Association Of Anxiety And Insomnia With Hypertension Among Older Adults In Puskesmas Remaja

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Article Info	ABSTRACT
Keywords: Anxiety, Insomnia, Hypertension, Elderly.	Hypertension is a significant health concern among the elderly, often associated with psychological factors such as anxiety and insomnia. This study aims to investigate the relationship between anxiety, insomnia, and hypertension in older adults at Remaja Health Center in Indonesia. Utilizing an analytic observational design with a cross-sectional approach, 95 elderly participants were selected using stratified proportional random sampling. Data were collected through sphygmomanometer readings, the KSPBJ-IRS insomnia questionnaire, and the ZSAS anxiety questionnaire. The results were analyzed using Spearman's rank correlation test. The findings revealed a significant and strong correlation between anxiety and hypertension, with a p-value of 0.001 and a correlation coefficient of 0.335. Similarly, insomnia also showed a significant association with hypertension, with a p-value of 0.004 and a correlation coefficient of 0.291. These results indicate that higher levels of anxiety and insomnia are linked to increased hypertension among the elderly. This study underscores the importance of addressing psychological well-being and sleep quality in managing hypertension in older adults. Routine monitoring at elderly Posyandu and interventions aimed at reducing anxiety and improving sleep could potentially mitigate the risk of hypertension in this population. Future research should explore the underlying mechanisms linking these psychological factors with hypertension and evaluate the effectiveness of targeted interventions.
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INTRODUCTION

Indonesia is a developing country with an aging population as the elderly population exceeds 7.0% (BKKBN, 2019). According to data from the Central Statistics Agency (BPS), in 2020 the number of elderly people will increase to 27 million (10%) from 18 million (7.6%) in 2010. According to data projections, this number is predicted to continue to increase to 40 million people (13.8%) in 2035 (Rindayati et al., 2020). This high number certainly poses a risk of increasing health problems in the elderly, including hypertension (RI, 2022).

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Hypertension is defined as blood pressure that is equal to or above 140/90 mmHg (Suprayitno & Huzaimah, 2020). WHO (World Health Organization) estimates that the prevalence of hypertension globally is in the range of 20-45% of the world's total population. It is estimated that there are around 1.28 billion people who experience hypertension (WHO, 2021). The prevalence of hypertension sufferers in Indonesia, especially in the elderly, continues to increase. Based on the results of the Basic Health Research (Riskesdas) in 2018, in Indonesia 34.1% of hypertension occurs in people over 18 years of age, up from 25.8% in 2013 (Kementerian Kesehatan RI, 2018).

In East Kalimantan Province the prevalence is 39.3% and in Samarinda City it is 36.1% (Kementerian Kesehatan RI, 2018). Based on data from the Samarinda City Health Office at The Remaja Public Health Center, data on hypertension cases in 2021 were 221 cases. In the initial study on February 6, 2023, data on hypertension cases at the Remaja Public Health Center in 2022 were 313 cases with 154 cases in Temindung Village, 73 cases in Bandara Village, and 86 cases in Gunung Lingai Village.

Hypertension is closely related to psychological factors (Delavera et al., 2021). Anxiety and insomnia are among the psychological factors that can contribute to hypertension. Strong and persistent worry or fear is a sign of a mood disorder known as anxiety (Suciana et al., 2020). Anxiety in the elderly can also contribute to increased blood pressure and impact concentration, increase health risks, and can interfere with the immune system (Fabiana Meijon Fadul, 2019). According to the international paper Yuda Turana et al., (2020), entitled Mental health problems and hypertension in the elderly: Review from the HOPE Asia Network, it explains that mental health problems are highly correlated with the incidence of hypertension. People with hypertension are more likely to suffer from depression and anxiety. The study also reported that elderly patients are more likely to be anxious, thus showing increased blood pressure (Turana et al., 2021).

While insomnia is a condition where someone has difficulty getting enough sleep, both in terms of quality and quantity. Most seniors over 60 years old experience insomnia and it is the most common health problem (Isussilaning Setiawati et al., 2021). Insomnia juga dapat memperburuk masalah medis dan psikiatri, hipertensi, dan depresi (Agustono et al., 2018). Then according to the research results of Izabella et al., (2019), entitled The relationship between sleep disturbances and quality of life in elderly patients with hypertension, it was found that more than half of hypertensive patients experienced insomnia (AIS score $\geq$ 6). It was also shown that insomnia was influenced by older age (P <0.001) (Uchmanowicz et al., 2019).

Based on preliminary research conducted by the researcher, interviews were conducted with the holders of the elderly and mental health programs, it was found that at the Remaja Public Health Center, no one had ever researched anxiety and insomnia with the incidence of hypertension in the elderly. And at the elderly health post, there were several elderly people who complained of sleep pattern disorders. Based on this explanation, the author has a desire to conduct research on the relationship between anxiety and insomnia with the incidence of hypertension in the elderly at the Youth Health Center.

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METHODS

Research This study was designed using analytical observation and cross-sectional approach. This study involved elderly people living in the working area of 9 Posyandu Puskesmas Remaja. Stratified proportional random sampling method was used to take samples from 95 people who responded. Sphygmomanometer, insomnia questionnaire (KSPBJ-IRS), and anxiety questionnaire (ZSAS) were used as research instruments. Spearman's Rank Test was used as a statistical test.

RESULTS AND DISCUSSION

Based on table 1, it shows that from the total respondents, 40 respondents (42.1%) were aged 60-64 years, 22 respondents (23.2%) were aged 65-69 years, and 33 respondents (34.7%) were over 70 years. from a total of 95 elderly respondents, 78 respondents (82.1%) were female and 17 respondents (17.9%) were male. 75 respondents (78.9%) were unemployed or housewives (IRT), 10 respondents (10.5%) were self-employed, and 10 respondents (10.5%) were laborers.

Table 1. Respondent characteristics

Variable	Frequency	Percent
Age (years)		
60-64	40	42.1%
65-69	22	23.2%
>70	33	34.7%
Sex		
Female	78	82.1%
Male	17	17.9%
Occupational		
Non job/housewife	75	78.9%
Self-employed	10	10.5%
Laborer	10	10.5%

Table 2 shows that of the total respondents, 61 respondents (64.2%) did not experience anxiety, and 34 respondents (35.8%) experienced mild anxiety.

Table 2. Distribution of respondents based on anxiety level

Anxiety	Frequency	Percent(%)
Normal	61	64.2
Mild Anxiety	34	35.8
Moderate Anxiety	0	00.0
Severe Anxiety	0	00.0
Total	95	100

Table 3 shows that of the total respondents, 34 respondents (35.8%) did not experience insomnia, 43 respondents (45.3%) experienced mild insomnia, 17 respondents (17.9%) experienced moderate insomnia, and 1 respondent (1.1%) experienced severe insomnia.

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Table 3. Frequency distribution of respondents based on insomnia level

Insomnia	Frequency	Percent (%)
Normal	34	35.8
Mild insomnia	43	45.3
Moderate Insomnia	17	17.9
Severe Insomnia	1	1.1
Total	95	100

Table 4 shows that respondents who had normal blood pressure were 33 respondents (34.7%), mild hypertension were 32 respondents (33.7%), moderate hypertension were 22 respondents (23.2%), and severe hypertension were 8 respondents (8.4%).

Table 4. Frequency distribution of respondents based on hypertension incidence

Hypertension	Frequency	Percent (%)
Normal	33	34.7
Mild Hypertension	32	33.7
Moderate Hypertension	22	23.2
Severe Hypertension	8	8.4
Total	95	100

Based on the results of the Spearman Rank statistical test, the significance value or Sig. (2-tailed) between the relationship between anxiety and the incidence of hypertension was 0.001 and the coefficient value was 0.335, while the relationship between insomnia and the incidence of hypertension was 0.004 and the coefficient value was 0.291. Because the sig value (2-tailed) 0.001 and 0.004 <less than 0.05 or 0.01, it can be interpreted that there is a significant relationship between the variables of anxiety and insomnia with the incidence of hypertension in the elderly at the Youth Health Center.

Table 5. Relationship between anxiety, insomnia and the incidence of hypertension in the elderly

Variable	Blood pressure				Rank spearman test		
Anxiety	Normal	Mild Hypertension	Moderate Hypertension	Severe Hypertension	α	Sig. (2-tailed)	Coefficient correlation
Normal	29 (30.5%)	18 (18.9%)	9 (9.5%)	5 (5.3%)	0.05	0.001	0.335
Mild Anxiety	4 (4.2%)	14 (14.7%)	13 (13.7%)	3 (3.2%)			
Moderate Anxiety	0	0	0	0			
Severe Anxiety Insomnia	0	0	0	0			
Normal	18 (18,9%)	12 (12,6%)	3 (3,2%)	1 (1,1%)	0.05	0.004	0.291

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Variable	Blood pressure				Rank spearman test		
Anxiety	Normal	Mild Hypertension	Moderate Hypertension	Severe Hypertension	α	Sig. (2-tailed)	Coefficient correlation
Mild insomnia	11 (11,6%)	12 (12,6%)	14 (14,7%)	6 (6,3%)			
Moderate Insomnia	4 (4,2%)	8 (8,4%)	4 (4,2%)	1 (1,1%)			
Severe Insomnia	0	0	1 (100%)	0			

Researchers argue that someone who is easily stressed and often feels anxious or someone who has insomnia will easily have an increase in blood pressure because it is influenced by psychological factors. The results of this study follow the findings of previous studies, such as those conducted by Thika Marliana et al., (2019) which provided results of a relationship between anxiety and the incidence of hypertension with a p value = 0.041 (<0.05) (Marliana et al., 2019).

The next study was conducted by Yuda Turana et al., (2020), entitled Mental health problems and hypertension in the elderly: Review from the HOPE Asia Network, explaining that mental health problems are highly correlated with the incidence of hypertension. People with hypertension are more likely to suffer from depression and anxiety (Turana et al., 2021) The results of Anni Sinaga's research (2022) showed a relationship between hypertension and sleep disorders, with a p value = 0.002, which is less than 0.05 (Sinaga, 2022).

Research also conducted by Izabella et al., (2019), entitled the relationship between sleep disturbances and quality of life in elderly patients with hypertension, found that more than half of hypertensive patients experienced insomnia (AIS score ≥ 6). It was also shown that insomnia was influenced by older age (P <0.001) (Uchmanowicz et al., 2019).

Hypertension in the elderly can be caused by insomnia, so they often wake up at night and experience increased blood pressure. In addition, anxiety can also affect sleep quality in the elderly (Kusumaningtyas & Murwani, 2020). Physical, mental, emotional and immune health are greatly affected by sleep. Lack of sleep increases the risk of diseases such as heart attacks, anemia and high blood pressure. (Putri, 2023).

CONCLUSION
Most respondents experienced mild hypertension (140-159 / 90-99 mmHg), mild anxiety, and mild insomnia, according to the study. The results showed a significant and strong relationship between anxiety and insomnia with cases of hypertension in elderly patients at the Youth Health Center. The sig. value (2-tailed) was 0.001 and 0.004 (<0.05) and the coefficient value was 0.335 and 0.291.

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