

INFORMASI ARTIKEL

Received: August, 03, 2025

Revised: August, 12, 2025

Available online: August, 12, 2025

at: <https://e-jurnal.iphorr.com/index.php/mhc>

The effect of butterfly hug therapy on stress reduction in the elderly

Rinda Dyah Maulina*, Zulfa Mahdiatur Rasyida

Universitas Aisyiyah Surakarta

Corresponding author: *E-mail: rindadymln.students@aiska-university.ac.id

Abstract

Background: Elderly individuals are vulnerable to stress due to physical, physiological, and psychological changes during the aging process. One intervention used to reduce stress in the elderly is Butterfly Hug therapy, a simple bilateral stimulation technique that is easy to practice and can be done independently.

Purpose: To determine the effect of Butterfly Hug therapy on stress reduction in elderly residents.

Method: A pre-experimental design with a one group pre-test post-test approach. Purposive sampling was used to select 17 respondents. The Perceived Stress Scale (PSS-10) was used as the research instrument. The intervention was conducted three times a week.

Results: Data analysis using the Wilcoxon test showed that before the intervention, the minimum stress score was 11, the maximum was 29, and the median was 16.00. After the intervention, the minimum score was 7, the maximum was 22, and the median was 11.00. The test yielded a Z value of -3.644 and a p-value of 0.000.

Conclusion: There is a significant effect of Butterfly Hug therapy on reducing stress in elderly residents.

Keywords: Butterfly_Hug_Therapy; Elderly; Stress.

INTRODUCTION

An elderly person is someone who has reached the age of 60 years and above. The development process takes place from birth, from complete dependence to independence, and ends with the aging stage. The aging process can affect the physical, physiological, and psychological conditions of the elderly, including memory decline, anxiety, and stress. The global elderly population in 2019 reached 1 billion and is expected to increase to 1.4 billion by 2030. In Indonesia, the number of elderly in 2021 reached 29.3 million, while in Central Java in 2023 it was 5.07 million, and in Surakarta City in 2024 it was 219,329 people (Ramdhiani, Sukanti, & Helen, 2024).

Stress is a significant psychological problem in the elderly, with a global prevalence reaching 13.9%. Elderly people experience normal (56.7%), moderate (20.0%), mild (10.0%), and severe (13.3%) stress levels. Stress can be triggered by chronic illness, the

loss of a spouse, or negative treatment from their environment (Brito Duarte, Libório, Egidio Cavalcante, de Aquino, Carvalho Bezerra, de Aguiar Rocha Martin, & Anjos de Paula, 2022). If left untreated, stress can impact the quality of life of the elderly, including loss of appetite, insomnia, and functional decline (Novitasari, Febriyona, & Sudirman, 2023).

Stress management can be carried out pharmacologically and non-pharmacologically. One non-pharmacological intervention that is increasingly being used is butterfly hug therapy, a simple bilateral stimulation technique that can be performed independently and is effective in reducing anxiety and stress. The Butterfly Hug involves crossing your arms over your chest and gently tapping your shoulders alternately, accompanied by positive affirmations. This therapy has been shown to promote relaxation,

activate the parasympathetic nervous system, and lower cortisol levels, resulting in a calming effect and increased self-confidence (Girianto, Widayati, & Agusti, 2021).

RESEARCH METHOD

This study used a quantitative approach with a pre-experimental design (One Group Pretest-Posttest Design) to determine the effect of Butterfly Hug therapy on reducing stress in the elderly. The study was conducted at the Dharma Bhakti Kasih Nursing Home, Surakarta, in April 2025. A sample of 17 elderly

people was selected through a purposive sampling technique based on inclusion and exclusion criteria. The independent variable was butterfly hug therapy, while the dependent variable was stress levels as measured by the Perceived Stress Scale (PSS-10) questionnaire. The intervention was carried out 3 times a week for one week. The questionnaire has been validated and is reliable (Cronbach's Alpha = 0.988). Data were analyzed using the Shapiro-Wilk test for normality and the Wilcoxon test to determine differences between the pretest and posttest. Results were considered significant if $p < 0.05$.

RESERACH RESULTS

Table 1. Frequency Distribution of Respondents (N=17)

Variable	Results
Age(Mean$\pm$SD)(Range)(Years)(n/%)	(77.9 $\pm$ 7.1)(60-90)
60-74	5/29.4
75-90	12/70.6
Gender (n/%)	
Male	6/35.3
Female	11/64.7

Based on Table 1, it is known that the average age of respondents was 77.9 years with a standard deviation of 7.1. The youngest age was 60 years and the oldest age was 90 years. The majority of respondents were aged 75-90 years, namely 12 respondents (70.6%). The majority of respondents were female, namely 11 respondents (64.7%).

Table 2. Respondents' Stress Conditions

Variable	Median	Minimum	Maximum
Stres before therapy butterfly hug	16.00	11	29
Stres after therapy butterfly hug	11.00	7	22

Based on table 2, it shows that before being given butterfly hug therapy, the median value was 16.00 and after being given butterfly hug therapy, the median value was 11.00.

Table 3. Shapiro-Wilk Normality Test

Variable	p
Before therapy butterfly hug	0.039
After therapy butterfly hug	0.007

Rinda Dyah Maulina*, Zulfa Mahdiatur Rasyida

Universitas Aisyiyah Surakarta

Corresponding author: *E-mail: rindadymln.students@aiska-university.ac.id

Doi: 10.56922/mhc.v4i3.1300

Based on table 3, the results of the normality test show that before the butterfly hug therapy was given, a p-value of 0.039 was obtained and after the butterfly hug therapy was given, a p-value of 0.007 was obtained, a p-value <0.05 so that the data was declared not normally distributed.

Table 4. Results of the Wilcoxon test analysis

	Median (Minimum-maximum)	z	p
Before therapy butterfly hug	16.00(11-29)	-3.644	0.000
After therapy butterfly hug	11.00(7-22)		

Based on table 4, the results of the Wilcoxon test of differences before and after butterfly hug therapy, the results before butterfly hug therapy were min value 11 max value 29 with a median value of 16.00, after butterfly hug therapy, the results were min value 7 max 22 with a median value of 11.00, the z value was -3.644. p-value = 0.000 then H_0 is rejected H_a is accepted, this shows that there is an effect of butterfly hug therapy on reducing stress.

DISCUSSION

The study results showed that respondents aged 75-90 years constituted the largest group, at 70.6%. This is in line with other studies that showed the average age of respondents aged 71-80 years was 41.7%. Age influences stress levels in the elderly. The older a person is, the higher the risk of experiencing stress. This is due to increasing physical, mental, and social limitations with age. Elderly people with physical or cognitive impairments tend to experience difficulties in social interactions, which results in decreased relationship quality and increased stress. These limitations are one of the triggers of stress in the elderly (Sigalingging, Nasution, Ginting, Pakpahan, Sitopu, Simanullang, & Girsang, 2022). Based on this description, it can be said that with increasing age, the risk of stress in the elderly increases not only due to physical and cognitive limitations that affect social interactions, but also due to the decline in their social roles and functions. In addition, environmental conditions and lack of social support also worsen the psychological condition of the elderly (Harisa, Muhinra, Fitri, Hidayah, Rosyidi, & Yodang, 2023).

The results of the study showed that the number of female respondents was higher than male, namely

11 elderly women (64.7%). This is in line with other studies where the female gender was more dominant, with 24 elderly women (52.8%). The results showed that stress was more dominant in women than men. Stress is more common in women (79%), because it is influenced by hormonal changes related to the menstrual cycle, pregnancy, childbirth, and menopause. Women and men respond to stress differently. Women's brains tend to be more sensitive to stress, triggering hormones that cause anxiety and fear. Meanwhile, men are generally better able to cope with stress and see it as a positive encouragement. Therefore, women are more susceptible to stress when facing pressure or conflict (Brislin & Masciandaro, 2023). Based on this description, it can be said that elderly women are more susceptible to stress than men, not only because of biological factors such as hormonal changes, but also because of differences in how they deal with emotional pressure. In addition to women's brains being more sensitive to stress, social factors and the life roles they carry out, such as family responsibilities and dual roles, also increase their stress burden (Wibowo, Sunaringtyas, & Ilmika, 2023).

Rinda Dyah Maulina*, Zulfa Mahdiatur Rasyida

Universitas Aisyiyah Surakarta

Corresponding author: *E-mail: rindadymln.students@aiska-university.ac.id

Doi: 10.56922/mhc.v4i3.1300

Based on the data obtained, the median score was 16.00 before being given the butterfly hug therapy. Before being given the butterfly hug, 25 respondents (83.3%), 4 (13.3%), and 1 (3.3%) experienced mild stress. When a person faces a stressor, the body responds by activating the autonomic nervous system and the hypothalamic-pituitary-adrenal (HPA) axis. The hypothalamus stimulates the release of corticotropin-releasing hormone (CRH), which triggers the secretion of adrenocorticotrophic hormone (ACTH) from the pituitary gland, then encourages cortisol production by the adrenal glands. The sympathetic nervous system also activates the release of adrenaline and noradrenaline, which increase heart rate, blood pressure, and blood glucose. If this response continues, biochemical imbalances can occur that cause physical tension, fatigue, metabolic disorders, and decreased immunity. Stress in the elderly is influenced by several factors, including a history of illness that can cause anxiety and fear of death. Marital status also has an influence, especially if the elderly do not receive support from their partner or experience conflict in the household (Aulia, Yuliasuti, & Suyatno, 2024). Environmental factors such as housing play a role in stress in the elderly. Living with family provides a sense of security and well-being, while a less supportive environment can lead to loneliness and increase stress (Archuletta & Grandjean, 2023). Environmental factors are not the only cause of stress in the elderly, as they also often face pressure from physical and social events, such as loss of social status after retirement, unemployment, and the loss of a spouse, which can impact the physical and psychological condition of the elderly (Pagani & Maslovaric, 2021). Based on the results of the study, it can be concluded that before being given the butterfly hug therapy intervention, the elderly at the Dharma Bhakti Kasih Wredha Home experienced stress with a median score of 16.00. This condition is influenced by various factors, including the aging process which causes a decline in physical and psychological function. In addition, environmental factors also play a role, such as loneliness and being away from family (Luci, 2024).

Based on the data obtained, a median score of 11.00 was obtained after being given butterfly hug therapy. Respondents after being given butterfly hug

therapy intervention experienced a decrease, from being initially at moderate stress (82.1%) to mild stress (60.7%) (Sharita, Mahardika, Agustinada, & Fadilah, 2024). After being given the intervention, the median stress score of respondents decreased to 11.00 based on the final measurement results. Butterfly hug or butterfly hug is a non-pharmacological therapy that is useful for relaxing the mind and calming oneself. This technique is done by crossing the arms on the chest and patting the arms alternately, resembling the movement of a butterfly. Developed by Lucina Artigas and Ignacio Jarero, this method functions as a bilateral stimulus to help calm the mind and provide a sense of emotional comfort (Nieves-Grafals, 2025). This sense of comfort stimulates the release of endorphins and reduces the production of adrenocorticotrophic hormone (ACTH), thereby decreasing cortisol levels in the body. Physiologically, stress activates the hypothalamic-pituitary-adrenal (HPA) axis, which increases cortisol production and can negatively impact the immune system, cognitive function, and mental health. Through the butterfly hug, the parasympathetic nervous system is stimulated, helping inhibit HPA axis activity, lower cortisol levels, and restore the body's balance or homeostasis (Cagaoan, Dayrit, Vega, & Flores, 2023). The study found that the median pre-intervention score was 16.00, and after the intervention, it decreased to 11.00. This indicates a decrease in stress in the elderly. This therapy is a non-pharmacological method that is safe, affordable, and easy to implement, especially for elderly people who are prone to stress. This therapy provides significant benefits, such as increased calm and emotional comfort. Based on this, butterfly hug therapy has the potential to be used as a form of routine intervention in efforts to improve mental health (Jarero & Artigas, 2023).

Based on the results of the Wilcoxon test in this study, significant changes were found before and after butterfly hug therapy with a p value = 0.000. Thus, it can be concluded that H_0 is rejected and H_a is accepted, meaning there is a decrease in stress before and after butterfly hug therapy. Butterfly hug is effective in reducing stress levels, this technique helps calm oneself without requiring additional media so it is easy to do, has a positive impact on reducing stress, and improves mood (Faretta, Garau, Gallina,

Rinda Dyah Maulina*, Zulfa Mahdiatur Rasyida

Universitas Aisyiyah Surakarta

Corresponding author: *E-mail: rindadymln.students@aiska-university.ac.id

Doi: 10.56922/mhc.v4i3.1300

Pagani, & Fernandez, 2022). Performing butterfly hugs on elderly people in social care, the elderly in the study said they felt comfortable while doing the butterfly hug, complaints of anxiety and worry felt by the elderly slowly disappeared, and showed optimistic thoughts and did not think about bad things in the future (Lazzaroni, Invernizzi, Fogliato, 2021).

The butterfly hug is a form of therapy believed to increase self-confidence and reward oneself for being able to face many challenges in life. When performing this movement, including positive affirmations such as words of support or self-appreciation can strengthen the relaxation effect and help calm the mind (Cahyanti, Fitriana, Putri, & Lusianti, 2023). This movement is believed to stimulate the parasympathetic nervous system, which plays a role in triggering the body's relaxation response. By activating the parasympathetic nervous system, this technique can help reduce the activity of the sympathetic nervous system, which is responsible for the body's response to stress (Lazzaroni, Invernizzi, Fogliato, Pagani, & Maslovaric, 2021). Thus, the results of this study indicate that butterfly hug therapy is effective in reducing stress in the elderly. This therapy helps seniors manage their emotions and provides significant relaxation effects after several sessions. Butterfly hug therapy provides a means to relieve emotions through calming self-touch, thus proven to be an effective stress reducer (Rokhman, 2021).

CONCLUSION

The majority of respondents were female and aged 75 to 90. The elderly group was the most dominant age group in this study. Before butterfly hug therapy, the median score was 16.00. After butterfly hug therapy, the median score was 11.00. Butterfly hug therapy has an effect on reducing stress in the elderly.

REFERENCES

- Archuletta, C., & Grandjean, V. (2023). Health-Medical Challenges and Grief: Group EMDR Therapy for Patients. *EMDR Group Therapy: Emerging Principles and Protocols to Treat Trauma and Beyond*, 275.
- Aulia, A. W. Z., Yuliasuti, E., & Suyatno, S. (2024). Pengaruh Terapi Butterfly Hug terhadap Tingkat Kecemasan pada Remaja. *ASJN (Aisyiyah Surakarta Journal of Nursing)*, 5(1), 1-8.
- Brislin, W., & Masciandaro, M. (2023). Group Resource Enhancement Protocol. *EMDR Group Therapy: Emerging Principles and Protocols to Treat Trauma and Beyond*, 149.
- Brito Duarte, D. F., Libório, J. R., Egídio Cavalcante, G. M., de Aquino, T. L., Carvalho Bezerra, L. D., de Aguiar Rocha Martin, A. L., & Anjos de Paula, J. D. (2022). The effects of mindfulness-based interventions in COVID-19 times: a systematic review. *Revista Brasileira de Crescimento e Desenvolvimento Humano*, 32(2).
- Cagaoan, M. S. F., Dayrit, A. C. D., Vega, A. C. R. D., & Flores, M. J. V. (2023). Effectiveness of the butterfly hug method to the level of mental health status of senior citizens living in a selected healthcare facility: Basis for adjunct therapy. *Journal of Rural Community Nursing Practice*, 1(2), 185-209.
- Cahyanti, L., Fitriana, V., Putri, D. S., & Lusianti, S. P. (2023). Terapi Relaksasi Otot Progesif Terhadap Stres Psikososial Keluarga Pasien Covid-19. *Jurnal Profesi Keperawatan*, 10(1).
- Faretta, E., Garau, M. I., Gallina, E., Pagani, M., & Fernandez, I. (2022). Supporting healthcare workers in times of COVID-19 with eye movement desensitization and reprocessing online: A pilot study. *Frontiers in Psychology*, 13, 964407.
- Girianto, P. W. R., Widayati, D., & Agusti, S. S. (2021). Butterfly Hug Reduce Anxiety on Elderly. *Jurnal Ners Dan Kebidanan (Journal of Ners and Midwifery)*, 8(3), 295-300.
- Harisa, A., Muhinra, S. A., Fitri, A. Z., Hidayah, M., NB, R. A. R., Rosyidi, B., & Yodang, Y. (2023). Edukasi Terapi Butterfly Hug untuk Menurunkan Masalah Psikososial: Ansietas pada Masyarakat di Wilayah Kerja Puskesmas Tamalanrea Jaya Kota Makassar. *Jurnal Abdimas Kesehatan (JAK)*, 5(3), 604-610.

Rinda Dyah Maulina*, Zulfa Mahdiatur Rasyida

Universitas Aisyiyah Surakarta

Corresponding author: *E-mail: rindadymln.students@aiska-university.ac.id

Doi: 10.56922/mhc.v4i3.1300

The effect of butterfly hug therapy on stress reduction in the elderly

- Jarero, I. N., & Artigas, L. (2023). The EMDR Therapy Butterfly Hug Method for Self-Administer Bilateral Stimulation Technical Report. Research Gate.
- Lazzaroni, E., Invernizzi, R., Fogliato, E., Pagani, M., & Maslovaric, G. (2021). Coronavirus disease 2019 emergency and remote eye movement desensitization and reprocessing group therapy with adolescents and young adults: overcoming lockdown with the butterfly hug. *Frontiers in psychology*, 12, 701381.
- Lazzaroni, E., Invernizzi, R., Fogliato, E., Pagani, M., & Maslovaric, G. (2021). Covid-19 emergency and remote EMDR group therapy with adolescents and young adults: overcoming lockdown with the butterfly hug.
- Luci, R. A. (2024). Peran Terapi Musik dalam Pengelolaan Stres dan Kesejahteraan Psikologis pada Penderita Gangguan Kecemasan: Sebuah Tinjauan Sistematis dan Meta-Analisis. *Wellness Jurnal Kesehatan Dan Pelayanan Masyarakat*, 1(1), 19-25.
- Nieves-Grafals, S. (2025). Brief Therapy of Posttraumatic Stress Disorder in Refugees. *Nova Science Publishers: New York, NY, USA*, 185-205.
- Novitasari, N., Febriyona, R., & Sudirman, A. N. A. (2023). Pengaruh terapi musik religi terhadap penurunan tingkat stres pada lansia di Panti Werdha LKS Lu Beringin Hutuo Limboto. *Jurnal Rumpun Ilmu Kesehatan*, 3(1), 116-125.
- Ramdhiani, S., Sukamti, N., & Helen, M. (2024). Pengaruh Butterfly Hug Terhadap penurunan tingkat stres pada remaja di smk al-mafatih jakarta. *Nursing Inside Community*, 5(2), 8-14.
- Rokhman, A. (2021). Penurunan Stress Pada Lansia Dengan Relaksasi Benson. *Jurnal Ilmiah Kesehatan Media Husada*, 10(1), 52-58.
- Sharita, A. D. D., Mahardika, I. K., Agustinada, A., & Fadilah, I. (2024). Hubungan Pertumbuhan dan Perkembangan Lansia Ditinjau dari Pola Hidupnya. *Jurnal Ilmiah Wahana Pendidikan*, 10(10), 365-369.
- Sigalingging, G., Nasution, Z., Ginting, M., Pakpahan, H. M., Sitopu, S. D., Simanullang, P., & Girsang, E. M. (2022). Penyuluhan Kesehatan Strategi Hidup Sehat Lansia Di Kelurahan Bangun Sari Kecamatan Tanjung Morawa. *PKM Maju UDA*, 3(1), 1-8.
- Wibowo, D. A., Sunaringtyas, W., & Ilmika, R. V. (2023). Tingkat stres pada lansia yang tidak tinggal serumah dengan keluarga. *Jurnal Salam Sehat Masyarakat (JSSM)*, 4(2), 22-28.

Rinda Dyah Maulina*, Zulfa Mahdiatur Rasyida

Universitas Aisyiyah Surakarta

Corresponding author: *E-mail: rindadymln.students@aiska-university.ac.id

Doi: 10.56922/mhc.v4i3.1300