

THE RELATIONSHIP BETWEEN THE DURATION OF FOLLOWING YOGA PRACTICE AND LEVEL OF ANXIETY IN ELDERLY IN YOGA GROUP PAKRAMAN VILLAGE, KETEWEL, GIANYAR.

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Abstract

Introduction: As we get older, the level of anxiety that we experienced is increase. Anxiety is one of the main factors that causes a psychological disorder in the elderly. One of the most effective exercises which can decrease the level of anxiety is Yoga. Yoga is a great example of developing cultural approach in Bali which is believed to have many benefits to improve our quality of life, especially in reducing anxiety levels in the elderly. The purpose of this study is to determine the relationship between the duration of following Yoga practice and the level of anxiety in elderly in Yoga Group Pakraman Village, Ketewel, Gianyar.

Method: This study used a cross-sectional analytic study design. The type of Yoga carried out in this study is Laughter Yoga. The measurement that is used to measure the level of anxiety is Hamilton Rating Scale for Anxiety (HRS-A). The sample in this study were all the elderly with age 60-75 years old in Yoga Group Pakraman Village, Ketewel, Gianyar. The number of samples are 70.

Result: The results of data analysis with Chi-Square Test for the relationship between the duration of following Yoga on the level of anxiety in elderly in Yoga Group in Pakraman Village, Ketewel, Gianyar was statistically significant with a p value of 0.003 (p <0.05). Participants who participated in Yoga with duration <6 months, there were 55.6% of them felling anxious, however, those who had taken Yoga >6 months only 19.2% felt anxiety.

Conclusion: There is a relationship between Yoga that have done with duration of more than 6 months with frequency of 2 times a week to reduce the level of anxiety in the elderly.

Keywords : *Yoga, Elderly, Anxiety, Cultural*

INTRODUCTION

Old age according to Law Number 13 at 1998 stated that the age of 60 is the category of old age (Kementrian Kesehatan RI, 2015). The process that occurs at this stage is natural as a human being, which is accompanied by a decrease in physical, psychological and social conditions that are

interconnected with each other. This situation tends to potentially cause general health problems and mental health specifically for the elderly. Decreased physical/physiological conditions that is experienced by the elderly are characterized by skin that begins to wrinkle, reduced vision and hearing, toothless teeth, fatigue, slow motion, and mental health problems. From year to year, the population of elderly in the world have been increasing, moreover the number of elderly people increases if it compares to other age categories (Karepowan, 2018)

According to Central Bureau of Statistics at 2015, currently Indonesia is among the top five countries with the highest number of elderly people in the world, reaching 7.6%. The number of the elderly at 2015 is 8,5%, and it is estimated that in 2020 the population will be 10%, it will be increase at 2025 by 11,8%, and it continues to 2030 by 13,8% and then at 2035 will be increase until 15,8%. The increasing number of the elderly shows that the life expectancy of the population in Indonesia is getting higher from year to year (Kementrian Kesehatan RI, 2015).

Anxiety is an unclear and diffuse concern related to feeling of uncertainty and helplessness. Symptoms of anxiety that is experienced by the elderly are irrational feeling of worry / fear about what will happen, insomnia, nervous and get angry easily, often complain of mild symptoms or fear and worry about severe illness and often imagine scary things / over panic about a big problem (Dariah, 2015).

In the American study, data showed that the incidence of anxiety in the elderly was 17.67%. Anxiety at the age of 50-64 years is greater than the age of more than 65 years with data 12.7% for ages 50-64 years and 7.6% for ages over than 65 years (Issue, 2008). In a recent study by Wolitzky and Taylor in 2010 reported estimates of the prevalence of anxiety disorders in the elderly, ranging from 3.2% to 14.2% (Wolitzky dan Taylor, 2010). *Comorbidity survey replication (NSC-r)* reports that 7% of elderly people over 65 years fulfilled the criteria for anxiety disorders in the past year (Gum, 2010). Based on the results of research by Wiyanto (2010), it shows that as many as 42% of 35 elderly experienced high levels of anxiety caused by various factors such as external factors such as threats to biological integrity and threats to self-concept and internal factors such as age, education status, economic status (Wiyanto, 2010).

Based on these data, the level of anxiety which is experienced by the elderly is quite high, anxiety can continuously affect quality of life, concentration and alertness, and also increase health risks so that can damage the functioning of the immune system. To overcome these problems, efforts are needed to reduce the level of anxiety which can be applied to the elderly, such as recreation with family, visiting places with the natural view, and the most important thing is doing some activities in order to relaxing mind and reducing stressed. One type of relaxation activity that is popular at the moment is Yoga.

Yoga is a technique that involves relaxation, meditation and a series of physical exercises carried out together with breathing to achieve physical, mental, social and spiritual comfort (Bhavanani, 2013). One type of Yoga that is popular among the elderly is the "Laughter Yoga". Generally, Yoga has a direct effect on sympathetic and parasympathetic nerve activity, by regulating respiratory effects on pranayama techniques, calming effects with dhyana techniques and physical movements that will reduce sympathetic activation, increase levels of Gamma Aminobutyric Acid (GABA), regulate Hypothalamus-Pituitary Adrenal (HPA) to provides anxiolytic effects (anti-anxiety) (McCall, 2013).

Several studies from the past two decades in various countries have reported that laugh has a positive effect on the body and strengthening the immune system as well. Laughter Yoga has a several unique techniques as follows; mind-body techniques and combines different methods of laughing with breathing exercises (Keykhai Hosseinpour, 2013). Some people who are pretend to laugh or be happy, their body will produce any chemicals, for instance, dopamine and serotonin that induce a state of happiness. Some researchers stated that the laughing is powerful in inducing physiological changes in our body (Memarian *et al*, 2017).

The duration of following Yoga can affect the level of anxiety of Yoga participants, where to assess a physical activity there are four things that must be considered as follows; the type of physical activity, frequency, intensity and duration (Mutohir, *et al* 2007). The duration of the exercise is included in one of the principles of exercise, where exercise carried out in a proportional period of time so that it causes physiological effects. Therefore, in this study the authors are interested in examining the relationship between the duration of following Yoga practice and the level of anxiety in the elderly at the Pakraman Village Yoga Group, Ketewel, Gianyar.

METHOD

The type of research design that is used in this study is analytical cross-sectional studies. This study uses Laughter Yoga as a popular Yoga technique among the elderly. In this study, dependent and independent variables are observed simultaneously. This research was conducted in February 2019 that is located on Wantilan Payogan Pura Payogan Agung Ketewel, Gianyar. The population in this study was elderly at the Pakraman Village Yoga Group, Ketewel, Gianyar. The sample in this study was selected from the population that had the inclusion criteria, as follows: (1) 60-75 years old, (2) Have done Yoga regularly for at least 4 weeks, (3) Willing to volunteer as a research subject until the end by signing an informed consent, whereas the exclusion criteria, as follows: (1) taking antidepressants and sleeping pills as and (2) following other sports programs besides Yoga.

The number of samples is determined using total sampling, where all Yoga participants who appropriate with the research criteria will be sampled in this study. The number of samples that appropriate the criteria were 70 people and all of them were directly used as research samples. The research variables consisted of independent variables, namely the duration of Yoga practice, while the dependent variable, namely the level of anxiety and the control variable is age. The instrument that is used during this study was the Hamilton Rating Scale for Anxiety (HRS-A) to measure level of anxiety. The validity of the HRS-A instrument is indicated by SPSS 16.00 in the Corrected Item-Total Correlation section, all questions have a positive value and are greater than the 0.05 requirement. Whereas reliability is indicated by the value of Cronbach's Alpha is 0.793 with the number of items 14 that are greater than 0.6, the questionnaire used is proven to be reliable ($0.793 > 0.6$). Analysis of data on the relationship between the duration of following Yoga practice and the level of anxiety in elderly Yoga participants at the Pakraman Village Yoga Group, Ketewel, Gianyar, was carried out by the Chi-Square test.

RESULT

The sample characteristics in this research is there are 70 samples. Samples are female and male. Female samples are 52 samples (74,3%) and males are 18 (25,7%). Gender affects anxiety levels and female gender has more influence on anxiety than men (Widiyaningsih, 2010). Based on the average age of the sample age is 64.50, where the youngest sample age is 60 years and the oldest is 72 years. Along with increasing age, many risk factors from various diseases will occur, mainly chronic diseases. Chronic disease is a disease where the onset takes a long time, that is commonly causes death (Yenny, *et al* 2006). According to Heidrich in the Abnormal Psychology book states that this will directly cause anxiety disorders or anxiety in the elderly regarding their health problems (*American Psychological Association*, 2010). Based on the duration of following Yoga practice, the sample who took Yoga exercises <6 months (less than six months) were 18 samples (25.7%). Samples that took Yoga practice >6 months (more than six months) were 52 (74.3%). The frequency of following Yoga practice per week also varies in each sample. Samples that took Yoga practice once a week were 11 samples (15.7%) and samples that took Yoga practice twice a week were 59 samples (84.3%). The results of the exercise can be improved if you pay attention in frequency, intensity, type of exercise and length of exercise (duration) (Bafirman, 2013).

Tabel 1. Sample characteristics

Variables	Frequency	Percentage (%)
Age		
Average ± SB = 64,50±3,20		
Gender		
– Male	18	25,7
– Female	52	74,3
Exercise Frequency per week		
– 1 time	11	15,7
– 2 times	59	84,3
Duration of Yoga		
– <6 months	18	25,7
– >6 months	52	74,3
Level of Anxiety		
– Anxiety	20	28,6
– Non-Anxiety	50	71,4

Yoga is a physical activity that is lower than moderate physical activity with a metabolic value equivalent to 3.0 MET. It takes about 50-60 minutes to do Yoga. The duration of the exercise has a relationship that is inversely proportional to the intensity, where if the exercise intensity is low then the exercise must be relatively long (Bafirman, 2013).

DISCUSSION

The relationship between Yoga training and anxiety levels in the elderly at the Pakraman Village Yoga Group, Ketewel, Gianyar.

Tabel 2 Hypothesis Testing

	Duration of Following Yoga		P
	<6 months	>6 months	
Level of Anxiety			
Anxiety	10	10	0,003
Non-Anxiety	8	42	

Based on the results of testing the data with Chi-Square, it is known that the p value is 0.003 so that the value of $p < 0.05$ means that there is a relationship between Yoga duration and anxiety level in the elderly at Pakraman Village Yoga Group, Ketewel, Gianyar.

Anxiety is a natural feeling which is experienced by every human being. Anxiety is a feeling that is general, where a person feels fear or loses self-confidence that is not clear about the origin or form. Anxiety is a response to certain threatening situations, and it is a normal thing that happens along with developments, changes, new experiences or that have never been done and the way to finding self-identity, meaning of life as well. Anxiety can cause body reactions that will occur repeatedly such as feeling empty in the stomach, shortness of breath, palpitations, sweating a lot, headaches, often feeling like wanting to urinate or defecate (Parshad, 2011). This feeling accompanied by the feeling of wanting to avoid something that is worried about. Anxiety is a non-specific symptom and autonomic nerve activity responds to obscurity, non-specific threats that are often found and it is a normal emotion (Yulinda, 2017).

Yoga is a process of unification of body, mind and spirit. Yoga exercises emphasize concentration which has a positive effect, namely peace of mind. Concentration can be a means of relaxing the mind that is needed by a stressed and anxious mind (Yulinda, 2017). Yoga that occurs in

the body begins with the creation of an atmosphere of relaxation of the conscious that systematically guides in a deep relaxed state. The creation of relaxation will eliminate the sounds in the mind so that the body will be able to release muscle tension. When the body begins to relax the breath becomes relaxed and deep, so the respiratory system can be more relax (Sangupta, 2012). The slowing down of this respiratory rhythm will make the heart rate slower and give a positive influence on the entire circulation system and heart to relax and experience the process of rejuvenation (Yulinda, 2017).

The most popular Yoga which is preferred by the elderly is Laughter Yoga. Some studies reported that laugh improves health by inducing the secretion of endorphins that reduce pain and promote the feeling of happiness. The secreted endorphins have been shown to help reduce pain. Indeed, laugh is regarded as a pain management technique that can be used for most incurable diseases. People who are regularly practicing laughter therapy can secrete endorphins with a simple smile. A few minutes of real laughing can induce the equivalent results as rowing or stationary biking for 10-15 minutes. For the elderly who are not able to exercise, laugh is a good secondary treatment option to reduce the level of anxiety (Keykhai Hosseinpour, 2013).

Laughter Yoga combines breathing techniques, relaxation and meditation and also stretching. Breathing quickly and superficially will reduce the amount of oxygen available and the brain will react to this in panic and can increase anxiety levels. Part of the process of panic and anxiety is an increase in heart rate and an increase in blood pressure. Some researchers stated that by doing Yoga regularly can increase maximum expiratory pressure, maximum inspiration pressure, holding breath, regulating and balancing breathing patterns. Laugh increases ventilation and removes mucous plugs to help maintain air exchange which increases oxygen levels in the blood. In fact, when we laugh the air is completely expelled from the lungs and following that, carbon dioxide and water vapor is also emitted and replaced with oxygen. The oxygen becomes available to blood cells. The effects of laughter can benefit middle-aged people with chronic respiratory diseases, such as emphysema, and reduce the risk of infection and inflammation of the lungs (Keykhai Hosseinpour, 2013). The respiratory center will adjust the breathing rhythm, slow and rhythmic breathing will result in the integration of the autonomic nervous system and central nervous system due to rhythmic and proportional stimulation of the proprioceptor and visceral receptors and the vagus nerve (Yulinda, 2017).

By doing Laughter Yoga regularly can balance the autonomic nervous system, so that the body becomes more relaxed and the release of hormones that play a role in increasing blood pressure, such as the hormone adrenaline and epinephrine are more controlled. Yoga also increases the production of endorphins which are anxiety hormones that of course also reduce anxiety. Yoga exercises make the autonomic nervous system balanced and calm which is useful for reducing anxiety levels. The balanced sympathetic and parasympathetic activities will provide a calm reaction, in this case a calm mind, because emotions and mental activities are also influenced by breathing patterns. Increasing oxygen in the blood and the efficient use of oxygen by tissue will result in a better relaxation (Annapoorna, 2015). Yoga is recommended because it has a relaxing effect that can improve blood circulation throughout the body. Smooth blood circulation, indicating a good heart work (Yulinda, 2017).

Due to reduced sympathetic activity, there will be a system of body homeostasis with an increase in parasympathetic activity that provides a relaxing effect, namely slowing the rhythm of the breath, heart rate, positive effect on the circulatory system and stimulating the release of prolactin and oxytocin. In the hypothalamus, oxytocin is made in the magnocellular neurosecretory cells in the supraoptic and paraventricular nuclei. Oxytocin can induce anti-stress and has an effect in reducing cortisol levels. By doing Yoga exercise can increase the levels of oxytocin in the blood, so that the anxiolytic effects released can reduce anxiety (Yulinda, 2017).

Yoga exercises can also increase various neurotransmitters and hormones including GABA, serotonin and dopamine. GABA works to reduce excessive excitement and activity in the central nervous system. The main function of GABA is to reduce arousal and reduce aggression, anxiety and

active excitation functions. Yoga is a unique method for balancing the autonomic nervous system and influencing physical disorders and disorders associated with anxiety. Yoga breathing techniques can increase the work of the parasympathetic nerves, provide a relaxing effect, stimulate the release of oxytocin and are also called Yoga breathing exercises. Relaxation increases activity in prefrontal cortex (PFC) and stimulates the thalamus which will increase the production and delivery of GABA throughout the central nervous system (Stephens, 2017).

Carrying out Yoga regularly and discipline can have a positive impact on reducing anxiety and helping improve work performance from the body's physiology. In this study it was found that there was a significant decrease in the level of anxiety in participants who took Yoga >6 months, while <6 months was not significant. It shows that Yoga has more effect or influence if it done with the right dose and regularly. Several studies found that Yoga as an effective exercise in reducing the level of anxiety. One of the researches that was done with active-duty soldiers returning from Iraq and Afghanistan, participants were asked to take part in a regular Yoga practice while reintegrating back into the community. Participants reported an increased sense of control in their lives and a decrease in symptoms of both depression and anxiety, as well as other mental health conditions (Novotney, 2009).

This research still has limitations, as follows: (1) The study sample was determined by total sampling without randomization which took samples only from all Yoga participants at one Yoga group. (2) The number of samples is limited because there are only participants under the age of 60 years. (3) Researchers find it difficult to collect male samples, because most are women.

CONCLUSION

In summary, there is a relationship between the duration of following Yoga practice and the level of anxiety in the elderly at the Pakraman Village Yoga Group, Ketewel, Gianyar. The suggestions for future research are expected as follows ; (1) Researchers are expected to limit the range of the duration of following Yoga practice, (2) Researchers equalize the frequency of Yoga exercises carried out in a week, (3) Researcher should pay more attention to the daily physical activities that have been carried out by the sample, (4) Especially for Yoga participants are expected to do Yoga exercises with a longer duration with a frequency of at least twice a week, (5) It is expected that the number of samples in further research is more greater.

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