FACTORS RELATED TO DEPRESSION AMONG OLDER PEOPLE LIVING IN CIMAHI, WEST JAVA PROVINCE, INDONESIA

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ABSTRACT

Background: Depression is commonly found in older people. The prevalence of depression among older people, particularly in Indonesia is increasing worldwide.
Objective: This study aimed to identify the factors related to depression among older people living in Cimahi, West Java Province, Indonesia.
Method: A cross sectional design was used with a total of 267 older people aged from 60 to 79 years old. A multi-stage random sampling was used in five public health centers in Cimahi. The instruments comprised of socio-demographic questionnaires, general health perceptions questionnaire, Chula Activities of Daily Living Index (CADLI), and Geriatric Depression Scale-15 (GDS-15). Data analysis was conducted using descriptive statistic, chi-square, and point-biserial.
Results: The result revealed that 56.2% of respondents were no depression and 43.8% of respondents was depression. The results also showed that age, marital status, family history of depression, perceived health status, and activities of daily living was significant relationship with depression among older people ($p<.01$; $p<.05$).
Conclusion: This finding can be used as a reference to implement new strategies to decrease depression among older people.

Keywords: related factors, depression, older people, Indonesia

INTRODUCTION

Depression is affecting 350 million people worldwide[1] and commonly found in older people, approximately 121 million of the 350 were older people (34%).[2] In South

East Asia, 21.4% of older people have depressions.[3] While the proportion of the world population over the age of 60 years will double from 11% to 22% until 2050 (World Health Organization, 2012),[1] the number of older people in Indonesia is also rapidly increasing. Based on the Central Statistical Agency (Badan Pusat Statistik) of Indonesia, the number of older people aged 60 years and above already significantly increased from 9.5 million in 2008 to 18.55 million in 2012.[4] There was also an increase in number of older people with depression from 20% to 32% of the total older population in Indonesia between 2008 and 2011.[5] Depression for older people means that the quality of living and the happiness during the final stage of life is interfered with by both physical and mental health.[6]

The high number of depression in older people are related to biological, psychological, and social factors.[7,8,9] The perceived health status has been increasingly recognized as an important factor for multidimensional health.[10] A recent study disclosed that the perceived health status affected depression, especially for patients with chronic illnesses.[11] A negative perceived health was often caused by depression, as poorer health occur simultaneously with greater emotional vulnerability and depression.[12] Some studies found that a negative perceived health status and chronic conditions were significant predictors of depression in older people.[13,14] Furthermore, findings of previous studies indicate that a health status perceived as "poor health" would have a negative psychological effect and could trigger depression among older people.[15] In addition, a low perception of the health status may influence the level of independent activities of daily living.

Older people who experience limitations in functional performance and have to rely on their caregiver, are more likely to emotional distress.[16] The degree of independence depends on the performance of older people in tasks and routines that they are able to do on their own[17] on the ability of individuals to care for themselves in their activities of daily living (ADLs) such as bathing, showering, dressing, eating, and transferring in and out of bed or chair.[18,19] When people are unable to perform the ADLs and rely on other people - including family members or caregivers[20] - they usually show negative emotional responses and may lose their self-esteem.[21] The problems in performing the ADLs was logically found higher in older age.[22,12,23] In contrast, a study[24] showed that successful performance of ADLs does not have a relationship with depression. Family members - as main providers of social support - can also soften the psychological effect of such limited abilities.

This study aimed to identify the relationship between age, marital status, family history, perceived health status, and activities of daily living with depression among older people. The results of this study will be beneficial to health care providers, families, and older people living in Cimahi and can be used as guideline for developing appropriated interventions to prevent depression in older people. Moreover, the results can be used as baseline data for the Department of Health in Cimahi and for health centers to be aware of prevalence and factors that can affect depression in older people.

METHODS
Design
This study used a descriptive cross-sectional design and was conducted among older people in five Public Health Centers (PHCs) in Cimahi, West Java Province, Indonesia during the months of September and October 2015. Independent variables

included age, marital status, family history, perceived health status, and activities of daily living were collected. The dependent variable was depression among older people. The hypothesis of this study assumes that there are relationships between age, marital status, family history, perceived health status, and the ability to perform activities of daily living among older people.

Sample
The sample size of the study was 267 older people selected by multi-stage random sampling. The inclusion criteria were: a) older people aged between 60 until 79, b) willingly volunteer to participate in this study, c) could read and write in Indonesia language. The exclusion criteria were: a) suffering from cognitive impairment as evaluated by Short Portable Mental Status Questionnaire;[25] b) diagnosed with severe mental illness such as schizophrenia or dementia; or c) being hospitalized during data collection.

Measurement
The questionnaires were prepared to be consistent with the objectives of this research and its content was validated by three experts in mental health and community field. In this study, depression was divided into two categories based on the Geriatric Depression Scale-15.[26] At the lower level of the depression scale 0-4 means "no depression", whereas 5-15 in the upper areas represents depression. The reliability measured before data collection process was revealed Cronbach's alpha coefficients at .848.

Perceived health status based on General Health Perception[27] was divided into the two categories "negative perception of general health" (1-5) and "positive perception of general health" (6-10). As the General Health Perception questionnaire only consisted of one single question, it did not require a reliability process.

Chula Activities of Daily Living Index (CADLI)[28] was used to measured activities of daily living in older people. A total score for CADLI was ranged from 0 to 9, with higher scores indicated better functional ability. The reliability measured before data collection process was revealed Cronbach's alpha coefficients at .873.

Data Collection
This study was approved by Ethical Review Board for Research Involving Human Research Subjects, Boromarajonani College of Nursing Nopparat Vajira (ERB, BCNNV) with ERB No. 27/2558. Data were collected by the researcher and a well-trained research assistant. Face-to-face interviews was used during data collection process and took approximately 30 – 45 minutes to be completed.

The data were coded, validated and analyzed using computer software program. Descriptive statistics were used to measure the contribution of demographic data (numbers, mean, percentage and standard deviation). A Chi-square analysis was performed to test the relationship between marital status, family history of depression, and depression among older people. Point-biserial was used to test the relationship between age, perceived health status, and activities of daily living with depression among older people.

RESULTS
This part explains the individual characteristics of the participants including age, marital status, and family history, perceived health status, and their performance in their activities of daily living.

Table 1 Number and percentage of individual characteristics (N=267)

Characteristics	Number	Percentage (%)
Age		
Mean = 69 years SD= 5.439		
Marital Status		
Single/widowed	90	33.7
Married	177	66.3
Family History of depression		
Yes	15	5.6
No	252	94.4

Participants of this study aged ranged from 60 to 79 years (mean age=69). Most of the participants were married (66.3%) and no depression in family history (94.4%) (see Table 1).

Table 2 Number and percentage of depression (N=267)

Variable	Number	Percentage (%)
Depression		
No depression (0-4)	150	56.2
Depression (5-15)	117	43.8
Mild (5-8)	67	57.3
Moderate (9-11)	29	24.8
Severe (12-15)	21	17.9
Median = 4, Range = 12		

According to the Geriatric Depression Scale[26], the total score was ranged from 0 to 15. GDS score was divided into two categories, no depression (0 – 4) and depression (5 – 15). This classification was based on summation of score in each item. Results found that most of participants had no depression (56.2%). However, almost a half of them were depressed (43.8%).

Regarding to the severity of depression, there were divided into 3 categories including mild (5-8), moderate (9-11), and severe (12-15).[26] Majority of participants with depression was in mild level of depression (57.3%), while almost half have moderate to severe depression (see Table 2).

Table 3 Perceived health status in percentages (N=267)

Variable	Number	Percentage (%)
Negative perception (1-5)	43	16.1
Positive perception (6-10)	224	83.9
Median = 8, Range = 1 to 10		

Perceived health status score was ranged from 1 to 10. It was divided categorized into two groups,[27] which were negative (1 – 5) and positive perception of general health (6 – 10). The result show majority of the participants perceived positive in their health status (83.9%) (see Table 3).

Table 4 Number and percentage of activities of daily living (N=267)

Variable	Number	Percentage (%)
Low (3 – 6)	77	28.8
High (7 - 9)	190	71.2
Median = 7, Range = 6		

The CADLI was used to measure functional abilities.[28] The score of the CADLI ranged from 3 to 9. The CADLI was divided into two levels, including, a low score (3-6) which means a low level of functional ability, while a high score (7-9) means the presence of functional independence. The results indicated that most of participants had a high level of functional ability (71.2%) (see Table 4).

Table 5 The relationship between individual characteristics (age, marital status, family history), perceived health status, and activities of daily living with depression among older people (N=267)

Variables	Depression
	p-value
Age	<. 05
Marital status	< .05
Family history of depression	< .05
Perceived health status	< .05
Activities of daily living	< .05

The results revealed that variables that statistically associated with depression among older people were age ($r = .154$, $p < .05$), perceived health status ($r = -.348$, $p < .01$), and activities of daily living ($r = -.137$, $p < .05$). The results of the relationship indicated that age had positive significant relationship with depression among older people. It means that if older people got older, chance of depression would be higher. Whereas, perceived health status, and activities of daily living had negative relationship with depression among older people. It means that older people who had negative perception of general health were more likely to be depressed than older people who had positive perception of general health. Older people who had low degree of functional ability were more likely to experience depression than older people who had high degree of functional ability.

The variable also had statistically significant relationship with depression among older people were marital status ($\chi^2 = 6.225$, $p < .05$) and family history ($\chi^2 = 5.623$, $p < .05$). The result revealed that older people who were single or widowed more likely suffered from depression than those older people who were married. Furthermore, older people who had no depression in family history were more likely suffered from depression as compared to older people who had depression.

DISCUSSION
The finding of this study found almost a half of older people were suffered from depression. Age was found have correlation with depression among older people living in Cimahi. Based on theory of aging, at this age, the transitional period starts changing the lives of the older people, including physical, psychological, and social.[29] Some of the signs of aging concern physical change for example problems with sensory, hearing, and

vision; psychological change include affective and cognitive function; and change of social status influence older people to feel lose their social power, roles, and being abandoned.[29] This condition also happened in Indonesia that of older people get older age, chance of depression would be higher.[30]

This study also shows that marital status, family history and perceived health status had significantly associated to depression among older people. A study[21] found that marriage has a strong direct effect on health. Older people with couple marital status would receive the better caring than those with single or widowed status.[31,32] Family history can place an older people for developing depression.[33] People who had previous episodes of depression have a greater risk for developing depression in older age.[34] Perceived health status was negatively significantly associated with depression among older people. It could be inferred that older people with a good perceived health status are less likely to develop depression. This result is consistent with other studies showing that the perceived health status was significantly associated with depression.[35,36,37] It seems that the perceived health status has a great impact on depression in older people. Therefore, to prevent depression in older people, it might be useful to focus more on improving life satisfaction in older people.

The analysis of the activities of daily living in this study indicates that older people who depend on others in their activity tend to develop depression. On the other hand, those with independence in their activities of daily living would rarely experience symptoms of depression. These findings confirm the results of previous studies where dependence in activities of daily living was correlated with depression.[38,39,40,24] However, the contradictory results of this study might

have been caused by some reasons, including older people still have good condition to do something; for example walking out door (distance 50+ meters, cooking, using public transport, using money, and heavy housework (house cleaning).

One strength of this study is adaptation of Biopsychosocial Approach[8] as a guideline to find the association of depression among older people. Although all the objectives had been met in this study, there were some limitations. Firstly, the finding could not be generalized for the population of the older people who do not come to PHC. Secondly, as the data were collected in PHC where participants received their treatment, these environmental conditions might not influence the participants' response to the questionnaire.

To prevent the potential bias mentioned above, further research should ideally be conducted in real community health care services, not only at PHCs. It could also involve psychiatric experts in order to allow for direct information and intervention into the depression among older people.

CONCLUSION

This study focused on depression in older people. It showed that factors, such as age, marital status, family history, general health perception, and activities of daily living can be associated with depression among older people. Age, marital status, family history of depression, perceived health status, and activities of daily living were associated to depression among older people. Older people with single or widowed, had family history; and had negative perception of general health more likely suffered from depression as compared to older people who had married, had no family history, and had positive perception of general health. This

finding can be used as a reference to implement new strategies to decrease depression among older people.

Authorship Contribution
Kiki Gustryanti made the design of the study, reviewed articles, data collection, data analysis, and drafted the manuscript. Sunanta Thongpat and Sonthaya Maneerat were her study advisor. All authors agreed with the final version of the article.

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