



Biopsychospiritual Approach Using Combined Murottal Therapy and Silver Dressing for Pain and Second-Degree Burns Wounds: A Case Study

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Abstract. Second-degree burns are tissue injuries that cause disruption of skin integrity, severe pain, and a high risk of infection. Burn management requires adequate wound care and effective pain control. Silver sulfadiazine dressings function as antimicrobial agents to prevent infection, while Qur'anic murottal therapy serves as auditory distraction to reduce pain perception through relaxation mechanisms and decreased physiological stress responses. This case study aims to describe the combination of murottal therapy and silver dressing in pain management and wound care for a second-degree burn using a biopsychospiritual approach in a patient with 22.5% TBSA second-degree burns on days 7 to 10 of treatment. Interventions included daily wound care with topical silver sulfadiazine and sterile dressings, as well as murottal therapy of Surah Ar-Rahman for approximately 15 minutes before, during, and 30 minutes after wound care. Evaluation was conducted using the Bates-Jensen Wound Assessment Tool (BWAT) and Numeric Rating Scale (NRS) over four days. The results showed that the wound was in the early proliferative phase with a stable BWAT score of 27 and no signs of secondary infection. Pain scores decreased gradually throughout the intervention, with an average reduction of two points after each session, accompanied by increased relaxation and comfort following wound care. The combination of silver dressing and murottal therapy in this case helped control pain and supported the wound healing process both physiologically and psychologically.

Keywords: *Murottal Therapy, Pain Management, Second-Degree Burns, Silver Sulfadiazine, Wound Care.*

INTRODUCTION

Burn injury affect for more than 11 million individuals annually, with the highest burden occurring in developing countries (WHO, 2023). In Indonesia, burn injuries contribute significantly to morbidity and mortality, with approximately 195,000 deaths reported each year, most commonly occurring in domestic settings due to gas explosions (Andini et al., 2025).

Optimal wound dressing plays a critical role in reducing bacterial colonization, maintaining a moist wound environment, and promoting epithelialization. Silver sulfadiazine dressing remains a widely used standard topical therapy for burn wounds due to its broad-spectrum antimicrobial activity against bacteria, viruses, and fungi. The presence of silver ions helps accelerate wound healing, particularly during the early inflammatory phase, by reducing acute inflammation and minimizing the risk of infection (Jailani & Amirsyah, 2019; Li et al., 2021).

Pain is a major clinical problem in patients with burn injuries, resulting from tissue damage, inflammatory processes, and peripheral nerve sensitization. Pain intensity often increases during wound care procedures, especially during dressing changes (Smeltzer et al., 2022). Persistent and severe pain not only causes discomfort but also contributes to

psychological stress and physiological responses, including activation of neuroendocrine and immune systems, which may ultimately delay the healing process (Castillo-De Lima et al., 2022; You et al., 2025).

Although analgesics are routinely administered, pain during dressing changes often remains at moderate to severe levels. Therefore, complementary non-pharmacological interventions are needed to enhance pain management with minimal risk and to be used alongside pharmacological therapies. Techniques such as relaxation, distraction, guided imagery, hypnosis, music therapy, and virtual reality have demonstrated effectiveness in reducing pain and anxiety (Smeltzer et al., 2022).

Distraction is a simple yet effective method aimed at diverting patients' attention away from pain stimuli by stimulating pleasure centers in the brain, thereby suppressing activity in the thalamus and anterior cingulate cortex involved in pain perception (Moradipoor et al., 2022). This method is safe, easy to implement, and can be combined with pharmacological interventions (Arnold et al., 2024). Auditory distraction, in particular, has been reported to reduce pain and anxiety during various medical procedures (Smeltzer et al., 2022).

For Muslim patients, Qur'anic recitation (murottal therapy) provides a culturally and spiritually relevant form of auditory distraction. Murottal therapy promotes relaxation, stabilizes heart rhythm, reduces sympathetic nervous system activity, and enhances emotional and spiritual comfort (Lekhadevi et al., 2023). Furthermore, Budiman et al. (2023) reported that murottal therapy significantly increases pain tolerance, nearly doubling its effect compared to conventional music therapy.

Physiologically, murottal therapy influences the limbic system and hypothalamus, promoting the release of β -endorphins as natural analgesics and reducing inflammatory mediators such as histamine, bradykinin, and serotonin (Sulpat et al., 2024). Thus, murottal therapy not only provides psychological calming effects but also contributes directly to pain modulation through neurophysiological mechanisms.

Burn management requires a holistic approach that integrates physical, psychological, and spiritual dimensions. Silver dressing addresses the biological aspect of wound healing, while murottal therapy supports psychological and spiritual well-being through pain and anxiety reduction. The combination of these interventions offers complementary benefits in promoting patient outcomes. However, despite evidence supporting each intervention individually, there is limited research exploring their combined application in second-degree burn patients, particularly through direct individual observation.

Therefore, this case study aims to describe the implementation of a combination of murottal therapy and silver dressing in reducing pain and promoting wound healing in patients with second-degree burns using a biopsychosocial-spiritual approach.

LITERATURE REVIEW

Burn injury is defined as damage to the skin and underlying tissues caused by exposure to heat, electricity, chemicals, or radiation, resulting in tissue destruction through processes such as coagulation, protein denaturation, or cellular ionization (Smeltzer et al., 2022; WHO, 2023). Second-degree burns, also known as partial-thickness burns, are among the most frequently encountered types of burn injuries. These are characterized by blister formation, a red or pale wound bed, exudate, and severe pain due to the involvement of intact dermal nerve endings (Li et al., 2021). This condition requires comprehensive management focusing on infection prevention, wound care, and effective pain control (Smeltzer et al., 2022).

Wound healing is a complex physiological process that occurs through three overlapping phases: inflammation, proliferation, and remodeling (Rowan et al., 2015). The inflammatory phase begins within the first 24 hours after injury and may last from several days to weeks

depending on burn severity (Siu et al., 2025). During this phase, increased blood flow and vascular permeability allow neutrophils and macrophages to migrate into the wound area, where they function to remove debris, degrade necrotic tissue, and prevent infection (Rowan et al., 2015). The activation of immune cells also triggers the release of pro-inflammatory cytokines, which regulate the migration of epithelial cells, endothelial cells, and fibroblasts, thereby preparing the wound environment for the subsequent healing phase (Siu et al., 2025).

Following the control of inflammation, the wound enters the proliferative phase, which typically lasts from several days to weeks (Siu et al., 2025). In this phase, keratinocytes and fibroblasts migrate to the wound site to support angiogenesis, form granulation tissue, and promote wound closure through re-epithelialization. The final phase is remodeling, during which scar tissue undergoes maturation. Collagen and elastin fibers are reorganized to enhance tissue strength and flexibility, while fibroblasts differentiate into myofibroblasts that facilitate wound contraction (Rowan et al., 2015). This phase plays a crucial role in determining the final quality of the scar, including its elasticity, tensile strength, and appearance (Siu et al., 2025).

Silver sulfadiazine (SSD) is widely recognized as a standard topical therapy for second-degree burns due to its broad-spectrum antimicrobial activity against bacteria, viruses, and fungi. (Walia & Prasad, 2022). SSD contains silver ions that exert bactericidal effects by binding to bacterial DNA and cell membranes, thereby inhibiting replication and disrupting cellular integrity. Additionally, the sulfadiazine component, a sulfonamide antibiotic, inhibits bacterial folic acid synthesis, providing a dual antimicrobial effect (Oaks et al., 2023). SSD is typically applied once or twice daily in a thin layer using aseptic techniques (Singh, 2022).

Pain in burn patients generally manifests in several interrelated forms, including background pain, procedural pain, and breakthrough pain (You et al., 2025). Background pain arises from tissue damage caused by thermal injury as well as subsequent inflammatory and neuropathic responses. This type of pain occurs at rest, is typically mild to moderate in intensity, persists over time, and is proportional to the extent of the burn area, potentially leading to long-term psychological consequences such as anxiety and depression (You et al., 2025). In addition, patients experience procedural pain, which is characterized by sharp and intense sensations occurring during wound care procedures such as cleansing and dressing changes. Pre-procedural anxiety often exacerbates pain perception (You et al., 2025). Another type is breakthrough pain, defined as a sudden exacerbation of pain when analgesic effects are insufficient; this pain may occur at rest, during procedures, or in response to physical or emotional stress (You et al., 2025).

Pain management include non-pharmacological interventions. These interventions include techniques such as relaxation, distraction, guided imagery, hypnosis, music therapy, and virtual reality, all of which have been shown to effectively reduce pain and anxiety (Smeltzer et al., 2022). Distraction is defined as a simple and effective non-pharmacological method that aims to divert a patient's attention away from pain stimuli by stimulating pleasure centers in the brain, thereby suppressing activity in the thalamus and anterior cingulate cortex involved in pain perception (Moradipoor et al., 2022). This method is safe, easy to implement, and can be used in combination with pharmacological interventions (Arnold et al., 2024). Auditory distraction, as a specific form of distraction, refers to the use of sound stimuli to reduce pain and anxiety during medical procedures (Smeltzer et al., 2022).

Murottal therapy is defined as a form of auditory distraction involving the recitation of the Qur'an that is culturally and spiritually relevant, particularly for Muslim patients. This therapy promotes relaxation, stabilizes heart rhythm, reduces sympathetic nervous system activity, and enhances emotional and spiritual comfort (Lekhadevi et al., 2023). It has also been shown to increase pain tolerance significantly, with greater effectiveness compared to conventional music therapy (Budiman et al., 2023).

METHODS

This study utilizes a case study approach to describe the implementation of nursing care in a patient with second-degree burns involving 22.5% of the total body surface area (TBSA), as well as to present the outcomes of interventions including wound care using silver sulfadiazine dressing and pain management through murottal therapy.

The subject of this study was a 56-year-old female patient with second-degree burns covering 22.5% TBSA, involving the facial and neck regions, bilateral forearms, and the anterior part of both lower extremities. The study was conducted in an inpatient ward at a hospital in West Java, Indonesia. The intervention was carried out over four days, from March 15 to March 18, 2025. The interventions provided included wound care using silver sulfadiazine dressing and pain management through murottal therapy. Prior to the procedure, pain levels and vital signs were assessed, followed by the administration of murottal therapy. The murottal intervention consisted of listening to the recitation of Surah Ar-Rahman, delivered through a smartphone audio device at a moderate volume in a quiet care setting. The therapy was administered for approximately 15 minutes before, during, and 30 minutes after wound care. The selection of Surah Ar-Rahman was based on previous studies demonstrating its effectiveness in promoting relaxation and reducing physiological stress in patients (Rahmayanti, 2021).

Wound care procedures were performed using aseptic techniques, beginning with the removal of the existing dressing, followed by cleansing the wound using sterile gauze soaked in 0.9% sodium chloride (NaCl), and drying with sterile dry gauze. A thin layer of silver sulfadiazine ointment was then applied evenly across the wound surface from distal to proximal areas. The wound was subsequently covered with dry gauze for extremity areas and moist gauze for the neck region. Wound characteristics were monitored using the Bates-Jensen Wound Assessment Tool (BWAT), which evaluates multiple parameters including wound size, depth, edges, undermining, type and amount of necrotic tissue, type and amount of exudate, surrounding skin color, edema, induration, granulation tissue, and epithelialization. Each parameter is scored on a scale of 1 (best condition) to 5 (worst condition), with a total score ranging from 13 to 65. Lower scores indicate wound improvement, while higher scores reflect worsening conditions; thus, changes in the total score represent the progression of wound healing.

Pain evaluation was conducted using the Numeric Rating Scale (NRS), measured during and 30 minutes after wound care procedures. In addition to pain assessment, psychological aspects such as anxiety, level of calmness, facial expressions, relaxation ability, and verbal responses during procedures were also evaluated. Indicators of anxiety included restlessness, tension, increased alertness, and difficulty concentrating, while indicators of calmness included more regular breathing patterns, relaxed facial expressions, and reduced defensive behaviors following the intervention. Data were collected through observation, interviews, physical examination, and review of medical records. The collected data were then analyzed and classified to establish nursing diagnoses, which served as the basis for planning interventions and evaluating the effectiveness of the care provided according to the patient's condition. This study was conducted after obtaining written informed consent from the patient and her family. Throughout the research process, ethical principles of nursing were upheld, including respect for autonomy, veracity, beneficence, non-maleficence, and the protection of patient privacy and anonymity.

RESULTS

The patient underwent assessment and wound care interventions for second-degree burns over a four-day period, with monitoring conducted from day 7 to day 10 of treatment. The intervention included the use of silver sulfadiazine dressing, which functions as an antimicrobial agent to prevent secondary infection. The results demonstrated a stable total score based on the Bates-Jensen Wound Assessment Tool (BWAT) (Table 1).

Table 1. Observation Results of Second-Degree Burn Wound Progress (22.5% TBSA) from Day 7 to Day 10 Using *Bates-Jensen Wound Assessment Tool* (BWAT)

Items/Day-	7	8	9	10
1. Size	5	5	5	5
2. Depth	2	2	2	2
3. Edges	1	1	1	1
4. Undermining	1	1	1	1
5. Necrotic Tissue Type	1	1	1	1
6. Necrotic Tissue Amount	1	1	1	1
7. Exudate Type	3	3	3	3
8. Exudate Amount	2	2	2	2
9. Skin Color Surrounding Wound	1	1	1	1
10. Peripheral Tissue Edema	1	1	1	1
11. Peripheral Tissue Induration	1	1	1	1
12. Granulation	3	3	3	3
13. Epithalization	5	5	5	5

Based on BWAT observations, the total score remained consistent at 27 across all four days of monitoring (day 7 to day 10). Each assessed parameter showed no change throughout the observation period. Wound size, depth, edges, and tissue conditions—including necrosis, granulation, and epithelialization—remained unchanged. Similarly, exudate type and amount showed no variation. The condition of the surrounding tissue, including skin color, edema, and induration, also remained stable. Overall, these findings indicate that the wound condition remained stable, with no improvement or deterioration reflected in BWAT scores during the four-day observation period. The patient also underwent pain assessment and management interventions over four days, with monitoring conducted from day 7 to day 10 of treatment. The intervention consisted of auditory distraction through murottal therapy, administered for approximately 15 minutes before, during, and 30 minutes after wound care procedures. The results showed a reduction in pain intensity as measured by the Numeric Rating Scale (NRS) (Figure 1).

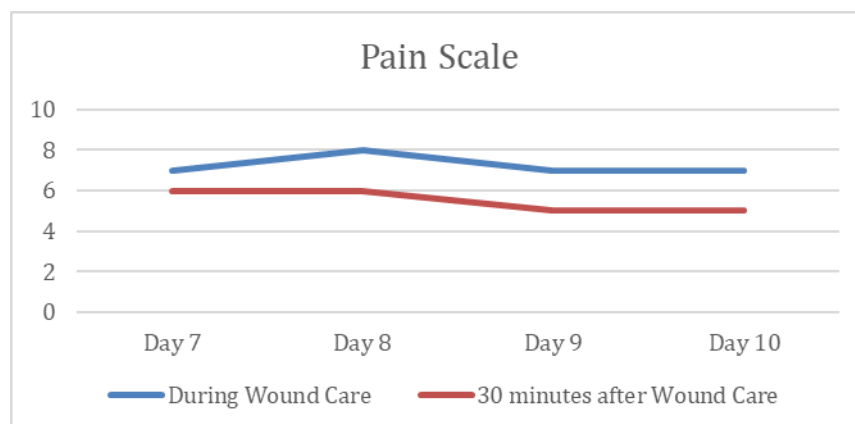


Figure 1. Pain Scale During and 30 Minutes After Wound Care and Murottal Therapy

Pain intensity measurements showed variations across each day of observation. During wound care, pain scores ranged from 7 to 8, with the highest score recorded on day 2 (score of 8), while days 1, 3, and 4 consistently showed a score of 7. Thirty minutes after wound care and muromtal therapy, pain scores decreased on all observation days. The scores decreased to 6 on days 1 and 2, and further declined to 5 on days 3 and 4. Thus, a reduction of 1–2 points in pain intensity was observed each day between the during-procedure and post-intervention measurements.

These findings were supported by behavioral observations indicating reduced pain responses. On day 1, pain was recorded at 6/10; the patient still appeared grimacing and restless, with difficulty resting, although slight relaxation was observed compared to during the procedure. On day 2, pain remained at 6/10, with the patient appearing calmer and able to follow simple instructions despite persistent pain expressions. On day 3, pain decreased to 5/10; the patient appeared more relaxed, was able to rest comfortably, and began to communicate, although still limited. On day 4, pain remained at 5/10, with the patient appearing cooperative, more comfortable, and able to follow instructions, although mild grimacing persisted. Overall, these findings indicate an improvement in patient comfort consistent with the reduction in pain following the intervention.

Table 2. Vital Signs Before and 30 Minutes After Wound Care and Muromtal Therapy

Day-	Before wound care and muromtal therapy			After wound care and muromtal therapy		
	TD	HR	RR	TD	HR	RR
7	144/94	90	24	130/90	88	24
8	128/89	78	22	140/90	101	22
9	142/88	87	22	135/89	80	22
10	110/70	74	22	137/101	85	22

The results of monitoring vital signs before and 30 minutes after wound care and muromtal therapy from day 1 to day 4 demonstrated fluctuating hemodynamic patterns. Blood pressure decreased after the intervention on days 1 and 3, whereas it increased on days 2 and 4, with the most notable rise observed on day 4. A similar pattern was observed in heart rate, where decreases occurred on days 1 and 3, while increases were noted on days 2 and 4, particularly a marked increase on day 2.

In contrast, respiratory rate remained relatively stable, ranging from 22 to 24 breaths per minute throughout the observation period, with no significant changes observed. Overall, these variations indicate that the patient's hemodynamic responses differed across days, with a tendency toward increases on days 2 and 4 and decreases on days 1 and 3.

DISCUSSION

Wound healing is a complex physiological process that occurs through three overlapping phases: inflammation, proliferation, and remodeling (Rowan et al., 2015). The inflammatory phase begins within the first 24 hours after injury and may last from several days to weeks depending on burn severity (Siu et al., 2025). During this phase, increased blood flow and vascular permeability allow neutrophils and macrophages to migrate into the wound area, where

they function to remove debris, degrade necrotic tissue, and prevent infection (Rowan et al., 2015). The activation of immune cells also triggers the release of pro-inflammatory cytokines, which regulate the migration of epithelial cells, endothelial cells, and fibroblasts, thereby preparing the wound environment for the subsequent healing phase (Siu et al., 2025).

Following the control of inflammation, the wound enters the proliferative phase, which typically lasts from several days to weeks (Siu et al., 2025). In this phase, keratinocytes and fibroblasts migrate to the wound site to support angiogenesis, form granulation tissue, and promote wound closure through re-epithelialization. The final phase is remodeling, during which scar tissue undergoes maturation. Collagen and elastin fibers are reorganized to enhance tissue strength and flexibility, while fibroblasts differentiate into myofibroblasts that facilitate wound contraction (Rowan et al., 2015). This phase plays a crucial role in determining the final quality of the scar, including its elasticity, tensile strength, and appearance (Siu et al., 2025).

Second-degree (partial-thickness) burns are characterized by damage to the epidermis and part of the dermis, presenting with redness, blister formation, edema, and significant pain due to the exposure of intact dermal nerve endings (Bunman, 2017; Li et al., 2021). These wounds generally heal within 14 to 21 days under optimal conditions (Bunman, 2017).

Silver sulfadiazine (SSD) is widely recognized as a standard topical therapy for second-degree burns (Walia & Prasad, 2022). SSD contains silver ions that exert bactericidal effects by binding to bacterial DNA and cell membranes, thereby inhibiting replication and disrupting cellular integrity. Additionally, the sulfadiazine component, a sulfonamide antibiotic, inhibits bacterial folic acid synthesis, providing a dual antimicrobial effect (Oaks et al., 2023). SSD is typically applied once or twice daily in a thin layer using aseptic techniques (Singh, 2022).

In this study, SSD was applied once daily during routine dressing changes. The procedure included careful removal of the previous dressing, wound cleansing using sterile gauze soaked in 0.9% sodium chloride solution, drying with sterile dry gauze, followed by the application of a thin layer of SSD cream over the entire wound surface. The wound was then covered with dry gauze for extremities and moist gauze for the neck area.

The monitoring results showed that the BWAT score remained stable at 27 from day 7 to day 10. This stability indicates that the wound was in the late inflammatory phase transitioning toward early proliferation, with controlled inflammation and no signs of secondary infection. The consistently high wound size score can be attributed to the large initial wound area, as wound contraction and epithelialization require a longer time in burns with extensive TBSA involvement.

When compared with previous studies using SSD and the same assessment instrument, the healing pattern observed in this case is consistent with earlier findings. Pipelzadeh et al. (2022), reported a decrease in BWAT scores from a mean of 16.3 on day 8 to 13.3 on day 10, with the most significant improvements observed in wound size, granulation tissue, and epithelialization. However, this difference is likely due to the smaller wound size in their study (<1–5% TBSA), which allows for more rapid clinical changes and a more noticeable reduction in BWAT scores. In contrast, the present case involved a larger burn area with a persistent maximum wound size score (score 5), resulting in minimal observable changes within the short four-day monitoring period.

These findings are also consistent with the study by Jahani et al. (2019), which reported a mean BWAT score of 31.42 on day 7, decreasing to 21.51 by day 15. In that study, wound size, depth, and edges showed no significant improvement during the first week and only demonstrated meaningful changes by day 15. Similarly, granulation and epithelialization showed minimal improvement initially, with substantial progress observed later. Jahani et al. (2019) concluded that patients receiving 1% SSD treatment generally experienced recovery between days 10 and 17. Therefore, the findings of this study reflect a gradual healing pattern

consistent with the primary role of SSD as an antimicrobial agent rather than a direct accelerator of tissue regeneration.

Considering these findings, the stable BWAT score of 27 up to day 10 in this case can be considered expected. The relatively short observation period, the extensive burn area, and the initial maximum wound size score contributed to the lack of significant changes in BWAT scoring during the monitoring period.

Several factors may influence the rate of wound healing, including wound size, nutritional status, hydration, tissue perfusion, pain control, age, and infection. In this case, the patient's age (56 years) likely contributed to slower healing, as tissue regeneration and fibroblast activity tend to decline with advancing age. Additionally, the patient experienced reduced nutritional intake during treatment due to pain when opening the mouth. This decreased nutritional status may impair collagen synthesis and granulation tissue formation. These findings are consistent with previous studies indicating that nutrition, age, and tissue perfusion are key determinants of burn wound healing (Ghaly et al., 2021; Grada & Phillips, 2022; Romanowski & Sen, 2022).

Although epithelialization appeared to progress slowly, the results indicate that wound care using silver sulfadiazine had a positive effect in controlling microbial colonization and maintaining wound stability. This finding is supported by Jailani & Amirsyah (2019), who reported that silver dressing effectively inhibits pathogenic bacterial growth in burn wounds and promotes granulation. However, delayed epithelialization may be associated with the pharmacological properties of SSD, which has been reported in some studies to exert mild cytotoxic effects on keratinocytes, potentially slowing epithelialization (Khodadad et al., 2024).

Overall, the wound condition remained stable, with no evidence of secondary infection, and the healing response was consistent with the known characteristics of SSD as an antimicrobial agent. Although rapid reductions in BWAT scores were not observed, the healing pattern aligns with the role of SSD in infection control rather than in accelerating epithelialization.

Pain in burn patients generally manifests in several interrelated forms, including background pain, procedural pain, and breakthrough pain (You et al., 2025). Background pain arises from tissue damage caused by thermal injury as well as subsequent inflammatory and neuropathic responses. This type of pain occurs at rest, is typically mild to moderate in intensity, persists over time, and is proportional to the extent of the burn area, potentially leading to long-term psychological consequences such as anxiety and depression (You et al., 2025). In addition, patients experience procedural pain, which is characterized by sharp and intense sensations occurring during wound care procedures such as cleansing and dressing changes. Pre-procedural anxiety often exacerbates pain perception (You et al., 2025). Another type is breakthrough pain, defined as a sudden exacerbation of pain when analgesic effects are insufficient; this pain may occur at rest, during procedures, or in response to physical or emotional stress (You et al., 2025).

In this case study, murottal therapy was applied as an auditory distraction intervention by providing rhythmic, soft, and continuous recitation of Surah Ar-Rahman for approximately 15 minutes before the procedure, throughout wound care, and for 30 minutes afterward. This duration was intended to ensure that relaxation responses were initiated prior to the onset of painful stimuli, maintained during the procedure, and supported physiological recovery after the intervention. This distraction technique aimed to shift the patient's focus from pain stimuli to auditory input in the form of familiar and calming Qur'anic recitation.

The effectiveness of murottal therapy in reducing pain can be explained through several neurophysiological mechanisms. As a non-noxious sensory stimulus, murottal functions within the framework of the Gate Control Theory, in which auditory stimulation activates A-beta nerve fibers that inhibit the transmission of nociceptive signals at the dorsal horn of the spinal cord, effectively "closing the gate" to pain perception (Melzack & Wall, 1965; Moayedi & Davis, 2013).

This mechanism enhances the patient's ability to tolerate painful stimuli, particularly during procedures that increase nociceptive input

In addition, murottal therapy influences neuroendocrine responses. The rhythmic and structured recitation activates cortical and limbic centers, leading to decreased activity of the hypothalamic-pituitary-adrenal (HPA) axis. This results in reduced secretion of corticotropin-releasing factor (CRF) and adrenocorticotrophic hormone (ACTH), subsequently lowering cortisol levels and other stress mediators. Simultaneously, endogenous opioid release, particularly β -endorphins, is increased, contributing to natural analgesic effects (Savitri et al., 2023).

The findings of this study demonstrated a gradual reduction in pain intensity from day 1 to day 4, with an average decrease of 1–2 points on the Numeric Rating Scale. Behavioral observations further supported these results. On days 1 and 2, although pain decreased to 6/10, the patient showed reduced restlessness and improved ability to follow simple instructions. By day 3, pain decreased to 5/10, with the patient appearing calmer, able to rest, and beginning to communicate. On day 4, the patient appeared cooperative, more comfortable, and exhibited minimal pain expressions. These findings indicate a consistent improvement in comfort aligned with pain reduction.

The results of this study are consistent with previous findings. Aprilia Savitri et al. (2023) reported that murottal therapy induced relaxation responses of up to 65%, improved positive perception, and reduced pain intensity in patients with second-degree burns. Similarly, studies by Budiman et al. (2023) and Keivan et al. (2019) demonstrated that murottal therapy effectively reduced pain intensity during dressing changes, while Rantiyana et al. (2017) found a reduction of up to two points in background pain through improved cognitive and emotional adaptation.

The psychological and spiritual effects of murottal therapy also contribute significantly to pain reduction. Psychologically, decreased anxiety leads to reduced pain perception, as anxiety and tension are known amplifiers of pain experience. As a spiritually based Islamic intervention, murottal therapy holds emotional, religious, and spiritual significance for Muslim patients. It promotes positive coping, enhances inner calmness, strengthens faith, and fosters acceptance during the treatment process (Muri Ambarwati et al., 2025).

However, physiological responses reflected in vital signs showed variability. On certain days, reductions in blood pressure and heart rate were observed after the intervention, whereas on other days, increases were noted. Although murottal therapy can reduce pain through psychological relaxation mechanisms, it may not fully eliminate physiological stress associated with wound care procedures. Consequently, hemodynamic parameters such as blood pressure, heart rate, and respiratory rate did not show consistent changes. This finding is consistent with Bakar (2015), who reported that murottal therapy does not significantly affect physiological stress reduction

Despite this, the combination of pharmacological and non-pharmacological interventions demonstrated a synergistic effect. Paracetamol, as a pharmacological analgesic, reduces central sensitization through cyclooxygenase (COX) inhibition and serotonergic pathways, while murottal therapy acts through psychological, emotional, and neurophysiological mechanisms, including gate control modulation, limbic system activation, HPA axis suppression, and endorphin release. The integration of these approaches results in more stable pain reduction, improved comfort, and enhanced physical and emotional adaptation in patients.

Effective pain management plays a critical role in supporting the wound healing process. Controlled pain can reduce physiological stress responses, stabilize vital signs, and improve tissue perfusion, thereby facilitating the proliferative phase and granulation tissue formation. In this context, murottal therapy contributes additional benefits through psychological relaxation, reduction of anxiety, enhancement of patient comfort, and improvement of sleep quality. These relaxation effects help decrease sympathetic nervous system activity and promote

parasympathetic responses, ultimately reducing pain perception and supporting more effective tissue regeneration (Resmi et al., 2023).

CONCLUSION

This case study demonstrates that the combination of wound care using silver sulfadiazine and pain management through murottal therapy in a patient with second-degree burns resulted in stable wound conditions during the observation period and a consistent reduction in pain following daily interventions. The BWAT score, which remained at 27, indicates that the healing process was in the late inflammatory phase transitioning toward early proliferation, with no signs of secondary infection. The application of murottal therapy before, during, and after wound care procedures resulted in a reduction of pain intensity by 1–2 points, supported by observed improvements in patient comfort and relaxation. These findings emphasize the importance of a biopsychospiritual approach in burn management.

The integration of pharmacological and non-pharmacological therapies, such as Qur'anic murottal therapy, is recommended as part of nursing practice in pain management for burn patients, particularly during wound care procedures that are often associated with discomfort. Hospitals and healthcare institutions may consider incorporating murottal therapy as a supportive non-pharmacological intervention to enhance patient comfort and promote recovery.

Further studies with longer observation periods and more robust research designs are needed to evaluate the effectiveness of this combined therapy on physiological parameters and the wound epithelialization process more objectively. These findings are also expected to serve as a reference for nursing education in developing clinical learning related to the application of non-pharmacological therapies in burn care and holistic pain management.

LIMITATION

This case study highlights the importance of a holistic approach in burn management, integrating physiological, psychological, and spiritual aspects of patient care. The combination of silver sulfadiazine dressing and murottal therapy demonstrated complementary benefits in maintaining wound stability and reducing pain, thereby improving overall patient comfort.

However, this study has several limitations. The relatively short observation period (four days) limited the ability to evaluate long-term wound healing outcomes, particularly the epithelialization process. In addition, subjective factors such as patient-reported pain levels may have been influenced by individual psychological conditions and pain tolerance, which could not be fully controlled in this study.

Further research with longer observation periods and more rigorous study designs, such as controlled or randomized trials, is needed to provide stronger evidence regarding the effectiveness of combined pharmacological and non-pharmacological interventions in burn patients, particularly during dressing change procedures.

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