

The Relationship Between Anxiety Levels And Blood Pressure In Hypertensive Patients At Krung Barona Jaya Community Health Center, Aceh Besar

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Abstract

Hypertension, a serious global health issue, often leads to serious consequences, including heart disease and stroke. This study examined the impact of psychological variables, particularly anxiety, on blood pressure among patients at the Krung Barona Jaya Community Health Center in Aceh Besar. The study was done using a quantitative cross-sectional design. Data were taken from 60 respondents, they were chosen by purposive sampling, not random. The researchers applied the Hamilton Anxiety Rating Scale (HARS) to check anxiety level, and also used a sphygmomanometer to record blood pressure in a direct way. From the results, about 38.3% respondents showed moderate anxiety, meanwhile 61.7% were in severe anxiety condition, which is quite high. For blood pressure status, exactly 50% respondents had hypertension, and the other 50% did not show hypertension at the time of data collection. Then, using Chi-Square test with significance level 0.05, the p-value was 0.013. This value is smaller than 0.05, so it means there is a significant relationship, even if the sample is not very large. In short conclusion, both variables are connected. When anxiety level becomes higher, the risk for hypertension also tends to increase, it looks proportional in this sample, even in simple field condition like local clinic setting.

Keywords: Anxiety, Blood Pressure, Hypertension.

INTRODUCTION

High blood pressure or hypertension is one of the major health problems faced by almost every country because it can lead to heart disease and stroke, both of which carry a fatal risk. Hypertension is a serious concern because it often occurs without clear symptoms or goes unnoticed by sufferers. Even when symptoms appear, they are usually not obvious, causing many people to be unaware that they are experiencing hypertension. If this condition is left untreated, it can cause serious damage to the cardiovascular system, including the heart and blood vessels. This system can be likened to a tree, where the aorta, the largest artery, functions as the trunk that carries blood from the heart to all parts of the body through smaller arterial branches (Wade, 2023).

Data from the World Health Organization (WHO) in 2015 showed that approximately 1.13 billion people worldwide suffer from hypertension, meaning that 1 in 3 people globally is diagnosed with this condition. The number of people with hypertension is expected to continue increasing, with projections reaching 1.5 billion by 2025, and it is estimated that 10.44 million people die each year due to hypertension and its complications (Ministry of Health of the Republic of Indonesia, 2019). Non-communicable diseases, including hypertension, remain a serious health problem, with the prevalence of hypertension continuing to rise.

According to data from the 2018 Basic Health Research (Riskesdas), the prevalence of hypertension in Indonesia among individuals aged over 18 years reached 34.1%. This prevalence was obtained from blood pressure measurements, where individuals with blood pressure above 140/90 mmHg are categorized as hypertensive. This figure shows a significant increase compared to the 2013 Riskesdas results, which recorded a prevalence of 25.8%. This increase indicates that hypertension is becoming an increasingly serious health issue in Indonesia (Ministry of Health of the Republic of Indonesia, 2018). At Cikampek Community Health Center, the prevalence of hypertension was recorded at 5.8% (Maulidah, 2022).

Based on standards from the World Health Organization (WHO), a person is considered hypertensive if their systolic blood pressure exceeds certain thresholds. The Sample Registration System (SRS) Indonesia 2014 also showed that hypertension with complications is the fifth leading

cause of death across all age groups, with a mortality rate of 5.3%. This figure indicates that hypertension is not only dangerous because it causes high blood pressure, but also because it can lead to serious complications such as heart disease, kidney failure, and stroke. Hypertension can be prevented by controlling risk factors such as smoking, unhealthy diet (low consumption of fruits and vegetables, and excessive intake of sugar, salt, and fat), obesity, lack of physical activity, excessive alcohol consumption, and prolonged stress. Based on Riskesdas 2018 data, among individuals aged 15 years and above in Indonesia, 95.5% consumed insufficient fruits and vegetables, 35.5% had low physical activity, 29.3% were active smokers, 31% experienced central obesity, and 21.8% had general obesity (Ministry of Health of the Republic of Indonesia, 2018).

Hypertension is a cause of cardiovascular disorders and is estimated to contribute to 4.5% of the global disease burden, with a prevalence that is nearly equal in both developing and developed countries (Huda, 2020). According to WHO reports (2015), approximately 1.13 billion people worldwide suffer from hypertension, meaning 1 in 3 people globally is diagnosed with this condition (WHO, 2019). Based on the 2018 Basic Health Research report in Indonesia, hypertension prevalence increases with age: 55–64 years (55.2%), 65–74 years (63.1%), and 75 years and above (69.5%). Meanwhile, data from the International Health Metrics Monitoring and Evaluation (IHME) in 2017 showed that hypertension occurs in the age group 31–44 years (31.6%), 45–54 years (45.3%), and 55–64 years (55.2%) (Ministry of Health, Directorate General of Disease Prevention and Control, 2020).

Based on data from the Gorontalo Provincial Health Office in 2024, the number of hypertension cases in Gorontalo Province reached 52,690 individuals, with Bone Bolango Regency ranking first with 15,347 cases, followed by Boalemo Regency and North Gorontalo Regency. These data indicate that Bone Bolango Regency is a primary target area for reducing hypertension cases. Furthermore, data from the Bone Bolango Regency Health Office in 2024 show that Kabila Community Health Center ranked first among 20 health centers in the region in terms of the highest number of hypertension cases, with a total of 2,436 cases.

Anxiety is an unpleasant emotional state experienced by an individual when facing uncertain or unknown situations or events (Ambarwati, 2019). Children can also experience anxiety, especially when facing new or unfamiliar situations such as hospitalization. The anxiety experienced may be manifested through fear due to lack of knowledge about illness, separation anxiety, fear of pain, loss of appetite, lack of control, and anger. This condition of anxiety can have various impacts on children (Aliyah & Rusmariana, 2021).

RESEARCH METHODS

This study employed a quantitative approach with a cross-sectional design aimed at determining the relationship between anxiety levels and blood pressure in hypertensive patients at Krung Barona Jaya Community Health Center, Aceh Besar. The study was conducted in 2026 with a sample size of 60 respondents selected using purposive sampling based on predetermined inclusion criteria, namely patients visiting the health center and willing to participate as respondents.

Data collection was carried out using the Hamilton Anxiety Rating Scale (HARS) to measure anxiety levels, while blood pressure was measured directly using a sphygmomanometer. The collected data were analyzed using univariate analysis to determine the frequency distribution of respondents' characteristics and bivariate analysis using the Chi-Square test with a significance level of 0.05 to examine the relationship between anxiety levels and blood pressure. The results were considered statistically significant if the p-value was less than 0.05.

RESULTS AND DISCUSSION

Univariate Analysis

Respondent Characteristics

Table 1: Frequency Distribution of Respondent Characteristics

NO	Respondent Characteristics	f	%
1.	Age		
	40-50 years	18	30.0
	51-60 years	22	36.7
	61-80 years	20	33.3
	Total	60	100.0
2.	Gender		
	Male	26	43.3
	Female	34	56.7
	Total	60	100.0

The characteristics of the respondents in this study showed a higher prevalence among the elderly and women. Of the 60 participants, 22 (36.7%) were between 51 and 60 years old, 20 (33.3%) were between 61 and 80 years old, and the remaining 18 (30.0%) were between 40 and 50 years old. Based on gender distribution, 26 respondents (43.3%) were male and 34 respondents (56.7%) were female.

Table 2. Relationship between Anxiety Levels and Blood Pressure in Hypertensive Patients

Anxiety	Hypertension		No Hypertension		Total	P Value
	f	%	f	%		
	Severe anxiety	16	69.6	7	30.4	23
Moderate anxiety	14	37.8	23	62.2	37	100.0
Total	30	50.0	30	50.0	60	100.0

Based on Table 3.4, in terms of blood pressure, the groups with moderate and severe anxiety showed opposite patterns. The majority of respondents with severe anxiety were in the hypertension group (23 people/62.2%), while the majority of respondents with moderate anxiety were in the non-hypertension group (16 people/69.6%). The p-value of 0.013, which is smaller than the 0.05 threshold, supports the significance of this relationship and confirms that anxiety is substantially associated with the incidence of hypertension.

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Discussion

Previous studies related to the relationship between anxiety levels and blood pressure have been widely conducted. A study by Sari (2021) showed a significant relationship between anxiety levels and blood pressure in hypertensive patients at a community health center, where respondents with high anxiety tended to have higher blood pressure compared to those with low anxiety ($p < 0.05$).

In line with this study, Wahyuni (2020) also found that anxiety is associated with increased blood pressure in hypertensive patients, where uncontrolled anxiety can trigger activation of the sympathetic nervous system, resulting in a significant increase in blood pressure.

This is also consistent with research by Rahmawati (2019), which states that psychological factors such as anxiety and stress play an important role in influencing blood pressure conditions. The study results showed that respondents with severe anxiety experienced hypertension more frequently than those with mild to moderate anxiety. Based on the research findings, the characteristics of respondents indicated that the majority experienced severe anxiety, totaling 37 individuals (61.7%), while respondents with moderate anxiety amounted to 23 individuals (38.3%). Additionally, the incidence of hypertension among respondents showed a balanced distribution, where 30 individuals (50.0%) experienced hypertension and 30 individuals (50.0%) did not. This condition illustrates that most respondents had relatively high levels of anxiety, which can be a risk factor affecting health conditions, particularly blood pressure.

The results of the relationship analysis showed that among respondents with moderate anxiety, the majority did not experience hypertension, totaling 16 individuals (69.6%), whereas among respondents with severe anxiety, the majority experienced hypertension, totaling 23 individuals (62.2%). Statistical testing showed a p-value of 0.013 ($p < 0.05$), indicating that there is a significant relationship between anxiety and the incidence of hypertension. This suggests that the higher an individual's level of anxiety, the greater the likelihood of experiencing hypertension.

The findings of this study are consistent with various previous studies stating that psychological factors such as anxiety influence increases in blood pressure. Anxiety can trigger a stress response in the body, leading to increased activity of the sympathetic nervous system. This activity results in increased heart rate, vasoconstriction, and elevated blood pressure. In addition, individuals with high anxiety tend to have unhealthy lifestyles, such as sleep disturbances, lack of physical activity, and irregular eating patterns, which can worsen hypertension conditions.

Theoretically, the relationship between anxiety and hypertension can be explained through stress theory and health behavior theory. Anxiety is an emotional response that can activate the sympathetic nervous system and trigger the release of stress hormones such as adrenaline and cortisol, which play a role in increasing blood pressure. If this condition persists over time, it can lead to hypertension. Furthermore, health behavior theory explains that an individual's psychological condition can influence their health behaviors; thus, high anxiety can lead to unhealthy habits and increase the risk of hypertension.

The researcher's assumption in this study is that anxiety has a close relationship with the incidence of hypertension, where the higher the level of anxiety, the higher the risk of developing hypertension. It is also assumed that anxiety persisting over a long period without proper management can worsen the body's physiological condition, particularly blood pressure.

CONCLUSION

After conducting the study on the relationship between anxiety levels and blood pressure in hypertensive patients at Krung Barona Jaya Community Health Center, Aceh Besar in 2026, the following conclusions can be drawn:

1. Of the 60 respondents, the majority experienced severe anxiety, totaling 37 respondents (61.7%), while 23 respondents (38.3%) experienced moderate anxiety.
2. Of the 60 respondents, the number of respondents who experienced hypertension and those who did not was equal, with 30 respondents (50.0%) in each group.
3. There is a significant relationship between anxiety levels and blood pressure in hypertensive patients at Krung Barona Jaya Community Health Center, Aceh Besar in 2026, with a p-value of $0.013 < 0.05$.

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