Original Research

THE EFFECT OF ACCEPTANCE AND COMMITMENT THERAPY (ACT) ON ANXIETY LEVELS IN ELDERLY LIVING AT PANTI SOSIAL TRESNA WERDHA (PSTW) BALI

I Gusti Agung Tresna Wicaksana[1*], Teguh Wahju S[2], Rinik Eko K[3], Putu Yudara S[4]

[1]Master Nursing Student, Faculty of Medicine, Universitas Brawijaya
[2]Lecturer, Parasitology Department, Faculty of Medicine, Universitas Brawijaya
[3]Lecturer, Nursing Department, Faculty of Medicine, Universitas Brawijaya
[4]Lecturer, Sekolah Tinggi Ilmu Kesehatan (STIKES) Bali

*Correspondence:
I Gusti Agung Tresna Wicaksana
Postgraduate Program Faculty of Medicine, Universitas Brawijaya
Email: tresnawicaksana.stikesbali@gmail.com

ABSTRACT

Background: Panti werdha in Indonesia is considered as a nursing home for elderly. However, there are still psychosocial problems occur such as loneliness, sadness, and anxiety disorders. Acceptance and Commitment Therapy (ACT) may be able to solve psychosocial problems especially for anxiety.
Objective: To analyze the extent of ACT's influence on the level of anxiety of the elderly living in the PSTW Bali.
Methods: This study was a quasi-experimental study with pretest posttest with control group. Sixty elderly were recruited and divided into control and treatment groups with 30 samples of each group. Paired and Independent T-test were used for data analysis.
Results: The paired T-test results in the control group showed significant differences of anxiety score between pretest and posttest after given generalist therapy (p <0.05). The result of paired T-test in the treatment group showed that there was a significant difference of anxiety score between pretest and posttest after given general and ACT therapy (p <0.05). The independent T-test showed that there was a significant difference of anxiety score between control group and treatment group (p <0.05).
Conclusion: ACT psychotherapy is effective in decreasing anxiety in elderly who are living in PSTW Bali.

Keywords: Acceptance and Commitment Therapy (ACT), Anxiety, Elderly, Panti Sosial Tresna Werdha

INTRODUCTION

Increasing life expectancy in various places in the world leads to increase of number of elderly. The number of elderly around the world nowadays reaches about 500 million people, with an average age of 60 years and predicted in 2025 will increase to 1.2 billion (Swain, Hancock, Hainsworth, & Bowman, 2013). The number of people aged 60 years and late in developing countries is estimated to increase to 20% from 2010 to 2050 (Ponto, et al., 2015). As one of developing country, life expectancy in Indonesia reaches 67.4 years on 2010 and will increase to 71.1 on 2012. This means that there will be a significant increase in the elderly population (Statistik, 2015).

Indonesia ranks fourth in the world's largest population after China, India and Japan (Wulandari & Rahayu, 2011) . The elderly population in Indonesia in 2010 is 9.77% of the total population, and is predicted to increase about 11.34% in 2020 or equal to 28.8

million people (Yuliati & Ririanty, 2014) . In 2010, Bali Province has a fairly population of elderly that is about 300.000 people. Bali Province is ranked 4th out of 5 provinces with the highest number of elderly in Indonesia, which is about 8.77%. It is estimated that by 2020 it will double to more than 432 thousand people or 11.4% of the total population (Statistik, 2015).

In Indonesia, the presence of Panti Werdha is functioned to accommodate neglected elderly people. However, there are still many problems occur for elderly people, especially psychosocial problems. The most prevalent psychosocial problems of elderly people living in Panti Werdha such as loneliness, sadness, anxiety, or anxiety disorders. Anxiety if left untreated may fall into a state of depression and a high risk of suicide (Jayanti, Winarso, & Madyaningrum, 2008). According to the European Study of the Epidemiology of Mental Disorders (ESEMeD), anxiety recognized as one of the most commonly diagnosed psychiatric disorders among the elderly. The prevalence rate of anxiety symptoms ranges from 15% to 52% and 3% to 15% for clinical anxiety disorders in accordance with diagnostic guidelines. As for that problem, we should pay special attention to the presence of an elderly with anxiety disorders, as these symptoms can have a negative impact on their psychosocial condition. An elderly with anxiety symptoms tend to show lower levels of autonomy, loss of visual and hearing ability, mental imbalance, cognitive impairment, physical health problems, poor quality of life and increased risk of death (Riani, 2013) . It is interesting that the incident is even more prevalent in the elderly in institutions (nursing home). Anxiety among elderly people living in orphanages tends to lead to chronic conditions that can significantly lead to mental disorders in the elderly (Fernández-Blázquez, Ávila-Villanueva, López-Pina, Zea-Sevilla, & Frades-Payo, 2015).

As the preliminary study conducted at the Panti Sosial Tresna Werdha (PSTW) Bali on September 28th until 30th, 2017 obtained the total number of elderly in the Panti I and Panti II was 127 elderly people. When assessed by interviewing 20 elderly who were randomly selected, all of them experienced anxiety. Most of elderly said that they feel sad and wasted, feel have no choice, and forced to live in PSTW by their relatives. Based on the results of interviews with nurses on duty, about 98% of elderly living in PSTW Bali experiencing anxiety. This is because psychosocial problems in the elderly have not received serious attention. The action given is only by holding a spiritual activity once a week. This activity is considered ineffective because there are still many elderly who have anxiety, even depression and sent to the mental hospital to get further treatment.

In the Management of Care (MOC) standard, nursing care, which performed on anxiety of clients both at general hospital and mental health hospital, is given the generalist psychotherapy. Acceptance and Commitment Therapy (ACT) is advanced psychotherapy that is being developed and can be used to solve psychosocial problems especially anxiety in elderly. Anxiety in elderly people living in PSTW tends to lead to chronic conditions, so ACT is a suitable therapy to be applied. This study aimed to analyze the extent of ACT's influence on the level of anxiety of the elderly living in the PSTW Bali.

METHODS

Study design
This research was a quasi-experimental study with pretest posttest with control group design.

Sample
The number of samples in this study was 60 elderly people, divided into control and treatment group, with 30 samples in each group. The inclusion criteria of the sample were: elderly with psychosocial anxiety problem, elderly with good cognitive function (people orientation, place, and time), and elderly who were willing to be the research respondent by signing informed consent. Exclusion criteria included elderly who were

following other psychotherapy, elderly who must bed rest because of their health status or given total care, and elderly with severe chronic disease. This research was conducted in Panti Sosial Tresna Werdha Bali at Panti I, which located at Wana Seraya Denpasar and Panti II which located at Jara Mara Pati Singaraja. This study was conducted from January until March 2018.

Measurement
To measure the anxiety score in elderly, researchers used Hamilton Anxiety Rating Scale (HARS), which made by Hamilton in 1959 consisting of 14 close-ended questions. Assessment and score of anxiety level as follows: 0= No symptoms, 1= Mild (one symptom of choice), 2= Moderate (half of the symptoms), 3= Weight (more than half of the symptoms present), 4= Very severe (all symptoms present). Range core of anxiety is from 0 to 56.

Ethical consideration
This study was approved by the Ethic Committee on Faculty of Medicine, Udayana University with letter number: 183/UN.1.4.2/KEP/2018. Written informed consent was obtained from all respondents. After signed informed consent, respondents filled in questionnaire accompanied by researcher or research assistant. Data collection

process took approximately about 30-60 minutes for each respondent.

Data analysis
Univariate analysis was done to know the respondent's characteristic and studied variables. Bivariate analysis was performed using paired and independent T-test to determine the effect of ACT on anxiety. Before testing, firstly data were tested its normality using Kolmogorov Smirnov test because the total number of samples were more than 50.

RESULTS

Table 1 shows that, based on age, respondents in the control group were dominant in the age range of 60-74 years old, which was about 18 people (60%), while on treatment group, respondents were in the range of 60-74 years old and > 74 years old as many as 15 people (50%) on each category. Based on gender characteristics, majority of respondents in control and treatment group were female with the number 22 (73.3%) and 23 people (76.7%) respectively. Based on level of education, most of respondents in both group had elementary background level, with 29 people (96.7%) for control group and 26 people (86.7%) for treatment group.

Table 1 Characteristics of respondents based on age, sex, and level of education

No	Variable	Category	Frequency (n)	Percentage (%)	p-value
1	Age				
	a. Control group	60-74	18	60.0	0.604
		>74	12	40.0	
	b. Treatment group	60-74	15	50.0	
		>74	15	50.0	
2	Sex				
	a. Control group	Male	8	26.7	1.000
		Female	22	73.3	
	b. Treatment group	Male	7	23.3	
		Female	23	76.7	
3	Level of education				
	a. Control group	Elementary school	29	96.7	0.580
		Junior high school	1	3.3	
	b. Treatment group	Elementary school	26	86.7	
		Junior high school	4	13.3	

Table 2 Characteristic of respondents based on income and length of stay in PSTW

No	Variable	Mean	SD	Min-Max	p-value
1	Respondent's income				
	a. Control group	128.83	90.035	50-400	0.054
	b. Treatment group	86.33	68.114	50-325	
2	Length of stay				
	a. Control group	79.77	85.515	2-352	0.063
	b. Treatment group	43.57	60.263	1-204	

Based on respondent's income in the Table 2, most of respondents in control group had average income of 128.83 IDR and the average income in the treatment group was 86.33 IDR. Majority of respondents had length of stay for 79.77 months in the control group and 43.57 months in the treatment group.

Table 3 Characteristic of respondents based on level of anxiety

No	Variable	Median	Min-max	P-Value
1	Control group anxiety			
	a. Pretest	40.57	34 - 47	0.628
	b. Posttest	38.00	29 - 44	
2	Treatment group Anxiety			
	a. Pretest	41.00	36 - 44	
	b. Posttest	30.50	23 - 38	

Table 3 shows that the anxiety score during pretest in control group had median score of 40.57, and during posttest was 38.00. In the treatment group the median of the anxiety score during pretest was 41.00 and during posttest was 30.50, with p-value <0.05, which indicated that there was no significant difference in anxiety levels between control group and treatment group. While Table 4 shows that the normality test obtained p 0.072 (>0.05), which indicated that data were normally distributed. Thus, paired and independent T-Test were used for further analysis.

Table 4 Result of normality test on anxiety score

No	Variable	p-value
1	Control group	0.072
2	Treatment group	

Table 5 Result of Bivariate Analysis on Control and Treatment Group

Statistics Test	Variable	Mean (s.b)	Differences (s.b)	Confidence interval	p-value
Paired T-Test	**Control group**				
	Pre-test	40.70 (2.996)	4.400	2.553-6.247	0.001
	Post-test	36.30 (3.706)			
Paired T-Test	**Treatment group**				
	Pre-test	41.07 (2.828)	10.233	8.413-12.054	0.001
	Post-test	30.83 (4.026)			
Independent T Test	**Control and Treatment Group**				
	Post-test	36.30 (3.706)	5.47	3.467-7.467	0.001
	Post-test	30.83 (4.026)			

Table 5 shows that the average of anxiety score in pre-test in the control group was 40.70 and in posttest was 36.30 with p = 0.001. The difference is about 4.400 with confidence interval from range 2.553 to 6.247. In treatment group the mean of anxiety in pre-test was 41.07, and in posttest was 30.83 with p = 0.001. The difference score between is about 10.233 with confidence interval from range 8.413 to 12.054. The independent T-test shows that the mean of anxiety in posttest in the control group was 36.30 and 30.83 in treatment group with p = 0.001, which means that the score of anxiety in the treatment group were lower that anxiety score in control group.

DISCUSSION

Based on the age of respondents, it can be concluded that the average age of respondents in this study mostly in the range 60-74 years. As for equality test result, obtained p = 0.604 (> α = 0.05), which mean there is no significant difference between the age of respondents in the control and treatment group. Based on the sex respondents, it can be concluded that in this study respondents were dominated by female respondents in both groups. As for equality test, resulted with p = 1.000 which means there is no statistically difference between both groups. In general, male and female have the same prevalence to experience psychological disorders. Mental disorders in male mostly lead to violent behavior and personality disorder, whereas in female it tends to be more frequent in affective disorders and anxiety (Yulinda, 2015). Based on the level of education, most of the respondents in this study have the level of elementary school in both groups. The test of equality obtained p = 0.580, which means there is no statistically difference between two groups. Respondents with lower level education will be easier experiencing stress than individuals who have higher education level. It is caused by cognitive ability to perceive the appearance of stressors, lower ability to perceive stressors more susceptible. Individuals with higher education will more easily receive information, easily understand and solve problems (Notoatmodjo, 2012).

Based on the respondents' income, the average income of respondents in this study as much as 128.83 IDR in the control group and 86.33 IDR in the treatment group. Equality test obtained p = 0.54, which means statistically there was no significant difference of income between each group. Elderly income is calculated from the perceived elderly per month, whether obtained from the sale of various kinds of handicrafts they made or from donations from guests who come to visit. Based on the length of stay in PSTW, it can be concluded that the average was 79.77 months in the control group and 43.57 months in the treatment group, with p = 0.063, which means there was no statistically difference between groups. Length of stay is counted by month, starting from the beginning of the elderly into the PSTW until this study was conducted. And lastly, based on the anxiety score of respondents, it can be concluded that the anxiety of respondents in the control group before the intervention (pre-test) was 40.57, and in treatment group was 41.00., with no statistical difference between pre-test anxiety score between groups (p = 0.628).

The results of this study showed that there was a decrease in anxiety score in the control group after given generalist anxiety therapy. Measurement of anxiety level of respondents in the control group was done twice, i.e. pre-test and post-test. Based on the result of bivariate analysis using paired T-test, resulted in p = 0.001, it shows that the Ho was rejected and Ha was received, which means there was a significant difference between the level of anxiety of pre-test and post-test respondents. This proves that anxiety in generalist therapy is effective enough to decrease anxiety of elderly who are living in PSTW. Based on researcher's opinion, the change of anxiety score between pre-test and post-test in control group is because of the content of generalist treatment as a pharmacological anxiety management. This therapy consist of four sessions: the first session leads to the improvement of respondent's knowledge about anxiety by

giving health education, the second session is the provision of deep breath relaxation techniques, the third session is distraction or diversion technique, and the fourth session is a five-finger hypnosis. Five-finger hypnosis is a therapy that relies on the art of verbal communication that aims to bring the mind wave of respondents to trance (alpha/beta waves), so we can provide a calming effect in the hearts of respondents. The results of other studies also mention the five-finger hypnosis is quite effective for self-programming purposes, eliminating anxiety by involving parasympathetic nervous system so that it can decrease the heartbeat, blood pressure, and breathing frequencies (Evangelista, Widodo, & Widiani, 2016). Beside that, results of this study in accordance with research conducted by (Livana, Keliat, & Putri, 2016) that stated that generalist anxiety therapy effectively reduce anxiety on patients with complaints of physical illness in general hospital in Bogor. The other study has also mentioned that giving generalist anxiety therapy can increase the elderly spirit, causing peace, and tranquility in the liver and reduce tension (Livana et al., 2016).

The results of this study also indicated that there is a decrease in anxiety score in treatment group after given generalist anxiety therapy and ACT. Measurement of anxiety level of respondent in this group also done twice that is pre-test and post-test. Based on the bivariate analysis results using paired T-test, obtained p = 0.001, which means there is a statistically significant difference between the respondents' anxiety score from pre-test and post-test. This can be proven that the treatment of generalist anxiety combined with ACT is effective in reducing the anxiety of the elderly living in PSTW. Based on researcher's opinion, the change of anxiety score between pre-test and post-test is because in the combination effect advanced psychotherapy ACT. In generalist therapy combined with ACT group, respondents were taught to cultivate self-acceptance on disruptive and unpleasant thoughts, and then to place themselves in accordance with the values they held, so that respondents can accept with sincere feeling

toward their conditions now. With this acceptance, the respondents is expected to determine what is best for them, and committed to do what they have chosen to live in the future. Furthermore, ACT is a therapy that help individual by using the acceptance as a coping strategy in stress situations both internal and external that are not easy to overcome. Respondents are helped to accept the unwanted events without eliminating them but rather identifying for choose the best action in accordance with the desired goals. ACT does not alter cognitive content to promote behavioral change but focuses on individual behavior and context of occurrence to reduce anxiety. That's mean ACT therapy is very effective to overcome anxiety.

Beside that, ACT has several principles such as Acceptance, Cognitive defusion, Self as context, Values, and Committed Action. First one is acceptance, which is the self-acceptance of bad experiences that are not pleasant without trying to change them. The purpose of this acceptance is to increase the individual's willingness to face the thoughts, feelings, and experiences they have been avoided before (Hayes, Strosahl, & Wilson, 2011). Second is cognitive defusion, based on research conducted by (Bach & Moran, 2008) suggests that avoidance behavior from interference and disruptive feelings affects individual coping mechanisms. The attempt to avoid having a bad experience is contradictory. The goal of cognitive defusion is to modify unwanted cognitive function through repetitive exercise and keep on going until the stressor has no meaning for the individual (Yovel, 2009). Third is self as context, which mean for helping individuals see themselves without having to judge or connect with true or false values (Heimberg & Ritter, 2008). ACT helps individuals to become more focus on themselves with the aim is when bad or unpleasant thoughts come to the individual, it will not affect it, so anything that is thought or perceived will not affect the individual. Fourth is a value, which mean to clarify the value that exists in their life and help individuals to take decisions or actions that support the value of life that already exists. Individuals are helped

to use existing values to address current problems (Harris, 2006) stated that ACT helps individual to develop larger and more effective measurement related to the selected values through 9 areas of family, marriage, social relationships, career, education, recreation, spiritual, civic, and health. Clarifying these values will help respondents increase their desire to engage in new, and adaptive behaviors. Last is committed action, which is helping individuals to promise an act in accordance with their values. In addition, besides focusing on verbal control, respondents must also commit to do an action or behavior appropriate to verbal control (Hayes, Luoma, Bond, Masuda, & Lillis, 2006)

The last results of this study showed that there was a difference of anxiety score after given intervention (post-test score) between control and treatment group. As result shows, after given generalist anxiety therapy the scores in the control group was 36.30, while in the treatment group after given generalist anxiety therapy combined with ACT the score was 30.83. Based on the results of bivariate analysis using independent T-test, with p-value = 0.001 with difference score about 5.47. This value shows that Ho is rejected and Ha is accepted, which means there was a statistically significant difference between the score of post-test anxiety between control group and treatment group. It can be concluded that, the post-test anxiety score in the treatment group was lower than the post-test anxiety score in the control group.

The generalist anxiety therapy combined with ACT therapy is more effective to reduce anxiety than given the generalist anxiety therapy alone in control group especially for elderly people living in PSTW. The researcher suggest that the difference in post-test anxiety scores in the control and treatment groups due to anxiety experienced by the elderly living in PSTW tends to lead to chronic conditions, so generalist anxiety therapy is not sufficient enough to reduce their anxiety score. In other word, generalist anxiety therapy might be more effective if given to elderly with acute anxiety problems. In addition, ACT is more effective

because it is an advanced psychotherapy that is effective in building long-term attention, self-acceptance, self-commitment, and more openness in developing the capabilities possessed by the elderly themselves. The results of this study are consistent with several other research findings, such as research conducted by (Fernández-Blázquez et al., 2015) who stated that ACT has been proven effective in overcoming anxiety of clients who suffered a stroke at the Bukittinggi National Stroke Hospital. (Hayes et al., 2011) also suggest that ACT is very effective in receiving attention and more open in developing the capabilities of narcotics abuse clients, chronic pain, PTSD and is very effective as a self-training model for chronic cases.

CONCLUSION

The results of this study indicate a significant difference between anxiety levels of elderly in control group before and after given an anxiety generalist therapy. There was also significant difference between the elderly's anxiety level in the treatment group before and after given generalist therapy and ACT. This result suggests ACT's is effective for reducing the elderly anxiety that resides in the PSTW of Bali Province. It is expected that nurses may collaborate with a psychiatric nurse specialist to provide advanced ACT psychotherapy on an ongoing basis to an anxious elderly who do not fall into depression and suicidal risk.

REFERENCES

Bach, P. A., & Moran, D. J. (2008). *ACT in practice: Case conceptualization in acceptance and commitment therapy*: New Harbinger Publications.

Evangelista, T., Widodo, D., & Widiani, E. (2016). Pengaruh Hipnosis 5 Jari Terhadap Tingkat Kecemasan Pasien Sirkumsisi Di Tempat Praktik Mandiri Mulyorejo Sukun Malang. *Nursing News: Jurnal Ilmiah Mahasiswa Keperawatan, 1*(2).

Fernández-Blázquez, M., Ávila-Villanueva, M., López-Pina, J., Zea-Sevilla, M., & Frades-Payo, B. (2015). Psychometric properties of a new short version of the State-Trait Anxiety Inventory (STAI) for the assessment of anxiety in the

elderly. *Neurología (English Edition), 30*(6), 352-358.

Harris, R. (2006). Embracing your demons: an overview of acceptance and commitment therapy. *Psychotherapy in Australia, 12*(4), 70.

Hayes, S. C., Luoma, J. B., Bond, F. W., Masuda, A., & Lillis, J. (2006). Acceptance and commitment therapy: Model, processes and outcomes. *Behaviour research and therapy, 44*(1), 1-25.

Hayes, S. C., Strosahl, K. D., & Wilson, K. G. (2011). *Acceptance and commitment therapy: The process and practice of mindful change*: Guilford Press.

Heimberg, R. G., & Ritter, M. R. (2008). Cognitive behavioral therapy and acceptance and commitment therapy for the anxiety disorders: Two approaches with much to offer. *Clinical Psychology: Science and Practice, 15*(4), 296-298.

Jayanti, W. D., Winarso, M. S., & Madyaningrum, E. (2008). Faktor-faktor Yang Mempengaruhi Tingkat Depresi Lansia di Panti Wredha" Wiloso Wredho" Purworejo. *Jurnal Ilmu Keperawatan, 3*(2), 133-138.

Livana, P., Keliat, B. A., & Putri, Y. S. E. (2016). Penurunan Tingkat Ansietas Klien Penyakit Fisik Dengan Terapi Generalis Ansietas Di Rumah Sakit Umum Bogor. *Jurnal Keperawatan, 8*(2), 64-73.

Notoatmodjo, S. (2012). Promosi Kesehatan dan Perilaku Kesehatan, Jakarta: Rineka Cipta. *Prince, SA (2005). Patofisiologi: Konsep klinis proses-proses penyakit.*

Riani, S. (2013). Studi Deskriptif Status Mental Lansia Berdasarkan Karakteristik Lansia di Kelurahan Karangayu Semarang Barat. *Karya Ilmiah S. 1 Ilmu Keperawatan.*

Statistik, B. P. (2015). Statistik penduduk lanjut usia. *Jakarta (ID): BPS.*

Swain, J., Hancock, K., Hainsworth, C., & Bowman, J. (2013). Acceptance and commitment therapy in the treatment of anxiety: a systematic review. *Clinical psychology review, 33*(8), 965-978.

Wulandari, A. F. S., & Rahayu, R. A. (2011). *Kejadian dan tingkat depresi pada lanjut usia: studi perbandingan di panti wreda dan komunitas.* Faculty of Medicine.

Yovel, I. (2009). Acceptance and commitment therapy and the new generation of cognitive behavioral treatments. *Israel Journal of Psychiatry and Related Sciences, 46*(4), 304.

Yuliati, A., & Ririanty, M. (2014). Perbedaan Kualitas Hidup Lansia yang Tinggal di Komunitas dengan di Pelayanan Sosial Lanjut Usia (The Different of Quality of Life Among the Elderly who Living at Community and Social Services). *Pustaka Kesehatan, 2*(1), 87-94.

Yulinda, L. D. (2015). *Perbedaan Efektifitas Terapi Musik Klasik Dan Relaksasi Nafas Dalam Terhadap Penurunan Tingkat Kecemasan Pasien Di Ruang High Care Unit (HCU) RSUD Prof. Dr. Margono Soekarjo Purwokerto.* UNIVERSITAS MUHAMMADIYAH PURWOKERTO.