International Journal of Nursing and Health Services (IJNHS)
http://ijnhs.net/index.php/ijnhs/home
Volume 4 Issue 5, October 20th, 2020, pp 515-521
e-ISSN: 2654-6310

The Effect of Laughter Therapy for Depression Level among Geriatric Patients at *Pangesti Lawang* Nursing Home

Wahyu Dwi Ari Wibowo[1], Susmini[1], Sapondra Wijaya[1], Nindya Amelia[2]

[1]Nursing Program, Health Polytechnic of Palembang
[2]Mental health hospital dr. Radjiman Wediodiningrat

Article info

Article history:
Received: August 29th, 2021
Revised: September 15th, 2021
Accepted: October 02nd, 2021

Correspondence author:
Wahyu Dwi Ari Wibowo
Health polytechnic of Palembang,
Jl. Merdeka No.76-78, Talang Semut,
Kec. Bukit Kecil, Kota Palembang,
Sumatera Selatan 30135

E-mail:
wahyudwi74@poltekkespalembang.ac.id

DOI:
https://doi.org/10.35654/ijnhs.v4i5.507

Abstract. Background: The elderly will experience decreased organ function and social changes experienced. 1 in 5 elderly suffers from mental or neurological disorders. Depression is underdiagnosed and undertreated in primary care settings because they appear together with other elderly problems. Depression in the elderly can reduce the quality of life and increases the risk of suicide. As a non-pharmacological alternative treatment, laughter and classical music therapy positively affect mental health, especially depression. **Methods:** The Design of this study is a quasi-experimental research with pre and post-test control group design. Data were collected with a short-form GDS questionnaire 15 Statements. **Results:** A total of 32 participants were from the elderly at the *PangestiLawang* Nursing Home. Laughter Therapy showed a significant GDS score before and after being given therapy p-value = 0.000. Classical Music Therapy also showed a significant GDS score before and after given therapy p-value = 0.002. In the comparison between both therapies, there was no significant difference between the treatment p-value = 0.541. **Conclusion:** There was a difference GDS before and after the elderly were given laughter therapy and classical music therapy, but there was no significant difference in GDS score between laughter therapy and classical music therapy, Both of them were given the same effect on decreasing GDS Score for the Elderly at *PangestiLawang* Nursing Home.

Keywords: Depression; Elderly; Laughter Therapy; Classical Music Therapy; Nursing Home

INTRODUCTION

The world's population aged over 60 years in 2015 was 12%. Aging is associated with progressive degenerative changes of body organs and physiological and psychological functions. Over 20% of adults aged 60 and through suffer from a mental or neurological disorder (1). Community-based mental health studies reveal the prevalence of depression in the elderly population in the world varies between 10%-20% depending on their culture (2).

The prevalence of depression in Indonesia at the age of 65 is around 16.9 percent suffering from depression (3). Depression is underdiagnosed and undertreated in primary care settings. Symptoms are often ignored and not treated because they appear together with other problems faced by the elderly (4).

The elderly will experience decreased organ function and social changes experienced, such as losing a partner, retiring, being placed in a rehabilitation center or social institution, and changing societal roles (5). Moreover, research has determined that elderly who live in nursing homes experience more loneliness and have more chances to become depressed than those who live with their families (6)(7). Depression is not a natural part of aging but does not treat properly; depression can lead to physical, cognitive, functional, and social impairments and decreased quality of life (8). AcrrodinCruwys et al. (2011) stated that 25% of the elderly experience depression not appropriately treated, become dangerously ill, and lead to suicide. Serious treatment is needed for psychological problems experienced, especially depression by the elderly (9).

Treatment of depression in the elderly has two various ways, pharmacological and non-pharmacological. Pharmacological treatment is with anti-depressant drugs. Anti-depressants work by normalizing neurotransmitters in the brain that affect mood; non-pharmacological can be used as a complementary therapy to treat depression for the elderly, such as laughter therapy and classical music therapy (11)

Laughter therapy can generate positive energy, making us more optimistic and healthy. Over the last two decades, in-depth research has been carried out worldwide, proving that laughter has a positive effect on our bodies (12). Laughter therapy causes the heart rate to be faster, blood pressure increases, and the oxygen level in the blood will increase due to rapid breathing, decreased ACTH secretion, and cortisol levels in the blood. The secretion of the ACTH decrease will stimulate increased serotonin and brain endorphins, leading to a comfortable feeling relaxed and happy (13).

Another therapy that non-pharmacological therapy is music therapy. Classical music therapy with MP3 Player and sound systems, play 30 minutes and was given seven days to 14 elderly at Mojopahit nursing home in Mojekerto proven effectiveness for reducing elderly's depression score. Music therapy generates alpha waves that cause a sense of calm and relaxation. It can reduce the impact of stressor levels for the elderly (14).

From the results of a literature study on depression of the elderly at *PangestiLawang* Nursing Home, using the Geriatric Depression Scale (GDS) in 32 elderly, elderly found that 100% of them got a GDS score of more than 5, indicated signs of depression. Based on the background above, the authors were interested in researching the different effects of laughter therapy and classical music therapy for decreasing GDS scores in the elderly at *PangestiLawang* Nursing Home.

OBJECTIVE

This study was aimed to determine the effect of Laughter Therapy on improving the Depression level among Geriatric at *L PangestiLawang* Nursing Home.

METHOD

Desain

The design of this study is a quasi-experimental study pre-test, post-test with a non-equivalent control group.

Setting and Sample

This study was conducted on 1-14 October 2019. The population in this study is all of the elderly in the *PangestiLawang* Nursing Home. The samples were 32, divided into the experimental group (n=16) and the control group (n=16). The technique samples were purposive sampling technique. They were selected based on the inclusion criteria 1) living in *PangestiLawang* Nursing Home, 2) being more than 60 years old, 3) being willing to participate

in research, 4) take part in series of research from the start until finish. The exclusion criteria 1) bed rest total, 2) got a score under five geriatric depression scale 3) receive anti-depressant treatment 4) have a history of heart disease 5) have a hearing problem and don't have a hearing aid.

Measurement for data collection

Short-form Geriatric Depression Scale (GDS). The instrument was used to measure depression in the elderly with cognitive impairment, evaluating the clinical severity of depression and monitoring the treatment. It was consisted of 15 Statements, with the answer yes or no. The Elderly were required to fill in the questionnaire by themselves. If they had a problem or difficulty reading the questionnaire, the researcher assisted the respondents. The validity and reliability of this questionnaire were valid and reliable. The Cronbach's alpha value was 0.76.

The accumulation total of the score becomes the final score. Scores of 0-4 are considered normal, 5-8 indicate mild depression, 9-11 indicate moderate depression and 12-15 indicate severe depression (8).

Laughter therapy

Before implementing the intervention, All participants received information about the purposes and stages of this study and were asked to fill informed consent form. The technical intervention was performed given laughter therapy for 30 minutes, two times a week, in 2 weeks.

The content of laughter therapy begins with making groups of laughter. Laughter therapy participants look at each other to trigger laughs from all the participants, show each other's laughter characteristics, and create a loose and contagious laugh. The tutor will give a laughter signal, followed by other participants. The following way is for participants to imitate sounds that might trigger laughter or start with a story or action that triggers laughter from participants.

The main task is not to tell jokes or make Laughing, but to start the laughter stage with practice breathing and stretching exercises for triggering laughter becomes easier to transmit laughter in their duties. The tutor also motivates them to remove their fear and embarrassment, changing artificial laughter into genuine laughter.

The control group was given classical music therapy with the same duration as laughter therapy. Furthermore, both groups conducted pre-test and post-test.

Statistical analysis

The data were analyzed using SPSS 25 software (IBM Incorporation, Chicago, IL, USA). The characteristics of respondents in the treatment and control groups were analyzed by distributing the frequency and percentage. The Shapiro–Wilk test analyzed the characteristics and variables in this study to verify the variable's normality. Moreover, Levene's test confirms the variable's homogeneity. The Influence before and after given Laughter Therapy and Classical music therapy was analyzed with Paired t-Test and then continued with an Independent t-test to compare The significance level of Influence of both treatments. The significance level was considered at $p< 0.05$.

RESULTS

Table 1. characteristics of respondents

Characteristics	Frequency (n)	Percentage
Sex		
Male	13	40.6 %
Female	19	59.3 %
Age		
60 – 70	6	18.7 %
71 – 80	17	53.1 %
> 89	9	28.1 %
Religion		
Islam	7	21.8%
Kristen	9	28.1%
Catholic	10	31.2%
Buddha	4	12.5%
Konghucu	1	3.1%
Length of Stay		
< 6 Months	13	40.6%
6–1 Year Old	8	25%
> 1 Year Old	11	34.3%

Table 1 shows the sociodemographic characteristics of respondents. A total of 32 elderly from *PengestiLawang* Nursing Home contributed to this study. Most of the respondents are female (59,3%), Age 71-80 years old (53.1%), Religion Catholic (31.2%), and length of stay under 6 months (40,6%).

VARIABLE	Mean (±SD)	*p*-value
LAUGHTER	1.81 (±1.6)	**0.0541**
CLASSICAL MUSIC	1.75 (±2.69)	

Table 2. GDS Score Before and After Giving Therapies

Table 2 shows the average GDS score of the laughter therapy group before intervention was higher than the classical music therapy group, 6.37 for the laughter therapy group, and 5.68 for the music therapy group. After therapies, we can find a reduction of average GDS scores in each group, classical music therapy become 3.93 lower than, laughter therapy group with 4.56 of GDS Score, but the average range of reduction with laughter therapy is higher than classical music therapy.

Table 3. GDS Score Before and After Giving Laughter Therapy

Variable	Pretest	Posttest	*p*-value
	Mean (±SD)	Mean (±SD)	
Laughter Therapy	6.37(±2.89)	4.56(±2.92)	**0.000**
Range (±SD)	1.81(±1.6)		

Table 3 shows the average GDS score before laughter therapy was 6.37, and after laughter therapy became 4.56, the average GDS score decreased 1.81. the result from analysis Dependent T-test *p*-value (0.000) < 0.05, which means that there is a significant difference between the average GDS score before and after laughing therapy

Table 4. GDS Score Before and After Classical Music Therapy

Variable	Pretest	Posttest	*p*-value
	Mean (±SD)	Mean (±SD)	
Classical Music	5.68(±3.91)	3.93(±2.79)	**0.002**
Range (±SD)	1.75(±2.69)		

Table 4 explained the average GDS score before listening to classical music therapy was 5.68, and after listening became 3.93, the average GDS score decreased by 1.75. the result from analysis dependent T-test *p*-value (0.002) < 0.05, which means there is a significant difference between the average GDS score before and after listening to classical music therapy.

Table 5. Comparison of GDS Scores Laughter Therapy and Listening to Music Therapy

	VARIABLE			
	LAUGHTER		CLASSICAL MUSIC	
	Mean±SD	Min-Max	Mean±SD	Min-Max
Pre-test	6.37±2.89	2-12	5.68±3.91	1-14
Posttest	4.56±2.92	1-10	3.93±2.79	0-9
Range	1.81±1.6		1.75±2.69	

Table 5 shows the difference between mean GDS Score laughter therapy and the classical music therapy, the result from analysis independent T-test *p*-value (0.0541) > 0.05, which means there was no significant difference between GDS scores.

DISCUSSION

The Influence Before and After Laughter Therapy

Based on the results of statistical tests using paired t-test on respondents who were given laughter therapy treatment, p-value = 0.000 (< 0.05) indicates that statistically, there was a significant difference in the GDS score before and after being given laughter therapy. The average GDS scores in elderly respondents decreased was 1.8125 after being given laughter therapy treatment, supported by previous research by Setyoadi (2011), which states that "One of the complementary therapies that can be provided and proven to reduce depression in the elderly is with laughter therapy (15).

Reduce GDS scores in the elderly There are several ways to stimulate laughter for the respondents who participate in laughter therapy, by creating humor and spontaneous laughter (12). In this research, the laughter method was used to stimulate the laughter response from the elderly. This therapy proved effective for reducing GDS scores in the elderly. According to Nurwela (2015), showing laughter therapy effectively reduces depression levels in the elderly because Laughter therapy is joy, drawing a smile on their face, becoming happy, and laughing (16). Laughter therapy intervention resulted in a significant reduction in systolic blood pressure and a significant

decrease in the salivary concentration of chromogranin A (13).

According to Mikhaline (2015), "Laughter therapy causes blood pressure increases, and the level of oxygen in the blood will be increased due to rapid breathing, stimulate increase production of serotonin and brain endorphins to lead to a comfortable feeling relaxed, and happy" (17).

The Influence Before and After Classical Music Therapy

Based on the results of statistical tests using paired t-test on respondents who were given classical music listening therapy treatment. It is known that the significant value of p-value = 0.002 (< 0.05) indicates that statistically, there was a significant difference in the GDS score in the elderly before and after being given therapy listening to classical music. The average GDS scores in elderly respondents decreased by 1.75 after being given classical music therapy. These studies supported by the result from Marzuki& Lestari (2018), which used classical music, proven. There is an effect of giving classical music therapy on reducing depression rates in the elderly At WeningWardoyo's Nursing home (18). Music therapy generates alpha waves that cause a sense of calm/relaxation. It can reduce the impact of stressor levels for the elderly (14).

Musical stimulation can inhibit and balance brain waves, capable of activating the associated limbic system with emotion. When the limbic system is activated, the brain relaxes (19)(20). Relaxation in the body can automatically reduce the tension of the muscles, including the heart muscle and blood vessels. Music can affect sympathoadrenergic activation, which plays a role in the concentration of plasma catecholamines and involves the release of stress-released hormones. It will create a feeling of pleasure and calm (21)

The Comparison OfLaughter Therapy and Classical Music Therapy For Depression Level among Geriatric Patients

The results from the independent t-test GDS score after being carried out with therapy in both groups showed no significant difference between the laughter therapy group and the classical music therapy group, with p-value = 0,541 (> 0.05). Based on these results, both therapies have the same effect for decreasing the Elderly GDS Score. Still, laughter therapy has a more significant range of reducing GDS score more than Classical Music Therapy.

Gerontological consideration explains that music therapy provides comfort to the elderly. Laughter leads to joy and happiness. Laughter therapy is considered a valuable, cost-effective, and easily accessible intervention that positively affects depression among the elderly (11).

Laughter is a positive sensation and seems to be a valuable and healthy way to overcome stress. Decreasing stress-making hormones found in the blood, laughter can mitigate the effects of stress (22). In this study, laughter therapy is used to stimulate laughter response through the interacting partner laughing. Social interactions that occur in laughter therapy help increase the confidence of the elderly and eliminating feelings of isolation. According to Kaplan and Saddock (2007), "Decreased social interaction Advanced age can cause feelings of isolation and uselessness, that feeling can is vulnerable to depression"(23). The advantage of laughter classical there is an elderly's interaction when given laughter therapy.

Quantitatively there is a difference average GDS value of both of therapy. The range reduction average GDS score after receiving laughter therapy was 1.82 more than the classical music therapy group, 1.75. Still, statistically, the GDS scores in both groups were not significantly different.

CONCLUSION

1. There was a significant difference value of the GDS score before and after receiving laughter therapy.
2. There was a significant difference in the GDS score in the elderly before and after listening to classical music therapy.
3. There was no significant difference in GDS score between laughter therapy and classical music therapy. Both were given the same effect on decreasing GDS Score for the Elderly at Pangesti Lawang Nursing Home.

REFERENCES

1. World Health Organization (WHO). DATA LANSIA DEPRESI WHO.pdf [Internet]. WHO. 2017 [cited 2019 Sep 28]. Available from: https://www.who.int/news-room/fact-sheets/detail/mental-health-of-older-adults
2. Barua A, Ghosh MK, Kar N, Basilio MA. Depressive disorders in elderly: An estimation of this public health problem. J Int Med Sci Acad. 2011;24(4):193–4.
3. RISKESDAS. Laporan_Nasional_RKD2018_FINAL.pdf [Internet]. Riskesdas. Kementerian Kesehatan Republik Indonesia; 2018. p. 198. Available from: http://labdata.litbang.kemkes.go.id/images/download/laporan/RKD/2018/Laporan_Nasional_RKD2018_FINAL.pdf

4. Avasthi A, Grover S. Clinical Practice Guidelines for Management of Depression in Elderly. Indian J Psychiatry [Internet]. 2018 Feb 1 [cited 2021 Aug 31];60(Suppl 3):S341. Available from: /pmc/articles/PMC5840909/
5. Raden Siti Maryam, MF Ekasari, Rosidawati, A Jubaedi IB. Menengenal Usia Lanjut dan Perawatannya - Google Buku [Internet]. Jakarta salemba Medika. 2011 [cited 2019 Sep 28]. 55–60 p. Available from: https://books.google.co.id/books?hl=id&lr=&id=jxpDEZ27dnwC&oi=fnd&pg=PR5&ots=CAOUl5oh3b&sig=InY5DJSCSrg-InvBceCjrL2t9zY&redir_esc=y#v=onepage&q=perubahan lansia&f=false
6. Nikmat AW, Hashim NA, Omar SA, Razali S. Depression and Loneliness/Social Isolation Among Patients With Cognitive Impairment in Nursing Home. ASEAN J Psychiatry. 2015;16(2):222–31.
7. Hedayati HR, Hadi N, Mostafavi L, Akbarzadeh A, Akbarzadeh A, Montazeri A. Quality of life among nursing home residents compared with the elderly at home. Shiraz E Med J. 2014;15(4):1–9.
8. Sherry A. Greenberg. Royal College of Psychiatrists, 2014.pdf. Best Pract Nurs Care to Older Adults [Internet]. 2012;(Number 4). Available from: https://web.stanford.edu/~yesavage/GDS.html
9. Cruwys T, Dingle GA, Haslam C, Haslam SA, Jetten J, Morton TA. Social group memberships protect against future depression, alleviate depression symptoms and prevent depression relapse. Soc Sci Med [Internet]. 2013;98:179–86. Available from: http://dx.doi.org/10.1016/j.socscimed.2013.09.013
10. Royal College of Psychiatrists [Internet]. Royal College of Psychiatrists. 2014. Available from: https://www.rcpsych.ac.uk/mental-health/problems-disorders/depression-in-older-adults
11. Seema boresa DK. Compare the effect of music therapy and laughter therapy on decreasing the level of depression. IJRAR- Int J Res Anal Rev. 2018;5(4):i530–3.
12. Yim JE. Therapeutic benefits of laughter in mental health: A theoretical review. Tohoku J Exp Med. 2016;239(3):243–9.
13. Yoshikawa Y, Ohmaki E, Kawahata H, Maekawa Y, Ogihara T, Morishita R, et al. Beneficial effect of laughter therapy on physiological and psychological function in elders. Nurs Open. 2019;6(1):93–9.
14. Suidah H, Agus Cahyono E. Intervensi Terapi Musik Klasik Sebagai Penanganan Depresi Pada Lansia. J Keperawatan. 2015;9–16.
15. Ulahannan MA, Xavier MS. ' The Effect of Laughter Therapy on Depression In Elderly Residents Of Selected Old Age Home From Maharashtra .' Sinhgad Coll Nurs. 2017; VII(I):15–9.
16. Nurwela TS, Mahajudin MS, Adiningsih S. Efektivitas Terapi Tawa Untuk Menurunkan Tingkat Depresi Pada Lanjut UsiaTrifonia. Ilm Kedokt. 2015;4(1):62–76.
17. Mikhaline C, Hafizah R, Dewi AP. Pengaruh Terapi Tertawa Terhadap Penurunan Skor Depresi Pada Lanjut Usia (Lansia) Di Panti Graha Werdha Marie Joseph Kota Pontianak. J ProNers. 2015;3(1).
18. Marzuki MB, Lestari P. Pengaruh Terapi Musik Klasik Terhadap Tingkat Depresi Pada Lansia di Unit Rehabilitasi Sosial Wening Wardoyo Kecamatan Ungaran Kabupaten Semarang. Keperawatan Komunitas [Internet]. 2014;2(2):81–6. Available from: nayadzaky@gmail.com
19. Klassen JA, Liang Y, Tjosvold L, Klassen TP, Hartling L. Music for Pain and Anxiety in Children Undergoing Medical Procedures: A Systematic Review of Randomized Controlled Trials. Ambul Pediatr. 2008;8(2):117–28.
20. Nilsson U. The Anxiety- and Pain-Reducing Effects of Music Interventions: A Systematic Review. AORN J. 2008;87(4).
21. Irna susiati. Perbandingan pengaruh terapi musik tradisional dan terapi tawa terhadap penurunan tekanan darah pada penderita hipertensi di panti

werdha mojopahit mojokerto [internet]. Universitas muhammadiyah yogyakarta; 2016. Available from: http://repository.umy.ac.id/handle/123456789/7566
22. Farifteh S, Mohammadi-Aria A, Kiamanesh A, Mofid B. The impact of laughter yoga on the stress of cancer patients before chemotherapy. Iran J Cancer Prev. 2014;7(4):179–83.
23. Kaplan and Sadock's. Kaplan and Sadock's Study Guide and Self-examination Review in Psychiatry - Google Books [Internet]. 2007 [cited 2021 Aug 31]. 358–359 p. Available from: https://books.google.co.id/books?hl=en&lr=&id=ldvu3enj91oC&oi=fnd&pg=PR5&dq=Kaplan+and+Sadock,+2007+ISOLATION&ots=koFxnhhAyD&sig=YAdhGnhzbo-BlcQHv9j-qmEHshs&redir_esc=y#v=onepage&q=DECREASE SOCIAL INTRACTION&f=false