

## DEPRESSIVE SYMPTOMS AND GERIATRIC CHARACTERISTICS IN DEMENTIA PATIENTS AT NATIONAL GERIATRIC HOSPITAL

*Tran Viet Luc<sup>1,2\*</sup>, Nguyen Ngoc Tam<sup>1,2</sup>  
Dang Thi Huyen Trang<sup>1</sup>, Nguyen Thi Hoai Thu<sup>1,2</sup>*

### **Abstract:**

**Objectives:** To determine the prevalence of depression symptoms and geriatric characteristics of dementia patients. **Methods:** A cross-sectional study was conducted on 87 dementia patients  $\geq 60$  years old at the Outpatient Department, National Geriatric Hospital. Data were collected using designed tools, including general information, Health-related Quality of Life (HRQoL), Instrumental Activities of Daily Living (IADLs), Activities of Daily Living (ADLs), Pittsburgh Sleep Quality Index (PSQI), Mini Nutrition Assessment Short Form (MNA-SF). Depressive symptoms were diagnosed by the Patient Health Questionnaire 9 (PHQ-9). **Results:** A total number of 87 patients were recruited for the study. The mean age was 76.84 years old. Moderate dementia had the highest rate with 43.7%. The remaining levels of mild dementia and severe dementia were 34.5% and 20.7%, respectively. The prevalence of having depressive symptoms was 43.7%. The symptom that occurred the most on all days was "Trouble falling or staying asleep or sleeping too much" at 32.2%. Low quality of life accounted for the highest number of 38 people (43.7%). **Conclusion:** The prevalence of having depressive symptoms in dementia patients was respectively high at 43.7%. Early screening for depressive symptoms of dementia patients is essential and should be considered for application in comprehensive geriatric assessment.

**Keywords:** Depressive symptom; Dementia patient; Geriatric characteristic.

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<sup>1</sup>Hanoi Medical University

<sup>2</sup>National Geriatric Hospital

\*Corresponding author: Tran Viet Luc (tranvietluc@hmu.edu.vn)

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## INTRODUCTION

In the current era of economic growth and improved healthcare, life expectancy is increasing, leading to an increasing proportion of elderly people in many countries around the world, including Vietnam. However, the elderly often suffer from many chronic diseases such as cardiovascular disease, diabetes, bone and joint diseases, etc [1]. Dementia is one of the most severe and common mental disorders among them. The prevalence of the disease increases with age. The prevalence of dementia increases sharply with age from just > 1% between the ages of 65 - 69 years old up to > 30% beyond the age of 90 years old [2]. While dementia is associated with cognitive changes, behavioral changes such as depression also frequently occur, with up to 20% of individuals reporting some degree of clinically significant depressive symptoms [3, 4]. Depressive symptoms can have adverse consequences for patients and their caregivers [5]; thus, a clear understanding of the prevalence of depression in dementia is warranted. It is important to investigate dementia at an early stage to identify any curable conditions, deploy the proper medical treatment, and provide appropriate support and assistance to patients with dementia and their relatives. In Vietnam, so far, there have been a number of

studies on dementia; however, the clinical features of depression in dementia patients have not been fully explored. The goal of our study was to conduct a systematic review and meta-analysis to determine the prevalence of depression in dementia among older adults in studies that used validated criteria for the diagnosis of both depression and dementia. This information may help us better understand the overall burden of depression in dementia and the factors associated with depression in dementia. Studying this issue may help doctors diagnose and treat depression in people with dementia, improving the quality of their lives as well as the lives of their caregivers. Therefore, the study is conducted to: *Determine the prevalence of depression symptoms in dementia and the geriatric characteristics of dementia patients.*

## MATERIALS AND METHODS

### 1. Subjects

Including 87 participants  $\geq 60$  years old who were diagnosed with dementia at the National Geriatrics Hospital.

\* *Inclusion criteria:* Older people have a diagnosis of dementia according to DSM V criteria; patients have physical and cognitive abilities to do a face-to-face interview; patients and their families agree to participate.

\* *Exclusion criteria:* Acute and malignant diseases (advanced cancers, end-stage chronic diseases, acute myocardial infarction, stroke); symptomatic cardiovascular disease, coronary revascularization within 1 year; clinical evidence of schizophrenia, severe depression, psychiatric or bipolar disorder (according to DSM-IV TR criteria); alcoholism or substance dependence (according to DSM-5 criteria) currently, or within the past 2 years; severe loss of vision, hearing or communicative ability (according to the interRAI Community Health Assessment); participant or family unwilling to participate in the study.

\* *Setting and time:* In the Outpatient Department at National Geriatric Hospital, from July to November 2021.

## 2. Methods

\* *Study design:* A cross-sectional study.

\* *Sample size and sampling:*

Sampling: Convenience sampling.

Sample size: The proposed sample size was 87 participants.

\* *Tools and data collection method:* Data were collected using designed tools, including general information, PHQ-9 for assessing depressive symptoms, HRQoL, IADLs, ADLs, PSQI, and MNA-SF.

- Mini Mental State Evaluation (MMSE);

- Depression: PHQ-9;

+ Performing: PHQ-9 is one of the tools used to screen for the presence and severity of depression and to monitor response to treatment [6].

+ Evaluating: Interpretation of Total Score Depression Severity: PHQ-9 is a 27-point questionnaire with a cut-off point of 10 (having depressive symptoms).

1 - 4: Minimal depression;

5 - 9: Mild depression;

10 - 14: Moderate depression;

15 - 19: Moderately severe depression;

20 - 27: Severe depression.

\* *Data processing and analysis:* The process of data coding, entry into Redcap, and analysis was done using SPSS.22. Descriptive statistics were adopted to examine characteristic data: Frequency, percentage, and mean. Inferential statistics was done to perform comparisons between groups: Chi-square and multivariable regression. Statistical significance was accepted at the 95% confidence level ( $p < 0.05$ ).

## 3. Ethics

The study tools did not involve sensitive or intimate problems and did not affect the subjects' emotions. National Geriatric Hospital granted permission for the use and publication of the research data. The results of the study were proposed to improve the health of the community, not for other purposes. The authors declare to have no conflicts of interest in the study.

## RESULTS

A total number of 87 patients were recruited for the study from July to November 2021. Demographic characteristics are presented in detail below.

**Table 1.** Demographic characteristics (n = 87).

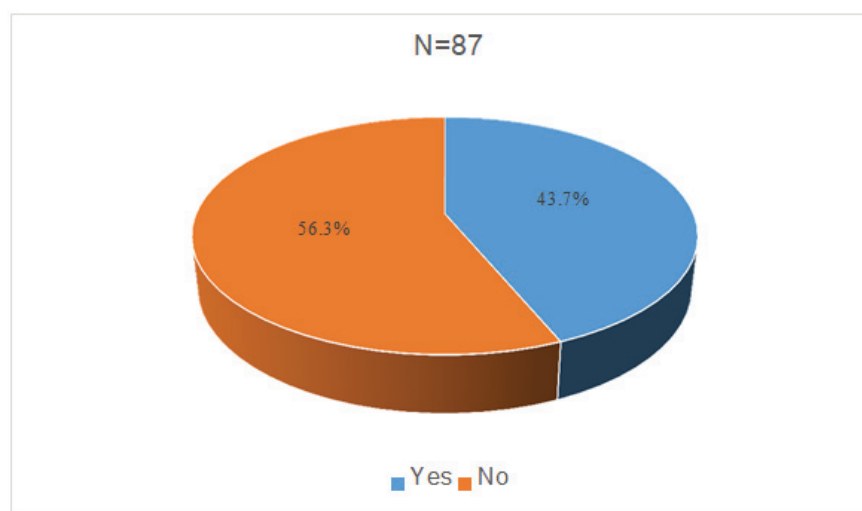
Demographic characteristics	Frequency (n)	Percentage (%)
Aged group		
60 - 69	18	20.7
70 - 79	36	41.4
≥ 80	33	37.9
Gender		
Female	57	65.5
Male	30	34.5
Marital status		
Married	66	75.9
Single/widowed/divorced	21	24.1
Educational level		
Have not graduated from high school	52	59.8
Graduated from high school	28	32.2
Graduated from university and above	7	8

Patients were  $\geq 60$  years old, with a mean age of 76.84 years old, in which the most significant distribution was generated by patients aged between 70 - 79 (41.4%). Secondly, patients  $\geq 80$  years old accounted for 32.1%. Patients from 60 - 69 represented only 20.7%. Females accounted for 65.5% (n = 57), which was higher than male patients (34.5%, n = 30). The female/male ratio was 1.9. Patients who have not graduated from high school accounted for the highest proportion (59.8%), followed by those who graduated from high school (32.2%). Patients who graduated from university and above accounted for the lowest percentage (8%).

**Table 2.** Characteristic of dementia (n = 87).

Characteristics of dementia	Classification	Frequency (n)	Percentage (%)
The severity of dementia	Mild	30	34.5
	Moderate	38	43.7
	Severe	18	20.7
Time of appearance memory loss	≤ 1 year	33	37.9
	> 1 year	54	62.1
Previously diagnosed with dementia	Yes	34	39.5
	No	52	60.5

Moderate dementia has the highest rate (43.7%). The remaining levels of mild dementia and severe dementia were 34.5% and 20.7%, respectively. 54 patients appeared to have memory loss > 1 year (62.1%), and the remaining 32 patients had dementia ≤ 1 year (37.9%). But only 34 patients (39.5%) were previously diagnosed, the rest (60.5%) were undiagnosed. The depressive symptoms prevalence in mild dementia was 29.7%, in moderate dementia was 43.3%, and in severe dementia was 10%.

**Figure 1.** The prevalence of depressive symptoms by PHQ-9 (n = 87).

According to the PHQ-9 questionnaire, the prevalence of having depressive symptoms was 43.7% (Figure 1).

**Table 3.** PHQ-9 elements distribution (n = 87).

Signs and symptoms	Frequency, n (%)			
	Not at all	Several days	More than half the days	Nearly everyday
Little interest or pleasure in doing things	14 (16.1)	37 (42.5)	27 (31.0)	9 (10.3)
Feeling down, depressed, or hopeless	23 (26.4)	41 (47.1)	15 (17.2)	8 (9.2)
Trouble falling or staying asleep or sleeping too much	18 (20.7)	26 (29.9)	15 (17.2)	28 (32.2)
Feeling tired or having little energy	9 (10.3)	34 (39.1)	27 (31.0)	17 (19.5)
Poor appetite or overeating	37 (42.5)	25 (28.7)	16 (18.4)	9 (10.3)
Feeling bad about yourself or that you are a failure or have let yourself or your family down	52 (59.8)	23 (26.4)	10 (11.5)	2 (2.3)
Trouble concentrating on things, such as reading the newspaper or watching television	18 (20.7)	28 (32.2)	16 (18.4)	25 (28.7)
Moving or speaking so slowly that other people could have noticed. Or the opposite, being so fidgety or restless that you have been moving around a lot more than usual	43 (49.4)	25 (28.7)	13 (14.9)	6 (6.9)
Thoughts that you would be better off dead or hurting yourself	79 (90.8)	7 (8.0)	0 (0.0)	1 (1.1)

The symptom that occurred the most on all days was "Trouble falling or staying asleep or sleeping too much" (32.2%), followed by "Trouble concentrating on things, such as reading the newspaper or watching television" (28.7%). Symptoms such as "Feeling down, depression, or hopeless" and "Feeling down, depressed, or hopeless" accounted for a high proportion with the frequency of "several days" in the last 2 weeks. The least common symptom in patients is "Thoughts that you would be better off dead, or of hurting yourself" with a very low frequency.

**Table 4.** Geriatric characteristics of older patients (n = 87).

Geriatric characteristics	Classification	Frequency (n)	Percentage (%)
HRQoL	High/very high	24	27.6
	Very low to moderate	63	72.4
IADLs	Dependent	84	96.6
	Independent	3	3.4
Physical ADLs	Severe dependency	29	33.3
	Moderate dependency	25	28.7
	Slight dependency	33	37.9
Mean of Barthel Index $\pm$ SD: 73.85 $\pm$ 26.34			
PSQI	Good sleep	19	21.8
	Poor sleep	68	78.2
Nutritional status	Malnourished-risk of malnutrition	61	60.1
	Normal	26	29.9

Low quality of life accounted for the highest number (43.7%, n = 38). 39 patients (3.4%) were independent in IADLs. The majority (96.6%, n = 84) was dependent on one or more IADLs domains. 29 patients (33.3%) had a severe dependency on physical ADLs, 25 patients (28.7%) had a moderate dependency, and 33 patients (37.9%) had a slight dependency. Most of the patients did not have good sleep (78.2%, n = 68). The MNA-SF measured nutritional status: 26 patients (29.9%) had normal nutrition, 47 patients (54%) were identified as “at risk of malnutrition”, and 14 patients (16.1%) were malnourished according to MNA-SF scores.

## DISCUSSION

There were 87 participants in the study. The mean age was  $76.84 \pm 8.38$  years, ranging from 60 - 96 years old. The 70 - 79 age group accounted for the highest proportion (41.1%), and aged  $\geq 80$  and 60 - 68 age groups accounted for 37.9% and 20.7%, respectively. This result was higher than the mean

age in the study of CY Liu et al. in China [7], the mean age was  $72.72 \pm 8.66$ , ranging from 52 - 92 years. This distribution was similar to the study of Paula Andreasen et al. [8] in low- and middle-income countries, female and male participants accounted for 62.1% and 37.6%, respectively. Globally, the percentage of females with dementia



was higher than males, no matter which country, so the gender ratio in our study is similar to domestic and foreign studies.

The mean score of PHQ-9 was  $9.64 \pm 4.78$ , ranging from 1 - 20, and the prevalence of depression in elderly patients was 43.7%. In particular, mild depression was 34.5%, moderate depression accounted for 43.7%, and severe depression was 20.7%. There were 56.3% of participants without depression. This result was higher than other reported rates of 17 - 31% for major depression among Alzheimer's disease patients in the study of Liu et al. (16% of the patients had a depressive disorder); Weiner et al. [9] (1.5% major depression). But this ratio is lower than the study of Migliorelli et al. (1995), the prevalence of depression among individuals with Alzheimer's disease was 51% [10].

With 87 participants, we found that 35 patients (40.2%) had mild depression, followed by moderate depression (27.6%,  $n = 24$ ) and moderate to severe depression (13.8%,  $n = 12$ ). And the lowest was severe depression (2.3%,  $n = 2$ ). The most frequent manifestations of depression were "Being sadness or depressed" (94.5%,  $n = 35$ ) and "Putting him/herself down or saying like a failure" (32.4%,  $n = 12$ ). Depression manifestation with the least

frequency was "Saying acting as sad or low spirit" (0%,  $n = 0$ ).

There were several limitations in the research. First, the results could be generalized only to the study area due to the power of the sample size calculation (due to the COVID-19 epidemic, the number of patients was limited). Second, our research was a cross-sectional study; therefore, we were not able to clarify the causal relationship between depression in dementia and some factors.

## CONCLUSION

The prevalence of having depressive symptoms in dementia patients was respectively high (43.7%). Early screening for depressive symptoms in dementia patients is essential and should be considered for application in comprehensive geriatric assessment.

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