

## The Effect of Positive Self-Talk on Anxiety Levels in Elderly with Hypertension

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### ABSTRACT

**Introduction:** Hypertension is a chronic condition that ranks as the third leading cause of death. Its prevalence tends to increase with advancing age. Previous research indicates that psychological factors, particularly anxiety, may contribute to the development of hypertension, while hypertension itself can exacerbate anxiety. Therefore, effective management of anxiety is essential to prevent blood pressure elevation. Non-pharmacological interventions, such as positive self-talk, can play a significant role in promoting better blood pressure control.

**Objective:** To determine the effect of positive self-talk on anxiety levels in elderly people with hypertension.

**Methods:** This research design is a quasi-experimental with a two-group pre-test post-test design. The population in this study were all elderly people suffering from hypertension, and a sample of 30 elderly (15 people as intervention group and 15 people as control group). The sampling technique was purposive sampling. The measuring instrument used to measure anxiety was Hamilton Anxiety Rating Scale. Data analysis used Wilcoxon Signed Rank test and Mann Whitney U Test.

**Results:** There was no significant difference in anxiety levels in the pre-test and post-test in the control group ( $p$  value=1.00,  $\alpha=0.05$ ). There was significant difference in anxiety levels in the pre-test and post-test in the intervention group ( $p$  value=0.01,  $\alpha=0.05$ ). There was a significant influence of positive self-talk on the anxiety level in elderly people with hypertension ( $p$  value = 0.001,  $\alpha = 0.05$ ).

**Conclusion:** Positive self-talk is effective in managing anxiety in elderly and elderly people recommended to use it to reduce their anxiety levels.

**Keywords:** anxiety, elderly, positive self-talk

## INTRODUCTION

Hypertension is a major risk factor for cardiovascular disease, including heart disease, peripheral vascular disease, stroke, and kidney disease. Understanding the basic epidemiology of hypertension is essential for effective public health and clinical efforts to prevent, detect, treat, and control this common condition (Agarwal & Weir, 2024)(Kokubo & Iwashima, 2015)

As the population ages, cardiovascular disease (CVD) as the leading cause of death in adults is becoming increasingly evident. One of the main reasons for this trend is changing patterns of blood pressure and the increasing prevalence of hypertension with age (approximately 1 billion people worldwide). According to the Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC-7), hypertension affects more than two-thirds of individuals over the age of 65.

According to Muli et al (2020), the prevalence of hypertension in Germany among adults aged 65-94 years is 73.8%, meaning 3 out of 4 older adults have high blood pressure. In Indonesia, the prevalence of hypertension sufferers among the population aged  $\geq 18$  years in Indonesia is 34.1%. The highest prevalence rates are found in Central Kalimantan Province at 44.1%, West Java at 39.6%, and East Kalimantan at 39.3%. The estimated number of hypertension cases in Indonesia is 63,309,620 people, while the death rate in Indonesia due to hypertension is 427,218 deaths (Risikesdas, 2018).

According to Basic Health Research (Risikesdas 2018) data in Central Java Province, the prevalence of hypertension is 37.57%. In Semarang Regency, the estimated number of sufferers aged  $\geq 15$  years who suffer from hypertension is 34,322 people out of a total of 8,272 (24.1%) people who have received hypertension services according to standards. The highest cases of hypertension are in Getasan District (Getasan Community Health Centre) with 3,385 people. In Tengaran District (Tengaran Community Health Centre) with 3,000 people, and in Bergas District (Bergas Community Health Centre) with 2,935 people (Statistik & Semarang, 2020). Based on the results of interviews with Community Health Centre officer in Bergas and based on secondary data (medical records), the highest incidence of hypertension is in Pagersari Village.

Understanding the causes of hypertension in the elderly before providing both pharmacological and non-pharmacological management is certainly crucial. Factors that influence blood pressure, according to (Handayani et al., 2025), include an unhealthy diet, excessive smoking or alcohol consumption, inactivity, genetics, age, and pre-hypertension and diabetes. According to the Indonesian Ministry of Health (Risikesdas 2018) and (Qiu et al., 2023) mentioned that risk factors for hypertension include age, family history, gender, smoking, insufficient fruit and vegetable intake, excessive salt consumption, obesity, lack of physical activity, excessive alcohol consumption, dyslipidaemia, and stress.

According to (UMMS Health, 2022) , anxiety can cause high blood pressure, and high blood pressure can cause anxiety. Based on research from the US National Library of Medicine and the National Institutes of Health, the relationship between anxiety and hypertension has been further analysed, and epidemiological studies have repeatedly investigated the relationship between anxiety and an increased risk of hypertension. Several previous studies examining the correlation between anxiety and hypertension include (Isnaeni et al., 2023) in elderly and (Qiu et al., 2023).

Anxiety is described as an intense feeling of worry or fear. Periods of anxiety can increase blood pressure because anxiety causes the release of stress hormones in the body. These hormones trigger an increased heart rate and constriction of blood vessels. Both of these factors cause blood pressure to rise, sometimes dramatically.

Anxiety can be managed pharmacologically and non-pharmacologically. Non-pharmacological therapy is certainly very beneficial for the elderly with minimal side effects. The use of inexpensive and easy-to-implement techniques is believed to increase individuals' willingness to adopt these approaches. One such method is positive self-talk.

Self-talk is an internal dialogue with oneself that is done consciously. Based on references state some of the benefits of self-talk, such as reducing stress levels, making work stay organized, reducing loneliness, accelerating cognitive abilities and motivation, increasing self-confidence, helping in making decisions, increasing concentration, regulating emotions more stable, improving speaking skills, becoming an optimistic person, and improving quality of life, and increasing self-immunity.

An individual's health is not only assessed physically but also mentally. Therefore, it is crucial to practice positive self-talk to prevent mental health issues. Based on a preliminary study of five elderly people, they said that they often expressed concerns in their feeling anxious for various reasons, and some of them said they were unaware that their anxiety could increase their blood pressure. All elderly people said that they did not know that positive self-talk (talking positively to oneself) can reduce anxiety levels, thus lowering their blood pressure.

Considering that anxiety can lead to hypertension, and hypertension can lead to anxiety, these conditions can negatively impact to the physical and mental health of older adults, and the other side it supported by gap of the situation, it crucial to investigate "The Effect of Positive Self-Talk on Anxiety Levels in Elderly Patients with Hypertension in the Bergas Community Health Centre Area.

The purpose of this study was to determine the effect of positive self-talk on reducing anxiety levels in elderly people with hypertension in the Bergas Community Health Centre area. Theoretically, the study aims to provide knowledge about techniques for reducing anxiety in elderly people with hypertension.

## **MATERIALS AND METHODS**

The study used a quasi-experimental design with two groups pre-test post-test control group design. It was conducted in the Bergas Community Health Centre area. This research was conducted for two months from December 2022 to January 2023. The population consisted of all elderly individuals with hypertension as many as 2,935 people. The sample was selected using a purposive sampling technique, focusing on elderly individuals experiencing anxiety. A total of 30 elderly participants were included in the sample. The sample was divided into two groups, namely 15 respondents as the intervention group and 15 respondents as the control group. The instrument used was the HARS (Hamilton Anxiety Rating Scale) questionnaire. Data were analysed using non-parametric tests, specifically the Wilcoxon test and the Mann-Whitney U test. Ethical clearance was obtained from the ethics committee of Ngudi Waluyo University, namely number 137/KEP/EC/UNW/2022.

## RESULTS

Table 1. Distribution of demographic of respondents

Variables	Intervention group (n=15)		Control group (n=15)		
	f	%	f	%	
Age	50-60 years old	2	13.3	6	40
	61-70 years old	13	86.7	9	60
Sex	Women	12	80	3	20
	Men	3	20	12	80
Education	Elementary	14	93,3	13	86,7
	Yunior HS	0	0	1	6,7
	Senior HS	0	0	1	6,7
	College	1	6,7	0	0

Based on table 1, it shows that respondents in both groups were predominantly aged between 61-70 years. Based on gender, the intervention group was dominated by females 12 people (80%), in contrast to the control group which was dominated by males 12 people (80%). Based on the level of education, both the intervention group and the control group were dominated by elementary school education.

Tabel 2. Data normality test results

Shapiro-Wilk			
	Statistic	df	sig
Anxiety pre-test	.720	30	.000
Anxiety post-test	.877	30	.002

Based on table 2, it shows that the sig value less than 0.05 meaning that data is not normally distributed.

Tabel 3. The results of the two-mean difference test (dependent test) in the intervention group

Rank					
	N	Mean rank	Sum of Rank	Z	sig
Post-test Negative ranks	15 <sup>a</sup>	8.00	120.00		
Pre-test Positive ranks	0 <sup>b</sup>	.00	.00	-3,455 <sup>b</sup>	.001
Ties	0 <sup>c</sup>				
Total	15				

- a. Post-test intervention < pre-test
- b. Post-test intervention > pre-test intervention
- c. Post-test intervention = pre-test intervention

Based on table 3, it shows that the negative rank value is 15, which means that all respondents in the intervention group experienced a decrease in anxiety levels after the intervention. The sig value shows 0.001 meaning that there is a significant difference in the level of anxiety before and after the intervention in the intervention group. This large difference is reinforced by the Z score value of -3,455

Tabel 4. The results of the two-mean difference test (dependent test) in the control group

		Rank	N	Mean rank	Sum of Rank	Z	sig
Post-test	Negative ranks	0 <sup>a</sup>		.00	.00		
Pre-test	Positive ranks	0 <sup>b</sup>		.00	.00	0.000 <sup>b</sup>	1.00
	Ties	15 <sup>c</sup>					
	Total	15					

- a. Post-test control < pre-test control
- b. Post-test control > pre-test control
- c. Post-test control = pre-test control

Based on table 4, it shows that the negative rank value is 0, which means that no respondents in the control group experienced a decrease in anxiety levels. The sig value shows 1.000 meaning that there is not a significant difference in the level of anxiety before and after in the control group. This no difference is reinforced by the Z score value of 0.000.

Tabel 5. The results of the two-mean difference test (independent test)

		Rank	N	Mean rank	Sum of Rank	Z	sig
Intervention group		15		11.73	176.00		
Control group		15		19.27	289.00	-2.359	.018
	Total	30					

Based on table 5, it shows the sig value shows .018 meaning that there is a significant difference in the level of anxiety between intervention group and control group. This difference is reinforced by the Z value (-2.359) which is far from zero, which indicates a large difference in anxiety levels between the intervention group and the control group.

## DISCUSSION

### Differences in anxiety levels in the intervention group before and after the intervention

Based on table 3, it shows that the negative rank value is 15, which means that all respondents in the intervention group experienced a decrease in anxiety levels after the intervention. The sig value shows 0.001 meaning that there is a significant difference in the level of anxiety before and after the intervention in the intervention group. This large difference is reinforced by the Z score value of -3.455.

The results of the study showed a decrease in anxiety levels in the intervention group after receiving positive self-talk. This finding indicates that positive self-talk is effective in helping individuals manage negative thoughts and promote more adaptive emotional responses to anxiety-provoking situations.

This reduction in anxiety levels can be explained through the mechanism of positive self-talk, which is the process of changing internal dialogue from negative thoughts to positive and rational statements. When individuals learn to replace negative thoughts with positive thought, it makes perception of threatening situations becomes more manageable. This change in perception results in a reduction in both physiological and psychological symptoms of anxiety.

These results align with previous studies showing that positive self-talk can increase self-confidence, reduce stress, and aid emotional regulation (Tod et al., 2011); (Hatzigeorgiadis et al., 2011) (Adzdzaakiya Khairunnisa et al., 2025; Pourdavarani et al., 2024). Thus, positive self-talk can be

considered an effective cognitive strategy to help individuals reduce anxiety levels through strengthening positive thoughts and cognitive restructuring.

Furthermore, the success of this intervention may also be influenced by participants's motivation and engagement during the self-talk training process. Participants who actively implemented positive self-talk in their daily lives tended to show greater reductions in anxiety than those who were less consistent. This reinforces the importance of support and guidance during the intervention to optimize the effects of positive self-talk.

Overall, the results of this study confirm that positive self-talk is a simple yet effective psychological intervention for reducing anxiety levels, particularly in individuals experiencing psychological distress or facing challenging situations. These findings are expected to provide a basis for mental health practitioners to integrate positive self-talk into anxiety management programs or coping skills training.

#### **Differences in anxiety levels in the control group (Pre-test and post-test)**

Based on Table 4, the negative rank value is 0, indicating that none of the respondents in the control group experienced a decrease in anxiety levels. The significance value (Sig.) of 1.000 shows that there was no statistically significant difference in anxiety levels before and after the intervention in the control group. This finding is further supported by the Z score of 0.000, which suggests that there was no meaningful change in anxiety levels among participants who did not receive the *positive self-talk* intervention. These results confirm that, without intervention, the anxiety levels of participants tended to remain stable.

The relatively stable level of anxiety, according to researchers, may be caused by the dominance of respondents with low levels of education, namely those who only completed elementary school. Although the relationship between education level and anxiety varies, in general, a higher level of education tends to have a negative correlation with anxiety. Higher education levels are associated with better knowledge, which can help individuals be more prepared to face problems, manage information more easily, and ultimately reduce anxiety levels, especially in specific situations such as before surgery or during a pandemic. However, this relationship is not always linear and is influenced by many other factors such as academic, social, and economic pressures.

#### **Differences in anxiety levels in the intervention group and control group**

Based on Table 5, the significance value (Sig.) of 0.018 indicates a statistically significant difference in anxiety levels between the intervention group and the control group after the implementation of the *positive self-talk* intervention. This difference is further supported by the Z value of -2.359, which is far from zero, suggesting that the intervention group experienced a greater reduction in anxiety levels compared to the control group. These findings demonstrate that *positive self-talk* is effective in reducing anxiety by helping individuals manage their thoughts and emotions more constructively.

In the intervention group showed a significant decrease in anxiety levels after receiving the *positive self-talk* intervention. *Positive self-talk* is a cognitive strategy that involves replacing negative or irrational thoughts with more positive and realistic statements. According to (Hardy et al., 2004), *positive self-talk* enhances self-confidence and emotional regulation, which can lead to reduced anxiety and improved performance. Similarly, Hatzigeorgiadis, Zourbanos, Galanis, and Theodorakis (2011)

found that training in *positive self-talk* helped individuals manage stress and anxiety more effectively by promoting adaptive thinking patterns.

Furthermore, (Tod et al., 2011) explained that *positive self-talk* works by modifying internal dialogue, thereby influencing emotional responses to challenging situations. When individuals consistently use encouraging statements such as "I can handle this" or "I am calm and in control," their cognitive focus shifts away from fear or worry, leading to a decrease in anxiety symptoms. These findings are consistent with the current study, where the control group, which did not receive *positive self-talk* training, showed no improvement in anxiety levels.

Overall, these results support the evidence that *positive self-talk* is an effective cognitive-behavioural technique for reducing anxiety, enhancing emotional well-being, and promoting resilience (Zuraidy, 2025)(Hatzigeorgiadis et al., 2011). According to cognitive-behavioural theory (Beck, 2010), an individual's emotional responses are strongly influenced by their thought patterns. Negative automatic thoughts tend to amplify anxiety, while modifying these thoughts into more rational and positive statements can help reduce anxious feelings. (Nakao et al., 2021) state that Cognitive-behavioral therapy (CBT) helps individuals to eliminate avoidant and safety-seeking behaviour that prevent self-correction of faulty beliefs, thereby facilitating stress management to reduce stress-related disorders and enhance mental health. *Positive self-talk* operates within this framework by encouraging individuals to replace self-defeating thoughts with supportive and optimistic messages, which promotes emotional regulation and cognitive restructuring.

This finding aligns with previous studies showing that *positive self-talk* is a powerful tool for managing anxiety and enhancing psychological resilience. (Hatzigeorgiadis et al., 2011) found that *positive self-talk* interventions significantly improved individuals' ability to regulate anxiety and maintain composure under stress. Similarly, (Nisa' & Pranungsari, 2021)Tod, Hardy, and Oliver (2011) reported that consistent use of *positive self-talk* led to reductions in anxiety and improvements in hypertension elderly. (Adzdzaakiya Khairunnisa et al., 2025) (Hasanah et al., 2021) (Putri et al., 2024) observed that individuals trained in *positive self-talk* demonstrated better emotional control and lower anxiety levels when facing challenging situations especially having chronic illness.

The results of the present study therefore reinforce the theoretical and empirical evidence that *positive self-talk* is an effective cognitive-behavioral technique for anxiety reduction. By actively engaging in positive internal dialogue, individuals can reinterpret stress-inducing situations more adaptively, leading to improved emotional well-being and lower anxiety levels compared to those who do not receive such intervention.

## CONCLUSIONS

There was effect of positive self-talk on anxiety levels in elderly people with hypertension in the Bergas Community Health Centre area. In conclusion, *positive self-talk* can be considered a practical, low-cost, and accessible psychological technique to help individuals cope with anxiety in various settings, including educational, clinical, and occupational environments. Future research is recommended to explore the long-term effects of *positive self-talk* training and its potential integration with other therapeutic approaches to enhance mental health outcomes.

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## Availability of data and materials

The availability of raw data in this link:

<https://docs.google.com/spreadsheets/d/1qvTzNwlRIQ5p4vzGhrh6UYGFE5hhwFgo/edit?usp=sharing&ouid=104159444788934313938&rtpof=true&sd=true>

## Authors' contributions

The author served as the proposal writer, conducted the research, and wrote the final research report. The author also served as the manuscript writer for publication as an output of this research.

## Conflict of Interest

In this study there is no conflict of interest.

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