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## Research Article

# The Effect of Murottal Al-Quran Therapy on Anxiety Level of Chronic Kidney Disease Patients Undergoing Hemodialysis

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### Abstract

**Aims:** Chronic kidney disease patients undergoing hemodialysis have several effects on dialysis, one of which is anxiety. According to several studies, anxiety can be overcome by murottal al-Qur'an music therapy. Listening to the Qur'an can have a calming effect on the body, because of the elements of autosuggestion meditation and relaxation. This relaxation will bring a positive perception that can stimulate the hypothalamus to secrete endorphins released by the pituitary gland and central nervous system to increase feelings of relaxation and distract from fear, anxiety, and tension.

**Objective:** to determine the effect of murottal al-Qur'an therapy on anxiety levels in chronic kidney disease patients undergoing hemodialysis.

**Methods:** This research is a quantitative study with a Quasy Experimental research design. One group pretest-posttest with a total sample of 34 respondents. The instrument used in this study is the Zung Self Anxiety Rating Scale (ZSAS) instrument, which is an assessment of anxiety in patients designed by William WK Zung which consists of 20 statements.

**Results:** Characteristics of respondents who took part in this study were aged 32-60 years, most of the respondents who took part in this study were aged 46-55 years as many as 17 respondents (50.0%), male (64.7%), the length of time undergoing hemodialysis in the range of 7-44 months, most of the respondents underwent hemodialysis for a period of 6-12 months as many as 9 respondents (29.3%). The characteristic value of the ZSAS questionnaire, the largest value in the pre-test is at number 20 with a score of 126 while the largest value in the post-test is at number 5 with a score of 112. From the results of the Paired Simple T-test analysis, the p-value = 0.000, which means there is a significant relationship between murottal al-qur'an therapy and the anxiety level of chronic kidney disease patients undergoing hemodialysis.

**Conclusion:** the study showed that there was a significant effect on anxiety after being given murottal al-qur'an therapy from the Ar-Rahman surah. The murottal therapy expected to be implemented by nurses to reduce the anxiety level of chronic kidney disease patients undergoing hemodialysis.

### Keywords:

Hemodialysis, anxiety, chronic kidney disease, murottal al-qur'an therapy

## INTRODUCTION

Chronic kidney disease is a global public health problem with an increasing prevalence and incidence of kidney failure, poor prognosis and high costs (1). Chronic kidney disease that is irreversible results in physiological changes that cannot be overcome by conservative therapy and requires renal replacement therapy. Renal replacement therapy consists of hemodialysis (HD), peritoneal dialysis, and kidney transplantation, and currently hemodialysis is the most widely used kidney replacement therapy and the number continues to increase from year to year (2).

Healthcare costs associated with chronic kidney disease (CKD) are enormous and affect a worldwide population (3,4). According to the Indonesian health survey in 2018, the prevalence of chronic kidney disease in Indonesia is 499,800 people (2%) (1). The prevalence of chronic kidney disease patients undergoing hemodialysis in West Java in 2018 was recorded at 131,846 people. This number only comes from hospitals that have hemodialysis units, so the incidence and prevalence of patients suffering from CKD is much higher than that number. The data also said that kidney failure patients in Indonesia undergoing regular hemodialysis have increased fourfold in the last five years.

Hemodialysis as a therapy to improve the quality of life, but has many physiological and psychological impacts, including physiological impacts such as anxiety, hypotension, nausea and vomiting, cramps, muscles and headaches (5,6). According to Avdal (2020), anxiety in hemodialysis patients can be caused by various stressors, the sources of these stressors include pain in the fistula puncture area, complications during dialysis (skin itching, muscle cramps, hypotension, and chest pain), limitations in carrying out activities. schedule of therapy is dense and carried out regularly), medical expenses, frequent hemodialysis makes the patient feel bored,

the distance to the hemodialysis therapy site, and feels a burden and dependence on the family (7,8). Anxiety if not handled can have several impacts including having a negative assessment of the vital signs, meaning of life, decreasing quality of life, having no hope and purpose in life and emotional changes (9,10). This is in line with other studies which show that most HD patients experience anxiety ranging from mild to severe even to depression (11-14).

Patients undergoing hemodialysis have varying levels of anxiety (15). Patients who have just undergone hemodialysis on average experience severe anxiety, because in the initial period the patient feels hopeless and cannot recover as before. After continuous therapy the patient began to adapt well and the level of anxiety began to be moderate to mild. According to the previous study stated that CKD patients who underwent hemodialysis less than 6 months had a higher level of anxiety than patients who had undergone hemodialysis for more than 6 months (16).

CKD patients undergoing hemodialysis with anxiety disorders can be treated by relaxation therapy, distraction, and music therapy (17). One of the music therapies to treat or reduce anxiety is the murottal al-quran that someone listens to so that it can have a positive influence (18). Listening to Murottal Qur'an is a sound therapy that affects the brain and stimulates alpha waves to reduce stress, create relaxation, stabilize vital signs and boost the immune system (19). The previous study with terminal ill patients showed that reading the Qur'an is a spiritual therapy that can give you peace, get closer and strengthen your spiritual belief in God to cure your illness (20). One of the letters that is often used as murottal therapy is Surah Ar-Rahman, because it has many verses that are read over and over so that it can distract and function as a decrease in the patient's brain waves. In this condition, the brain will produce serotonin and endorphins hormones that make a person feel comfortable, calm and

happy (21). Various studies have supported the effect of murottal al-quran therapy on the anxiety of CKD patients (22,23). Therefore, the researchers conducted a study in the form of providing murottal al-qur'an therapeutic interventions on the anxiety level of chronic kidney disease patients undergoing hemodialysis in the hope of helping reduce anxiety levels in patients.

## METHODS

This study employed a quasi-experimental approach based on a One Group Pretest-Posttest with no Control Group. The research was place in West Java over the course of four weeks. G\*Power version 3.1.9.4 was used to conduct the statistical analysis, and the sample size was calculated from those results. A total of 34 participants were evenly split between the experimental and control groups. Participants must fit the following requirements to be included in the sample: (a) have mild to moderate anxiety (b) be between the ages of 20 and 60 (c) be Muslim (d) be familiar with the work of composers (e) not be taking any medications to treat their anxiety, depression, or psychosis.

The intervention provided with murottal surah ar-rahman therapy as many as 78 verses sung by Ahmad Saud, for 7 consecutive days On days 2-6 researchers monitored respondents via video calls, to ensure respondents intervened. Each respondent received an intervention lasting roughly 15 minutes over the course of 7 days. Within the intervention group, sessions of psychoeducation lasted between 25 and 45 minutes.

Assessment of anxiety levels using the Zung Self-Rating Anxiety Scale (ZSAS), which is an assessment of anxiety in patients designed by William WK Zung. Research on anxiety in Indonesia using ZSAS was

conducted by (12), with the result of the 0.05 test significance being 0.361. The value of Cronbach's Alpha is 0.727 and the results of the r count 0.361 for each questionnaire item are declared valid. The pre-test scores were taken before the intervention was given to the intervention group which ended with taking the post-test scores after the intervention. After collecting post-test scores, the control group also received the intervention, which consisted of movies teaching them about murottal therapy. The Paired T Test was used to compare the change in anxiety between the two groups before and after the intervention.

## RESULTS

Table 1 shows that from 34 respondents, the average age of respondents was 49.09 years with a standard deviation of 7.56, where most of the respondents who took part in this study were 46-55 years old as many as 17 respondents (50.0%). Based on gender, there are 22 respondents (64.7%) male and 12 respondents (35.3%) female. The data shows the frequency distribution of the length of time undergoing hemodialysis, which is an average of 22.21 months with a standard deviation of 17.78. Most of the respondents underwent hemodialysis with a time of 6-12 months as many as 9 respondents (29.3%). It is also known that before being given murottal therapy intervention, some respondents had mild anxiety levels as many as 29 respondents (85.4%). after being given murottal therapy intervention, most of the respondents showed normal levels of anxiety as many as 21 respondents (61.8%).

After the paired simple t-test, table 2 shows a significant difference in anxiety before and after the intervention with an average pre-test value of 55.03 and a post-test of 41.44 with a p-value of .000. In this case, the anxiety shows a significant change, which means  $H_0$  is accepted and  $H_a$  is rejected.

**Table 1.**  
**Distribution Frequency of Respondents by Age, Gender, Length of Undergoing Hemodialysis in Subang District Hospital (n = 34).**

Variable	N	%	Mean ± (SD)	Min ± Max
<b>Age</b>			49.09 ± (7.561)	32±60
26-35	1	2.9		
36-45	9	26.5		
46-55	17	50.0		
56-65	7	20.6		
<b>Gender</b>				
Male	22	64.7		
Female	12	35.3		
<b>Length of Hemodialysis</b>			22.21± (17.783)	7±44
6-12 months	9	29.3		
13-18 months	5	14.2		
19-24 months	4	11.6		
25-30 months	5	14.5		
31-36 months	5	14.5		
37-42 months	4	11.6		
43-49 months	2	5.8		
<b>Anxiety Level (Pre-Test)</b>				
Normal	-	-		
Mild	29	85.4		
Moderate	5	14.6		
<b>Anxiety Level (Post-Test)</b>				
Normal	21	61.8		
Mild	13	38.2		
Moderate	-	-		

**Table 2.**  
**Differences in Anxiety Values Before and After Interventions in Chronic Kidney Disease Patients Undergoing Hemodialysis at Subang Hospital (n = 34)**

Variable	mean	SD	Min ± Max	95% CI	T	p-value
Pre-Test Total Anxiety	55.03	4.331	63±126	15,179 11,997	17,375	0.000
Post Test Total Anxiety	41.44	4,009	47±112			

## DISCUSSION

Over 40 years of age undergo hemodialysis, because the functions of organs in the body begin to decline (24). In addition, if viewed from an unhealthy lifestyle before, it will cause the risk of disease. The results of this study indicate that the age characteristics in the range of 32-60. According to researchers, age can affect the level of

anxiety experienced by hemodialysis patients, the older the age the higher the patient's anxiety level.

Gender is one of the variables that can provide differences in the incidence of men and women. The incidence of kidney failure in men is twice as large as in women, because predominantly men often experience systemic disease, as well as a

family history of inherited diseases (25). In this study, male sex characteristics (64.7%) were more dominant than female (35.3%). This is in line with the other research which stated that the largest frequency distribution in patients with hemodialysis is male (56.7%) (26). In the opinion of researchers in maintaining health, usually women are more healthy than men, irregular eating patterns and most men like to consume alcoholic beverages and have higher creatinine levels than women.

The longer the patient undergoes hemodialysis, the better the patient adaptation is because the patient has received health education or information related to chronic kidney failure and its treatment (27). Based on the research, the characteristics of undergoing hemodialysis are 7-44 months. In the opinion of the researchers, the longer they undergo hemodialysis, the more accustomed they are to using all the tools and processes performed during hemodialysis, so that their anxiety levels are different from those of the respondents who are undergoing hemodialysis for the first time.

The zung self anxiety rating scale (ZSAS) questionnaire has 20 statements with 5 positive statements and 15 negative statements. In this study with 34 respondents, the largest score at the time of the pre-test was in statement no. 20 with a score of 126 and the smallest score was in statement no. 09 with a score. While the greatest value in the post-test is in statement no 05 with a score of 112 and the smallest score is in statement no 18 with a score of 47.

Anxiety is an emotional state characterized by physiological arousal, an unpleasant feeling of tension and an uneasy feeling that something bad will happen. The causes of a person experiencing anxiety while undergoing hemodialysis can be influenced by several factors including expensive financing and the threat of death causing the patient's anxiety level to increase (28). Listening to the Qur'an can have a calming

effect on the body, because of the elements of autosuggestion meditation and relaxation. Then this feeling of calm will bring a positive perception that can stimulate the hypothalamus to secrete endorphins. Endorphin hormones are hormones released by the pituitary gland and central nervous system that control injury and stress, increase feelings of relaxation and distract from fear, anxiety and tension (21). Based on the results of this study, it showed that there was a difference in anxiety before and after the intervention was given, with the previous category of anxiety being moderate and mild anxiety becoming mild and normal anxiety with an average pre-test value of 55.03 and a post-test of 41.44 and a p-value of .000 which means murottal surah therapy. ar-rahman has an effect on reducing anxiety levels. The results of this study are in line with previous studies that were given murottal therapy by Surat Ar-Rahman in patients with chronic kidney disease undergoing hemodialysis, with an average pre-test value of 17.84 and a post-test of 14.28 and a p-value of 0.000 (23). In the opinion of researchers, the decrease in anxiety levels in hemodialysis patients is caused by the therapeutic intervention of murottal al-qur'an surah ar-rahman which provides calm so that it can reduce anxiety and this intervention can be used as alternative therapy because it does not cause side effects and the price is affordable.

## CONCLUSION

Patients with hemodialysis were shown to experience a considerable decrease in their anxiety after receiving murottal, which was administered to the intervention group. It is intended that nurses can use the findings of this study to ease their patients' fears. Patients with chronic renal disease who are receiving hemodialysis may experience high levels of anxiety due to the procedure, and this study aims to shed light on the issue and inspire further research into potential interventions to alleviate these concerns.

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