

Original Article

The Effect of Occupational Art Therapy on Depression, Anxiety and Stress in the Elderly in Nursing Homes: A Quasi-Experimental Study

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ARTICLE INFO	ABSTRACT
<p>Article History Submit : Sep 16, 2024 Revised : Dec 10, 2024 Accepted : Dec 25, 2024</p> <p>Keywords: Anxiety, Art Therapy, Elderly, Emphasize, Occupational Therapy</p>	<p>Background: <i>Elderly individuals residing in care facilities possess the potential for low physical activity, frequent illness, a hostile environment, and a lack of self-confidence, causing older people to become anxious, stressed, and even depressed. Unfortunately, no intervention can overcome this problem. Occupational art therapy involves using artistic mediums as a form of treatment and creative processes to help express oneself, improve individual physical and coping skills, manage stress, and strengthen self-confidence.</i></p> <p>Methods: <i>This research aims to explain the effect of occupational art therapy on depression, stress, and anxiety in older adults in nursing homes. This research uses a quasi-experimental pre and post-test design. The total sample used was 60 respondents, who were divided into intervention and control groups using a sampling technique, namely purposive sampling. Data were collected using the short version of the Depression Anxiety and Stress Scale (21 items). Descriptive statistics, frequency distribution, and Paired and Unpaired T-tests were applied for data analysis.</i></p> <p>Results: <i>The findings of the research indicated that occupational arts therapy could reduce depression scores with an average difference of 8.63, namely an anxiety score of 5.54 and a stress score of 3.59. Data analysis showed that occupational art therapy significantly reduced anxiety, depression, and stress scores (p-value 0.000).</i></p> <p>Conclusion: <i>Occupational art therapy can be used as a complementary therapy in nursing homes to reduce depression, anxiety, and stress in older people. The findings of this study are expected to help improve services in nursing homes, especially for reducing depression, anxiety, and stress in older people.</i></p>
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Introduction

The process of decreasing physical, cognitive, and psychosocial function requires older adults to be able to adapt to their environment. Reduced physical activity, frequent illness, a hostile climate, and lack of self-confidence cause older adults to become stressed because they feel like they are a burden on other people. Untreated problems of stress, anxiety, and negative feelings in older people will lead to issues of depression and poor quality of life for the elderly (Gloster et al., 2008). Challenges related to depression, anxiety, and stress among older people should be a key focus for health professionals, as they serve as important indicators for evaluating the effectiveness of actions, interventions, or therapies. Apart from that, the psychological quality of the elderly can also be used as initial data for consideration in formulating appropriate interventions or actions for patients. According to several studies, the quality of life of older adults in nursing homes is lower than that of older adults who live with their families at home. Feelings of being abandoned by family, not being able to accompany children and grandchildren, and economic uncertainty are problems that older adults in nursing homes often feel (Toledano-González, Labajos-Manzanares, & Romero-Ayuso, 2019).

Older women have higher rates of depression than men. Women have a higher risk of depression than men, even in old age. In research that has been conducted, it has been proven that the prevalence of depression in men is 6.9% and occurs in women at 16.5% (Liu, Brost, Horton, Kenyon, & Mears, 2013). Depression in the elderly is not only shown through changes in behaviour that are lower than usual but there are

physical complaints that accompany depressive disorders in the elderly. Physical symptoms that can accompany depression can vary, such as headaches, heart palpitations, back pain, gastrointestinal disorders, feeling tired quickly, and weight loss (Dunphy et al., 2019).

Anxiety is an overwhelming and vague sense of concern, often triggered by both external and internal factors, leading to emotional, cognitive, physical, and behavioural reactions (Ezell, 2017). The prevalence of anxiety from statistical data from the World Health Organization (WHO) states that anxiety has increased by 2.5% every year, with a comparison of 2.43% in women and 0.07% in men. The prevalence of anxiety in older people is 34.92%. The prevalence of general anxiety in patients aged over 65 years in the community is 4%. Stress in older adults can interfere with their daily activities, leading to symptoms such as loss of appetite, excessive talking or social withdrawal, redness in the face, or body shivering. It can also negatively affect their health by causing dizziness, high blood pressure, irritability, sadness, difficulty concentrating, changes in appetite, and sleep disturbances. Furthermore, stress can increase susceptibility to depression, colds, heart attacks, and even cancer (Ezell, 2017).

Several treatments regarding how to reduce depression, anxiety, and stress in older people have been carried out both pharmacologically and non-pharmacologically. Depression, anxiety, and stress in older people can reduce the quality of life, resulting in physical pain. Older adults will usually ask for treatment related to the physical pain they suffer. However, most health workers are unwilling to prescribe

painkillers due to a lack of adequate training in their field. Instead of detecting why elderly pain occurs, health workers usually only prescribe medication based on the elderly's needs ([Phan, 2018](#)). Non-pharmacological treatment is more famous for older adults with symptoms of depression, anxiety, and stress due to the more affordable costs and minimal side effects experienced after treatment ([Gramaglia et al., 2021](#)).

Research states that aromatherapy is effective in managing depression, anxiety, and stress in older adults with pain complaints in the community ([Gramaglia et al., 2021](#)). The mechanism of inhalation aromatherapy in older people is that essential oils can communicate signals to the sense of smell and stimulate the brain to release neurotransmitters such as serotonin and dopamine so that they can relieve psychiatric symptoms such as depression, anxiety, and stress ([Fritz, Singewald, & De Bundel, 2020](#)). Although many studies state that aromatherapy can be used to manage depression, anxiety, and stress in older people, not everyone is suitable for using aromatherapy due to allergies or strong odours.

Other research states that older adults who received relaxation treatment experienced a more significant reduction in depression and anxiety compared to the control group. Research conducted by ([Klainin-Yobas, Oo, Suzanne Yew, & Lau, 2015](#)) noted that progressive muscle relaxation training, music intervention, and yoga had the most potent intervention effect on depression. The combination of progressive muscle relaxation, music intervention, and yoga has a significant effect on reducing anxiety symptoms in

older people, and this impact will persist between 14 and 24 weeks after the intervention. However, studies show that not all older adults can train due to decreased physical function.

Art therapy provides an effective outlet for expressing emotions like anger, fear of rejection, anxiety, and low self-esteem. Engaging in artistic activities is enjoyable and accessible to everyone, regardless of their creative abilities. Using art as a medium helps individuals better understand their emotions and perceptions while offering a means to explore potential solutions to their challenges. I hope it can help you live better without being stuck in the past. The aim of providing art therapy techniques is to help individuals achieve goals, such as expressing what they feel, catharsis, or increasing self-esteem.⁷ One of the therapeutic processes in art therapy emphasizes cognitive processes in the hope of arousing positive emotions and improving memory abilities in individuals. Through art therapy, it is hoped that older people can face improvements in physical, emotional, and environmental influences in a new way. Research conducted by ([Ciasca et al., 2018](#)) stated that art therapy had a significant effect in reducing depression and anxiety scores, both somatic and general cognitive.

Occupational therapy blends art and science to guide individuals towards specific activities that promote health, prevent disability, and help improve and sustain well-being, particularly for those with mental or physical impairments ([Vaartio-Rajalin, Santamäki-Fischer, Jokisalo, & Fagerström, 2021](#)). Occupational therapy training aims to restore the patient's function as much as possible, from abnormal conditions to normal, spreading to physical and

mental disability, by providing planned activities taking into account the patient's condition so that it is hoped that the patient can recover. Independent in their families and communities ([Dunphy et al., 2019](#)). While numerous studies have explored art therapy, few have integrated it with occupational therapy. Research indicates that occupational therapy can significantly enhance the quality of life, self-efficacy, and independence in daily tasks.

Art therapy in occupational settings can enhance the quality of life for elderly individuals in nursing homes. This research states that occupational arts therapy is an approach to improving overall physical, mental, and emotional well-being through creative arts production. Applying occupational arts therapy allows older adults to increase self-awareness, express thoughts and feelings verbally, and improve individual cognitive processes. In line with this research, other studies reveal that occupational art therapy helps a person release internal burdens, such as expressing hidden feelings and increasing self-efficacy ([Cavasinni, 2017](#)).

Appropriate intervention is needed for older people to improve their quality of life by providing positive, engaging, and enjoyable activities. One combines occupational art therapy, which uses art media and creative processes to help express oneself, improve physical and coping skills, manage stress, and strengthen self-confidence. Occupational art therapy can also help individuals achieve goals, such as expressing their feelings, improving physical abilities, and increasing self-esteem ([Gunnarsson, Hedberg, Håkansson, Hedin, & Wagman, 2021](#)). One of the therapeutic processes

in occupational art therapy emphasizes physical and cognitive processes in the hope of generating positive emotions and increasing power. Memory and physical abilities in individuals. Through occupational art therapy, it is hoped that older adults can face physical, emotional, and environmental improvements in new ways so that levels of depression, anxiety, and stress decrease and they can enjoy a prosperous life ([Abbing et al., 2018](#)).

This research aims to determine the effect of occupational art therapy on depression, stress, and anxiety in older adults in nursing homes. We hypothesized that the combination of occupational arts therapy could reduce levels of depression, anxiety, and stress among older adults. Therefore, it can be seen that other types of complementary therapy options are implemented in nursing homes for older people to improve psychological quality.

Methods

Study Design

This study utilizes a quasi-experimental design with pre and post-tests conducted in nursing homes in Surakarta, Indonesia, from January to June 2023. The inclusion criteria are: 1) all older adults who have lived in nursing homes and can consent, 2) be at least 55 and willing to participate. The exclusion criteria in this study include 1) older adults who cannot give consent, 2) older adults who cannot participate in the research due to physical limitations, and 3) older adults who cannot complete therapy from the beginning to the end of the research in a coherent manner.

The research method stages started from measuring pre-test anxiety, depression, and stress in the intervention and comparison groups using the short



version of the Depression Anxiety Stress Scale questionnaire (21 items). The group receiving intervention participated in occupational art therapy. They underwent therapy sessions three times a week for three weeks, each consisting of six meetings lasting 45 to 60 minutes. Session 1 (pre-session) focused on preparation and providing an introduction before therapy began. In session 2 (screening), the therapist assessed the patient's limitations and identified their specific needs. This session also involved evaluating the patient's abilities and interest in participating in the therapy. Session 3 (evaluation) involved the next phase, where information was gathered regarding the patient's functional capacity, interest in engaging in the therapy, and motivation to act. At the end of the meeting, levels of depression, anxiety, and stress are measured after being given treatment. The comparison group received therapy according to standard operating procedures in nursing homes. Anxiety, depression, and stress scores were reassessed after treatment was completed. Data collection uses two instruments: 1) demographic data and anxiety, depression, and stress scores.

Sample size calculation: Cochran's formula and Morgan tables were used to determine the sample size using a type I error of 5% and a learning power of 95%. Cochran's sample size calculation formula shows that the eligible subjects are 60 patients per subject. The sample

was selected using purposive sampling. Respondents were divided into two groups consisting of 30 intervention group respondents and 30 comparison group respondents. The comparison group was given art therapy treatment only.

Data Analysis: The quantitative analysis used the SPSS version 25.0 program. The Paired T-test was used to determine the difference in anxiety, depression, and stress scores before and after treatment in each group. Meanwhile, the Unpaired T-test was used to determine the difference in Depression Anxiety and Stress scores between the two groups. Analysis of these results was carried out while maintaining the confidentiality of the respondents. A P value of less than 0.05 was considered statistically significant.

Ethical considerations

This research was approved by the Research Ethics Committee of the Faculty of Medicine, Sebelas Maret University (No. 58/UN27.06.11/KEP/EC/2022). Before data collection, all participants provided informed consent and were informed that their participation was voluntary. Their identities were kept anonymous, and no personally identifiable details were collected to maintain confidentiality. Once data collection was finished, all data was permanently deleted. Participants were verbally informed and consented, and all collected information was kept confidential.

Results

Table 1. Characteristics of the research group

No	Characteristic Respondent	Control Group		Intervention Group	
		Total	%	Total	%
1.	Gender				
	Man	8	26.7	5	16.7
	Woman	22	73.3	25	83.3
2.	Age				
	55-60	6	20	1	33.3
	61-65	10	33.3	16	53.3
	66-70	12	40	9	30
	>70	2	66.7	4	13.3
3.	Marital status				
	marriage	7	23.3	12	20
	widow/widower	23	76.7	18	60
4.	education				
	no school	9	30	6	20
	elementary school	9	30	11	36.7
	junior high school	8	26.7	7	23.3
	senior high school	4	13.3	6	20

A total of 60 participants were involved in this research. The majority of participants were aged 61-65 years (43%), primarily women (78%), widows/widowers (68%), and had elementary school education (33%). Characteristics of intervention and control group participants can be seen in Table.

Table 2. The differences in depression, anxiety, and stress scores before and after treatment

Variable	Kelompok	Pretest	Posttest	Delta Score	p-value
		Mean±SD	Mean±SD		
Depression	Control	23,17±20,96	22.06±19.55	1.11	.68
	Intervention	24,74±21,15	15.48±13.19	9.26	<.001
anxiety	Control	13,32± 12,91	11,67±11,55	0,41	.86
	Intervention	14,89±14,12	8,94±8,21	5.95	<.001
stress	Control	19,67±18,86	18,36±16,54	1.31	.51
	Intervention	19,78±18,95	14,88±15,93	4.90	.001

Table 2 shows that the intervention group had a significant difference after receiving occupational art therapy with a delta score of 9.26 (p-value 0.000) for depression scores, a delta score of 5.95 (p-value 0.000) for anxiety scores, a delta score of 4.90 (p-value 0.001) for anxiety scores. Stress score. Meanwhile, in the comparison group, there was no significant change, with a delta score of 1.11 (p-value 0.68) for depression score, a delta score of 0.41 (p-value 0.86) for anxiety score, a delta score of 1.31 (p-value 0.51) for stress scores.

Table 3. The Differences between anxiety intervention and comparison groups

Variable	Group	Mean	Deference Mean	P value
Depression	Control	1.11	8,63	<.001
	Intervention	9.26		
anxiety	Control	0,41	5,54	<.001
	Intervention	5.95		
stress	Control	1.31	3,59	.001
	Intervention	4.90		

Table 3 shows that occupational art therapy significantly reduces depression scores with a p-value of 0.000, anxiety scores with a p-value of 0.000, and stress scores with a p-value of 0.001.

Discussion

The prevalence of depression in older women is higher than in men. Women have a higher risk of depression than men, even in old age. In research that has been conducted, it has been proven that the prevalence of depression in men is 6.9% and occurs in women at 16.5% (Ciasca et al., 2018). Changes in hormone levels such as progesterone and estrogen in women can impact the part of the nervous system that regulates mood. Therefore, there is also a link between this and a higher risk of mental health conditions, such as depression. Societal culture often holds that women must be kind, capable of nurturing and educating, and sensitive to others (Zunzunegui, Alvarado, Béland, & Vissandjee, 2009). Women are more likely to define themselves in these judgments and society based on what others think about them. His mental health would be affected by this. As a result, it is not surprising that women are more susceptible to stress. Women's expectations of being versatile in their roles can have an impact. Women have to work, for example, whether they do it to support their families or because they are afraid they will look stupid if they stay home

and take care of the house. On the other hand, women are still expected to handle all aspects of household tasks. Women who take on multiple roles without the support of their partners and families may experience fatigue, boredom, tension, and even melancholy.

Depression in the elderly is not only shown through changes in behaviour that are lower than usual, but there are physical complaints that accompany depressive disorders in the elderly. The physical symptoms that accompany depression can take various forms, such as headaches, heart palpitations, back pain, indigestion, fatigue, and weight loss (Abdul Manaf, Mustafa, Abdul Rahman, Yusof, & Abd Aziz, 2016). This research aligns with research conducted (Seangpraw et al., 2019), where the incidence of stress was very high in the age range of 60-70 years. The first theory put forward by Cumming & Henry states that as you get older, you gradually begin to detach yourself from your surroundings. This situation results in a decrease in the social interactions of older people, both in terms of quality and quantity (Pan et al., 2008). This is supported by the opinion that age is an essential factor causing stress; the older a person gets, the easier it is to experience anxiety. It is caused by physiological factors decreasing various abilities, such as seeing, thinking, remembering, and hearing (Abdul Manaf et al., 2016).

Older adults experience various phases in life, including the loss of loved ones, progressive health problems through various degenerative diseases and decreased body function, lack of physical activity for mobilization, prolonged pain, a declining economic status due to retirement, and entering the non-reproductive period making older adults vulnerable to emotional disorders. The elderly believe that increasing age causes



them to be at risk of disease and loneliness, which causes self-isolation and life pressures, which cause various thoughts to work worse, giving rise to anxiety ([Wang, Huang, Wang, & Akbari, 2022](#)). Anxiety in older people depends on themselves and their history of anxiety. Older adults who have had anxiety in the past have a greater chance of experiencing it again. Like most of the Indonesian population, older people have a relatively low level of education. This condition is understandable because most older adults were of school age during the colonial period, and only a tiny portion were likely obliged to participate in the war. Apart from that, compared to today, educational facilities are still relatively minimal.

The elderly will be more susceptible to health problems, such as depression caused by stress due to life changes. The increasing number of residents in nursing homes in Indonesia is a new reality caused by the rising elderly population in this country ([Wang et al., 2022](#)). Most elderly residents' activities in nursing homes are repetitive and uninteresting, making their lives unsatisfying. It causes ageing parents to feel abandoned socially and psychologically, thereby increasing the likelihood of health problems in the elderly, including depression.

Several things make people feel stressed. Physical stressors are the first cause. Strain is caused by physical changes in geography, weather, climate, and where a person lives and works. Second, stress triggers develop due to social factors, such as socio-economic and political stressors, stressors in the family, interpersonal relationships, and stressors from the environment. There is no work. For example, frustration and uncertainty are two of the three stressors caused by psychology. Fourth, biological stressors are caused by bacteria, viruses, animals, and

other living organisms that can harm human health ([Roswiyani, Kwakkenbos, Spijker, & Witteman, 2019](#)). For example, fever, animal bites, and other situations that are considered to harm a person's sense of self. For example, misunderstanding divine principles is the root of five causes of spirituality-related stress.

People who experience stress for various reasons will show physical and psychological symptoms. Physical symptoms include discomfort, headaches, nausea, fatigue, and chest pain. At the same time, psychological signs can consist of impatience, memory loss, difficulty concentrating, overreaction to unimportant stimuli, reduced abilities, and unpredictable emotions. The stress will cause different levels and types of stress triggers that external stress coping mechanisms cannot overcome ([Pan et al., 2008](#)). Several variables influence stress reduction in the field, such as excellent and efficient stress coping, psychological coping, or oriented reactions. On the ego, both in the short and long term.

In this study, it was found that providing occupational arts therapy to the intervention group could reduce levels of depression, anxiety, and stress by an average of 9.26, 5.95, and 4.90, respectively. The results showed that there was no significance in the control group for depression p-value of 0.68, anxiety p-value of 0.86, and stress p-value of 0.51. The significant reduction in depression, anxiety, and stress scores in the intervention group was caused by the occupational art therapy intervention, which provided free space for older people to explore feelings and increase physical activity abilities, thereby improving self-confidence and self-positivity.

Occupational art therapy is a creative process for self-exploration, improving individual coping skills, managing stress,

and strengthening self-confidence. In addition, art therapy is an activity that creates a work of art to meet individual emotional and psychological needs ([Hogan, 2009](#)). Suitable for individuals who have abilities in the field of art or vice versa who do not have abilities in the field of art. Variations in levels of stress, anxiety, and depression in elderly patients before and after therapy demonstrate the value of using art as an occupational therapy tool. When compared to before receiving occupational therapy, older adults who received therapy experienced a much more significant increase in capacity to manage stress, anxiety, and depression. This situation shows how occupational art therapy improves the capacity of older adults to manage stress and depression. The stated treatment objectives are treating people who have disorders of motor, sensory, cognitive, and social abilities that make it difficult for them to carry out daily tasks and, as much as possible, restoring the patient's function from an abnormal condition to normal, and providing planning activities while still considering the needs elderly so they are expected to be independent in the family and society.

Occupational art therapy can be used to express the anxiety and fears of older people and vent negative emotions by applying projections, thereby significantly improving mood and reducing symptoms of depression. This therapy can also substantially increase vitality in participating in social activities. Studies say that occupational art therapy is effective for dealing with stress problems. Stress is the body's reaction to symptoms arising from the pressure of change and emotional tension. Occupational arts therapy can help older adults express their expressions and self-esteem so that they can reduce psychosomatic symptoms, namely feelings of anxiety, stress, fear, sleep disturbances,

and feelings of sadness or depression. Studies say this therapy can minimize the risk of Alzheimer's because it reduces anxiety, which can affect the memory of older people.

The various problems that older adults go through in life can cause them to live with psychological disorders. Art and occupational therapy can provide inner peace and relief within the self. Providing occupational arts therapy is very effective for dealing with anxiety because the material and therapy sessions presented can channel latent emotions, explore feelings, and improve emotional and mental conditions. Studies show that occupational arts therapy can reduce stress because it improves an individual's ability to engage in daily activities.

Occupational arts therapy is a form of additional therapy used to combat stress. The following phases are assessed for interpretation by the individual. Art therapy allows people to imagine feelings and concepts that cannot be expressed or explained through art ([Ching-Teng, Ya-Ping, & Yu-Chia, 2019](#)). As stated above, occupational art therapy can be used as a suitable way to express emotions, including stress, worry, anger, fear, and low self-esteem. Art activities can come from sandal decoration. Through this effort, we can understand the impressions and emotions experienced by individuals and methods that we can use to contribute to the problem-solving process to make life better than before ([Mitchell & Meehan, 2022](#)).

Giving purpose to these actions goes beyond producing creative forms and encourages more freedom of form-based communication. Art therapy can help stressed people by enabling them to create works of art that make it easier for them to express themselves and learn about themselves ([Deygout & Auburtin, 2020](#)). Making decorative slippers can help relieve

stress because art therapy can help people deal with stress and develop coping mechanisms ([de Souza, Gomes, & de Moraes, 2022](#)). In occupational therapy, we must make it a habit always to complete work or activities deliberately and without feeling lazy. These activities can be carried out as a distraction or to distract someone's attention to regain energy to think positively ([Birgitta Gunnarsson, Wagman, Hedin, & Håkansson, 2018](#)). Occupational therapy, such as patient exercise, is healthy for physical and mental health ([Coppola, Miao, Allmendinger, & Zhang, 2017](#)).

Occupational art therapy is an alternative coping strategy ([Im & Lee, 2014](#)). Coping can be defined as a psychological process experienced by a person after a stressful situation ([Pozzi, Tatzer, Alvarez, Lanzoni, & Graff, 2020](#)). Coping is also a person's reaction to a problem that poses a threat or danger to him, both physically and psychologically. Humans have spontaneously, consciously, or unconsciously used coping mechanisms to manage stress. Efforts to change the environment or circumstances and overcome the problems faced or experienced are separate coping techniques ([Mahendran et al., 2018](#)). Coping is another name for cognitive change efforts. Making decisions that become new habits and improvements from previous situations is an example of good coping, while bad coping ultimately results in adaptive maladaptation, namely deviant behaviour, deviating from normative desires, and causing harm to oneself, both to others and the environment 31). This is the definition of failed coping. Researchers can assume that the occupational arts therapy approach is a non-pharmacological intervention that can be used for older adults who feel stressed apart from being safe, affordable, and easy to access. The composite of occupational arts therapy dramatically

reduces the level of depression, anxiety and stress in older people.

Conclusion

The combination of occupational arts therapy can significantly reduce levels of anxiety, depression, and stress in older adults living in nursing homes. Therefore, it can be recommended as an alternative therapy for older adults residing in health services, nursing homes, and the community to overcome psychological problems in older people so that they can have a positive impact on their quality of life.

Authors Contributions

Anis Laela Megasari provided final approval of the version to be published and made substantial contributions to the conception and design of the work. Ika Subekti Wulandari was responsible for drafting the manuscript, ensuring clarity and coherence in the presentation. Sheyla Najwatul Maula agreed to take accountability for all aspects of the work, ensuring its accuracy and integrity.

Conflicts of Interest

The authors certify they have no affiliations with or involvement in any organization.

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