

The Effect of Murottal Al-Qur'an Audio Therapy on the Anxiety Levels of Cito Hemodialysis Patients

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Abstract:

Patients undergoing emergency hemodialysis therapy will experience anxiety caused by financial crises, fear of death, and stressors. One of the effective distraction techniques used to overcome anxiety in patients is using Murottal Al-Qur'an Audio. The brain will release neuropeptides that can provide comfort and pleasure when stimulated by Murottal Al-Qur'an Audio, which will lessen the patient's anxiety. The research design used is quantitative research with a pre-experimental One-Group Pretest-Posttest Design approach. The population in this study were patients undergoing Cito hemodialysis who met the inclusion criteria, with a sample of 31 respondents. The sampling technique used accidental sampling. The research results were obtained before Murottal Al-Qur'an Audio was carried out from a total of 31 respondents: 18 (58.1%) respondents experienced severe anxiety, 12 (38.7%) respondents experienced moderate anxiety, and 1 (3.2%) respondent experienced mild anxiety. After carrying out Murottal Al-Qur'an Audio, it was found that 21 (67.7%) respondents experienced mild anxiety, 10 (32.3%) respondents experienced moderate anxiety, and none (0%) respondents experienced severe anxiety. After analysis using the Wilcoxon Signed Ranks Test, the results showed p-value = 0.000, indicating Murottal Al-Qur'an Audio's influence on the Anxiety Level of Cito Hemodialysis Patients. It is hoped that hospital management can use Audio Murottal Al-Qur'an as a non-pharmacological technique/alternative therapy in providing nursing care to reduce the level of anxiety in patients undergoing Cito hemodialysis.

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INTRODUCTION

Chronic Kidney Disease (CKD) is characterized by the progressive decline of kidney function, impairing its ability to maintain the body's internal balance. This disease belongs to the non-communicable category, as it cannot be transmitted from person to person. CKD progresses gradually over time and is irreversible, as damaged nephrons cannot regain normal function (Ponzo et al., 2022; Ekholm et al., 2025; Agustin et al., 2023). The disease can eventually lead to End-Stage Renal Disease (ESRD), necessitating renal replacement therapy. Hemodialysis (HD) is a standard renal replacement therapy for patients requiring either short-term dialysis for acute conditions or long-term/permanent treatment for ESRD (Aghsaeifard et al., 2022; You et al., 2022; Rustandi et al., 2018).

Currently, hemodialysis services are divided into HD Cito and regular HD. HD Cito is for emergency cases requiring immediate attention, while regular HD serves patients attending

scheduled sessions for routine blood filtration. Patients undergoing HD Cito experience anxiety due to the unexpected nature of their condition: lack of knowledge about the procedure, financial concerns, fear of death, and sudden stress from unplanned medical intervention (Masià-Plana et al., 2022; Huang et al., 2021; Nadort et al., 2022).

According to the World Health Organization, CKD has become a primary global health concern, affecting over 10% of the general population worldwide, with approximately 843.6 million individuals diagnosed (Kovesdy, 2022). In Indonesia, 3.8% of the population (713,783 people) have been diagnosed with CKD, with the highest prevalence reported in West Java (131,846 individuals), followed by East Java (113,045 individuals) (Kemenkes RI, 2019). The 12th Annual Report of the Indonesian Renal Registry (2019) highlighted a rise in new CKD cases, from 66,433 in 2018 to 69,124 in 2019, and an increase in active hemodialysis patients from 135,486 in 2018 to 185,901 in 2019.

Medical records from Bhayangkara Hospital, Lumajang, reveal a significant increase in outpatient visits for CKD and hemodialysis since the service began in August 2017. Initially, there were 501 visits, which surged to 11,695 visits by 2023. The hospital recorded 288 HD Cito procedures and 117 active CKD patients undergoing regular hemodialysis in 2023.

A preliminary study conducted in December 2023 involving five CKD patients at Bhayangkara Hospital found that anxiety was a common psychological issue. Two emergency (cito) patients assessed using the HARS instrument exhibited moderate anxiety. Meanwhile, three regular HD patients reported feeling anxious and tense, with palpitations and concerns about post-HD side effects, such as nausea and dizziness, primarily due to unfamiliarity with the procedure.

Anxiety, a significant psychological challenge for hemodialysis patients, can negatively affect their quality of life if left unaddressed (Deviantony et al., 2024; Rendiansyah et al., 2023; Dewi et al., 2023). Nursing interventions to manage anxiety include pharmacological and non-pharmacological approaches. Non-pharmacological strategies such as relaxation techniques and distractions are particularly effective (Domínguez-Solís et al., 2021; Sabeti et al., 2021; Sun et al., 2022). Health Care Providers' experiences of non-pharmacological pain and anxiety management and its barriers in the Pediatric Intensive Care Units. *Journal of Pediatric Nursing*, 60, e110-e116.). One promising method is Murottal Quran therapy. Listening to Quranic recitations has been shown to reduce stress hormones, activate natural endorphins, enhance relaxation, and divert attention from fear and tension. This approach also lowers blood pressure, heart rate, pulse, and brainwave activity, promoting a sense of calmness (Saputri et al., 2024).

METHOD

This study employs a pre-experimental research type using a one-group pretest-posttest design. This design involves a single group of subjects observed before (pre-test) and after (post-test) the intervention. The population comprises all HD Cito patients at Bhayangkara Hospital Lumajang during June–July 2024, with a minimum of 30 respondents meeting the inclusion criteria. Samples are selected using non-probability accidental sampling, where individuals meeting the study requirements and encountered during the research are included. The intervention involves Murottal Quran audio therapy, and data is collected in the hospital's hemodialysis unit. Ethical clearance was obtained under Ethical Feasibility Test Letter No. 144/KEPK-UNHASA/VII/2024, and informed consent was secured from all participants.

Data were gathered using a demographic questionnaire and the Hamilton Anxiety Rating Scale (HARS), consisting of 14 anxiety indicators scored from 0 (no symptoms) to 4 (very severe). Observations were conducted 30 minutes before and after the intervention, which involved playing

Murottal Quran (Surah Ar-Rahman) for 30 minutes during dialysis. Data analysis employed descriptive and inferential statistics to measure anxiety reduction, interpreting results to assess therapy effectiveness. This research adhered to ethical principles, ensuring participant confidentiality and voluntary participation.

RESULT

Table 1. Characteristics of Respondents (n=36)

Characteristics	Frequency	Percentage (%)
Age		
31-40 years	5	16.1
41-50 years	8	25.8
51-60 years	12	38.7
>60 years	6	19.4
Gender		
Male	14	45.2
Female	17	54.8
Occupation		
Unemployed	6	19.4
Private Sector	10	32.3
Self-employed	11	35.5
Civil Servant / Retiree	4	12.9
Education		
No Schooling	2	6.5
Elementary School	4	12.9
Junior High School	6	19.4
High School	11	35.5
Academy / Higher Education	8	25.8

The study participants were categorized based on various characteristics. Regarding age, 16.1% were 31-40, 25.8% were 41-50, 38.7% were 51-60, and 19.4% were over 60. The gender distribution showed 45.2% male and 54.8% female. Regarding occupation, 19.4% were unemployed, 32.3% worked in the private sector, 35.5% were self-employed, and 12.9% were civil servants or retirees. For education, 6.5% had no schooling, 12.9% completed elementary school, 19.4% completed junior high school, 35.5% finished high school, and 25.8% had higher education or an academic degree.

Table 2. Anxiety Levels of Cito Hemodialysis Patients at Bhayangkara Hospital Lumajang Before and After Murottal Al-Qur'an Audio Therapy (n=36)

Category of Anxiety	Before Murottal Al-Qur'an Audio Therapy		After Murottal Al-Qur'an Audio Therapy	
	Frequency	Percentage (%)	Frequency	Percentage (%)
Mild Anxiety	1	3.2	21	67.7
Moderate Anxiety	12	38.7	10	32.3
Severe Anxiety	18	58.1	0	0

Before the Murottal Al-Qur'an Audio Therapy, the majority of Cito hemodialysis patients at Bhayangkara Hospital Lumajang experienced severe anxiety (58.1%), followed by moderate anxiety (38.7%), and only a few had mild anxiety (3.2%). After the therapy, there was a significant improvement, with most patients experiencing mild anxiety (67.7%), while moderate anxiety was reported by 32.3%, and no patients had severe anxiety. This shows a notable reduction in anxiety levels following the therapy.

Table 3. Characteristics of Respondents' Anxiety Levels of Cito Hemodialysis Patients in the Hemodialysis Room of Bhayangkara Hospital Lumajang Before and After Murottal Al-Qur'an Audio Therapy (n=36)

	Category of Anxiety	After							
		Mild		Moderate		Severe		Total	
		(F)	(%)	(F)	(%)	(F)	(%)	(F)	(%)
Before	Mild	1	3.2%	0	0%	0	0%	1	3.2%
	Moderate	7	22.6%	5	16.1%	0	0%	12	38.7%
	Severe	13	41.9%	5	16.1%	0	0%	18	58.1%
	Total	21	67.7 %	10	32.2%	0	0%	31	100%
Test Statistics									
								Before - After	
Z								-4.507b	
Asymp. Sig. (2-tailed)								0.000	
a. Wilcoxon Signed Ranks Test									
b. Based on negative ranks									

The data shows the distribution of anxiety levels among Cito hemodialysis patients at Bhayangkara Hospital Lumajang before and after Murottal Al-Qur'an Audio Therapy. Before the therapy, 3.2% of patients experienced mild anxiety, 38.7% had moderate anxiety, and 58.1% had severe anxiety. After the therapy, the majority (67.7%) experienced mild anxiety, while 32.3% still had moderate anxiety, and no patients experienced severe anxiety. The Wilcoxon Signed Ranks Test revealed a significant reduction in anxiety levels, with a Z-value of -4.507 and a p-value of 0.000, indicating that the therapy effectively reduced anxiety.

DISCUSSION

Anxiety Levels of Cito Hemodialysis Patients at Bhayangkara Hospital Lumajang Before Murottal Al-Qur'an Audio

Based on the distribution of anxiety levels among Cito hemodialysis patients in the Hemodialysis Room of Bhayangkara Hospital Lumajang prior to the Murottal Al-Qur'an Audio intervention, the study results shown in Table 5.5 indicate that the majority of respondents experienced severe anxiety, accounting for 18 patients (58.1%). This was followed by 12 respondents (38.7%) with moderate anxiety and only one respondent (3.2%) experiencing mild anxiety.

Anxiety is defined as an unclear sense of fear accompanied by feelings of uncertainty, helplessness, isolation, and discomfort. Various factors, such as age, gender, education level, and socioeconomic status, can influence a person's anxiety level, particularly among patients undergoing Cito hemodialysis due to their medical conditions. Individuals experiencing mild anxiety can still perform daily activities; however, preventing patients from progressing to moderate or severe anxiety

is critical, as it can complicate disease management and the procedures they undergo (Harzif et al., 2022; Zhang et al., 2025).

Based on interviews with respondents, most experienced severe anxiety because they perceived the Cito hemodialysis procedure as frightening. The treatment takes place in a specialized room with machines and tubes unfamiliar to the patients. Many respondents had no prior knowledge or experience with dialysis and were fearful of potential adverse outcomes due to societal assumptions that dialysis is a precursor to death. Data obtained from questionnaires revealed that respondents often felt nervous, trembled, and were restless before the procedure. They frequently reported unfounded fears, overthinking, rapid heartbeats, difficulty falling asleep, poor sleep quality, nightmares, and physical weakness.

According to the researcher, various anxiety responses emerge when individuals face unfamiliar situations, particularly those related to health conditions with uncertain outcomes. These responses may manifest verbally or non-verbally, reflected in changes in vital signs and physiological functions.

Anxiety Levels of Cito Hemodialysis Patients at Bhayangkara Hospital Lumajang After Murottal Al-Qur'an Audio

The anxiety levels of Cito hemodialysis patients in the Hemodialysis Room of Bhayangkara Hospital Lumajang following the Murottal Al-Qur'an Audio intervention, as shown in Table 5.6, indicate that the majority of respondents experienced mild anxiety, totaling 21 patients (67.7%). Notably, none of the respondents experienced severe anxiety post-intervention, although moderate anxiety persisted in 10 respondents (32.3%).

According to the HARS (Hamilton Anxiety Rating Scale) scoring instrument, anxiety scores decreased across all 31 respondents who received the Murottal Al-Qur'an Audio. Non-pharmacological therapies, such as relaxation techniques involving the Murottal Al-Qur'an Audio, have proven effective in reducing or even eliminating anxiety among patients undergoing medical treatments.

Patients with chronic kidney disease face significant lifestyle adjustments, impacting their psychological well-being as well as their physical health. A diagnosis of kidney failure often triggers emotional responses, including denial and anxiety (Nair et al., 2020). According to the researcher, respondents' ability to engage in relaxation techniques is crucial in managing anxiety. One accessible relaxation method is listening to Quranic recitations, which act as sound waves with calming effects. This therapy induces relaxation, fosters gratitude, and strengthens spiritual connection, encouraging patients to reflect on blessings and draw closer to their faith.

The Effect of Murottal Al-Qur'an Audio Therapy on Anxiety Levels of Cito Hemodialysis Patients at Bhayangkara Hospital Lumajang

The data in Table 5.7 reveals the impact of Murottal Al-Qur'an Audio Therapy on the anxiety levels of 31 respondents before and after the intervention. Before the therapy, only a tiny fraction of respondents (3.2%) experienced mild anxiety, while the majority (58.1%) reported severe anxiety. Following the intervention, most respondents (67.7%) experienced mild anxiety, with no cases of severe anxiety recorded. Moderate anxiety levels decreased slightly, from 38.7% before therapy to 32.3% afterward.

Statistical analysis using the Wilcoxon Signed Ranks Test showed significant results, with a Z-value of -4.507 and a p-value of 0.000 ($p < 0.05$). This indicates a significant effect of Murottal Al-Qur'an Audio Therapy on reducing anxiety levels in Cito hemodialysis patients.

The significant reduction in anxiety scores is attributed to various factors, including age, gender, educational background, socioeconomic status, and therapeutic communication. Internal factors such as the patient's condition and initial anxiety levels also influence the effectiveness of the relaxation procedure (Saleh et al., 2023; Nipa et al., 2021).

Studies support these findings, including research by Suparyadi et al., (2021), which demonstrated the efficacy of Murottal Al-Qur'an Audio Therapy in reducing surgical anxiety in ORIF patients with a p-value of 0.001. Similarly, Azzahroh et al., (2020) reported a significant reduction in anxiety levels after Murottal Al-Qur'an Audio Therapy, with a p-value of 0.000.

Physiologically, Quranic recitations have a calming effect, acting through the autonomic nervous system. The parasympathetic system is activated, reducing stress responses, such as elevated heart rate and blood pressure, triggered by the sympathetic system. According to Iryani et al., (2023), Murottal Al-Qur'an Audio vibrations resonate through the auditory system, reaching the brain and stimulating feelings of comfort and positive emotional changes. With an audio intensity of around 50 decibels, Quranic recitations are particularly effective at promoting relaxation and reducing anxiety compared to other auditory therapies. According to Khamid, (2023) listening to Murottal Al-Qur'an Audio for 15 minutes at a slow, harmonious tempo can reduce stress hormones and stimulate endorphins. The intervention also generates delta brainwaves, enhancing relaxation and reducing anxiety.

From the researcher's perspective, listening to Quranic recitations fosters a sense of security, peace, and spiritual closeness to Allah SWT. Specifically, recitations from Surah Ar-Rahman can inspire positivity, optimism, and strength, making it an effective non-pharmacological intervention for anxiety management in patients undergoing Cito hemodialysis.

CONCLUSION

The Murottal Al-Qur'an Audio Therapy significantly reduces anxiety levels among Cito hemodialysis patients at Bhayangkara Hospital Lumajang. Before the intervention, most patients experienced severe anxiety (58.1%), while after the therapy, the majority shifted to mild anxiety (67.7%), with no severe anxiety recorded. Statistical analysis confirmed the therapy's effectiveness, with a p-value of 0.000, indicating a significant impact.

This therapy's success is linked to various factors, such as individual patient characteristics, therapeutic communication, and the calming effect of Quranic recitations. As a non-pharmacological intervention, it provides a holistic approach to managing anxiety by inducing relaxation, fostering spiritual reflection, and promoting mental well-being.

The findings align with previous studies highlighting the physiological and psychological benefits of Murottal Al-Qur'an Audio Therapy. Listening to Murottal Al-Qur'an reduces stress responses and encourages feelings of peace, optimism, and spiritual connection. This therapy is a viable alternative to pharmacological methods for anxiety management in clinical settings, especially for patients undergoing challenging medical treatments like Cito hemodialysis.

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CONFLICT OF INTEREST

The authors stated that they have no conflicts of interest related to the creation of this manuscript.

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