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The Effect of Acupressure Therapy on Elders' Sleep Quality at Panti Sosial Tresna Werdha Sabai Nan Aluih Sicincin

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Abstract:- The degenerative process in the elderly leads to a decrease in physiological function, one of which is the fulfillment of sleep needs both quantity and quality. Decreased quality of sleep is bad for the health and quality of life of the elderly. One therapy that can improve the quality of sleep in the elderly is acupressure therapy. This study aims to determine the effect of acupressure therapy on the quality sleep of elderly at Panti Sosial Tresna Werdha Sabai Nan Aluih Sicincin. This study used Quasy Experiment Design and pretest-postest with control group design with 56 samples of elderly people with simple random sampling. The analysis used is independent t-test. The result of statistical test showed that p = 0.000 there was significant change between sleep quality before and after giving acupressure therapy in the intervention group whereas in the control group there was no significant change with p = 0,082.

Keywords:- *Acupressure, Sleep Quality, Elderly.*

I. INTRODUCTION

Sleep quality is a person's satisfaction with sleep, so that someone does not show feelings of fatigue, irritability and anxiety, lethargy and apathy, blackness around the eyes, swollen eyelids, red conjunctiva, sore eyes, fragmented attention, headaches and frequent yawning or sleepy (1).

Sleep quality consists of seven components namely subjective sleep quality, sleep lethargy, sleep duration, efficiency of sleep habits, drug use, dysfunction in the daytime and sleep disturbances (2).

The most common sleep disorder in the elderly is insomnia, which is characterized by an inability to initiate sleep, maintain sleep, wake up too early or sleep that is not refreshing (3).

According to the National Sleep Foundation in 2010 about 67% of 1,508 elderly people in America aged 65 years and over reported experiencing insomnia and 7.3% of elderly people complained of starting and maintaining sleep or insomnia. A 7-year study of the elderly showed low elderly sleep satisfaction with a prevalence of 25% and an annual incidence of 24% (4).

The prevalence of insomnia in Indonesia is around 50% of people aged 65 years, each year an estimated 20-50% of people report experiencing sleep disturbances and 17% have a fairly serious sleep disorder. The prevalence of sleep disorders in the elderly is quite high, which is 67% (5). While the incidence of insomnia at the Panti Sosial Trisna Werdha (PSTW) Sabai Nan Aluih Sicincin in 2016 was recorded from the PSTW health clinic visit as many as 38 elderly people experienced insomnia or sleep disturbances.

This acupressure therapy is a complementary therapy that can be studied and recommended by community nurses for sleep quality disorders (6). Acupressure therapy is a treatment method originating from China, commonly referred to as acupuncture massage, which is a method of massage on acupuncture points (acupoints) in the human body without the use of needles. (7).

According to Kao in his study stated that the improvement in sleep quality was far more significant in acupressure therapy (8).

II. METHOD

The study was conducted in the elderly as many as 56 people, 28 intervention groups and 28 control groups. Sampling with Simple Random Sampling technique. The design of the Quasy Experiment study and the pretest-posttest study design with control group**.**

III. MATERIALS

The instrument used in this study is a sleep quality assessment instrument adopted from the Pittsburgh Slepp Quality Index (PSQI) from Buysse (1988) which has been modified by Contreras with a reliability coefficient (cronbach alpha) of 0.83 (9,10). The PSQI sleep quality questionnaire consists of nine questions, each of which has a score of 0 to 3. The nine questions presented seven components of sleep quality consisting of subjective sleep quality (subjective sleep quality), time needed to start sleep (sleep latency), duration sleep duration, sleep efficiency (habitual sleep efficiency), sleep disturbances that are often experienced at night (sleep disturbance), use of drugs to help sleep (using medication), and sleep disturbances that are often experienced during the day (daytime disfunction).

IV. RESULT

No	Elderly Characteristics	Intervention		Control		Total	
		f	%	f	%	f	%
1	Gender						
	Man	24	85.7	24	85.7	48	85.7
	Woman	4	14.3	4	14.3	8	14.3
2	Marital status						
	Marry	2	7.1	4	14.3	6	10.7
	Widow/ widower	26	92.9	24	85.7	50	89.3

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3	Level of education					
	Bachelor degree	0	0	1	3.6	1	3.6
	High school	6	21.4	6	21.4	12	21.14
	Junior high school	4	14.3	5	17.9	9	16.1
	Elementary school						
	No school	6	21.4	10	35.7	16	28.55
		12	42.9	6	21.4	18	32.15

Table 1. Frequency Distribution of Elderly Characteristics Based on Gender, Marital Status, Job Status and Level of Education in Intervention and Control Groups

Based on the Table 1. The results of the elderly in the intervention and control groups were men, in the intervention group (85.7%) and in the control group (85.7%), the majority of widows / widowers in the intervention group (92.9%) and control (85.7%), and the highest level of elderly education in the intervention group (42.9%) not in school and senior education in the most control group (35.7%) Primary school.

Sleep Quality	Pre Test		Pos Test		delta	P-Value
	Mean	SD	Mean	SD		
Intervention	13.61	1.22	7.89	1.13	5.71	0.000
Control	12.86	1.32	12.25	1.23	0.60	0.082

Table 2. Difference in Quality of Sleep for Elderly Before and After Acupressure Therapy in Intervention and Control Groups

Based on the table 2. It can be seen that the average sleep quality of elderly in the intervention group before was 13.61 with a standard deviation of 1.22 and after acupressure therapy in the intervention group was 7.89, with a standard deviation of 1.13 and delta of 5.71. Based on the results of the analysis test, the p-value = 0.000, it can be concluded that there is a significant difference between the quality of sleep in the intervention group before and after acupressure therapy or the effect of acupressure therapy on sleep quality in the elderly. Whereas in the control group that was not given intervention before was 12.86 with a standard deviation of 1.32 and after was 12.25 with a standard deviation of 1.23 and delta of 0.60. Based on the results of the analysis test, the p-value = 0.082 can be concluded that there is no significant difference between the quality of sleep in the control group before and after acupressure therapy.

V. DISCUSSION

The difference in sleep quality scores before and after acupressure therapy in the intervention group who received acupressure therapy with the control group who did not receive acupressure therapy. Based on the results of statistical tests, the p-value = 0.000, it can be concluded that there is a significant difference in the quality of sleep in the intervention group between before and after acupressure therapy or there is an effect of acupressure therapy on sleep quality in the elderly. Whereas in the control group which was not given intervention before and after acupressure therapy, p-value = 0.082 showed that there was no significant difference in the quality of sleep in the control group between before and after acupressure therapy.

Comparison of changes in the sleep quality of respondents in the intervention and control groups can be seen from the post-test score. By comparing changes in the sleep quality score of the intervention group and the control group, acupressure proved to be quite effective in improving subjective sleep quality, from poor (53.6%) to being quite good (57.1%) in the intervention group while in the control group it tended to stay poor (53.6%), shortens the time needed to start sleep (sleep latency) from 31-60 minutes to 16-30 minutes in the intervention group while in the control group it tends to persist which is 31-60 minutes, prolongs sleep duration from 5-6 hours to 7 hours in the intervention group whereas in the control group it tends to persist at 5-6 hours, increasing sleep efficiency from 65-74% to 75-84% in the intervention group while in the control group it tends to stay at 65 -74%, reducing sleep disturbances at night from 1-9 times a week experiencing sleep disturbances at night to be <1 time in the intervention group while in the kelom Control pokers tend to stay 1-9 times a week, reduce sleep disturbances during the day (daytime disfunction) staying 1-2 times a week experiencing daytime sleepiness in the intervention group while in the control group also staying 1-2 times a week, and using sleeping pills intervention group and control both before intervention and after intervention <1 time a week.

This is in line with Kao's research (2017) which states that improving sleep quality is much more significant in acupressure therapy (8).

Song (2015) describes the positive effects and safety of acupressure therapy in a diverse population. He said ten selected studies reported positive effects on the primary results of acupressure therapy for symptom management, including improvements in symptom scores for allergic diseases, nausea and vomiting, cancer, respiratory diseases, pain, stress, fatigue and sleep disturbances (11).

According to Uliyah M (2008) the decreasing quality of sleep in the elderly is closely related to the degenerative process they experience (12). Changes in the neurological system such as a decrease in the number and size of neurons in the nervous system in the elderly cause the optimal function of neurotransmitters associated with the delivery of brain signals, precisely in the pituitary gland resulting in a decrease in melatonin production. The reduced production of melatonin hormones in a person's body affects changes in circadian rhythms, leading to a decrease in stages 3 and 4 of NREM sleep, even until they have almost no sleep in stage 4 (3). Poor sleep quality can reduce the quality of life of the elderly, to improve the quality of sleep for the elderly can not be separated from nursing services.

Nursing services are a form of holistic service to humans based on nursing service standards and nursing codes of ethics (13). Nursing service is an effort made to provide nursing care to the community in accordance with the rules of the nursing profession. Nursing care management which consists of assessment, planning, intervention and evaluation. One of the nursing interventions is complementary therapy.

This acupressure therapy is a complementary therapy that can be studied and recommended by community nurses for sleep quality disorders (6). Acupressure therapy can stimulate the release of serotonin which functions as a neurotransmitter that carries stimulation signals to the brainstem that can activate the pineal gland to produce the hormone melatonin (6). This melatonin hormone can affect the regulation of circadian rhythms resulting in a decrease in sleep latency, nocturnal crewening, and an increase in total sleep time and sleep quality (14).

Acupressure is a therapy with the principle of healing touch which shows the caring behavior of the respondent, so that it can give a feeling of calm, comfort, a feeling that is more concerned that can bring the therapeutic relationship between the researcher and the respondent (15). From the psychological aspect, acupressure can also help improve the sleep quality of respondents. Most respondents said that with acupressure therapy they felt more cared for, felt calm, comfortable and relaxed.

This comfortable, calm and relaxed condition will make the elderly have a desire to sleep. As revealed by Potter & Perry (2009) which states that a person will fall asleep when someone feels comfortable and relaxed. Conditions like this are the need for sleep for the elderly, so that the elderly do not have difficulty sleeping and can achieve deep sleep (stage 4 NREM sleep) and an increase in duration and efficiency of sleep in the elderly (16).

As stated by Adam (2011) that acupressure stimulation can stimulate mast cells to release histamine as a mediator of blood vessel vasodilation, so that an increase in blood circulation makes the body more relaxed and can ultimately improve one's sleep quality (17).

This study chose intervention points aimed at patients with sleep quality disorders characterized by difficulty getting into sleep and difficulty in maintaining sleep. So it is necessary to combine several points related to the problem. The selected intervention points are the heart point 7 (shen men), the heart membrane 6 (neiguan), yung chung and ear shenmen to improve sleep quality (18).

The selection of these points proved effective after the results of the respondents' sleep quality score, especially in the intervention group. Acupressure performed with several intervention points is effective in reducing the sleep quality score of the elderly. This can be seen from the reduction in time to start sleep (sleep latency) which means reduced difficulty to sleep in the elderly, an increase in duration of sleep (sleep duration), as well as an increase in sleep efficiency (habitual sleep efficiency) of the elderly.

The results also showed that out of 28 elderly intervention groups, 7 elderly who experienced poor sleep quality disorders, and 28 elderly control group 2 elderly who experienced poor sleep quality. After therapy in the intervention group there was still 1 person who still had a high score of sleep quality, which was 11 even though it was included in the moderate disorder. This occurs because of several factors that influence such as gender, marital status, and level of education.

Acupressure therapy is more effective in women than men. The results of the study proved that the average score of female sleep quality before acupressure therapy in the intervention group was 13.75 and the control group was 13.25. After doing acupressure therapy in the intervention group it was 7.25 and in the control group 12.25. Whereas in men before acupressure therapy in the intervention group 13.58 and control group 12.79. After acupressure therapy in the intervention group became 8.00 and in the control group 12.25. From these results can be seen in women there was a decrease in the average score of sleep quality of 6.5 in the intervention group and in men 5.58.

Marital status does not affect the effects of acupressure therapy. The results showed that the average score of sleep quality of elderly who were married before acupressure therapy in the intervention group was 13.56 and the control group was 12.88. After acupressure therapy, the intervention group was 7.88 and in the control group 12.28. Whereas in the elderly the widow / widower before acupressure therapy in the intervention group 14 and the control group 12.67. After acupressure therapy in the intervention group it became 8.00 and in the control group 12.

The results of this study indicate that sleep quality disturbances are higher in elderly widows / widowers, and in older married women there is a decrease in the average score of sleep quality of 5.68 in the intervention group and in elderly widows / widowers 6, meaning that acupressure therapy is the same -equally effective for both married and widowed / widowed elderly. According to the assumption of the researchers, the high quality of sleep disturbances in the elderly because the elderly experienced a loss of spouse coupled with the busyness of the children who made the elderly feel unnoticed. Couples who are the main system support for the elderly by losing a partner can lead to elderly stress and can cause sleep disturbances in the elderly. With acupressure therapy can relax the muscles and mind so as to reduce stress in the elderly and can improve sleep quality.

The results of this study can be seen that the greatest decrease in the average score of sleep quality in the intervention group in the elderly who have high school education is 5.84, then followed by those who have junior high school education is 5.8 and so on who have elementary school education and no school at 5.6 . This means that acupressure therapy is more effective in older people who are highly educated. According to researchers, the higher a person's education, the easier he receives and understands the information provided, the stronger the coping will be on a person.

The discussion above explains that acupressure has a positive influence both physically and psychologically on the respondents. Researchers believe that the improvement of sleep quality in this study is the effect of acupressure. Respondents in this study had almost the same characteristics, lived in the same environment, and both had poor sleep quality at the beginning of the study. The intervention group showed significantly improved sleep quality after acupressure, while the non-intervention group

did not experience significant changes in sleep quality. This proves that acupressure has an effect on improving the quality of sleep for the elderly.

VI. RECOMMENDATION

Based on the results of the study of acupressure therapy that has been given to the elderly shows that the results suggest that acupressure therapy can improve the quality of sleep in the elderly so that nurses can apply this therapy to the elderly in a nursing home with sleep quality disturbance. Researchers suggest the need for guidance on acupressure therapy for the elderly carried out by nurses and elderly administrators in the care of parents and also need to develop training and certification programs for nurses and senior management regarding the ability of acupressure therapy.

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VIII. CONCLUSION

The results of the study were able to answer the research hypothesis. In this study the effect of therapy on the elderly at a significant rate of <0.05.

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