Short Communication

Assessment of Sociodemographic Factors Influencing Depression in Elderly in Rural Communities

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ABSTRACT

Depression occurs among the elderly, leading to increased use of medical facilities, adversely affecting quality of life (QoL), and increasing mortality. Fewer studies have been conducted to explore the factors that contribute to depression among the elderly. The purpose of this study was to identify the factors that trigger depression in this population. This research used descriptive analysis with a cross-sectional design. A total of 247 participants completed a questionnaire containing socio-demographic information and the geriatric depression scale-15 (GDS-15). The data were analyzed for correlation using the chi-square test. There was a significant relationship between insurance and occupation and depression in rural communities in Central Java, Indonesia. Insurance and occupation influence elderly individuals' preparation for old age, ensuring they have sufficient finances through old age savings, which enables them to be financially secure. The population needs to prepare for old age by calculating their retirement fund requirements, saving and investing, and obtaining insurance for pension and health fund protection.

Keywords: Sociodemographic, Depression, Elderly, Insurance, Occupation

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Introduction

The world's population is aging rapidly. In 2020, there were 1 billion people in the world who were elderly (seniors) or aged 60 years and over. That figure will rise to 1.4 billion by 2030, representing one in six people globally. By 2050, the number of individuals aged 60 years and over is expected to double to 2.1 billion. The number of older people is estimated to nearly quadruple to about 2.1 billion by 2050, with 79% of those aged 60 and older living in developing countries [1]. In Indonesia, the elderly population has nearly doubled. Badan Pusat statistic (BPS) reports that the percentage of the elderly population in Indonesia will be 11.75% in 2023. This figure represents an increase of 1.27 percentage points compared to the previous year, which was 10.48%. This situation indicates that Indonesia is transitioning to an aging population structure, as the percentage of the population over 60 years is now over 7%. It will become a country with an aging population structure if this percentage surpasses 10% [2].

Although most elderly populations are in good health, many are at risk of developing mental health conditions, such as depression and anxiety disorders [3]. The World Health Organization (WHO) states that there are 100 million cases of depression each year. According to the Non-communicable Diseases Information Center, the prevalence of depression in Indonesia shows that 11.6% of elderly individuals experience depression [4].

Mental health conditions among the elderly are often poorly recognized and undertreated. Depression is prevalent among the elderly [5]. According to the 2019 global health estimates (GHE), this condition accounts for 10.6% of total disability (measured in disability-adjusted life years (DALYs)) among the elderly. The most common mental health conditions in this age group are depression and anxiety. The 2019 GHE shows that globally, approximately a quarter of deaths due to suicide (27.2%) occur in individuals aged 60 years and over. The rate of depression is twice as high among the elderly compared to younger adults, with 10%-15% of all individuals over 65 years old living in the community exhibiting symptoms of depression [1]. Fortunately, depression is treatable. When someone is diagnosed with depression, almost 80% can achieve complete recovery [6]. The impact of depression on the elderly is severe. Untreated depression leads to increased use of medical facilities, negatively affects quality of life (QoL), and increases mortality. However, depression is often misdiagnosed and overlooked [7-9]. Symptoms of depression are often associated with internal medical problems aging process [5].

Many studies have examined depression in the elderly, but none have investigated the variables that contribute to it. The purpose of this study was to identify the factors influencing depression among the elderly in rural communities. The importance of the community lies in its rural nature, which preserves the traditions and culture of the Javanese people, yet it also carries a stigma surrounding depression. Additionally, rural Indonesia is often distant from health facilities.

Methods

Study design

This descriptive study with a cross-sectional design was conducted in a rural community in Central Java, Indonesia from January to April 2023. This served as initial data for a preliminary study.

Samples and locations

The statistical population was all elderly in a rural community in Central Java, Indonesia. The study sample included elderly individuals who met the inclusion criteria, which specified that participants must reside in rural communities.

On the other hand, elderly individuals who declined to participate were excluded from the study. Therefore, 247 respondents were obtained using a consecutive sampling approach. The advantage of using consecutive sampling is that all subjects who came and met the selection criteria were included in the research until the required number of subjects was reached. Data collection was carried out by 98 cadres, with each cadre gathering data from 2-3 elderly individuals

Data collection

Researchers collected data over four months from January to April 2023. Data collection was carried out by distributing questionnaires to the research subjects. The completed questionnaires were checked for completeness by the researcher before data entry.

Research tools

There were two measurements: A sociodemographic checklist to assess data on gender, age, education, marital status, insurance, occupation, and medical complaints, and the geriatric depression scale (GDS-15), with a scor-

ing system where "yes" received a score of 1 and "no" received a score of 0. The categories for depression were as follows: Normal (0-4), mild depression (5-8), moderate depression (9-11), and severe depression (12-15). Furthermore, the GDS-SF demonstrated reliability and homogeneity, with Cronbach's α=0.836 and McDonald's Omega=0.841, and no floor or ceiling effects were observed [10] Bangladesh. Data of 377 elderly were collected, including socio-demographic characteristics, social supports, comorbidities, sleep behaviours, and depression (as measured by the GDS-SF).

Data analysis

SPSS software, version 22 was used to analyze the data. To assist with the analysis, descriptive statistics were calculated and tabulated. The chi-square bivariate analysis was performed to assess the relationship between sociodemographics and depression. The significance level was set at $P<0.05$ for all statistical tests.

Results

This research was conducted in Banyuroto Village, located on the slope of Merapi Mountain in Magelang, Central Java, Indonesia. The study was carried out as planned, with a total of 247 research subjects.

Most participants were women 50.60%, had completed elementary school (55.06%), were married (60.32%), did not have insurance (51.82%), were unemployed (80.56%), and reported no medical complaints (80.16%) (Table 1). Age was analyzed in four categories, with the dominant age group being 60-74 years (74.90%). Moreover, the research showed that most participants had no depression 61.13%.

Most participants were men, aged 60-74 years, had completed elementary school, were married, did not have insurance, were unemployed, reported no medical complaints, and did not experience depression (Table 2).

The relationship between insurance and occupation and depression was assessed through correlation analysis, specifically a chi-square correlation analysis. Table 3 shows the results of the statistical tests, indicating a significant relationship between insurance and occupation and depression in rural communities in Central Java, Indonesia, as evidenced by P of 0.018 and 0.03, respectively.

Discussion

This study aimed to assess depression among the elderly in rural communities. Symptoms of depression that manifest in the elderly include feelings of depression, anxiety, and cognitive disorders [11]. The most common symptoms are feelings of depression, which are often expressed as helplessness, sadness, and hopelessness [3, 12, 13].

The results of the study provide evidence of a relationship between insurance and depression. Most old individuals also have more than one disease [14]. Chronic and painful conditions have the potential to become significant stressors. Health-related problems often arise in old age, and these changes can make adaptation difficult, serving as stressors that trigger depression in the elderly [15]. Uncertain physical conditions require financial resources and health insurance [16]. Insurance is very important to cover medical costs; however, most participants reported having no insurance [16]. If medical costs increase, the incidence of depression among the elderly is likely to increase [17]. Unfortunately, many elderly individuals experience a decrease in income because they are unable to work easily. The majority of the elderly have low levels of education, which influences their ability to receive and understand information [18].

The life expectancy of the elderly is quite high; however, most participants were 60-74 years old. The oldest participant was 110 years old. During this period, there are changes—physically, psychologically, socially, and spiritually—that affect the quality of human life [19]. Old people experience various changes that are unavoidable, progressive, and irreversible [20-22]. The physical and functional condition of the elderly tends to decline, which increases the risk of depression [6].

Most old individuals, both men and women, still have partners, who support them. However, some elderly individuals do not have a life partner due to divorce or the death of a partner [22]. Being can significantly impact the psychology of the elderly because of the loss of emotional support, appreciation, information, and instrumental assistance [23]. This situation is further exacerbated if there is no supportive family and if the individual belongs to a lower middle economic status [24].

In general, depression among elderly men and women is the same; however, men are less likely to seek help to address the problem [25]. Elderly women are more susceptible to factors that cause depression. Women tend to cope better than men by surrendering to their feelings

Table 1. Demography information (n=247)

Variables		No. (%)
Gender	Male	122(49.4)
	Female	125(50.6)
Age (y)	45-59	7(2.83)
	60-74	185(74.9)
	75-90	50(20.24)
	>90	5(2.02)
Education	Illiterate	104(42.1)
	Elementary school	136(55.06)
	Junior high school	7(2.83)
Marital status	Single	3(1.21)
	Married	149(60.32)
	Widower	95(38.46)
Insurance	Yes	128(51.82)
	No	119(48.17)
Occupation	Unemployed	199(80.56)
	Farmer	48(19.431)
Medical complaints	Yes	198(80.16)
	No	49(19.83)
Depression	No depression	151(61.13)
	Mild depression	81(32.79)
	Moderate depression	9(3.65)
	Severe depression	6(2.43)
	Total	247(100)

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and seeking help from others. Early detection of depression in the elderly within rural communities is crucial for promoting a positive mental health lifestyle among this population. The community is rural and retains the traditions and culture of the Javanese people, but it also harbors a stigma surrounding depression. Rural areas in Indonesia are often far from health facilities. The relationship between insurance and occupation and depression affects the elderly as they prepare for old age with adequate financial resources, including retirement savings, to ensure financial stability. Seniors can prepare for old age by calculating their retirement fund needs, saving, investing, and obtaining insurance for pension and health fund protection.

Conclusion

Only two factors affect depression: insurance and occupation. However, the disparity in the number of respondents across each sociodemographic group made the results of this study less representative. As a result, further research on the factors that contribute to depression is

Table 2. Sociodemographic data and depression grade in the elderly (n=247)

Parameter		No. (%)			
		Depression Grade			
		No	Mild	Moderate	Severe
Gender	Male	81(32.79)	39(15.79)	3(1.21)	1(0.4)
	Female	70(28.34)	42(17)	6(2.43)	5(2.02)
Age (y)	45-59	8(3.24)	1(0.4)	0(0)	0(0)
	60-74	104(42.11)	52(21.5)	8(3.24)	6(2.43)
	75-90	35(14.7)	28(11.34)	1(0.4)	0(0)
	>90	4(1.62)	0(0)	0(0)	0(0)
Education	Illiterate	56(22.67)	42(17)	3(1.21)	3(1.21)
	Elementary school	90(36.44)	37(14.98)	6(2.43)	3(1.21)
	Junior high school	5(2.02)	2(0.81)	0(0)	0(0)
Marital status	Single	55(22.27)	39(15.79)	5(2.02)	3(1.21)
	Married	96(38.87)	42(17)	4(1.62)	3(1.21)
Insurance	No	88(35.63)	32(12.96)	4(1.62)	5(2.02)
	Yes	63(25.51)	49(19.84)	5(2.02)	1(0.4)
Occupation	Unemployed	111(44.94)	73(29.55)	9(3.64)	6(2.43)
	Farmer	40(16.19)	8(3.24)	0(0)	0(0)
Medical complaints	No	126(51.01)	62(25.1)	7(2.83)	3(1.21)
	Yes	25(10.12)	19(7.69)	2(0.81)	3(1.21)

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Table 3. Relationship between age, gender, education, insurance, occupation, marital status, and health and depression (n=247)

Parameter	Value	df	Asymp Sig.
Age-depression	12.233	9	0.20
Gender-depression	4.575	3	0.20
Education-depression	5.677	6	0.46
Insurance-depression	10.015	3	0.018
Occupied-depression	13.974	6	0.03
Marital-depression	3.99	3	0.263
Medical complaints-depression	5.154	3	0.161

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necessary. Seniors can prepare for old age by calculating their retirement fund needs, saving, investing, and obtaining insurance for pension and health fund protection.

Ethical Considerations

Compliance with ethical guidelines

This paper was ethically approved by the Health Research Ethics Committee, Faculty of Nursing and Health Science, Universitas Muhammadiyah Semarang (Code: 0140/KEPK/VII/2023). Respondents were informed about the study and invited to participate. Each participant received a study instrument that included a questionnaire and signed informed consent.

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Authors' contributions

Conceptualization and data analysis: Tri Nurhidayati and Satriya Pranata; Methodology: Tri Nurhidayati, Desy Ariyana Rahayu and Anna Kurnia and Lalu Muhammad Irham; Data collection and writing the original draft: Tri Nurhidayati; Investigation, review and editing: Satriya Pranata; Funding administration: Tri Nurhidayati, Desy Ariyana Rahayu and Anna Kurnia; Supervision: Ah Yusuf and Retno Indarwati.

Conflict of interest

The authors declared no conflict of interest.

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