

JOURNAL OF HEALTH COMMUNITY SERVICE



Differences in Instrument Music Therapy And Dangdut Music Therapy On Blood Pressure and Stress Levels In The Elderly At UPT PSTW Jember

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ARTICLE INFORMATION

Received: February 27, 2025

Revised: March 2025

Available online: January 2026

KEYWORDS

Hypertension, Depression, Elderly, Instrumental Music Therapy, Dangdut Music Therapy.

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A B S T R A C T

Hypertension in the elderly is a global problem that causes a decrease in quality of life and sudden death. Instrumental music therapy and dangdut music therapy are non-pharmacological therapeutic solutions to reduce blood pressure and depression scores among the elderly. This type of research is a quasi-experimental approach (one group pretest and posttest design). The sample used was all the elderly at Wisma Mawar, Wisma Melati, Wisma Sakura, and Wisma Teratai UPT PSTW Jember totaling 60 elderly. Elderly in Wisma Mawar, Wisma Melati, Wisma Sakura, and Wisma Teratai UPT PSTW Jember 37 elderly are female and 23 elderly are male, 50% aged 61-70 years. There were 46 elderly people with hypertension with systolic blood pressure of 130-180 mmHg (76.7%). The results of statistical tests, namely that there were significant differences in systolic blood pressure and depression scores in the elderly, showed that instrumental and dangdut music therapy was quite effective in reducing blood pressure and depression scores in the elderly. Hypertension and depression in the elderly can be reduced using nonpharmacological therapies such as instrumental music therapy and dangdut music therapy because they can relax the body and mind and improve blood vessels. conclusion. Instrumental music therapy and dangdut music therapy are effective in reducing blood pressure and depression scores in the elderly so that they can improve the quality of life of the elderly. Instrumental music therapy and dangdut music therapy need to be included in the PSTW training program which can be done regularly so that it can control blood pressure and depression scores in the elderly.

INTRODUCTION

Elderly (elderly) is someone who has reached the age of more than 60 years and is included in the old life stage. Aging is a natural process that is experienced by a person and has gone through three stages of life, starting from childhood, adulthood, and then old age.(Khalifah, 2016). Some gerontologists have cited older adults as being 65 years and over as an acceptable chronological criterion for the aging process (Eliopoulos, 2018). Studies have found that older people assess the onset of middle age and older at a later chronological age than younger people.(Millers, 2012). According to WHO (1999), the age limit for the elderly is old age (elderly), namely 60 years to 74 years, old age, namely 75 years to 90 years, and very old age (very old), namely age over 90 years.(Rasni et al., 2018). Someone who enters old age will experience several changes, physical changes and also mental changes which are usually influenced by physical changes. Physical changes in the elderly are usually health problems in the body such as disorders of the cardiovascular system.

The cardiovascular system in the elderly will experience changes such as heart valves that become thick and stiff, as well as a decrease in the heart's ability to pump blood, causing a decrease in the elasticity of blood vessels and can cause some changes in blood pressure (Maskanah et al., 2019). Meanwhile, mental changes in the elderly usually occur with depression because of their dependency and loneliness (Kholifah, 2016).

Blood pressure is a force needed by blood to flow through blood vessels which will then spread throughout the body. Blood pressure consists of high blood pressure (hypertension), normal blood pressure, and low blood pressure (hypotension) (Alifariki & Kusnan, 2022). Hypotension is a state of blood pressure below 90/60 mmHg (S. A. Lubis & Amin, 2018). Normal blood pressure if the systolic blood pressure is 120-140 mmHg and the diastolic blood pressure is 80-90 mmHg. Hypertension is a condition in which the systolic blood pressure is > 140 mmHg and the diastolic blood pressure is > 90 mmHg on two measurements five minutes apart while at rest (N. L. Lubis & Siregar, 2019).

Depression is an emotional disorder accompanied by psychological components such as feeling sad, depressed, sad, hopeless, and feeling unhappy as well as somatic components such as constipation, decreased blood pressure and pulse (Sisi & Ramdhany, 2020; Yosep, 2010). Depression is a mental health problem that most often occurs in the elderly (Efendi, 2011; Sisi & Ramdhany, 2020). Depression is a health problem in the elderly whose incidence rate increases as a person ages (Sisi & Ismahmudi, 2020). Depression is a mental disorder that can cause problems in the form of a large health and economic burden on society. Symptoms of depression have been considered a risk factor for cardiovascular disease that appears in the general population (Paraswati et al., 2020).

Non-pharmacological health management that can be done by the elderly to control blood pressure and depression levels is by giving instrumental music therapy and dangdut music therapy. This music therapy can prevent a disease that can be used as an effort to cure someone who is experiencing physical, emotional, or mental disorders (Jatmika et al., 2018). This music therapy can reduce levels of cortisol or the stress hormone associated with high blood pressure and can improve the function of the lining of blood vessels which can stretch up to 30%. In addition, music therapy can affect the parasympathetic nervous system, which stretches and slows the heart rate, while relaxing the organs in the (Yulastari et al., 2019).

Based on the results of a study conducted by group 2 students of PSP2N Gerontic Nursing Stase, Faculty of Nursing, University of Jember on February 20, 2023, in 4 guest houses, namely Wisma Mawar, Wisma Melati, Wisma Sakura, and Wisma Teratai, UPT PSTW, Jember Regency, it was found that most of the data were elderly in the 4 houses experiencing hypertension with systolic blood pressure of 130-180 mmHg totaling 46 people (76.7%) of the 60 elderly and the level of depression with the interpretation of

the results of the Geriatric Depression Scale (GDS), namely mild depression. Therefore, music therapy is needed to reduce blood pressure levels and stress scores in the elderly at Wisma Mawar, Wisma Melati, Wisma Sakura, and Wisma Teratai UPT PSTW Jember.

METHOD

This activity is a group activity therapy for the elderly at Wisma Mawar, Wisma Melati, Wisma Sakura, and Wisma Teratai UPT PSTW Jember with interventions of instrumental music therapy and dangdut music therapy for 10 minutes. Before the intervention, blood pressure was measured using a sphygmomanometer and after the intervention, blood pressure and depression scores were measured using the GDS (Geriatric Depression Scale) questionnaire again (one group pretest and post-test design). This activity involved all the elderly who were at Wisma Mawar, Wisma Melati, Wisma Sakura, and Wisma Teratai UPT PSTW Jember totaling 60 elderly.

RESULT AND DISCUSSION

Characteristics of Respondents

Table 1. Distribution of the elderly based on age, sex, and length of stay at UPT PSTW Jember who underwent musical instrument therapy (n=60)

Variable	Category	Frequency	Percentage (%)
Age	60-74 yearshun	19	63.3
	75-90 years	11	36.7
Total		30	100
Gender	Man	4	13.3
	Woman	26	86.7
Total		30	100

In table 1. It is shown that most of the elderly at UPT PSTW Jember are in the age range of 60-74 years (late elderly) with a percentage of 63.3%, most of the elderly who receive instrumental music therapy are female, namely 26 elderly (86.7 %) and male sex as many as 4 elderly (13.3%).

Table 2. Distribution of elderly based on age, sex, and length of stay at UPT PSTW Jember who received dangdut music therapy (n=60)

Variable	Category	Frequency	Percentage (%)
Age	60-74 years	20	66.7
	75-90 years	10	33.3
Total		30	100
Gender	Man	19	63.3
	Woman	11	36.7

Total	30	100
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Table 2. shows that most of the elderly at UPT PSTW Jember are in the age range of 60-74 years (late elderly) with a percentage of 66.7%. .3%) and female as many as 11 elderly (36.7%).

Differences in Blood Pressure Before and After Instrumental Music Therapy

Table 3. The results of the paired t test systolic and diastolic tests before and after the intervention of instrumental music therapy

Variable	Minimum	Maximum	Means	Sig. (2-tailed)
systole before	120	180	141.0	0.000
Systole after	100	150	121.0	
Diastole before	80	110	91.33	0.000
Diastole after	60	100	78.0	

Source: Primary data (2023)

Table 3 shows that there is a difference in the mean systolic before and after the intervention, with the mean after being lower, namely 121 mmHg. The mean diastolic value after the intervention also decreased by 78 mmHg. The statistical t-test on systolic obtained a Sig value of 0.000 <0.05, which means that there was a difference in systolic blood pressure before and after the intervention. While the diastole obtained a value of Sig.0.000 <0.05, which means there is also a significant difference.

Differences in Blood Pressure Before and After Dangdut Music Therapy

Table 4. The results of the paired t test systolic and diastolic tests before and after the intervention of dangdut music therapy

Variable	Minimum	Maximum	Means	Sig. (2-tailed)
systole before	120	200	143.0	0.000
Systole after	100	180	125.0	
Diastole before	80	110	90.33	0.000
Diastole after	60	100	82.0	

Source: Primary data (2023)

Table 4 shows that there is a difference in the mean systolic before and after the intervention, with the mean after being lower, namely 125 mmHg. The mean diastolic value after the intervention also decreased by 82 mmHg. The statistical t-test on systolic obtained a Sig value of 0.000 <0.05, which means that there was a difference in systolic blood pressure before and after the intervention. While the diastole obtained a value of Sig.0.000 <0.05, which means there is also a significant difference.

Differences in GDS Before and After Instrumental Music Therapy

Table 5. Results of paired t test systolic and diastolic statistical tests before and after the intervention of instrumental music therapy

Variable	Minimum	Maximum	Means	Sig. (2-tailed)
GDS before	2	24	13.57	0.023
GDS after	2	24	13,17	

Source: Primary data (2023)

Table 5 shows that there is a difference in the mean GDS before and after the intervention with a lower mean value of 13.17. The statistical t-test on systolic obtained a value of Sig 0.023 <0.05, which means that there is a difference in GDS before and after the intervention.

Differences in GDS Before and After Dangdut Music Therapy

Table 5. Results of the paired t test systolic and diastolic tests before and after the intervention of dangdut music therapy

Variable	Minimum	Maximum	Means	Sig. (2-tailed)
GDS before	3	24	13.07	1,000
GDS after	3	22	12.37	

Source: Primary data (2023)

Table 5 shows that there is a difference in the mean GDS before and after the intervention, with a lower mean value of 12.37. The statistical t-test on systole obtained a value of Sig 1.000 > 0.05, which means that there was no difference in GDS before and after the intervention.

Most of the elderly in Wisma Melati, Wisma Mawar, Wisma Sakura and Wisma Teratai are mostly in the range of 60-74 years, which means they have entered the late elderly. This is supported by research from Ulya et al (2018) which explains that the highest age frequency distribution is 60 years. Age is an irreversible risk factor for hypertension. Older age will cause structural and functional changes in the vascular system, causing increased blood pressure (Ulya et al., 2017). This is in line with research from Adam (2019) which states that getting older will cause a decrease in the ability of the body's organs including the cardiovascular system, namely the heart and blood vessels. Blood vessels become narrower resulting in stiffness of the blood vessel walls which will cause blood pressure to increase (Adam, 2019). Hypertension is usually nicknamed "the silent killer" because hypertension, the symptoms of hypertension are difficult to recognize or even cause no symptoms at all (Tika, 2021).

There are 37 elderly women in the four UPT PSTW Jember houses and 23 elderly men. Gender in hypertension is a risk factor that cannot be changed. According to several studies, such as the statement from Ekarini et al (2019), it states that the sex of the most hypertension sufferers is women, 34 people

(91.9%), this is in accordance with other research which states that the majority of hypertension sufferers are female with 125 people (72.3%) (Wahyudi et al., 2017).

Someone who has a history of hypertension needs to be modified so that he can control examinations and use drugs regularly. Treatment of a disease can be done with pharmacological and non-pharmacological techniques. One of the non-pharmacological techniques that can be done is music therapy. Music therapy is the use of music as a therapeutic tool to improve, maintain, enhance mental, physical and emotional states. For people with hypertension or high blood pressure, music can be used as an effective therapy to lower blood pressure.

The results of the analysis found that there was a significant difference in blood pressure in the group after the intervention of instrumental music therapy with a lower mean value after the intervention, namely 121 mmHg. The mean diastolic value after the intervention also decreased by 78 mmHg. Then in the group after the dangdut music therapy intervention the mean value after the intervention was lower, namely 125 mmHg. The mean diastolic value after the intervention also decreased by 82 mmHg. Meanwhile, in the group that did not receive interventions for instrumental music therapy or dangdut music therapy, there was no decrease in systolic or diastolic blood pressure in the elderly.

The results of the analysis found that there was a significant difference in the depression scores of the elderly in the group after the instrumental music therapy intervention with the mean value after the intervention being lower, namely 13.17. Then there was no significant difference in the depression scores of the elderly in the group after the dangdut music therapy intervention with the mean value after the intervention being lower, namely 12.37. Meanwhile, in the group that did not receive interventions for instrumental music therapy or dangdut music therapy, there was no change in depression scores in the elderly.

Statistical test paired t-test on systole obtained a Sig value of $0.000 < 0.05$, which means there was a difference in systolic blood pressure before and after the intervention. Then the statistical test paired t-test on the value of depression in the elderly after being given instrumental music therapy obtained a Sig value of $0.023 < 0.05$, which means there is a difference in the value of depression in the elderly before and after the intervention. And the statistical test paired t-test on the value of depression in the elderly after being given dangdut music therapy obtained a value of Sig $1.000 > 0.05$, which means there is no difference in the value of depression in the elderly before and after the intervention.

CONCLUSION

There was a significant difference in the decrease in systolic blood pressure and depression scores in the elderly in the elderly group at Wisma Mawar, Wisma Melati, Wisma Sakura, and Wisma Teratai UPT PSTW Jember after performing instrumental music therapy and dangdut music therapy

ACKNOWLEDGEMENTS

The authors thank all parties involved and have contributed to this activity, namely the elderly at UPT PSTW Jember and the group of nursing professional students, Faculty of Nursing, University of Jember. Thanks to UPT PSTW Jember for facilitating this service activity to completion. Thanks to the PSTW supervisors as well as academic supervisors who have supported and guided students in carrying out activities so that they could be completed properly.

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