



## Effect Of Sleep Hygiene And Deep Breathing Exercise With Spiritual Care On Sleep Quality And Quality Of Life Of Hemodialysis Patient In Ahmad Yani Islamic Hospital Surabaya

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### Abstrak

*Pasien hemodialisis mengalami masalah gangguan tidur yang berdampak langsung terhadap kualitas tidur dan kualitas hidup pasien hemodialisis. Kualitas hidup merupakan bagian yang penting bagi pasien hemodialisis yang perlu diperhatikan. Tujuan dalam penelitian ini untuk menganalisis pengaruh Sleep hygiene dan deep breathing exercise berbasis Islami terhadap kualitas tidur dan kualitas hidup pasien hemodialisis. Desain penelitian menggunakan quasy experiment dengan pendekatan pretest posttest with control grup design. Populasi seluruh pasien hemodialisis. Sampel dalam penelitian ini sebesar 38 responden yang terbagi 19 kelompok intervensi dan 19 kelompok kontrol. Intervensi Sleep hygiene dan deep breathing exercise berbasis Islami diaplikasikan setiap hari selama 30 hari 30 menit menjelang tidur pada kelompok intervensi dan pada kelompok kontrol hanya menjalankan rutinitas atau kebiasaan sebelum tidur. Instrumen yang digunakan berupa kuesioner PSQI (Pittsburgh Sleep Quality Index) dan KDQOL SF™ 1.3 (Kidney Disease Quality of Life). Analisis data menggunakan uji MANOVA dengan nilai kemaknaan  $\alpha=0,05$ . Hasil dari penelitian ini menunjukkan nilai p value 0,000 dengan nilai pengaruh eta partial square 72,7% pada kualitas tidur dan 66,4% pada kualitas hidup yang berarti sleep hygiene dan deep breathing exercise berbasis Islami secara signifikan berpengaruh kuat terhadap kualitas tidur dan kualitas hidup pasien hemodialisis di RSI. Ahmad Yani Surabaya. Penerapan sleep hygiene dan deep breathing exercise berbasis Islami berpengaruh kuat terhadap kualitas tidur dan kualitas hidup pasien hemodialisis. Perawat diharapkan mampu menerapkan intervensi sleep hygiene dan deep breathing exercise berbasis Islami dalam meningkatkan kualitas tidur dan kualitas hidup pasien hemodialisis.*

**Kata kunci:** *Hemodialisis, Kualitas Tidur, Kualitas Hidup, Sleep Hygiene, Deep Breathing Exercise, Spiritual Care*

### Abstract

*Hemodialysis patients experienced sleep disturbance problems that directly affect sleep quality and quality of life of hemodialysis patients. Quality of life is an important part of hemodialysis patients that need attention. The purpose of this study was to analyze the effect of sleep hygiene and deep breathing exercise with spiritual care on sleep quality and quality of life of hemodialysis patients. The research design used a quasy experiment with the pretest posttest approach with control group. Population in this study were all of hemodialysis patients . Sample of this study were 38 respondents divided into 19*

respondents for intervention group and 19 respondents for control group. Sleep hygiene intervention and deep breathing exercise with spiritual care were applied every day for 30 days 30 minutes before going to sleep in the intervention group and in the control group only ran routine or habit before going to bed. Instrument used a PSQI questionnaire (Pittsburgh Sleep Quality Index) and KDQOL SF™ 1.3 (Kidney Disease Quality of Life). Data analysis used MANOVA test with significance value  $\alpha = 0.05$ . The results of this study indicated that  $p$  value 0,000 with the effect of  $R$  squared 72.7% on sleep quality and 66.4% on quality of life, which means that sleep hygiene and deep breathing exercise with spiritual care were significantly influence sleep quality and quality of life on hemodialysis patient in Ahmad Yani Islamic Hospital Surabaya. The application of sleep hygiene and deep breathing exercise with spiritual care had a strong influence on the quality of sleep and the quality of life of hemodialysis patients. Nurses are expected to be able to implement sleep hygiene interventions and deep breathing exercises with spiritual care to enhance sleep quality and quality of life for hemodialysis patients.

**Keyword:** Hemodialysis, Sleep Quality, Quality of Life, Sleep Hygiene, Deep Breathing Exercise, Spiritual care

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## INTRODUCTION

The progress of hemodialysis techniques and medical care made the death rate and the high pain of hemodialysis patients experience a marked decrease (1). The quality of life of hemodialysis patients is 63.3% on average and the mortality rate of hemodialysis patients is 33% with a duration of 6-12 months of hemodialysis so that the new goal of medical practitioners is to achieve physical and mental health by satisfying basic human needs first (2) (3). Sleep is a basic human need that is very important for everyone, but many hemodialysis patients experienced sleep disturbances (4).

Sleep disturbances are common in patients who did hemodialysis on end stage renal disease (ESRD) (5). Sleep disturbances are experienced in approximately 50-80% of patients who did hemodialysis (6)(7). According to explained that sleep disturbances that often occur in hemodialysis patients include restless legs syndrome, insomnia, sleep apnea, delayed onset of sleep, frequent awakening during sleep,

daytime hanging, Excessive daytime sleepiness are symptoms often experienced by patients end stage renal disease (ESRD) (6) (8).

The effects of symptoms on sleep disorders, especially on health, safety, and are included in substantial social and economic burdens (1). According to Hemodialysis clients will generally experience role changes, changes in body shape, loss or decrease in work productivity, uncertainty about the future, economic or financial difficulties, changes in body image, many changes in lifestyle and self-concept (9).

The world population has chronic kidney failure in 2012 there are 500 million and around 1.5 million people lead lives dependent on hemodialysis (WHO, 2012) (10). In the United States every year chronic kidney failure patients experience an increase of 2.1% and in 2011 more than 380,000 patients lead regular hemodialysis (11). Based on data from the Indonesia Renal Registry (IRR) there were 4898 hemodialysis machines and 21,050 new patients and 30,554 active kidney failure patients

who underwent hemodialysis and in 2014 experienced an increase of 17,193 new patients lead hemodialysis. In IRR reported that in East Java there were 6276 hemodialysis patients and 4139 new hemodialysis patients (12).

On October 2017 In Ahmad Yani Islamic hospital Surabaya there were 42 patients who remained hemodialysis with an average monthly visit of 358 patients. Taken from the initial data collection on October 16, 2017 by means of interviews, 10 respondents said they had problems with sleep disturbances. Sleep disturbances experienced by respondents varied 2 respondents said insomnia and drowsiness during the day, 4 respondents said frequent and easily awakened during nighttime sleep, 2 respondents experienced frequent cramps in the legs at night, 1 respondent felt difficulty breathing (tightness ) at night and 1 respondent said that often could not sleep at night because of all body aches. Of the 9 respondents, 1 said they took sleeping pills.

The causes of sleep disorders are due to psychological disorders (depression, anxiety), lifestyle factors (use of coffee, nicotine, alcohol, sleep hygiene), treatment factors (dialysis factors, naps, cytokine production, changes in thermoregulatory, disequilibrium syndrome, disturbances in circadian rhythms due to decreased melatonin products, drug side effects), ESRD specific factors (anemia, sleep apnea, restless leg syndrome, comorbidity, uremia, overall health, decreased quality of life, changes in neurotransmitter production) (13). Another it according said that the cause of sleep disturbances in hemodialysis patients is a biological factor such as the cause of chronic renal failure and nutritional adequacy, calcium phosphate balance and long time factors lead hemodialysis (14, 15).

Sleep is a basic human need that keeps the most basic level in the physiological area that shows that sleep is very important to humans

(Maslow's Hierarchy 1970). Sleep disturbances in hemodialysis affect sleep quality in terms of achieving long sleep so that achieving satisfaction in sleep can be determined by how someone prepares a nighttime sleep pattern, such as the ability to stay asleep, the ease of sleeping without medical help and sleep (16). Good sleep quality can give you a feeling of calm in the morning, feeling energetic, and not complaining of drowsiness, in other words with good sleep quality will make the body healthy, tired not easily, and not experience cognitive impairments (17). Patients with sleep disorders are expected to increase in time and cause several health problems so that the quality of life is lower (18).

The patients who experienced hemodialysis therapy has sleep disturbance problems that affect their quality of life. Patient's quality of life is an indicator of the success of an action or intervention and the therapy are given to hemodialysis patients (19). In addition several studies explained that sleep disturbances can alter an innate response to cellular functional immunity, can cause inflammation such as autoimmune, infection, and cardiovascular disease (20 , 4)

Sleep hygiene behavior is believed to improve sleep quality and quantity of life (21). In addition using of sleep hygiene interventions in improving sleep quality and quality of life can also be combined with relaxation therapy. Relaxation therapy in this case is a deep breathing exercise that can be done for a long period of time and has no side effects (17).

Sleep hygiene is fostering consistent habits or rituals that include quiet time before bedtime as an initial approach to overcome insomnia and other sleep difficulties and in general can be described as behavioral promotion to increase the quantity and quality of sleep which obtained by an individual every night (22). Sleep hygiene is a practice that can improve the quality of

sleep that contains components starting from waking up every day at the same time including weekends, avoiding sleeping during the day, avoiding caffeinated products, nicotine and alcohol, avoiding heavy foods within two hours before going to bed, maintain comfortable environmental conditions for sleep, avoid stress-inducing activities within a few hours before going to bed, shower with water as desired so that the body relaxes, and avoid activities such as watching TV / activities that do not help to deliver sleep (21).

The implementation of sleep hygiene and deep breathing exercise will be more optimal if the spiritual values are added in the stages of sleep hygiene and deep breathing exercise in improving sleep quality and quality of life of hemodialysis patients. Interventions used are based on spiritual values with roots in the Quran and as-sunnah from prophet Muhammad SAW and noble leader who is able to be the best intervention for Muslims in critical conditions. Islam cares for spiritual health which comes from the heart of each individual (23). When someone faces prayer difficulties, recitation of the Quran, grateful and requests for forgiveness from Allah SWT is able to overcome illness and live healthier lives (24).

Therefore the researcher was interested in researching about the effect of sleep hygiene therapy and deep breathing exercise with spiritual care on sleep quality and quality of life of hemodialysis patients in Ahmad Yani Islamic Hospital Surabaya.

## **MATERIALS AND METHODS**

This study used a Quasy-Experimental research design with pre post test control group design approach. The populations in this study were all hemodialysis patients at Ahmad Yani Islamic Hospital Surabaya who experienced sleep disturbances as many as 42 people. The sample in this study was 38

hemodialysis patients at Ahmad Yani Islamic Hospital Surabaya. The sampling technique in this study used non probability sampling with total sampling technique. The Samples were obtained by the inclusion and exclusion criteria. The inclusion criteria in this study were Islam, having sleep disturbances, aged 20-60 years, lead hemodialysis > 3 months, undergoing hemodialysis 2 twice / week, be able to read and write, be able to follow activities from the beginning and end, willing to not take sleeping pills during the study, and was willing to intervene for 30 days. Exclusion criterias in this study were experiencing shortness of breath and asthma, experiencing decreased consciousness, experiencing stroke complications, and patients with heart disease.

The research data was obtained by using PSQI questions (Pittsburgh Sleep Quality Index) questionnaire and KDQOL SF™ 1.3. In testing the validity of the questionnaire conducted on respondents about sleep quality using the PSQI questionnaire and quality of life using the KDQOL SF™ 1.3 questionnaire, with the number of respondents 15 obtained r table 0.514. The results of the overall KDQOL SF™ 1.3 questionnaire valid were 0.562-0.732 and the overall Valid PSQI questionnaire items with a value of 0.583-0.822. The PSQI sleep quality instrument contained 19 questions conducted on 15 respondents with Cronbach Alpha reliabilities 0.888 which means reliable. Quality of life instrument KDQOL SF™ 1.3 which contained 81 questions with 19 domains conducted on 15 respondents with Cronbach Alpha reliable 0.723 which means reliable.

In the intervention group exercise module was given sleep hygiene and deep breathing exercise based on Islam and explained in each step. This explanation is that each respondent is accompanied by a family. In the control group there was no intervention and only explained that the respondents in the control group intervened in

the form of activities / routines that were normally done before bedtime for 30 days. For 1 week the respondent was met by the researcher twice at pre hemodialysis with a duration of  $\pm$  10 minutes by giving education in the form of treatment carried out in the intervention group namely sleep hygiene therapy and deep breathing exercise based on Islam and observing whether the action was done or not at home . In this study the researchers themselves will provide education in the form of sleep hygiene and deep breathing exercise based on Islam. Intervention of sleep hygiene and deep breathing Islamic-based exercise was carried out independently by respondents in the

intervention group 30 minutes before nighttime sleep accompanied by and assessed by each family member in the module. The family in this study plays a role in helping to monitor respondents in intervening sleep hygiene and deep breathing exercise based on Islam at home and fill in the observation sheets in the module which contain about the procedure or not done by the respondent at home. The role of the family in this research is very much needed, if the family accompanying it changes, the next family must confirm to the researcher. In this study, researchers visited the respondent's house 1 time a week. If the respondent's family is not present, the researcher

**Table 1. Characteristic of respondents**

Characteristic of respondents	Group				Total	
	K1 (Intervention) (n=19)		K2 (control) (n=19)			
	f	%	F	%	f	%
<b>Age</b>						
31 – 40	1	5.3	3	15.8	4	10.5
41 – 50	2	10.5	2	10.5	4	10.5
51 – 60	16	84.2	14	73.7	30	79
Total	19	100	19	100	38	100
<b>Sex</b>						
Female	10	52.6	8	42.1	18	47.4
Male	9	47.4	11	57.9	20	52.6
Total	19	100	19	100	38	100
<b>Education</b>						
Not complete in SD	1	5.3	0	0	1	2.6
SD	3	15.8	1	5.3	4	10.5
SMP	1	5.3	3	15.8	4	10.5
SMA	6	31.6	10	52.6	16	42.1
PTN	8	42.1	5	26.3	13	34.2
Total	19	100	19	100	38	100
<b>Occupation</b>						
Employed	10	52.6	11	57.9	21	55.3
Unemployed	9	47.4	8	42.1	17	44.7
Total	19	100	19	100	38	100
<b>Marriage status</b>						
married	15	78.9	15	78.9	30	78.9
widower/widow	4	21.1	3	15.8	7	18.4
unmarried	0	0	1	5.3	1	2.6
Total	19	100	19	100	38	100
<b>The cause HD</b>						
HT	13	68.4	10	52.6	23	60.5
DM	6	31.6	5	26.3	11	28.9
Others	0	0	4	21.1	4	10.5
Total	19	100	19	100	38	100
<b>The length of HD</b>						
>1 year	19	100	19	100	38	100
Total	19	100	19	100	38	100

will visit the patient's home to meet the family and observe the research activities with the respondent and family.

Data analysis used descriptive analysis and inferential analysis used the MANOVA test with significance value p value <0.05.

## RESULT AND DISCUSSION

Based on the results of the study that has been done on hemodialysis patients at the Ahmad Yani Islamic Hospital Surabaya as follows:

Table 1 above show that the characteristics of respondents based on age almost all have the age of 51-60 years as many as 30 respondents (79%). The characteristics of respondents based on sex were mostly male, as many as 20 respondents (52.6%). The characteristics of respondents based on education were almost half of them as high school (high school) as 16 respondents (42.1%). Characteristics of respondents based on occupation mostly are working as many as 21 respondents (55.3%). Characteristics of respondents based on marriage status almost entirely were married as many as 30 respondents (78.9%). The characteristics of respondents based on the

causes of hemodialysis were mostly hypertension (HT) as many as 23 respondents (60.5%). Characteristics of respondents based on the length of hemodialysis were > 1 year as many as 38 respondents (100%).

Table 2 showed that the mean value of sleep quality is highest in the intervention group (post test) of 18.78 with a maximum value of 26. the mean value of sleep quality in the control group (post test) of 14.94.

Table 3 showed that the highest mean value in the intervention group (post test) is 50.36 with a maximum value of 60 and the mean value control grup is 44.05.

Table 4 showd that sleep quality data and quality of life are normal with a significant value of 0.200.

Table 5 showed that similarity test of variance-covariance individually for each variable using the Box's Test showed the significance number. The value of the Box's Test was 0.602 which was greater than the 0.05 Alpha. This means that the variances in all of these variables are the same for each group. Assuming the similarity of the variance-covariance matrix has been fulfilled, the Manova analysis process can

**Table 2. Sleep quality characteristics**

Group	Sleep Quality								
	Min			Max			Mean		
	Pre	Post	Delta	Pre	Post	Delta	Pre	Post	Delta
Intervention	9.00	13.00	4.00	20.00	26.00	6.00	14.47	18.78	4.31
Control	13.00	9.00	-4.00	22.00	19.00	-3.00	18.52	14.94	-3.58

**Table 3. Quality of life characteristics**

Group	Quality of Life								
	Min			Max			Mean		
	Pre	Post	Delta	Pre	Post	Delta	Pre	Post	Delta
Intervention	38.00	43.00	5.00	54.00	60.00	6.00	45.78	50.36	4.58
Control	37.00	36.00	-1.00	54.00	51.00	-3.00	46.10	44.05	-2.05

**Table 4. Normality test**

	Kolmogorov-Smirnov		
	Statistic	Df	Sig.
Sleep Quality	.110	38	0.200
Life Quality	.103	38	0.200

**Table 5. Homogeneity Test**

Group	Box test				Signifikansi	Information
	N	Box M	F	p value		
Intervention						
Control	38	1.978	0.620	0.602	0.000	Sigficant

be continued. The hypothesis test shows that the significance for the treatment and control groups tested with the Wilks' Lambda procedure is 0.000, because p value showed significant value, this means that the hypothesis test is accepted that simultaneously has the effect of sleep hygiene and deep breathing exercise with spiritual care sleep quality and quality of life in the intervention group and control group.

**Table 6. Multivariate Test Analysis Variant of Analysis**

Variable	Sig.	Partial eta square	Explanation
Sleep Quality	0.000	0.727	Strong influence
Quality of Life	0.000	0.664	Strong influence

Table 5.6 showed that in general there is an effect of sleep hygiene and deep breathing exercise with spiritual care on sleep quality and quality of life of hemodialysis patients with p value = 0,000. There are a strong effects of sleep hygiene and deep breathing exercise with spiritual care on sleep quality with an influence of 72.7%. There are a strong influences of sleep hygiene and deep breathing exercise with spiritual care of quality of life with an effect of 66.4%. So sleep hygiene and deep breathing exercise with spiritual care have a greater influences on the quality of sleep than the quality of life of hemodialysis patients.

The results showed significance which means that there is an effect of sleep hygiene and deep breathing exercise with spiritual care on the sleep quality of hemodialysis patients. In this study sleep hygiene is applied with 5 Islamic-based indicators in which there is a component of submitting to Allah SWT. In addition, sleep

hygiene that is applied is combined with deep breathing exercise with spiritual care in which there are 3 indicators with components which are highlighted by gratitude by saying Alhamdulillah. This is consistent explaining in his study that sleep hygiene has a beneficial effect on the sleep quality of hemodialysis patients and supported by research at 2016 showed that sleep hygiene education has a significant effect on patient sleep quality and this therapy able to be applied to patients with short-term hemodialysis, low cost, practical methods and can be implemented independently by patients (25 , 21)

The intervention of sleep hygiene and deep breathing exercise is very easy to do just by changing the habits before going to sleep which should be done as a Muslim who practices the Sunnah and does not require much cost by the respondents in Ahmad Yani Islamic Hospital Surabaya. The main key to the success of the study was volunteerism and coercion from respondents so that the results were satisfactory. This activity is very interesting for intervention respondents and families who evaluated; at this point the support system is needed for the achievement of this research activity. Changes in sleep hygiene towards better affected the quality and quantity of sleep (26).

Component of surrender in spiritual care sleep hygiene is psychical activities that is more than passive attitudes. Resignation is an attitude of self-reliance on Allah SWT or called surrender, so that the tension arising from the problems of life can be accepted sincerely by an attitude of surrender.

Sleep hygiene is carried out with the aim of achieving REM sleep, loss of muscle

tension, occurrence of cerebral activity (oxygen consumption, blood flow, and neural stimulation), release of epinephrine, and  $\beta$  waves which cause a relaxed and comfortable feeling. Relaxing feeling will be forwarded to the hypothalamus to produce corticotropin releasing factor which further stimulates the pituitary gland to increase proopiomelanocortin production so that the production of enkephalin by the adrenal medulla increases. The pituitary gland also produces  $\beta$  endorphins and the limbic system releases neurotransmitters in the form of serotonin, dopamine and norepinephrine which cause the patient to be more relaxed and comfortable in his sleep (27).

Deep breathing exercise which is combined with the belief and gratitude for the blessings of life obtained by saying "Alhamdulillah" will lead to a stronger relaxation response than just relaxation without involving the element of belief. The sentence that is spoken has an element in the form of God or other words that have a calming meaning (28). Feelings that relax by using this deep breathing exercise technique are obtained by increasing the activity of the beta adrenergic respiratory tract which causes bronchial dilatation and inhibits mucus secretion. The occurrence of dilatation in the bronchi made the entry of large amounts of oxygen that will bind to hemoglobin (oxyhemoglobin) so that increased oxygen saturation, body work and tissue improve. Blood supply (decreased oxygen and glucose levels) to brain tissue has decreased. This situation is then immediately responded by the brain with a yawning reflex which massively inserts oxygen through the lungs to the brain with a dilation of the diameter of the blood vessels. As a result, the supply of oxygen and glucose into the brain tissue increases rapidly. This condition will revitalize all cellular and microcellular elements which affected the strength and vitality of brain cells. Besides that, the supply of oxygen in large quantities makes mitochondria as the respiratory

center of the cell will return to active and work normally. Changes in this state will be seen on the face that is radiant, relaxed, and even asleep (29, 42).

The use of phrases are meaningful as in this study by saying Alhamdulillah and being grateful for what Allah has given. It can be used as a focus of faith. Using words or phrases with special meaning will encourage healthy effects. This is because Dzikir and praying contain spiritual, religious elements, which can generate hope and confidence in the client or sufferer, which in turn increases the body's immune and psychic powers thus accelerating the healing process (30). The stronger a person's confidence is mixed with the relaxation response, the greater the relaxation effect obtained. The choice of the chosen word should be brief to say in the heart when taking and exhaling the breath normally. Both words are easy to say and easy to remember (31). The focus of relaxation is not on muscle relaxation but on certain phrases that are repeated repeatedly with regular rhythms with an attitude of surrender to the object of transcendence, namely God. The phrases used can be in the form of God's names, or words that have a calming meaning (32). Supported by research that women with breast cancer believe religion is an important factor as emotional support and believe that to feel more comfortable and able to move freely must rely on the power of Allah (33).

The stressful situation experienced by the patient will cause the body's reaction to deliver upward stimulation through the brain stem and eventually to the median peak of the hypothalamus. Furthermore the hypothalamus will stimulate the anterior pituitary gland to release Adreno Cortico Tropic Hormone (ACTH) which plays a role in the rapid release of cortisol which causes stimulation of the brain's central nervous system which results in the body becoming alert and having trouble sleeping. Whether the need for rest and sleep is sufficient, so the amount of

energy expected to restore health status and maintain activities in daily life is fulfilled (34). In hemodialysis patients in Ahmad Yani Islamic Hospital Surabaya, they sleep on average 3-5 days before intervention. The sleep needs of each person vary, in this study most respondents are early and late elderly who need 6-7 hours of sleep a day (35).

Combining sleep hygiene and deep breathing exercise with spiritual care can cause a relaxing effect, making the feeling of being close to Allah SWT by relying on the element of surrender and gratitude in it so as to provide peace of mind, mental health, thus making the sleep quality of respondents improve. This is appropriate in the Surah Ar-Ra'd 28 said: "(Those who believe, and whose hearts find satisfaction in the remembrance of Allah for without doubt in the remembrance of Allah do heart find satisfaction". The purpose of the verse above is that anxiety, anxiety and fear are from God that is deliberately created for us. Many people do not understand the meaning of anxiety and anxiety, restlessness, anxiety, fear is actually a blessing and a gift from Allah for those who believe, meaning that unrest that is gnawing at the heart shows evidence of Allah's sadness to his servant to always remember it with Dzikir, reciting the Qur'an and so on then the heart will be calm. The heart will not be able to calm down without remembering and meditating on the greatness and omnipotence of God, always expecting His pleasure (36). The more happily, relaxed by highlighting the value of surrender and gratitude, the better quality of sleep.

Sleep Hygiene and Deep Breathing Exercise with spiritual care has a significant value on the quality of life of hemodialysis patients. There is an improvement in the quality of life of hemodialysis patients after given intervention. The results of this study are in accordance which results in a combination sleep hygiene and aromatherapy has the effect of improving the quality of life

and improving the sleep quality of patients with chronic renal failure. Good quality of life is an indicator of the success of hemodialysis therapy routinely performed by patients (37).

In the control group the pre-test and post-test values decreased the quality of life of hemodialysis patients. ESRD patients led hemodialysis therapy can experience a decrease in quality of life and increase the risk of morbidity and mortality. The risk of morbidity and mortality can be reduced if the patient is in good condition while undergoing hemodialysis therapy (37). To achieve a good quality of life requires fundamental changes in the way of looking at diseases experienced such as chronic kidney failure (38).

Quality of life is the extent to which a person can feel and enjoy the occurrence of all important events in his life so that his life becomes prosperous (39). If someone is able to achieve a high quality of life, then the life of the individual leads to a state of prosperity (ill-being) (40).

When respondents experience tension the system that works in the body is the sympathetic nervous system. Whereas when the body is relaxed and calm, the system that works is the parasympathetic nervous system by suppressing tension so that the feeling of relaxation occurs. Relaxing feeling will be passed on to the hypothalamus to produce Corticotropin Releasing Hormone (CRH) and Corticotropin Releasing Hormone (CRH) activate the anterior pituitary secretion enkephalin and endorphin play a role as neurotransmitter which affected the mood to be relaxed and happy. Di beside that, anterior pituitary secretion Adrenocorticotrophic hormone (ACTH) decrease, and then Adrenocorticotrophic hormone (ACTH) controlled adrenal cortex to control cortisol secretion. Decreased levels Adrenocorticotrophic hormone (ACTH ) and kortisol caused stress and decreased tension which can ultimately improve quality of life (40 , 18)

When pulling and exhaling slowly, the air entering the body carries oxygen which functions as fuel to activate cells in the body (42). Relaxation is done like Sleep hygiene and deep breathing exercise combined with spiritual care values have the benefit of using beliefs such as gaining experiences and adding faith in life.

## CONCLUSION AND RECOMMENDATION

Based on the results of research that has been done about the influence sleep hygiene and deep breathing exercise with spiritual care on sleep quality and quality of life in hemodialysis patients in Ahmad Yani Islamic Hospital Surabaya can be conclude that: Sleep hygiene and deep breathing exercise with spiritual care on 30 days 30 minutes of sleep affected sleep quality and the quality of life of hemodialysis patients. Nurses are expected to be able to implement sleep hygiene interventions and deep breathing exercises with spiritual care to enhance sleep quality and quality of life for hemodialysis patients

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