that Indians have poorer health status compared to Chinese and Malays which can contribute to the development of depression¹⁶.

In this study, depression was found to be associated with physical disabilities. This was supported by another study conducted by Bekaroglu et al (1991) in which functional disabilities were also found to be associated with depression¹⁷. Depression in older adults can be disabling, contributing to problems with activities of daily living and thus increasing their dependence on others and the health care system¹⁸. In our study, there is a higher proportion of depression in elderly respondents having at least one physical disability. The result was significant between the association of depression with functional disabilities in bathing, grooming, dressing, toilet use, transferring

Table I: Profile of the elderly respondents (n=198)

Profile of the respondents	n	%
Age		
60-69 years	120	60.6
70-79 years	63	31.8
80 years and above	15	7.6
Gender		
Male	115	58.1
Female	83	41.9
Ethnicity		
Malay	96	48.5
Chinese	68	34.3
Indian	29	14.6
Others	5	2.5
Marital status		
Married	126	63.6
Widowed	47	23.7
Divorced	5	2.5
Single	20	10.1
Living arrangement		
Living with family (spouse and/children)	179	90.4
Living alone	19	9.6
Education level		
No formal education	37	37.9
Primary education	89	44.9
Secondary education	31	15.7
Tertiary education	3	1.5
Depression		
Absent	91	46.0
Present	107	54.0

Table II : Distribution of the elderly respondents by Functional Disability in each activity of daily living

Activities of daily living	Normal (%)	Problems (Functional disabilities) (%)
Feeding	188 (94.9)	10 (5.1)
Dressing	172 (86.9)	26 (13.1)
Grooming	186 (93.9)	12 (6.1)
Bathing	172 (86.9)	26 (13.1)
Urinary Bladder Control	181 (91.4)	17 (8.6)
Bowel Control	180 (90.9)	18 (9.1)
Toilet use	165 (83.3)	33 (16.7)
Transfer: Bed to chair and back	116 (58.6)	82 (41.4)
Mobility: On level surfaces	110 (55.6)	88 (44.4)
Climbing Stairs	1 (0.5)	197 (99.5)

Table III : Factors associated with depression among the elderly respondents (n=198)

Factors	Depression (%)	No depression (%)	p value
Age			
60-69 years	57 (47.5)	63 (52.5)	* p < 0.05
70 years and above	50 (64.1)	28 (35.9)	
Sex			
Male	53 (46.1)	62 (53.9)	*p < 0.05
Female	54 (65.1)	29 (34.9)	
Ethnicity			
Malay	47 (49.0)	49 (51.0)	*p < 0.05
Chinese	34 (50.0)	34 (50.0)	
Indian	21 (72.4)	8 (27.6)	
Others	5(100.0)	0 (0.0)	
Marital status			
Married	61 (48.4)	65 (51.6)	p > 0.05
Not married (widowed/ divorced/ Single)	46 (63.9)	26 (36.1)	
Living arrangement			
Living with family (spouse and/children)	98 (54.7)	81 (45.3)	p > 0.05
Living alone	9 (47.4)	10 (52.6)	
Education level			
No formal education	44 (58.7)	31 (41.3)	p > 0.05
Formal education	63 (51.2)	60 (48.8)	

*p < 0.05 = significant

Table IV : Association between depression and each functional disability among the elderly respondents (n=198)

Functional disabilities	Depression	No Depression	p value
Functional disabilities in Feeding			
Yes	7	3	p > 0.05
No	100	88	
Functional disabilities in Bathing			
Yes	20	6	*p < 0.05
No	87	85	
Functional disabilities in Grooming			
Yes	10	2	*p < 0.05
No	97	89	
Functional disabilities in Dressing			
Yes	22	4	*p < 0.05
No	85	87	
Functional disabilities in Bowel Control			
Yes	11	7	p > 0.05
No	96	84	

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Functional disabilities	Depression	No Depression	p value
Functional disabilities in Bladder Control			
Yes	12	5	p > 0.05
No	95	86	
Functional disabilities in Toilet Use			
Yes	24	9	*p < 0.05
No	83	82	
Functional disabilities in Transferring from bed to chair, and vice versa			
Yes	59	23	*p < 0.05
No	48	68	
Functional disabilities in Mobility on level surfaces			
Yes	62	26	*p < 0.05
No	45	65	
Functional disabilities in Climbing Stairs			
Yes	107	90 (45.7)	*p < 0.05
No	0	1 (100.0)	

* p < 0.05 = significant

(from bed to chair and back), mobility on level surfaces and climbing stairs ($p < 0.05$). Older patients with symptoms of depression have been reported to be significantly more dependent in at least one basic activity of daily living¹⁹. In another study by *Woo et al* (1994), it was also found that various indices of functional dependence were associated with depression¹².

Conclusion

The prevalence of depression among the elderly respondents in this study was 54%. Factors that were significantly associated with depression were age, sex, ethnicity and functional disabilities in bathing, grooming, dressing, toilet use, transferring from bed to chair and back, mobility on level surfaces and climbing

stairs. To reduce the prevalence of depression among elderly, routine screening for elderly patients who are warded in hospitals should be done. The Geriatric Depression Scale can be used as a screening tool in order to identify the elderly with depression. Elderly found to be depressed should be further referred to the psychiatrist for counseling and treatment.

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