Jurnal Berita Ilmu Keperawatan

Association Between Social Engagement and Depression Severity Among the Elderly: A Community-Based Study

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Abstract:

Depression in the elderly is a public health issue that is sometimes influenced by low social interaction, but community-based studies are still limited. This study aims to analyze how social engagement relates to depression severity among elderly. This study used cross sectional approach and recruited 56 elderly participants aged 60–72 years. Depression level measured by the 30 item Geriatric Depression Scale (GDS). Social engagement was assessed with the Lubben Social Network Scale (LSNS). Data were analyzed using descriptive statistics, Spearman correlation, and linear regression analysis. Participants averaged score are 13.70 on depression (SD=5.77) and 17.57 on social engagement (SD=2.79). We found a negative correlation: less social contact linked to higher depression level (r = –0.288, p = 0.031). Regression confirmed this pattern which social engagement predicted depression levels (B = –0.398, p = 0.002). Social engagement is important to reduce depressive sign and symptoms among the elderly. Community-based programs is needed to strengthen social support to improve mental health in elderly.

INTRODUCTION

Depression in elderly is the essential problem due to its impact on quality of life, functional decline, and increasing mortality rate (Szymkowicz et al., 2023). Elderly with depressive symptoms sometimes experience lack of physical health, mild cognitive impairment, and reducing social participation. These things make elderly vulnerable and high dependence level (Courtin & Knapp, 2017).

Social engagement has been identified as one of the psychosocial aspects that has the most significance on mental health in later life (Tough et al., 2017). Social interaction refers to the presence and quality of relationships with family, friends, and community networks (Amati et al., 2018). Strong social ties have been shown to buffer stress, enhance coping, and foster resilience against depressive symptoms, while a lack of such ties is consistently associated with greater psychological distress (Santini et al., 2020). Social engagement and loneliness in the elderly has a mutual relationship with various health problems, which are related to depression, cognitive function, and premature mortality (Courtin & Knapp, 2017). Several studies highlight the importance of social interaction giving a huge benefit not only for mental health status but also for

the general health of the elderly. A study in Shanghai showed that social engagement and feeling lost in elderly is predicted to increase the level of depression among the elderly (Zhang et al., 2023). Systematic and meta-analyses also agree with the idea that loneliness has a significant effect on elderly mental health status compared to another domain of health risk and quality of life (Cacioppo & Cacioppo, 2018).

Study in the Asian population, especially in Indonesia is still limited; most of the study conducted in developed countries like UK, China, and USA. Also study related to varying levels of social interaction and depression level in the community remains limited. This study answers the gap related to how social interaction influences mental health status in Indonesia which has diverse cultural and social environments. We hypothesized that higher levels of social engagement would be associated with lower depression scores. Indonesia's aging population trend continues to expand and social engagement becomes a crucial determinant of mental health and quality of life among the elderly.

Enhancing social connectedness through community participation, family support, and inclusive health programs can significantly reduce depression severity, fostering healthy and active aging in Indonesia. By focusing on this relationship, the findings are expected to contribute evidence that can inform the development of culturally appropriate, community-based strategies to prevent depression and promote mental well-being in the elderly population. However, few community-based studies in Indonesia have examined the association between social engagement and depression among older adults

METHODS
Type of Research
This was an analytical cross-sectional study following STROBE guidelines (Vandenbroucke et al., 2007) . The design was chosen to identify the association between social interaction and depression severity at a single point in time among older adults living in the community.

Place and Time of Research
The study was conducted in a community setting in a suburban area in Bandung, Indonesia, in 2024.

Population and Sample
The study population comprised community-dwelling older individuals aged over 60 years. A total of 56 participants were recruited using a convenience sampling technique. Participants were included if they were aged 60 years and above, lived independently or with relatives in the community, and were able to communicate verbally. Older adults with severe cognitive impairment, serious illness, or communication difficulties were excluded.

Data Collection
Data were gathered via organized in-person interviews with senior citizens utilizing a questionnaire. Level of depression was measured by Geriatric Depression Scale (GDS-30), Min-Max scores are 0-30 (Score >10 indicate possibility of depression). Social interaction was assessed by Lubben Social Network Scale (LSNS-6), Min-Max scores are 0-30 (score <12 showed at risk in social isolation). Demographic information also collected in this study for age and gender.

Data Analysis and Processing
Data were examined using SPSS version 22 to summarize respondent characteristics and study variables. Spearman's rank correlation coefficient was used to see how social interaction influences depression. Simple linear regression analysis is used to determine the predictive effect of social interaction on depression severity. Statistical significance was set at $p < 0.05$.

RESULTS

The results of this research are available at Table 1, Table 2 and Table3. The results of Table 1 about respondents characteristics, the minimum age of elderly who participated in this study is 60 years old, and maximum 72, with average 63.96 ± 2.78 years. The level of depression mean was 13.70 ± 5.77, and the social engagement mean was 17.57 ± 2.79. The majority of participants were female (87.5%).

 Furthermore, Table 2 about Relationship analysis using Spearman's correlation shows p-value of 0.031 and r = -0.288, which indicate less score of social engagement associated with higher depression level.

Table 1. Respondent Characteristics (n = 56)

Variable	Min	Max	Mean	SD	Percentage
Age (years)	60	72	63.96	2.78	–
Depression score (GDS)	6	27	13.70	5.77	–
Social engagement score (LSNS)	12	24	17.57	2.79	–
Gender: Female	–	–	–	–	87.5%
Gender: Male	–	–	–	–	12.5%

Table 2. Correlation of Social Engagement and Depression

Variable	r	p-value
Social engagement – Depression	−0.288	0.031*

Table 3. Linear Regression Analysis

Variable	B	SE	Beta	t	p-value
(Constant)	8.096	1.811	–	4.471	0.000
Social engagement	–0.398	0.119	–0.493	3.343	0.002**

The results of regression analysis showed social engagement as a significant predictor for depression in elderly (B = - 0.398, p = 0.002). Negative coefficient values give a meaning that depression score declined by 0.398 points in every unit increase in social engagement (Table 3).

DISCUSSION

 This study revealed a negative correlation between social engagement and depression among elderly. Both of these variables influence elderly quality of life. Elderly who had less social engagement tend to have higher level of depression, ended with its impact on overall elderly health. These results are consistent with the worldwide study who give the same conclusion in these variables. Study from UK and Japan stated that older adults who experienced loneliness will have a higher chance to get anxiety and depression (Okely & Gale, 2016). The NSHAP study in the USA also revealed similar patterns, older adults who disconnected from society reported the elevated score for depression (Santini et al., 2020).

 Several study also repeatedly state that poor social engagements and loneliness in elderly give big impact to health problem in both reducing physical function and increasing mortality risk

from any degenerative disease which triggered by depression (Courtin & Knapp, 2017).Other study from Shanghai support this statement that loneliness predicted to worsen the symptom of depression in elderly time by time (Luo, 2023). Another study also stated that decreasing loneliness in elderly can also decrease risk of depression which can be caused by trauma and poor social interaction (Sbarra et al., 2023). All of the studies suggest improving social engagement among elderly to prevent depression.

Relevance of social engagement and its prevention activity depends on sociocultural context. In general there are six components of social engagements including elderly as an actor, caregiver as partner, relation, activity, context and evaluation which can differ every culture (Hoppler et al., 2022). Specifically in Indonesia, significant factors that influence depression might be not only social engagement but also socioeconomic status, chronic condition, and also society environments (Handajani et al., 2022). Another study in Indonesian context suggested a religious approach and tailored the activity like involving elderly in the benson relaxation therapy, join in support group activities and social engagement programs like posbindu and prolanis. This activity is effective to reduce the depressive symptom among elderly (Darmawati et al., 2021). Studies from other Asian cultures like Vietnam state that elderly adaptation on digital transformation also needed to increase the virtual social engagement among elderly (Nguyen et al., 2022). A mental health program for elderly which suits the characteristics and culture is needed to make an effective approach to solve these problems.

A systematic review of 70 studies (8.259 participants) discussed intervention to reduce loneliness and social isolation in elderly >60 years old. This review suggests group intervention is more effective than individual intervention which gives a sense of belonging and motivation to shared experience between groups. This study also suggests the session for acceptance of aging process followed by distress tolerance interventions, and social behavioral activation (Hoang et al., 2022). These specific strategies can also implied in indonesian context both in individual and community level.

In the Indonesian context, we can maximize our resources to increase elderly social engagement and reduce levels of depression. The most practical approach is to revitalize posbindu for elderly not only for regular medical check up for hypertension but also combine with the group activities like sharing for seniors, and also group activities like gardening, sports, and "Arisan" as Indonesian culture. Faith based intervention can also enhance elderly engagement in society, such as "pengajian group" and choir churches group. Indonesia also has the "gotong royong" principles, which can be used to establish the connection between the elderly in Indonesian society. Higher social engagement will trigger biological stress responses in the elderly that impact positive mental health. Activities to prevent depression are more effective than treating actual depression among the elderly.

This study has limitations in not including multifactor analysis for degenerative disease which can isolate the elderly in the home, and also their socioeconomic status. The next study suggests comprehensively analyzing more variables, specifically culture-related factors.

CONCLUSION

This study showed the significant negative relationship between social interaction and depression level among the elderly. Those who have less social interaction tend to have higher depression levels. These results suggest that Puskesmas in the community to improve their program and focus on the elderly's actualization in the community, such as involving the elderly in group activities and peer support groups.

ACKNOWLEDGMENT

AUTHOR CONTRIBUTION

Five authors give an equal contribution. I make a study concept, responsible for data collection, and prepare the final manuscript. DTNT assisted with the statistical analysis and manuscript content. ALP is responsible for collecting data and make the initial draft of the manuscript. RW and NSW handle the ethics and field coordination in Puskesmas. All authors approved the final manuscript for publication.

ETHICAL STATEMENT

This study received ethical approval with no. III/001/KEPK-SLE/STIKEP/PPNI/JABAR/I/2024. All participants agreed to participate in this study and gave their written informed consent.

DATA AVAILABILITY STATEMENT

The datasets are available by request to the corresponding author.

CONFLICT OF INTEREST STATEMENT

The authors declare no conflict of interest in this study.

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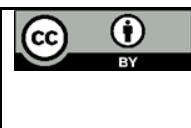
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