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The influence of murattal al-qur'an therapy on the anxiety of patients who will have an MRI examination

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Abstract

Background: The anxiety experienced by patients before an MRI examination not only affects the patient's psychological comfort, but can also affect the image results from the MRI. Non-pharmacological nursing intervention to reduce anxiety levels by providing murottal therapy from the Al-Quran Surah Ar-Rahman combined with providing education on MRI examiner procedures.

Purpose: To determine the effect of providing Al-Qur'an Surah Ar-Rahman murottal therapy and MRI education on the anxiety level of patients who will undergo an MRI examination.

Method: A quasi experiment with a one group pre-post test design. The number of respondents was 65 respondents with a purposive sampling technique, a non-probability sampling technique. The anxiety level instrument uses HARS and SOP for MRI examination education. The data obtained is processed statistically using the Wilcoxon test.

Results: The level of anxiety before the Ar-Rahman surah murottal therapy and MRI education was mostly categorized as moderately anxious, amounting to 39 respondents (60.0%) and mildly anxious amounting to 26 respondents (40.0%). After carrying out most of them were categorized as mildly anxious, amounting to 51 respondents (78.5%) followed by those who were not anxious, amounting to 11 respondents (16.9%) and moderately anxious, amounting to 3 respondents (4.6%). Statistical analysis using Wilcoxon obtained a significant p-value of $0.000 < 0.05$.

Conclusion: There is a significant effect of providing Murottal Surah Ar-Rahman therapy and MRI education on the anxiety of patients who will undergo MRI procedures in the Radiology Department.

Keywords: Al-Quran Murottal; Anxiety Levels; MRI Education.

INTRODUCTION

Magnetic Resonance Imaging (MRI) is one of the diagnostic supporting examinations in the field of radiology that uses a magnetic field without ionizing radiation such as X-rays (Wana, Haskas, Abrar, 2024). MRI produces detailed cross-sectional images of the human body, particularly soft tissues, and is used to diagnose various medical conditions

such as tumors, cancer, stroke, and abnormalities of internal organs (Islamyah, Widiastuti, Asnindari, 2024). Although MRI examination does not cause

pain, the procedure often triggers anxiety in patients, especially due to the narrow space (claustrophobia), loud machine noise, and relatively long examination duration of approximately 30 to 90 minutes

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(Handayani, 2025). Anxiety experienced by patients before an MRI examination not only affects their psychological comfort but may also influence the quality of MRI images. High levels of anxiety can make it difficult for patients to remain still during the procedure, potentially resulting in technical disturbances in imaging or suboptimal results (Putra, Astina, Triningsih, 2022). Such heightened anxiety can impact the quality of the examination, including patient movement that blurs the images or even leads to procedure cancellation (Lee, Barnett, Goldsmith, Yang, Appleton, Lloyd-Evans, Johnson, 2026).

Anxiety prior to MRI examination can be triggered by various factors, including diagnostic uncertainty, fear of radiation, physical discomfort, lack of understanding about the examination process, and concerns about the results. Therefore, it is important to understand the contributing factors of anxiety as well as interventions that can help reduce patient anxiety before undergoing MRI (Yakar, Piriñci, 2020). Nursing interventions to reduce anxiety can be performed through pharmacological and non-pharmacological approaches. Medications such as benzodiazepines are commonly used; however, they may cause side effects such as memory disturbances. Consequently, non-pharmacological approaches, including spiritual therapy, have become safe and effective alternatives (Setiawan, Yanto, 2020).

Listening to the recitation of the Qur'an has become an increasingly popular alternative therapy within the scientific community. Various studies indicate that Qur'anic recitation can induce a state of relaxation by influencing the autonomic nervous system, which in turn reduces heart rate and increases peripheral blood circulation (Simamora, Daulay, 2021). A study in 2024 reported that 30 patients at PKU Muhammadiyah Gamping Yogyakarta who underwent surgery experienced reduced anxiety after receiving Ar-Rahman murottal therapy (Pratama, Septianawati, Maulana, Fakhri, Yuliani, 2025).

As a therapeutic modality, reciting Surah Ar-Rahman aloud can help patients feel more relaxed, reduce anxiety, and alleviate fear by lowering stress hormone levels and promoting a sense of calm. In addition to calming the mind and body, reciting the

Qur'an may strengthen patients' spiritual connection to God by emphasizing His holiness and greatness. Listening to or reciting Surah Ar-Rahman during treatment helps patients feel more at ease by reminding them to surrender their worries to God (Gunawan, Mariyam, 2022). Patient anxiety before MRI procedures is also influenced by insufficient information provided by healthcare professionals, highlighting the importance of patient education prior to the examination. Providing education about MRI procedures has been shown to be effective in reducing anxiety by helping patients understand the process, decreasing uncertainty, and increasing their sense of control (Bolejko, Hagell, 2021). There is a significant effect of health promotion about MRI on increasing patient knowledge and reducing anxiety levels (Andeizi, Putri, Muqmiroh, Setiawati, 2022).

RESEARCH METHOD

This study employed a one-group pretest–posttest quasi-experimental design to evaluate the effectiveness of MRI education and murottal therapy of Surah Ar-Rahman in reducing patients' anxiety levels prior to undergoing magnetic resonance imaging (MRI) examination at Central General Hospital Dr Kariadi. The research design consisted of measuring anxiety levels before the intervention (O1), administering the intervention in the form of Surah Ar-Rahman murottal therapy combined with MRI education (X), and measuring anxiety levels after the intervention (O2). The study population included all patients undergoing MRI examinations during June–July 2025, with an average monthly volume of 68 patients. Using the Slovin formula with a 5% significance level, the required sample size was calculated to be 58 patients. After accounting for an anticipated 10% dropout rate, the final sample size was adjusted to 65 patients.

Purposive sampling was applied as the sampling technique, meaning participants were intentionally selected based on specific inclusion and exclusion criteria relevant to the research objectives. The inclusion criteria were adult Muslim patients undergoing MRI for the first time, fully conscious and cooperative, not in critical condition, and not receiving anti-anxiety medication. The exclusion criteria included patients who were unwilling to participate and those with visual or hearing

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impairments that could hinder participation. The study was conducted in the MRI Unit of the Radiology Installation at Central General Hospital Dr

Kariadi Semarang over a one-month period from October to November 2025.

RESEARCH RESULTS

Table 1. Distribution of Respondent Characteristics (N=65)

Variable	Results
Age (n/%) (Mean±SD) (Range) (Year)	(50.9±11.1) (17-65)
17-30	5/7.7
31-40	4/6.2
41-50	17/26.1
51-60	23/35.4
≥60	16/24.6
Anxiety Level Before (N/%) (Mean±SD) (Range)	(22.1±3.9) (14-27)
None	0/0.0
Mild	26/40.0
Moderate	39/60.0
Anxiety Level After (N/%) (Mean±SD) (Range)	(16.2±2.9) (10-22)
None	11/16.9
Mild	51/78.5
Moderate	3/4.6
Gender (n/%)	
Male	
Female	26/40.0
	39/60.0
Education (n/%)	
Elementary School	6/9.3
Junior High School	12/21.5
Senior High School	34/52.3
University	11/16.9
Occupation (n/%)	
Civil servant	11/16.9
Private sector employee	27/41.6
Retired	1/1.5
Unemployed	26/40.0

Based on the table, the majority of respondents were aged 51–60 years (23; 35.4%), followed by 41–50 years (17; 26.1%) and ≥60 years (16; 24.6%), with a mean age of 50.9 ± 11.1 years and a range of 17–65 years. Before the intervention, the mean anxiety score was 22.1 ± 3.9 (range 14–27), with most respondents experiencing moderate anxiety (39; 60.0%) and the remaining reporting mild anxiety (26; 40.0%), while none were in the no-anxiety category. After the intervention, the mean anxiety score decreased to 16.2 ± 2.9 (range 10–22), with the majority experiencing mild anxiety (51; 78.5%), 11 respondents (16.9%) reporting no anxiety,

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and only 3 respondents (4.6%) remaining in the moderate category. In terms of gender, most respondents were female (39; 60.0%) and 26 (40.0%) were male. Regarding education level, the majority had completed senior high school (34; 52.3%), followed by junior high school (12; 21.5%), university (11; 16.9%), and elementary school (6; 9.3%). Based on occupation, most respondents were private sector employees (27; 41.6%) and Unemployed (26; 40.0%), while 11 (16.9%) were civil servants and 1 (1.5%) was retired.

Table 2. Normality Test

Variable	Kolmogorov-Smirnov		
	Statistics	df	Sig
Score Before Intervention	0.164	65	0.000
Score After Intervention	0.157	65	0.000

Table shows that the anxiety scores before and after the Ar-Rahman letter and MRI education had a skewed distribution according to the data normality test, with a p-value <0.05. Therefore, the Wilcoxon test was used for statistical testing.

Table 3. The Effect of Ar-Rahman Surah Murottal Therapy and MRI Education on Patient Anxiety

Variable	Mean	SD	P-Value
Before Intervention	22.06	3.980	0.000
After Intervention	16.26	2.965	
Reduction Score	7.08	4.162	

Based on the data presented in Table, it can be concluded that the Wilcoxon matched-pairs test has a significant impact on the anxiety levels of patients undergoing MRI. The p-value for this test is 0.000, which is less than 0.005, indicating that the null hypothesis (H_0) is rejected and the alternative hypothesis (H_a) is accepted. After integrating MRI education and murottal treatment based on Surah Ar-Rahman, the patients' anxiety scores decreased by an average of 7.08 points (standard deviation: 4.162).

DISCUSSION

The study results show that the characteristics of respondents undergoing MRI examinations in the Radiology Installation were predominantly female, totaling 39 respondents (60.0%). Similarly, most patients undergoing head CT-Scan examinations were female, accounting for 55.6% (Putri, Nikmah, 2021). In addition, 66.7% of respondents who underwent MRI procedures at Abdul Moeloek Hospital, Lampung Province, were female (Rahmania, 2021). Based on demographic details, 23 participants (35.4%) were in the 51–60 years age

group. Likewise, 27.8% of patients undergoing magnetic resonance imaging (MRI) at Bali Mandara Regional Hospital were aged between 56 and 65 years (Putri, 2024).

Aging is characterized by a decline in physiological, psychological, and cognitive functions, and this age group falls into that category. Components of cognitive function, such as perception and attention, influence the understanding of statements in the MRI-AQ questionnaire (Hasibuan, 2024). As individuals age, their immune system naturally declines, resulting in decreased immunological function. The risk of complications from diabetes doubles between the ages of 40 and 60. Aging is also associated with various health problems, most commonly decreased immune function and more frequent and severe exposure to carcinogens (Hanim, Ahlas, 2020).

The findings indicate that before receiving murottal therapy of Surah Ar-Rahman and MRI education, most respondents undergoing MRI procedures in the Radiology Installation were categorized as having moderate anxiety (39 respondents; 60.0%), while 26 respondents (40.0%)

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experienced mild anxiety. Similarly, anxiety levels among patients undergoing MRI prior to listening to music intervention showed that 69.4% were categorized as moderate anxiety and 30.6% as mild anxiety. Anxiety levels can increase at any time and in any situation, significantly affecting the human body. Anxiety experienced by patients undergoing MRI examinations is one such example. It has been shown that the majority of patients experience moderate anxiety before MRI scanning. This level of anxiety manifests as restlessness, fear, and difficulty concentrating, which in turn can affect MRI results. Signs of moderate anxiety include speaking rapidly and loudly, increased heart rate and breathing, extreme fatigue, impaired concentration, muscle tension, narrowed field of vision, imperfect learning, forgetfulness, irritability, crying, impatience, hypersensitivity to criticism, selective attention, and fixation on irrelevant stimuli. An increase in heart rate during lumbar MRI scanning indicates that the patient is nervous (Andeizi et al., 2022).

After receiving murottal therapy of Surah Ar-Rahman and MRI education, most respondents were categorized as having mild anxiety (51 respondents; 78.5%), followed by those with no anxiety (11 respondents; 16.9%). Similarly, anxiety levels among patients undergoing MRI in the Radiology Room of Bali Mandara Hospital after listening to music intervention showed that 91.7% were categorized as mild anxiety and 5.6% as no anxiety. As a therapeutic modality, reciting Surah Ar-Rahman aloud can help patients feel more relaxed, reduce anxiety, and alleviate fear by lowering stress hormones and promoting a sense of calm. In addition to calming the mind and body, reciting the Qur'an may strengthen patients' spiritual closeness to God by emphasizing His holiness and greatness. The recitation of Surah Ar-Rahman during treatment helps patients relax by reminding them to surrender their worries to God (Gunawan & Mariyam, 2022).

According to the study findings, providing MRI education and murottal therapy of Surah Ar-Rahman to patients undergoing MRI procedures significantly reduced their anxiety levels. Music therapy helps patients feel more comfortable during magnetic resonance imaging (MRI) examinations (Sari, 2020). In the radiology department of Dr. Saiful Anwar General Hospital in Malang, patient education has

been shown to improve awareness of the MRI examination process and reduce anxiety levels (Rahadian, 2025).

The study found that participants who received MRI instruction and murottal therapy experienced a reduction in anxiety of 7.08 points. Qur'anic murottal therapy showed an average anxiety reduction of 13.6%. For listeners, Qur'anic murottal therapy can provide a sense of calm and relief from worry through proper recitation and rhythmic patterns. Patients who participated in this therapy reported lower stress, stabilized blood pressure, and reduced anxiety due to the therapy's ability to provide strength and encouragement in facing problems (Derry, 2025). Mothers, in particular, may become more attentive listeners to the recitation of the holy Qur'anic verses while undergoing MRI scanning; this helps them relax, feel more optimistic about life, and maintain proper rhythm and tajwid in the recitation (Handayani, 2025).

CONCLUSION

There is a significant effect of Ar-Rahman recitation therapy and MRI education on the anxiety of patients undergoing MRI procedures at the Radiology Department. Based on anxiety scores, an average decrease was obtained after Ar-Rahman recitation therapy and MRI education, with an average decrease of 7.08.

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