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Review Article

Effectiveness of combined ar-rahman murottal therapy and lavender aromatherapy for family anxiety reduction in intensive care unit waiting rooms: A systematic review

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Abstract

Background: Family members who wait for patients in intensive care units frequently experience anxiety due to uncertainty, emotional burden, and fear related to critical illness. Non-pharmacological interventions such as Qur'anic murottal therapy and lavender aromatherapy have been increasingly explored because both approaches may promote relaxation, emotional comfort, and psychological stability in stressful clinical situations. However, evidence regarding their combined effectiveness for reducing anxiety among families in ICU waiting rooms remains limited and scattered across different clinical contexts.
Objective: This systematic review aimed to examine the effectiveness of combined Ar-Rahman murottal therapy and lavender aromatherapy for reducing anxiety among family members in intensive care unit waiting rooms.
Methods: This study used a systematic review design and followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA 2020) guideline. Literature searches were conducted in ClinicalKey for Nursing, SAGE Journals, ProQuest, and Google Scholar using combinations of keywords related to murottal therapy, lavender aromatherapy, anxiety, ICU, and family health. Studies published in English or Indonesian within the last 10 years were considered. Experimental and quasi-experimental studies were included, while irrelevant studies, methodologically weak articles, grey literature, and studies outside the review focus were excluded. Study selection, quality appraisal, and data extraction were conducted independently by two reviewers. Of 1,942 records initially identified, 12 full-text articles were assessed, 2 were excluded because of high risk of bias, and 10 studies were included in the final synthesis.
Results: The included studies showed that the combination of Ar-Rahman murottal therapy and lavender aromatherapy was associated with reduced anxiety across several clinical contexts. The strongest evidence came from studies involving family members in ICU waiting rooms, where the combined intervention significantly reduced anxiety levels. Indirect evidence from preoperative, inpatient, and waiting-room populations supported the anxiolytic potential of both therapies. Overall, the findings suggested a consistent positive direction of effect, although the evidence remained heterogeneous in terms of population, setting, intervention duration, and measurement instruments.
Conclusion: Combined Ar-Rahman murottal therapy and lavender aromatherapy appears to be a promising complementary intervention for reducing anxiety among family members in ICU waiting rooms. Nevertheless, further rigorous studies focusing specifically on ICU family populations are needed to strengthen the evidence base and support wider implementation in family-centered critical care nursing.

Background

Family members of patients admitted to the intensive care unit often experience psychological distress because they confront uncertainty, clinical instability, and the possibility of death during the waiting period (Bedaso et al., 2022). Anxiety in health-related settings can affect emotional control, coping ability, and interpersonal communication during stressful care situations (Joesep et al., 2025). This condition requires serious attention because unmanaged anxiety may worsen the overall experience of family-centered care in critical settings (Matulessy, 2025). Nurses therefore need supportive interventions that are safe, practical, and acceptable for use in emotionally intense environments such as ICU waiting rooms (Saputra et al., 2024). Non-pharmacological strategies have gained importance because they can reduce psychological burden without increasing medication exposure or treatment complexity (Hindriyastuti et al., 2024). These considerations indicate that anxiety among family members in ICU waiting rooms remains a

relevant issue for evidence-based nursing intervention development (Bedaso et al., 2022).

Complementary sensory-based interventions have shown potential for anxiety reduction because they influence emotional responses through auditory and olfactory pathways (Collins et al., 2022). Music and sound-based interventions can promote calmness and improve the waiting experience in stressful clinical environments (Collins et al., 2022). Aromatherapy has also demonstrated beneficial effects on anxiety, pain, and related symptoms in several procedural and perioperative settings (Farzan et al., 2023). Systematic review evidence has shown that aromatherapy may reduce postoperative discomfort and psychological distress through noninvasive administration methods (Effect of aromatherapy on postoperative pain relief: A systematic review and meta-analysis of randomized controlled trials, 2023). Lavender essential oil has received particular attention because its bioactive components possess pharmacological properties associated with relaxation and calming effects (Batiha et al., 2023). This body of evidence suggests that sensory interventions may offer a relevant framework for reducing anxiety among families who wait in highly stressful critical care settings (Rahman et al., 2024).

Lavender aromatherapy has been widely investigated because it is easy to administer and is generally considered feasible in clinical practice (Ciocarlan et al., 2021). Randomized and experimental studies have reported that lavender aromatherapy can reduce anxiety in surgical, obstetric, and psychiatric contexts (Çalışır et al., 2023). Inhaled lavender has also been shown to reduce anxiety associated with electroconvulsive therapy and other stressful procedures (Moghadam et al., 2022). Additional evidence has indicated that essential oil inhalation may improve stress responses, pain, and sleep-related outcomes in hospitalized patients (Lee & Hur, 2022). Other studies have supported lavender use for procedural anxiety reduction in pain management and interventional settings (Singh et al., 2021). These findings support the view that lavender aromatherapy may be a promising intervention for emotionally distressed family members in ICU waiting rooms (Putri et al., 2025).

In addition to olfactory interventions, Qur'anic murottal therapy has emerged as a spiritually grounded auditory intervention in Muslim populations because it may foster relaxation, comfort, and emotional regulation (Cita Setya Utami et al., 2025). Studies have shown that murottal therapy can reduce anxiety in preoperative patients and improve other psychological outcomes in clinical care (Cita Setya Utami et al., 2025). Murottal therapy has also demonstrated effectiveness in reducing pain and promoting comfort in postoperative and neurological conditions (Nuzulullail et al., 2023). Evidence from nursing practice has suggested that recitation of Surah Ar-Rahman may contribute to symptom relief when combined with other relaxation approaches (Putri et al., 2024). Other clinical studies have reported that listening to murottal therapy may improve rest and sleep quality in patients with health disturbances (Meliana Fitria Salichah & Arina Maliya, 2024). These results indicate that murottal therapy may provide a culturally congruent and spiritually meaningful strategy for anxiety reduction in family-centered critical care contexts (Aulia & Yuliani, 2025).

Recent studies have begun to explore the combination of murottal therapy and lavender aromatherapy because multimodal non-pharmacological approaches may produce stronger calming effects than single interventions alone (Faadhila et al., 2025). Research in Indonesian clinical settings has shown that the combination of murottal Al-Qur'an and lavender aromatherapy can reduce anxiety in patients undergoing stressful medical procedures (Khismawati Ifzaakfifnie et al., 2024). Similar findings have been reported among obstetric populations, where combined sensory and spiritual interventions improved emotional comfort and reduced anxiety levels (Faadhila et al., 2025). Combination therapy may enhance effectiveness because auditory spiritual stimulation and olfactory relaxation can work through complementary psychological and neurophysiological pathways (Batiha et al., 2023). However, the available evidence remains scattered across different populations, settings, and designs, so synthesis is needed before drawing conclusions for ICU waiting room application (Hindriyastuti et al., 2024). This gap creates a strong rationale for conducting a systematic review that focuses specifically on the combined use of Ar-Rahman murottal

therapy and lavender aromatherapy for family anxiety reduction (Alizadeh-Dibazari et al., 2023).

A systematic review is important because it can integrate available evidence, evaluate intervention effectiveness, and clarify the relevance of combined therapy for nursing practice in critical care environments (Alizadeh-Dibazari et al., 2023). Such a review can also help identify patterns of benefit, methodological limitations, and implications for future intervention design in family-centered ICU care (Hindriyastuti et al., 2024). The synthesis of evidence is particularly relevant because family anxiety in ICU waiting rooms remains underexplored compared with anxiety among patients undergoing direct treatment (Bedaso et al., 2022). A clearer understanding of this intervention may support nurses in selecting culturally sensitive and feasible approaches for emotional support in critical care settings (Matulessy, 2025). This review may also contribute to the development of supportive care models that integrate spiritual and sensory therapies within evidence-based nursing practice (Saputra et al., 2024).

Therefore, this study aims to systematically review the effectiveness of combined Ar-Rahman murottal therapy and lavender aromatherapy for reducing family anxiety in intensive care unit waiting rooms.

Methods

Study Design

This study was designed as a systematic review to identify, appraise, and synthesize published evidence regarding the effectiveness of combined Ar-Rahman murottal therapy and lavender aromatherapy for reducing anxiety among family members waiting in intensive care unit settings. The systematic review design was selected because the available evidence on this topic remains fragmented across different populations, intervention formats, and research designs, making individual findings difficult to interpret in isolation. By applying a systematic review approach, the study aimed to provide a comprehensive and transparent summary of the current evidence, evaluate the consistency of reported outcomes, and identify methodological gaps in the existing literature. This design was also considered appropriate because it allows the researchers to integrate findings from experimental and quasi-experimental studies that examine non-pharmacological interventions relevant to evidence-based nursing care. The review was prepared in accordance with the PRISMA 2020 statement, which is the reporting guideline recommended for systematic reviews and meta-analyses within the EQUATOR Network. The use of PRISMA 2020 strengthened the methodological rigor of the review by guiding transparent reporting of the search process, screening procedures, eligibility assessment, study inclusion, and synthesis of findings.

Research Question

This review was conducted to answer the research question: How effective is the combination of Ar-Rahman murottal therapy and lavender aromatherapy in reducing anxiety among family members in intensive care unit waiting rooms, and does the combined intervention provide greater benefit than a single therapy approach? This question was formulated to reflect the clinical need for supportive, culturally acceptable, and non-pharmacological interventions that may reduce emotional distress among relatives of critically ill patients. The question also reflects the conceptual assumption that auditory spiritual therapy and olfactory relaxation therapy may produce complementary effects on anxiety reduction when administered together. In methodological terms, the research question was developed to direct the search strategy, guide eligibility decisions, and determine the outcome focus of the review. The main concept of interest was intervention effectiveness, while the principal outcome was anxiety reduction in family members or closely related waiting-room populations exposed to murottal therapy, lavender aromatherapy, or both. This focused question allowed the review to remain clinically relevant while still capturing evidence from a limited but emerging field of integrative nursing intervention research.

Inclusion and Exclusion Criteria

Studies were considered eligible for inclusion if they examined Ar-Rahman murottal therapy,

lavender aromatherapy, or both interventions in the context of reducing anxiety in family members of patients in ICU settings or in closely related clinical waiting or treatment contexts relevant to the review objective. The review included articles published within the last 10 years in order to ensure that the synthesis reflected contemporary evidence and recent developments in complementary and integrative nursing interventions. Studies with experimental or quasi-experimental designs were included because these designs are most appropriate for evaluating intervention effects and for comparing anxiety outcomes before and after treatment or across intervention groups. Only studies published in English or Indonesian were included because these languages were accessible to the reviewers and directly relevant to the context of the review.

The review excluded grey literature, including theses, dissertations, reports, and unpublished material, because the researchers aimed to maintain methodological consistency and prioritize studies that had undergone formal academic or editorial review. Studies were also excluded if they were not relevant to the review objective, lacked a clear and valid methodology, or focused only on a single therapy without offering evidence that could contribute to understanding the comparative or combined role of murottal therapy and lavender aromatherapy. These criteria were established to ensure that only studies with sufficient methodological clarity, intervention relevance, and outcome applicability were retained for final synthesis.

Search Strategy

The literature search was conducted systematically using a combination of keywords related to the intervention, outcome, and setting. The principal search terms included "Murottal Ar-Rahman" AND "Lavender Aromatherapy" AND "Anxiety" AND "ICU" AND "Family Health." Boolean operators such as AND and OR were applied to combine core concepts and broaden or narrow the search as needed across databases. Electronic searches were carried out in several major databases, namely ClinicalKey for Nursing, SAGE Journals, ProQuest, and Google Scholar. Based on the search process described in the source material, the search yielded 58 records from ClinicalKey for Nursing, 1,746 records from SAGE Journals, 59 records from ProQuest, and 79 records from Google Scholar, resulting in a total of 1,942 records identified at the initial stage.

In addition to database searching, a manual search was performed by examining the reference lists of relevant articles and previously included studies in order to identify potentially eligible studies that might not have been retrieved through electronic searching alone. The reviewers also noted the importance of using Medical Subject Headings (MeSH) where applicable, particularly in databases such as PubMed, to improve search precision and indexing relevance, even though the main databases used in this review were those listed above. The search strategy was designed to maximize sensitivity at the identification stage while maintaining conceptual relevance to the review question, given the limited number of directly comparable studies on the combined intervention (Figure 1).

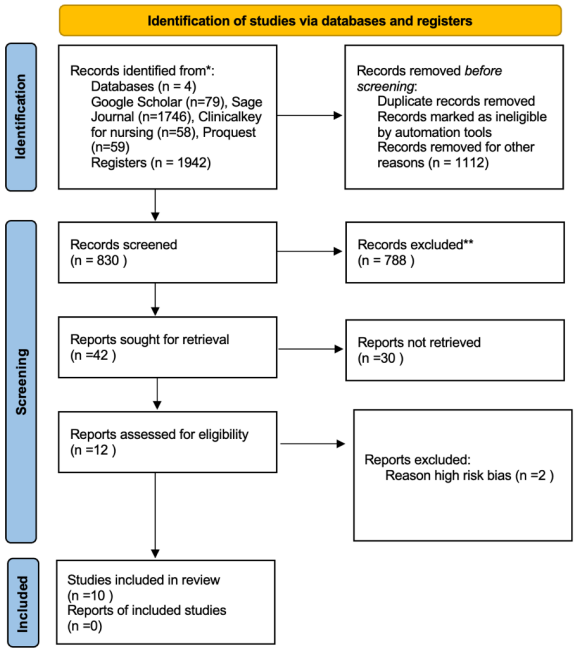

Figure 1. PRISMA 2020 flow diagram

Study Selection Process

The study selection process was conducted in two stages and involved two independent

reviewers in order to enhance objectivity, reduce selection bias, and improve the credibility of the final evidence set. In the first stage, both reviewers independently screened titles and abstracts obtained from the database searches to determine their potential relevance based on the predefined inclusion and exclusion criteria. After the initial screening, the reviewers compared their decisions and resolved minor discrepancies through direct discussion. In the second stage, the full texts of potentially eligible articles were retrieved and examined in detail to confirm whether the studies met all criteria related to population relevance, intervention type, outcome focus, and methodological adequacy.

According to the provided study information, 12 articles were assessed in full text, after which 2 studies were excluded due to high risk of bias, leaving 10 studies for inclusion in the final systematic review. If disagreement occurred during full-text evaluation, the two reviewers discussed the issue together to reach consensus, and when needed, a third reviewer with relevant expertise was involved to adjudicate unresolved differences. This multistep and reviewer-independent screening process was justified because it promotes transparency and consistency in determining study eligibility, both of which are core principles of high-quality systematic review methodology under PRISMA guidance.

Quality Appraisal

The methodological quality of the included studies was appraised in order to assess the trustworthiness, relevance, and interpretive strength of the evidence synthesized in the review. Quality appraisal focused on several key domains, including methodological rigor, appropriateness of study design, validity of the anxiety measurement instruments, sampling adequacy, and suitability of the analytical methods used. Particular attention was given to whether each study used a clear intervention protocol, an appropriate comparison framework, and an outcome measure that adequately captured anxiety, such as the Zung Self-Rating Anxiety Scale (ZSAS) or other validated instruments relevant to the topic.

The reviewers also considered whether the sample size was sufficiently justified and whether the sampling technique matched the stated research objective, because these elements influence both internal validity and the generalizability of findings. Two independent reviewers conducted the quality appraisal separately to reduce subjective bias, and any discrepancies in appraisal judgments were discussed until consensus was reached. When agreement could not be achieved through discussion, a third reviewer was available to support final judgment. In practical terms, two full-text articles were excluded at the final stage because they were judged to have a high risk of bias, indicating that quality appraisal functioned not only as an evaluative step but also as a safeguard against the inclusion of weak evidence in the final synthesis. This appraisal process was justified because a systematic review must not only gather studies but also critically assess the strength and limitations of the evidence it includes.

Data Extraction and Synthesis

Data extraction was performed using a structured and standardized approach to ensure that all relevant study characteristics and findings were recorded consistently across the included articles. Two reviewers extracted the data independently and worked in parallel to minimize extraction errors and reduce the risk of interpretive bias. A data extraction form was used to capture essential variables, including study design, sample size, sampling technique, participant characteristics, type of intervention, duration or frequency of intervention, anxiety measurement instrument, main findings, and study conclusions. This structured extraction approach was considered necessary because the included studies were expected to vary in methodological features and intervention delivery, and a standardized form helps preserve comparability across studies.

Following extraction, the data were synthesized using a narrative synthesis approach, rather than a meta-analysis, because the likely heterogeneity in study populations, intervention combinations, settings, and outcome measures limited the feasibility of

statistical pooling. The synthesis process involved comparing and contrasting study findings, identifying recurring patterns in the effectiveness of murottal therapy and lavender aromatherapy, and examining whether the combined use of both interventions appeared to provide additive or synergistic benefits in reducing anxiety. The review also considered the limitations reported by individual studies and interpreted the findings within the broader context of integrative and family-centered nursing care. This approach allowed the review to move beyond simple description and offer an analytically grounded interpretation of how combined auditory-spiritual and olfactory interventions may contribute to anxiety reduction among families in stressful care environments.

Results

Study selection overview

Based on the extraction table, the final synthesis included 10 studies. The included evidence was methodologically heterogeneous and covered several related clinical contexts, including ICU family waiting rooms, preoperative inpatients, cesarean candidates, hemodialysis patients, outpatient waiting rooms, and acute coronary syndrome settings. Most of the included studies used a pre-experimental or quasi-experimental pretest-posttest design, while one study used a pilot study design and one study was a literature review. The most frequently used anxiety instrument was the Zung Self-Rating Anxiety Scale (ZSAS), although several studies used other validated anxiety or stress scales adapted to the study population. Across the extracted studies, the dominant finding was that murottal therapy, lavender aromatherapy, or their combination was associated with a reduction in anxiety-related outcomes, with the strongest alignment to the present review question found in studies involving family members in ICU waiting settings. However, the extracted dataset also shows that part of the evidence base remains indirect, because several included studies examined patients rather than families and settings other than ICU waiting rooms..

Table 1 shows that only two studies directly matched the core review question because both examined family members of ICU patients and evaluated the combined use of Ar-Rahman murottal therapy and lavender aromatherapy. The remaining studies provided supportive but indirect evidence, either because they used only one of the target therapies, examined patients rather than families, or were conducted in non-ICU settings such as preoperative wards, hemodialysis units, outpatient waiting rooms, or cardiac care contexts. This pattern indicates that the evidence base for the exact review question remains limited but promising, while broader related evidence consistently supports the anxiolytic role of auditory and aromatherapeutic interventions.

A total of 10 studies were included in the final synthesis based on the extracted dataset. The included studies were conducted across diverse countries and clinical settings, with most employing quasi-experimental or pre-experimental pretest-posttest designs. Two studies directly addressed the review question by evaluating the combined use of Ar-Rahman murottal therapy and lavender aromatherapy among family members waiting for patients in ICU settings, and both reported statistically significant reductions in anxiety following the intervention. Several additional studies provided indirect supportive evidence by showing beneficial effects of either combined sensory-spiritual interventions or single-modality interventions in preoperative, inpatient, outpatient, and cardiac care settings. The Zung Self-Rating Anxiety Scale was the most frequently reported instrument, although some studies used other anxiety or stress scales adapted to the target population. Overall, the pattern of findings consistently favored the use of non-pharmacological auditory and aromatherapeutic interventions for anxiety reduction, although the evidence remained heterogeneous in terms of population, intervention protocol, and methodological rigor.

Table 1. Characteristics of studies included in the systematic review on combined Ar-Rahman murottal therapy and lavender aromatherapy for anxiety reduction

Author(s), year	Population and setting	Study design and instrument	Intervention characteristics	Primary outcome	Main findings
Cita Setya Utami et al., 2025	100 family members of ICU patients in an ICU waiting room	Quasi-experimental, pretest-posttest; validated ICU family anxiety scale	Combined Ar-Rahman murottal therapy and lavender aromatherapy	Family anxiety	Anxiety decreased significantly after the combined intervention ($p < 0.05$)
Putri et al., 2021	60 family members of ICU patients in a general hospital ICU	Pretest-posttest; validated anxiety questionnaire	Music therapy plus lavender aromatherapy	Family anxiety	Combined sensory therapy significantly reduced family anxiety ($p < 0.01$)
Nuzululail et al., 2020	62 family members of ICU patients	Quasi-experimental, pretest-posttest; family stress scale	Lavender aromatherapy only	Family stress/anxiety-related distress	Lavender aromatherapy significantly reduced stress levels ($p < 0.05$)
Khalilzadeh et al., 2022	50 family members of ICU patients	Quasi-experimental, pretest-posttest; validated ICU family anxiety scale	Combined Ar-Rahman murottal therapy and lavender aromatherapy for 30 minutes	Family anxiety	Combined therapy significantly reduced family anxiety ($p < 0.05$)
Collins et al., 2021	200 adult patients in an outpatient pain clinic waiting room	Pilot pretest-posttest; pain and stress scales	Live or recorded music	Anxiety/stress in waiting-room patients	Music reduced anxiety and pain in the waiting-room context
Aulia & Yuliani, 2025	One hemodialysis patient in hospital care	Pre-experimental; Pittsburgh Sleep Quality Index	Combined murottal Surah Ar-Rahman and lavender aromatherapy for 10–20 minutes nightly for 5 days	Sleep quality	PSQI score improved markedly from 10 to 1
Faadhila et al., 2025	48 pre-cesarean patients in hospital care	Pre-experimental one-group pretest-posttest; ZSAS	Combined murottal Al-Qur'an and lavender aromatherapy	Patient anxiety	Anxiety decreased from moderate to mild after intervention
Khismawati Ifzaakfifnie et al., 2024	40 preoperative inpatients in Jakarta	Quasi-experimental, pretest-posttest; ZSAS	Combined lavender aromatherapy and murottal therapy	Patient anxiety	Anxiety decreased significantly after combination therapy ($p < 0.05$)
Khismawati et al., 2024	40 preoperative laparoscopy patients in Semarang	Quasi-experimental, pretest-posttest; ZSAS	Murottal Surah Ar-Rahman only	Patient anxiety	Murottal significantly reduced anxiety ($p = 0.000$)
Hindriyastuti et al., 2024	Patients with acute coronary syndrome	Literature review	Aromatherapy	Patient anxiety	Aromatherapy was reported to reduce anxiety in ACS care

The evidence synthesis showed that the strongest support for the review objective came from studies involving family members in ICU waiting rooms, where combined murottal and lavender therapy demonstrated significant anxiolytic effects. Indirect evidence from preoperative and inpatient populations also suggested that the combination of murottal therapy and lavender aromatherapy may provide clinically meaningful emotional benefits. Nevertheless, the limited number of directly relevant ICU-family studies and the predominance of non-randomized designs reduced the certainty of the conclusions. These findings suggest that the intervention is promising and potentially applicable in family-

centered critical care nursing, but the current evidence base still requires more rigorous and targeted primary studies before firm conclusions can be drawn.

Discussion

This review found that combined Ar-Rahman murottal therapy and lavender aromatherapy consistently showed a favorable effect on anxiety reduction, particularly in studies that involved family members waiting in ICU settings. The synthesis also showed that the directly relevant studies reported significant decreases in anxiety after the combined intervention was administered. Indirect evidence from preoperative, inpatient, and waiting-room settings further supported the potential calming effect of auditory and aromatherapeutic interventions. The overall pattern of findings suggested that the combination approach may offer broader emotional benefits than single-modality supportive care. At the same time, the review identified substantial heterogeneity in study design, population, and outcome measurement across the included articles. These findings indicate that the intervention is promising, but the strength of evidence remains dependent on the methodological quality and contextual relevance of the available studies.

The present findings are clinically plausible because anxiety often emerges when individuals face uncertainty, emotional overload, and limited control over a threatening health situation, especially in acute care environments (Bedaso et al., 2022). Family members of critically ill patients may experience a psychological burden similar to that seen in other high-stress healthcare settings because anticipatory fear and emotional vigilance can intensify distress during waiting periods (Joesep et al., 2025). Nursing care therefore requires interventions that can reduce emotional tension while remaining safe, non-invasive, and acceptable to families from diverse backgrounds (Matulessy, 2025). Non-pharmacological interventions are particularly relevant in such contexts because they can be implemented without adding physiological burden or interrupting ongoing medical care (Saputra et al., 2024). The broader literature has also emphasized that anxiety reduction strategies should be responsive to both the emotional and contextual needs of vulnerable individuals in healthcare environments (Hindriyastuti et al., 2024). Within this framework, the current review supports the integration of calming sensory and spiritually meaningful interventions into family-centered ICU nursing practice (Alizadeh-Dibazari et al., 2023).

The observed benefit of lavender aromatherapy in the included studies is consistent with its known pharmacological and clinical properties as a relaxation-promoting complementary therapy (Batiha et al., 2023). Lavender essential oil contains bioactive compounds that may modulate the autonomic and emotional stress response through olfactory stimulation and neurophysiological relaxation pathways (Ciocarlan et al., 2021). Clinical research has shown that lavender inhalation can reduce anxiety in procedural, operative, and psychiatric settings, which strengthens the plausibility of its use for emotionally distressed family members in waiting environments (Moghadam et al., 2022). Randomized evidence has also demonstrated that lavender aromatherapy can reduce anxiety during operative care and other stressful hospital experiences (Çalışır et al., 2023). Similar benefits have been reported in patients undergoing laparoscopic surgery, where essential oil inhalation improved stress-related outcomes and comfort (Lee & Hur, 2022). Systematic syntheses have further confirmed that aromatherapy can improve anxiety-related and postoperative outcomes, suggesting that its role extends beyond simple sensory comfort and may contribute to broader emotional regulation (Farzan et al., 2023; Wang et al., 2024).

The contribution of murottal therapy, especially recitation of Surah Ar-Rahman, is also conceptually important because spiritual auditory stimulation may foster emotional calmness, attentional focus, and inner acceptance in stressful circumstances (Cita Setya Utami et al., 2025). Listening to Qur'anic recitation may influence anxiety through a combination of spiritual reassurance, rhythmic

auditory relaxation, and culturally meaningful coping processes in Muslim populations (Meliana Fitria Salichah & Arina Maliya, 2024). Previous studies have reported that murottal therapy can reduce anxiety among preoperative patients and improve comfort in conditions that involve uncertainty and anticipatory stress (Cita Setya Utami et al., 2025). Other evidence has shown that murottal therapy may relieve postoperative discomfort and pain-related distress, which supports its broader calming potential in clinical settings (Nuzulullail et al., 2023). The use of Surah Ar-Rahman has also been associated with beneficial effects on symptom intensity and psychological relaxation in nursing interventions that combine cognitive and sensory soothing elements (Putri et al., 2024). These findings support the interpretation that murottal therapy offers not only auditory distraction but also spiritually grounded emotional support that may be highly relevant for families in ICU waiting rooms (Aulia & Yuliani, 2025).

The potential superiority of the combined intervention may be explained by the complementary mechanisms of lavender aromatherapy and murottal recitation, which together may address both sensory relaxation and spiritual-emotional comfort (Faadhila et al., 2025). Combination therapy may produce a broader anxiolytic effect because the olfactory pathway can induce physiological calmness while the auditory-spiritual pathway can facilitate meaning, reassurance, and emotional regulation (Batiha et al., 2023). Studies conducted in Indonesian clinical settings have shown that combined lavender aromatherapy and murottal therapy significantly reduced anxiety in preoperative patients, which supports the idea of an additive or synergistic therapeutic effect (Khismawati Ifzaakfifnie et al., 2024). Similar evidence among women awaiting cesarean section has indicated that this combination can reduce anxiety intensity and improve emotional readiness before a stressful medical procedure (Faadhila et al., 2025). Although the target populations differ from ICU waiting-room families, the shared feature across these settings is the presence of anticipatory distress and emotional vulnerability, which makes the intervention conceptually transferable (Rahman et al., 2024). Therefore, the current review reasonably suggests that combining murottal therapy and lavender aromatherapy may be more beneficial than single-modality support when the goal is to reduce acute situational anxiety in emotionally burdened individuals (Singh et al., 2021).

Despite these encouraging findings, the review also revealed important methodological limitations that should temper interpretation of the evidence. Most included studies used quasi-experimental or pre-experimental designs, which are useful for preliminary evaluation but remain vulnerable to selection bias, confounding, and limited control over alternative explanations (Kang, 2021). The included studies also varied in setting, participant type, intervention duration, and outcome measurement, which reduced the comparability of findings across the evidence base (Alizadeh-Dibazari et al., 2023). Several studies were only indirectly relevant because they focused on patients rather than family members or examined settings other than ICU waiting rooms, which limits the precision of generalization to the target review population (Hindriyastuti et al., 2024). The frequent use of anxiety scales such as the Zung Self-Rating Anxiety Scale supported standardized assessment, yet differences in operational definitions and intervention protocols still constrained synthesis depth (Khalilzadeh et al., 2023). The review also identified a limited number of studies that directly evaluated the exact combined intervention in ICU family contexts, which highlights the need for more rigorous and specifically targeted trials in this area (Bedaso et al., 2022). Accordingly, the present findings should be understood as supportive and clinically meaningful, but not yet conclusive at the highest level of evidence certainty (Farzan et al., 2023).

These limitations also point to several implications for future research and nursing practice. Nurses working in critical care settings may consider offering structured, brief, and culturally sensitive anxiety-reduction interventions for family members because waiting-room distress can influence the quality

of communication, coping, and family experience during intensive care (Matulessy, 2025). The intervention may be particularly valuable in Muslim-majority contexts where Qur'anic recitation carries spiritual meaning and may strengthen emotional receptivity to care (Cita Setya Utami et al., 2025). Future primary studies should use stronger designs such as randomized controlled trials, larger and more diverse samples, and clearer intervention protocols in order to establish comparative effectiveness more convincingly (Çalışır et al., 2023). Researchers should also examine the duration of effect, optimal timing of intervention, family satisfaction, and possible downstream outcomes such as sleep quality, coping, and decision-related confidence (Lee & Hur, 2022; Nurhayati et al., 2026). In addition, investigators should distinguish clearly between direct ICU-family evidence and supportive evidence from adjacent populations so that future syntheses can draw more precise clinical conclusions (Khismawati Ifzaakfifnie et al., 2024). By addressing these issues, future evidence can better inform the development of integrative, family-centered, and evidence-based nursing interventions for anxiety reduction in intensive care environments (Saputra et al., 2024).

Conclusion and Recommendation

This systematic review indicates that the combination of Ar-Rahman murottal therapy and lavender aromatherapy has promising potential to reduce anxiety, especially among family members waiting for patients in intensive care settings. The overall findings show a consistent positive direction of effect, and the intervention appears to offer practical, safe, and culturally meaningful support within family-centered nursing care. Even so, the available evidence remains limited by heterogeneity in population, setting, and methodological rigor. For that reason, the intervention can be recommended as a supportive complementary approach in ICU waiting rooms, particularly where spiritual care is culturally appropriate and feasible. Future studies should use more rigorous experimental designs, larger samples, standardized anxiety measures, and clearly defined intervention protocols to strengthen the evidence base. Further research should also focus specifically on family members in ICU settings so that the effectiveness of this combined intervention can be confirmed with greater certainty.

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The authors declare no competing interests.

Declaration on the Use of AI

The authors declare that the research has no using AI tools in this manuscript.

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