Survey on Depression Among Elderly Populations in Buru Island, Maluku

Kemala NS, Wibisono S***

ABSTRACT

Background: Depression is a significant geriatric problem. It will be a major health problem in developing nations by the year 2020. Signs and symptoms of depression among elderly people are usually so unspecific that they are often considered as a part of getting old. No wonder so many elderly depression cases remain uncured. When depression is under-diagnosed, the various problems accompanied with it will make the bio-psychosocial condition of the patient worsen. There is no primary data on the prevalence of depression in the Indonesian elderly population, especially in Eastern Indonesian conflict areas.

Objective: The objective was to determine the prevalence and the severity of depression, as well as cognitive function in elderly subjects living in the conflict area in Buru Island, Maluku.

Design: This study was designed as a survey, conducted in the Northeast Buru Region, Maluku, from March to May 2003. Questionnaires on the validated Geriatric Depression Scale and Mini Mental State Evaluation were performed by trained native speaker paramedics for the identification of depression, the severity of depression, and cognitive function. The 401 elderly people that participated in this survey ranged in age from 60 to 120 years. As many as 215 (53.6%) were women, and 223 (55.6%) were uneducated.

Results: The prevalence of depression was 52.4%. A hundred and eighty seven subjects (94 females and 93 males) aged 60-120 years were in the mild depression category, and 23 subjects (14 females and 9 males) aged 60-85 years were severely depressed. While 82.6% elderly in severe depression category had an MMSE Score of less than 24 (dementia), 74.7% had mild depression, and only 57.1% of the elderly had no depression and received MMSE score less than 24. The majority of complaints among depression subjects were that they were bothered by thoughts they cannot get out of their head, they frequently worry about the future, they often became restless and fidgety, got bored, felt helpless, downhearted and blue, felt like crying, and that their life was empty. Seventy eight percents mild depressive elderly still enjoy getting up in the morning and 68% were hopeful about the future, which was on the contrary to the subjects with severe depression, where only 35% had these two positive outlooks.

Conclusions: The prevalence of depression in Buru Island community was high, even though most of them were in the mild depression category. The worse the depression, the higher the percentage of cognitive impairment. There was still enough willingness to get better among subjects with mild depression. We need to think about the possibility of Post Traumatic Stress Disorder in the elderly population of this conflict area.

Suggestions: Medical practitioners in conflict areas need to increase their awareness of depression and cognitive impairment among elderly people. Geriatrician and psychogeriatric experts are needed to ensure that the problem of depression in the elderly does not worsen in conflict areas. Further studies are needed to detect Post Traumatic Stress Disorder.

Keywords: depression, elderly, cognitive function, conflict area

INTRODUCTION

The problems that develop in the elderly make up an array of closely interconnected bio-psychosocial problems. One of the main problems that could develop in old age and is often called the geriatric giant is depression. In 2020, depression will be the top mental health problem in developing nations including Indonesia (WHO 1996).[1] In the elderly, depression is the most common example of illnesses with unspecific symptoms. The clinical manifestations of depression in the elderly often do not match available diagnostic criteria. As a consequence, depression patients are often undiagnosed,

* *Geriatric Division, Department of Internal Medicine of the Faculty of Medicine of the University of Indonesia*
** *Psychogeriatric Divison, Department of Psychiatry of the Faculty of Medicine of the University of Indonesia*

and the treatment is thus not optimal. A study reported that only 37% of elderly depression patients are diagnosed.[3]

If depression is undiagnosed, a cycle of the various problems it causes would then aggravate overall bio-psychosocial conditions. Thus, early detection of depression in the elderly with the physical problems it accompanies, as well as optimal intervention, would improve prognosis and prevent disability which causes continuous suffering in elderly patients.[1]

Studies abroad demonstrate a prevalence of depression of at least 1 to 3%. The prevalence of depression in the elderly at primary healthcare facilities is 5 to 17%,4 while the prevalence of depression among elderly patients who receive at-home care is 13.5%.[5] There is still no baseline data on the extent of depression in the elderly in Indonesia, particularly for Eastern Indonesia and conflict areas. In the acute geriatric ward, Hadi Martono found a prevalence of 2.3% of depression among elderly patients.

The Maluku Province, which has just recently come out of several years of civil conflict, is a region that needs to prioritize attention in the field of health. This "land of a thousand isles" has clear potential for its natural resources. The Natsepa beach, Latuhalat; the Santai Beach; Liang in Ambon, Jiku Merasa Beach in Buru Island with its incomparable color gradation beauty; as well as Banda Island with its sea garden and historical legacy, are some of Maluku's assets. As a land of islands covering 77,871 km2, Maluku has been recorded as the province with the highest average length of star-hotel stay for foreign and domestic guests, which is for 4 days (compared to 1.9 days for Yogyakarta, 1.9 day for West java, and even 3.6 days for Bali).[7]

One of its largest counties is the Buru County. This county is made up of islands and covers an area of 12,6555.58 km^2, which is twice the area of Bali.8 Even though this island, which is the top producer of cajuput oil, was not involved in widespread conflict like Ambon due to a more homogenous religious background, they were still influenced by the conflict by accommodating a large number of refugees.

The aim of this study is to obtain data on the prevalence of depression among the elderly in the island of Buru, Maluku, to determine the severity of depression, as well as the cognitive function in each group.

MATERIALS AND METHOD

This study took place in the form of a survey conducted in the Northeastern Buru District, with a coverage area of 1536.38 km^2, from March to May 2003. The study population was elderly patients over 60 years of age, and the subject was the elderly in the area mentioned above. Subject data were obtained by the village chief and the subjects were congregated in the town hall. Data collection was performed using direct interview to the subject or closest family member using the Geriatric Depressions Scale (GDS), which consists of 30 questions, and the Mini Mental State Evaluation (MMSE). The interview was conducted by paramedics from the Buru district, who are able to speak the local language and have been trained to use the questionnaire. The data that was collected included personal identity, and depression symptoms, including cognitive function. The elderly is considered to not suffer from depression if the GDS score is 0 to 10, suffer from mild depression if the score is 11 to 20, and severe depression if the score is 21-30.[9] A subject is stated to have reduced cognitive function (dementia) if the MMSE score is less than 24. The data is analyzed descriptively using SPSS statistical analysis computer program.

RESULTS

The study subjects consisted of 401 elderly patients distributed in 12 villages: Namlea (with lesser villages of Nametek, Jiku Besar, Batu Boy, Siahony, Lala, Marloso, and Jamilu), Ubung, Jiku Merasa, Sawa, Waeperang, Lamahang, Waplau, Samalagi (represented by its lesser village Waprea), and Sanleko. There were 215 females and 186 males with a mean age of 70 years. The largest age group were those 60-70 years of age, consisting of 266 subjects (66.2%). Table 1 demonstrates subject characteristics.

Depression, characterized by a GDS score of more than 10, was found in 210 subjects (52.4%), consisting of 108 females and 102 males (49%). The mean age of the depression patients was 70.6 years, with a minimum age of 60 years and a maximum age of 120 years. Out of the 210 subjects with depression, 187 (89%) suffered from mild depression, while 23 subjects suffered from severe depression (11%).

The mean age of patients with mild depression was 70.45 years, with a minimum age of 60 years and a maximum of 120 years, while those with severe depression had a mean age of 70.83 years, with a minimum age of 60 years and a maximum of 85 years, as seen in Table 2.

Forty percent of those 60 to 70 years of age suffered from mild depression, while 5% suffered from severe depression. Among those 71 to 80 years of age,

Table 1. Characteristics of Subjects of The Depression Screening for Elderly Patients in The Buru County

Characteristics of	n	%
Sex		
- Female	215	53.6
- Male	186	46.4
Age group		
- 60-70 years	266	66.2
- 71-80 years	92	22.9
- 81-90 years	34	8.5
- 91-100 years	7	1.7
- > 100 years	2	0.5
Level of education		
- Never attended school	223	55.6
- Did not complete elementary school	120	29.9
- Completed primary school	44	11
- Junior Secondary School	9	2.2
- Senior Secondary School	4	1
- Tertiary level	1	0.2
Village		
- Batu Boy	8	2
- Jamilu	40	10
- Jiku Besar	6	1.5
- Lala	9	2.2
- Marloso	32	8
- Nametek	10	2.5
- Namlea	32	8
- Pohon Durian	18	4.5
- Siahony	11	2.7
- Hatawano	39	9.7
- Jiku Merasa	8	2
- Namsina	18	4.5
- Sanleko	8	2
- Ubung	49	12.2
- Waeperang	30	7.5
- Waeura	9	2.2
- Waprea	24	6

Table 2. GDS Score According to Mean Age, Minimum Age, and Maximum Age

	GDS score		
	0-1	11-20	21-30
Number (persons)	191	187	23
Mean age (years)	68.88	70.45	70.83
Minimum age (years)	60	60	60
Maximum age (years)	100	120	85

43% suffered from mild depression and 8% from severe depression. As many as 59% of subjects from the 81-90 years age group suffer from mild depression, and 9% of subjects from that age group suffer from severe depression. In the 91 to 100 years age group, 43% suffered from mild depression, while the rest did not have depression. All of the subjects above 100 years of age suffered from mild depression, as found in Table 3.

Table 4 demonstrates the GDS score according to sex. In mild depression, the number of females compared to males is almost equal (50.3% compared to 49.7%), while for severe depression, the majority (60.9%) are females.

Table 3. GDS Score According to Age Group

	Score GDS							
	0-10		11-20		21-30		Total	
	n	%	n	%	n	%	n	%
60-70 years	131	49	122	46	13	5	266	100
71-80 years	45	49	40	43	7	8	92	100
81-90 years	11	32	20	59	3	9	34	100
91-100 years	4	57	3	43			7	100
> 100 years			2	100			2	100

Table 4. GDS Score According to Sex

Sex	GDS Score					
	0-10		11-20		21-30	
	n	%	n	%	n	%
- Female	107	56	94	50.3	14	60.9
- Male	84	44	93	49.7	9	39.1

Table 5 demonstrates the GDS score according to level of education. We could see that 73.9% of patients with severe depression have no education, 21.7% did not finish primary school, and 4.4% only completed primary school. Among those with mild depression, most (56.1%) were uneducated, 32.6% did not complete primary school, 9.1% completed primary school, and the remainder had junior and senior high school level education, 1.1% respectively.

The MMSE score of depression subjects were mostly less than 24 (in 75.2% of subjects). Subjects with severe depression were found with a highest percentage of subjects with an MMSE score of less than 24 (82.6%). There were also a higher number of subjects with mild depression with an MMSE score of less than 24 (74.7%). Among elderly patients without depression, there was a lower percentage of subjects with an MMSE score of less than 24 (57.1%), as seen in Table 6.

Table 5. GDS Score According to Level of Education

Level of Education	GDS Score					
	0-10		11-20		21-30	
	n	%	n	%	n	%
- Never attended school	101	52.9	105	56.1	17	73.9
- Did not complete elementary school	54	28.3	61	32.6	5	21.7
- Completed elementary school	26	13.6	17	9.1	1	4.4
- Junior High School	7	3.7	2	1.1	0	
- Senior High School	2	1	2	1.1	0	
- Tertiary level	1	0.5	0		0	

Table 6. GDS Score According to MMSE Scoring Category

MMSE scoring category	GDS Score					
	0-10		11-20		21-30	
	n	%	n	%	n	%
- < 24	108	57.1	139	74.7	19	82.6
- ≥ 24	81	42.9	47	25.3	4	17.4

The mean MMSE score in the group with depression and without depression can be found in Table 7, where those with more severe depression had a lower MMSE score.

Table 7. GDS Score According to Mean MMSE Score

GDS Score	Mean MMSE Score
0-10	21.9
11-20	19.7
21-30	18.7

The most common complaint found among the elderly subjects with severe depression was a feeling of being disturbed by preoccupation (100%); followed by memory loss, and worry about the future, each making up 95.6%; agitation or restlessness (95%); boredom, powerlessness, and worry about the future (91.3%), fear that something bad is going to happen, unhappiness, difficulty to start something new, and a feeling of wanting to cry all the time (each 86.9%); feeling that their life is empty, preference to stay at home, feeling sad about little things (82.6% respectively); and loss of hope (78.3%).

Among elderly patients with mild depression, the most common complaint was inability to start something new (72.7%), followed by a feeling of powerlessness (72.2%), agitation and restlessness (71.6%); frequent sadness and sadness over little things (71.1% respectively), being disturbed by preoccupations (70.5%), difficulty concentrating (68.4%), and concern about the future (67.4%).

Seventy percent of the elderly subjects with mild depression were still happy to wake up in the morning and 68% still have hope of the future, while only 35% of those with severe depression are happy to wake up in the morning and look forward to the future.

DISCUSSION

The sex of the patient with depression in this study is in line with the study by Bruce, who found more women with depression. Level of education also demonstrates the same tendency, where depression patients were mostly less educated.

The prevalence of elderly subjects in conflict zone with depression (52.4%) was much higher compared to the general population (1-3%), also compared to that in primary healthcare facilities (5-17%).4 The prevalence is even higher than that of hospitalized surgery patients (26%).10

These findings demonstrate that depression among the elderly population in conflict zones is a serious problem. A study demonstrates that the prognosis of elderly patients in the community and at primary healthcare facilities with depression is poor. After 24 months of treatment, 33% improve, 33% were still depressed, and 21% have died. Almost half of those who stay alive were depressed, both due to recurrent or chronic depression.

The study is also in line with theory that depression patients have lower total cognitive assessment scores. In the study by Nicholl et al, depression patients had a mean MMSE score of 27.5. Pantel et al found that 7 out of 10 depression patients had an MMSE score of less than 24.11 Based on this study, we could see that among elderly subjects without depression, 57.1% had an MMSE score of less than 24, compared to 74.7% among those with mild depression and 82.6% among those with severe depression. The mean MMSE score among those without depression is 21.9, and drops to 19.7 among those with mild depression, and is even a lower 18.7 among those with severe depression.

The reason why cognitive dysfunction is found among depression patients is because of general psychomotor retardation which accompanies depression, along with loss of interest and attention towards their environment. Consequently, patients demonstrate disorientation, recent memory loss, and lack of knowledge of recent events. In the MMSE test, depression patients often have lower scores because of lack of endurance. The patients often answer by saying "I don't know" or "this is too difficult for me" before ever starting to clear the problem. Clinically, these cases do not show evidence of higher cortical function defects such as dysphasia or apraxia.[12]

The possibility of post traumatic stress disorder (PTSD) among the elderly could not be excluded in the elderly patients who are considered to have depression, considering the overlapping symptoms between depression and PTSD. PTSD develops in people who suffered from extreme stressors or traumatic events that induce responses of fear, helplessness, fright, and has three types of symptoms: involuntary recall of the event, refusal to remember it, and frequent waking for at least 1 month after the event.13 Even though the peak of the conflict in the area occurred in the previous 3 years, the impact is still felt to date because many people have lost family members and possessions, and at least many of them are still internally displaced persons. A possible type of PTSD is delayed onset PTSD, with symptoms that occur at least 6 months after the traumatic event. References mention that PTSD due to physical attack is more common in women compared to men, in line with this study.[13] Nevertheless, the possibility of depression concurrent with delayed onset PTSD.

On the other hand, literature state that the prevalence of depression makes up a significant proportion of patients with dementia. The prevalence varies from 0 to 52%. In this study, 59% of subjects with dementia also had depression. Symptoms of depression in patients with dementia is the same as that in those without cognitive dysfunction, such as sadness, loss of interest, fatigue, loss of appetite, psychomotor changes, guilt, anxiousness, and suicidal thoughts.[11] In this study, depressive symptoms that occur are in line, both in severe or mild depression, which are fear of the future, anxiety and restlessness, boredom, powerlessness, fear that something bad is going to happen, unhappiness, difficulty to start something new, frequent tears, feeling empty, preference to stay at home, sadness about little things, and loss of hope.

The interaction between depression and dementia is highly complex. Some of the signs of dementia found in depression patients could be pseudodementia. In a larger scope, this category includes two kinds of patients. The first kind is those with low cognitive function test results due to lack of attention, poor concentration, or lack of motivation. The second is a syndrome with cognitive abnormality pattern similar to deficiency in dementia patients. The symptoms are associated with depression but cannot simply be explained by lack of concentration or motivation. Even though these patients often respond with "I don't know" or may demonstrate inconsistent patterns of deficiency, Caine (1981) described the presence of 3 elements: an intellectual disturbance associated with psychiatric disorder, dementia-like neuropsychological deficits, and reversibility of disturbance. Wells (1979) recommended an array of criteria that could be used to identify such individuals: a clear onset, a short span of symptoms prior to referral, rapid progress, history of previous psychiatric disorder, and clear family awareness of the severity of symptoms suffered by the patient.[11]

In order to differentiate depression from dementia, it is important to collect information from various sources, neurological examination, EEG, CT or MRI. The absence of blood flow reduction in SPECT imaging, which is unique to Alzheimer or vascular dementia, would support a diagnosis of depression. Finally, the efficacy of antidepressant agents determines the diagnosis of several cases. However, the manifestations of antidepressant treatment affect the diagnosis of a number of cases. However, sometimes the manifestations are very complicated, since depressive symptoms may be found at the initial stages of Alzheimer.[12]

The lack of education also influences the results of the MMSE score. In this study, 55.6 of the elderly had no education, and 86% of those who never went to school had an MMSE score of less than 24. If we analyze each element in the MMSE score that is influenced by the level of education, such as time orientation, calculation, and language associated with the ability to read and write, we found supporting evidence.

Depression among dementia patients not only causes problems for the patient, but also further aggravates cognitive function, as reflected from the Instrumental Activities of Daily Living (IADL). Life expectancy is also reduced. In addition, depression would also disturb their work.[11] Thus, this high prevalence of depression in the elderly of Buru Island would have great impact on the productivity of this newly established district that has just came out of conflict. Furthermore, depression in the elderly would make it difficult for them to perform physical activities or regular exercise, which would further aggravate loss of cognitive function.[14]

We need to create a supportive environment to cultivate a sense of security for elderly patients in post-conflict areas, since 95.6% of those who suffer from severe depression and 67.4% of those who suffer from mild depression in this new district are worried about their future. With adequate management, depression in the elderly of Buru Island should be alleviated, considering that 89% of those who suffer from mild depression, which make up the majority, are still happy to wake up in the morning and look forward to their future.

CONCLUSION

The prevalence of depression among the elderly in Buru Island is high, and the majority suffer from mild depression. The more severe the depression, the greater the percentage of cognitive dysfunction (dementia), even though the influence of a lack of education cannot be excluded. Elderly subjects with mild depression still have adequate drive to recover. The possibility of post traumatic stress disorder among the elderly in this post-conflict zone should be considered.

The medical professionals in the area should increase their awareness of depressive symptoms and cognitive dysfunction in the elderly, so that the management of concurrent medical problems or the effects of depression could be managed more easily. The possibility of post traumatic stress disorder needs to be further studied with the appropriate instruments. The role of geriatrists and psychogeriatrists is crucial to

determine comprehensive management policies in elderly people in conflict areas, so that it would not cause further deterioration of biopsychosocial conditions.

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