

Original Article

Integrating progressive muscle relaxation and guided imagery based on adaptation model for pain management in ovarian cancer: A nursing case study

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Abstract

Background: Ovarian cancer frequently causes severe pain and psychological distress that negatively affect patients' physiological and psychological well-being. Effective pain management in oncology nursing requires comprehensive strategies that combine pharmacological treatment with supportive non-pharmacological interventions. However, evidence regarding the integration of these techniques within the Roy Adaptation Model for pain management in ovarian cancer patients remains limited.

Objective: This study aimed to analyze the effectiveness of integrating Progressive Muscle Relaxation and Guided Imagery based on the Roy Adaptation Model to reduce pain and anxiety in patients with ovarian cancer through a nursing case study.

Methods: This study employed a descriptive case study design conducted in the Paviliun Cemara ward at RSUD Siti Fatimah, South Sumatra Province. Three ovarian cancer patients experiencing acute pain were selected using purposive sampling based on predefined inclusion criteria. Data collection was carried out through interviews, physical examination, observation, and measurement of pain and anxiety levels using the Numeric Rating Scale (NRS) and Hamilton Anxiety Rating Scale (HARS). The intervention consisted of Progressive Muscle Relaxation and Guided Imagery sessions administered twice daily for three consecutive days. Data were analyzed descriptively by comparing changes in pain and anxiety scores before and after the intervention.

Results: The findings showed a consistent reduction in pain intensity and anxiety levels among all participants after the intervention. Patient 1 experienced a decrease in pain from NRS 7 to 3 and anxiety from HARS 24 to 12. Patient 2 showed a reduction in pain from NRS 8 to 0 and anxiety from HARS 18 to 8. Patient 3 demonstrated improvement with pain decreasing from NRS 8 to 2 and anxiety from HARS 25 to 10. Improvements were also observed in physiological parameters and patient comfort levels, indicating positive adaptive responses to the intervention.

Conclusion: The integration of Progressive Muscle Relaxation and Guided Imagery based on the Roy Adaptation Model demonstrated beneficial effects in reducing pain and anxiety among patients with ovarian cancer. These findings suggest that relaxation-based nursing interventions may serve as effective complementary strategies in oncology pain management and support patient adaptation to illness.

Background

Ovarian cancer represents a significant global health problem that affects women and contributes to substantial morbidity and mortality worldwide (Perrone et al., 2024). Researchers identify ovarian cancer as a complex malignancy that involves diverse molecular pathways and requires comprehensive clinical management strategies in oncology care (Tonti et al., 2024). Clinicians observe that patients with ovarian cancer frequently experience severe physical symptoms such as pain, fatigue, and complications associated with tumor

progression and treatment (Celano, 2022). Studies indicate that chemotherapy and other cancer treatments often generate additional complications such as neuropathy and systemic discomfort that further burden patients (Cao et al., 2023). Scholars emphasize that cancer-associated conditions including thrombosis and other physiological disturbances can intensify the clinical complexity of ovarian cancer management (Tatsumi, 2024). Health professionals therefore recognize that effective symptom management, particularly pain management, constitutes an essential component of comprehensive oncology nursing care (Richmond et al., 2021).

Pain represents one of the most common and distressing symptoms experienced by patients undergoing cancer treatment in clinical settings (Wang et al., 2024). Healthcare providers report that uncontrolled pain can reduce treatment adherence, decrease quality of life, and increase psychological distress among cancer patients (Zhang et al., 2022). Nurses implement multidisciplinary interventions to alleviate pain and improve patient comfort during treatment and recovery processes (Rodrigues et al., 2022). Evidence shows that structured nursing interventions can enhance treatment compliance and strengthen patients' ability to cope with chronic illness conditions (Zhao et al., 2023). Clinical programs that integrate symptom monitoring and patient-centered care demonstrate positive outcomes in managing cancer-related symptoms in oncology practice (Maguire et al., 2021). These findings highlight that effective nursing strategies are necessary to address complex pain conditions among patients with ovarian cancer.

Non-pharmacological interventions increasingly receive attention as complementary strategies for managing pain and improving patient well-being (Wijaya et al., 2024). Researchers demonstrate that relaxation techniques such as progressive muscle relaxation can reduce physiological tension and support pain control in various clinical populations (Ar-Razy & Rohmah, 2025). Evidence also indicates that guided imagery and breathing exercises may promote psychological comfort and reduce perceived pain intensity among patients undergoing medical treatment (KK, 2025). Clinical case studies further show that complementary therapies can improve coping ability and emotional stability during the recovery process (KK et al., 2026). Nursing interventions that combine relaxation techniques with supportive care can strengthen patient adaptation to illness and treatment challenges (Liana et al., 2026). These approaches therefore offer promising alternatives to enhance pain management in oncology nursing practice.

The implementation of nursing care in oncology requires a systematic framework that integrates assessment, diagnosis, intervention, and evaluation (PPNI, 2018a). Indonesian nursing standards define nursing diagnoses, interventions, and outcomes as structured components that guide evidence-based nursing

practice in clinical settings (PPNI, 2018b). Nursing professionals utilize standardized interventions to ensure consistent and effective care for patients experiencing pain and other health problems (PPNI, 2018c). Foundational nursing theories emphasize that holistic care should address physiological, psychological, and social responses to illness (Potter & Perry, 2020). The Roy Adaptation Model explains that patients respond to illness through adaptive mechanisms that involve physiological and psychosocial processes (Fei, 2021). Nurses therefore apply theoretical models to guide interventions that enhance patient adaptation and improve health outcomes in complex clinical conditions.

Recent studies demonstrate that integrated nursing approaches can reduce complications and improve patient responses during medical treatment (Liu et al., 2023). Preventive nursing interventions also show effectiveness in decreasing adverse reactions among patients undergoing targeted cancer therapy (Yao & Tao, 2023). Clinical investigations highlight that comprehensive nursing care improves patient safety and treatment experiences in hospital settings (Liu et al., 2023). Nursing research further indicates that innovative educational and supportive interventions can strengthen patient understanding and participation in treatment processes (Pratiwi et al., 2026). Qualitative evidence also reveals that continuity of care and patient-centered approaches enhance long-term health outcomes in individuals with chronic illness (Putra, 2025). Social and psychological support additionally contributes to patient resilience and coping capacity during illness experiences (Yun & Ji, 2026).

Despite advances in oncology treatment and nursing interventions, many patients with ovarian cancer still experience inadequate pain management during their care process. Evidence from various clinical contexts suggests that integrating relaxation techniques within theoretical nursing frameworks may enhance patient adaptation and symptom control. However, limited studies explore the integration of progressive muscle relaxation and guided imagery based on the Roy Adaptation Model for managing pain in ovarian cancer patients. Previous nursing case studies demonstrate that structured nursing care can effectively improve patient outcomes when interventions are

applied systematically (Apriliana et al., 2025). Clinical evidence also shows that complementary therapies can improve patient comfort and physiological responses during illness management (da Silva et al., 2022).

Therefore, this study aims to analyze the integration of progressive muscle relaxation and guided imagery based on the Roy Adaptation Model for pain management in patients with ovarian cancer through a nursing case study approach.

Methods

Study Design

This study employed a descriptive nursing case study design to examine the application of Progressive Muscle Relaxation (PMR) and Guided Imagery as non-pharmacological interventions for pain management in patients with ovarian cancer. A case study design was selected because it allows an in-depth exploration of clinical phenomena within a real care context and enables detailed observation of patient responses to nursing interventions over time. The study focused on the implementation of a structured nursing care process integrated with the Roy Adaptation Model (RAM) to understand the adaptive responses of patients experiencing acute pain due to ovarian cancer. In this framework, pain was conceptualized as a focal stimulus that influences both physiological and psychological adaptive responses. The interventions of Progressive Muscle Relaxation and Guided Imagery were introduced as contextual stimulus modifiers aimed at strengthening the patient's regulator and cognator coping mechanisms. Through this theoretical integration, the study sought to observe how relaxation-based interventions influence adaptive modes such as physiological responses, psychological comfort, and emotional regulation during cancer care.

The reporting of this case study followed the CARE Guidelines (CAsE REport Guidelines) from the EQUATOR Network, which provide standardized guidance for transparent reporting of case studies in health research. The use of CARE guidelines ensured systematic documentation of patient characteristics, clinical interventions, outcomes, and follow-up

evaluation. This approach improves methodological transparency, enhances reproducibility, and supports the scientific rigor of clinical case reports in nursing research. The design also allowed the researcher to document changes in pain intensity and anxiety levels before and after the intervention while examining the patient's adaptive responses according to Roy's theoretical framework.

Sampling

The subjects of this nursing case study consisted of three patients diagnosed with ovarian cancer who were receiving treatment in the Paviliun Cemara ward at RSUD Siti Fatimah, South Sumatra Province, in 2026. A purposive sampling technique was used to select participants who met specific clinical criteria relevant to the study objectives. This approach was chosen because case study research prioritizes depth of clinical observation rather than generalizability to a broader population. Purposive sampling allowed the researcher to select participants who were most appropriate for observing the adaptive responses associated with the intervention.

The inclusion criteria included patients diagnosed with ovarian cancer who experienced acute pain, were in a conscious state (compos mentis), were able to communicate effectively, and expressed willingness to participate as respondents. Patients who were hemodynamically unstable, had impaired cognitive function, or were unable to follow verbal instructions were excluded from participation. Prior to the intervention, the researcher explained the objectives, procedures, potential benefits, and expected duration of the intervention to the patients. Participants who agreed to participate provided written informed consent and established a time agreement for the intervention sessions. The selection of three subjects was considered sufficient for an exploratory nursing case study because the focus of the research was to provide a detailed clinical description of patient responses to the intervention rather than statistical generalization.

Instruments

Several instruments and clinical assessment tools were used to collect data related to pain, anxiety, and adaptive responses during the nursing intervention process. Pain intensity was assessed using a standardized numerical pain rating scale that allowed patients to describe their perceived level of pain before and after the intervention sessions. This scale provided a simple and reliable method to measure changes in pain perception during the implementation of Progressive Muscle Relaxation and Guided Imagery. Observational assessment was also conducted to evaluate patient expressions, physical discomfort, and behavioral responses associated with pain.

To measure anxiety levels, the study utilized the Hamilton Anxiety Rating Scale (HARS), which consists of 14 items that evaluate psychological and somatic symptoms of anxiety. The HARS questionnaire was administered before the first intervention session and again on the third day following the completion of the intervention. This instrument enabled the researcher to quantify changes in anxiety levels that might accompany pain reduction during the intervention process. In addition to structured measurement tools, a nursing assessment form based on the nursing process framework was used to record patient history, clinical observations, and responses during the intervention period. These instruments allowed the researcher to obtain both quantitative and qualitative data regarding the patient's adaptive responses to the nursing intervention.

Data Collection

Data collection was conducted through several sequential stages that reflected the nursing care process, including preparation, initial assessment, intervention implementation, and evaluation. During the preparation phase, the researcher identified eligible patients, explained the study procedures, obtained informed consent, and scheduled intervention sessions. The initial assessment stage involved collecting baseline data through interviews, physical examination, and observation of the patient's general condition. The researcher also measured baseline pain intensity and anxiety

levels prior to the intervention to establish a comparison point for subsequent evaluation.

The intervention stage involved the application of Progressive Muscle Relaxation and Guided Imagery techniques twice daily at 09:00 and 15:00 for three consecutive days. During the intervention, patients were positioned comfortably in either a semi-Fowler sitting position or a relaxed lying position. The room environment was arranged to be calm, quiet, and free from excessive distractions, with adequate lighting to promote relaxation. The intervention began with breathing exercises in which the patient inhaled slowly through the nose for four seconds and exhaled gently through the mouth for six seconds. Following the breathing preparation, patients performed sequential muscle contraction and relaxation exercises. Each muscle group was contracted for approximately five to seven seconds and then released for ten seconds to allow the sensation of relaxation.

After completing the Progressive Muscle Relaxation sequence, the Guided Imagery session was conducted. Patients were instructed to close their eyes, breathe slowly, and focus their attention on imagining a peaceful and pleasant place that evoked feelings of safety and comfort. The researcher verbally guided the imagery process to help patients maintain concentration and relaxation. The guided imagery session lasted approximately ten to fifteen minutes before the patient was gently instructed to open their eyes gradually and return to a normal state of awareness. Throughout the intervention process, the researcher observed the patient's physical and emotional responses, recorded the duration of the intervention, and documented any reported changes in pain or comfort.

Data Analysis

Data analysis in this study used a descriptive analytic approach to examine changes in pain intensity and anxiety levels among the three participants before and after the intervention. Quantitative data obtained from the pain scale and HARS questionnaire were summarized and compared across the intervention period to identify trends in symptom reduction. The

analysis focused on observing differences between baseline measurements and post-intervention outcomes on the third day of therapy. Because the study utilized a case study design with a small number of participants, the emphasis of analysis was placed on pattern recognition and individual response evaluation rather than inferential statistical testing.

Qualitative observational data collected during the intervention were analyzed through narrative description. The researcher examined patient expressions, behavioral responses, verbal feedback, and physiological indicators of relaxation to understand how the intervention influenced adaptive responses. This narrative analysis allowed the researcher to interpret the patient's experiences in relation to the Roy Adaptation Model, particularly the mechanisms of regulator and cognator coping processes. The integration of quantitative symptom measurements and qualitative clinical observations provided a comprehensive understanding of the intervention's impact on pain and anxiety management.

Ethical Considerations

Ethical principles were strictly observed throughout the study to ensure the protection and well-being of the participants. Prior to the implementation of the intervention, the researcher provided a detailed explanation of the study objectives, procedures, benefits, and potential risks to each participant. Patients who agreed to participate voluntarily signed an informed consent form indicating their willingness to be involved in the study. Participants were informed that their participation was entirely voluntary and that they could withdraw from the study at any time without affecting their medical care.

Confidentiality and privacy of patient information were maintained throughout the research process. Personal identifiers were removed from all research records, and each participant was assigned a code number to ensure anonymity. The intervention procedures were conducted in a manner that respected patient comfort, dignity, and safety. Additionally, the researcher ensured that the relaxation interventions did not interfere with the patients'

ongoing medical treatments or clinical management. Ethical compliance in this study adhered to the principles of respect for persons, beneficence, and justice in human subject research.

Results

Participant Characteristics and Baseline Clinical Assessment

This study involved three female patients diagnosed with ovarian cancer who were hospitalized in the Paviliun Cemara ward at RSUD Siti Fatimah, South Sumatra Province. All participants experienced acute pain as the primary clinical complaint and met the inclusion criteria established for the case study. The three participants were identified as Patient 1 (Ny. M), Patient 2 (Ny. A), and Patient 3 (Ny. I).

At the initial assessment stage, the researcher conducted comprehensive nursing assessments including patient interviews, physical examination, observation of clinical conditions, and measurement of pain and anxiety levels. Pain intensity was measured using the Numeric Rating Scale (NRS), while anxiety levels were measured using the Hamilton Anxiety Rating Scale (HARS).

Patient 1 (Ny. M) presented with complaints of severe abdominal pain that had persisted for three days and worsened several hours prior to hospital admission. The patient was admitted through the emergency department and subsequently transferred to the inpatient ward for further treatment. Clinical assessment revealed a respiratory rate of 30 breaths/minute, blood pressure of 90/60 mmHg, body temperature of 36.1°C, pulse rate of 122 beats/minute, and oxygen saturation of 98%. The patient was fully conscious (compos mentis). The baseline pain score measured using the Numeric Rating Scale was 7, indicating severe pain, while the anxiety score measured using HARS was 24, indicating moderate to severe anxiety.

Patient 2 (Ny. A) reported abdominal pain that had been present for two days prior to admission. The family stated that the pain

progressively worsened, prompting emergency medical evaluation. Physical examination showed a respiratory rate of 30 breaths/minute, blood pressure of 135/95 mmHg, body temperature of 36.1°C, pulse rate of 112 beats/minute, and oxygen saturation of 97%. The patient remained conscious and cooperative during the assessment. The baseline pain score was 8, indicating severe pain, and the anxiety score measured using HARS was 18, reflecting moderate anxiety.

Patient 3 (Ny. I) presented with abdominal pain accompanied by vaginal bleeding that occurred on the morning of admission. Clinical assessment demonstrated a respiratory rate of

28 breaths/minute, blood pressure of 130/90 mmHg, body temperature of 37.1°C, pulse rate of 118 beats/minute, and oxygen saturation of 98%. The patient was fully conscious and responsive during the assessment. The pain score measured using the Numeric Rating Scale was 8, while the HARS anxiety score was 25, indicating high anxiety levels.

Overall, the initial assessment revealed that all three patients experienced severe pain accompanied by physiological stress responses and elevated anxiety levels. Pain was therefore identified as the major clinical symptom and became the primary focus of nursing intervention.

Table 1. Baseline Clinical Characteristics of Participants

Patient	RR (breaths/min)	BP (mmHg)	Pulse (bpm)	Temperature (°C)	SpO ₂ (%)	NRS Pain Score	HARS Anxiety Score
Ny. M	30	90/60	122	36.1	98	7	24
Ny. A	30	135/95	112	36.1	97	8	18
Ny. I	28	130/90	118	37.1	98	8	25

Nursing Diagnosis

Based on the assessment findings, the primary nursing diagnosis identified for all three participants was acute pain associated with physiological and pathological processes related to ovarian cancer. The diagnosis was established using standardized nursing diagnostic criteria consistent with the Indonesian Nursing Diagnosis Standard.

Acute pain was determined to be the primary nursing problem because each patient reported significant pain intensity accompanied by observable physiological responses such as tachycardia, increased respiratory rate, and facial expressions indicating discomfort. These findings supported the identification of acute pain as a major clinical symptom requiring immediate nursing management.

The nursing care plan therefore focused on comprehensive pain management strategies that combined pharmacological treatment with complementary non-pharmacological interventions. Pharmacological management was implemented according to medical prescriptions, while non-pharmacological

management involved the application of Progressive Muscle Relaxation (PMR) and Guided Imagery techniques.

Nursing Intervention Implementation

The implementation of nursing care for the three patients consisted of several integrated interventions aimed at reducing pain intensity and improving patient comfort. These interventions included continuous pain assessment using the Numeric Rating Scale, administration of pharmacological analgesic therapy according to physician orders, and the application of relaxation-based non-pharmacological interventions.

The primary non-pharmacological interventions applied in this study were Progressive Muscle Relaxation (PMR) and Guided Imagery, which were implemented twice daily at 09:00 and 15:00 for three consecutive days. These techniques were delivered in a calm clinical environment with minimal noise and distraction to facilitate optimal patient relaxation.

During the intervention, patients were positioned comfortably either in a semi-Fowler sitting position or in a relaxed supine position. The intervention session began with breathing exercises in which patients inhaled slowly through the nose for four seconds and exhaled gradually through the mouth for six seconds. Following the breathing preparation phase, patients performed progressive muscle contraction and relaxation exercises involving major muscle groups. Each muscle group was contracted for approximately five to seven seconds and then released for ten seconds to allow the sensation of muscle relaxation.

After completing the Progressive Muscle Relaxation sequence, patients were guided through a guided imagery session lasting approximately ten to fifteen minutes. During this stage, patients were instructed to close their eyes, regulate their breathing rhythm, and imagine a peaceful and pleasant environment that evoked feelings of safety and calmness. The researcher verbally guided the imagery process to maintain patient focus and enhance relaxation.

Throughout the intervention process, the researcher monitored patient responses including facial expression, body posture, emotional state, and verbal feedback regarding pain perception. The combination of pharmacological analgesics and relaxation techniques was implemented to achieve synergistic pain relief and improve the patient's overall adaptive response to the illness.

Outcome Evaluation

Evaluation of the nursing intervention was conducted continuously for three days to assess patient responses to the applied therapy. The evaluation focused on changes in pain intensity, anxiety levels, physiological parameters, and behavioral indicators of discomfort (Table 2).

On the first day, all three patients continued to experience significant pain accompanied by facial grimacing and physiological indicators of stress. Pain scores recorded at baseline were 7 for Ny. M, 8 for Ny. A, and 8 for Ny. I. Anxiety scores measured using HARS were 24, 18, and 25 respectively. These findings indicated that the patients were experiencing severe pain and moderate to high levels of anxiety at the start of the intervention.

On the second day, a mild reduction in pain intensity was observed. All patients were able to perform the relaxation techniques more independently with minimal guidance from the researcher. Although improvements were noted, the reduction in pain intensity was still limited and had not yet reached clinically significant levels.

By the third day, more substantial improvements were observed in all three patients. Patient 1 (Ny. M) reported a decrease in pain intensity from NRS 7 to 3, accompanied by a reduction in anxiety levels from HARS 24 to 12. Physiological parameters also improved, with a respiratory rate of 26 breaths/minute, blood pressure of 110/70 mmHg, pulse rate of 100 beats/minute, and stable oxygen saturation at 98%. Facial grimacing was significantly reduced, and the patient appeared more relaxed.

Table 2. Changes in Pain and Anxiety Scores After Intervention

Patient	Baseline NRS	Day 3 NRS	Baseline HARS	Day 3 HARS
Ny. M	7	3	24	12
Ny. A	8	0	18	8
Ny. I	8	2	25	10

Patient 2 (Ny. A) experienced the most significant improvement, with the pain score decreasing from NRS 8 to 0, indicating complete relief of pain at the time of evaluation. Anxiety levels decreased from HARS 18 to 8, and vital

signs stabilized with a respiratory rate of 24 breaths/minute, blood pressure of 110/70 mmHg, pulse rate of 72 beats/minute, and oxygen saturation of 98%. The patient appeared calm and comfortable.

Patient 3 (Ny. I) also demonstrated a significant reduction in pain from NRS 8 to 2, while the anxiety score decreased from HARS 25 to 10. Vital signs improved with a respiratory rate of 22 breaths/minute, blood pressure of 100/70 mmHg, pulse rate of 70 beats/minute, and oxygen saturation of 99%. The patient appeared relaxed and no longer showed facial expressions of pain.

Overall, the findings demonstrated a consistent reduction in both pain intensity and anxiety levels among the three patients following the implementation of Progressive Muscle Relaxation and Guided Imagery interventions over a 72-hour period. The improvements in physiological parameters and patient comfort indicated a positive adaptive response to the combined pharmacological and non-pharmacological pain management approach. These results suggest that relaxation-based nursing interventions may contribute to effective pain management in patients with ovarian cancer.

Discussion

The findings of this study demonstrated that the implementation of Progressive Muscle Relaxation and Guided Imagery within a structured nursing care process contributed to a reduction in pain intensity and anxiety levels among patients with ovarian cancer. The intervention was implemented for three consecutive days and showed progressive improvement in patient responses. The initial evaluation indicated that the patients experienced severe pain accompanied by physiological stress responses and elevated anxiety levels. The second day evaluation revealed gradual improvement as patients began to perform the relaxation techniques more independently. The third day evaluation showed significant reductions in both pain and anxiety scores accompanied by stabilization of vital signs. These findings suggest that the integration of relaxation techniques within nursing care may enhance adaptive responses among patients experiencing acute pain related to ovarian cancer.

Ovarian cancer presents a complex clinical condition that requires comprehensive medical and nursing management to control symptoms and improve patient outcomes (Perrone et al., 2024). Researchers describe ovarian cancer as a disease involving complex molecular and physiological mechanisms that often lead to severe clinical symptoms including pain and systemic complications (Tonti et al., 2024). Clinical observations indicate that tumor progression and associated complications can produce significant physical discomfort that interferes with patient well-being (Celano, 2022). Studies demonstrate that patients undergoing cancer treatment frequently experience therapy-related complications such as peripheral neuropathy and other painful conditions (Cao et al., 2023). Researchers further explain that cancer-associated thrombosis and inflammatory responses may contribute to additional physiological disturbances in patients with malignancy (Tatsumi, 2024). Health professionals therefore emphasize the importance of comprehensive symptom management strategies in oncology care to address pain and improve patient quality of life (Richmond et al., 2021).

Pain management in cancer patients requires a multidisciplinary approach that integrates pharmacological therapy with supportive nursing interventions to achieve optimal outcomes (Zhang et al., 2022). Nurses play a critical role in implementing symptom management strategies that enhance patient comfort and reduce the burden of disease during treatment (Rodrigues et al., 2022). Clinical evidence indicates that preventive and supportive nursing care can improve psychological well-being and treatment adherence among patients with complex health conditions (Zhao et al., 2023). Monitoring of patient symptoms during treatment also contributes to early detection of complications and more effective clinical decision making (Maguire et al., 2021). Nursing programs designed to manage treatment-related symptoms have demonstrated positive effects in reducing nausea, vomiting, and other distressing experiences in oncology patients (Liu et al., 2023). Preventive nursing

interventions additionally help reduce adverse reactions associated with cancer therapy and improve patient adaptation to treatment processes (Yao & Tao, 2023).

Non-pharmacological approaches represent an important complementary strategy for managing pain and improving patient comfort during illness experiences (Wijaya et al., 2024). Relaxation techniques such as progressive muscle relaxation help reduce muscle tension and stimulate physiological relaxation responses in the body (Ar-Razy & Rohmah, 2025). Researchers explain that relaxation-based interventions can activate the parasympathetic nervous system and reduce sympathetic stress responses associated with pain perception (KK, 2025). Clinical case studies demonstrate that complementary therapies such as relaxation and focused attention techniques can effectively decrease pain intensity and improve patient coping ability (KK et al., 2026). Therapeutic touch and massage interventions have also been shown to improve peripheral comfort and reduce discomfort among patients with chronic illness conditions (Liana et al., 2026). These findings indicate that integrating complementary nursing interventions may provide additional benefits for pain management in patients undergoing medical treatment.

The application of nursing theory within clinical practice supports the delivery of holistic and evidence-based care for patients experiencing complex health conditions (Potter & Perry, 2020). The Roy Adaptation Model conceptualizes health as a dynamic process in which individuals continuously respond to internal and external stimuli through adaptive mechanisms (Fei, 2021). Standardized nursing diagnoses and interventions provide a systematic framework that guides nurses in identifying patient problems and implementing appropriate care strategies (PPNI, 2018a). Nursing outcome standards also enable healthcare professionals to evaluate patient responses and determine whether the applied interventions achieve desired clinical results (PPNI, 2018b). Nursing intervention standards further provide guidance for implementing evidence-based therapeutic actions that

address patient needs (PPNI, 2018c). The use of theoretical frameworks and standardized nursing care processes therefore strengthens the quality and consistency of clinical nursing practice.

The integration of patient education and supportive care strategies has also been shown to enhance patient participation in treatment and improve overall health outcomes (Wang et al., 2024). Studies indicate that structured health education interventions can strengthen patient understanding of disease management and increase engagement in self-care practices (Pratiwi et al., 2026). Nursing continuity of care also contributes to improved long-term outcomes by ensuring that patients receive consistent support throughout the treatment process (Putra, 2025). Evidence further shows that psychological and social support plays an important role in improving coping capacity among individuals experiencing chronic illness (Yun & Ji, 2026). Complementary therapies have been used in various clinical contexts to improve symptom control and enhance patient comfort during treatment (da Silva et al., 2022). Nursing care models that integrate multiple supportive interventions therefore offer promising strategies for addressing complex health needs in patients with chronic diseases.

Case-based nursing research provides valuable clinical insight into the effectiveness of specific nursing interventions in real patient care settings (Apriliana et al., 2025). Observational case studies allow researchers to examine patient responses to therapeutic interventions and to evaluate the practical application of nursing theory in clinical practice (Siti Aulia, 2024). Health research in Indonesia also highlights the importance of addressing major health conditions and their associated complications through evidence-based clinical practice (Survei Kesehatan Indonesia, 2023). Clinical management of anticancer therapy requires comprehensive nursing support to ensure safe and effective treatment outcomes (Griffiths et al., 2022). Integrative nursing approaches that combine pharmacological therapy with supportive interventions may improve patient adaptation and symptom control during cancer treatment (Liu et al.,

2023). These findings emphasize the importance of developing evidence-based nursing interventions that address both physiological and psychological aspects of patient care.

Conclusion and Recommendation

This study demonstrates that the integration of Progressive Muscle Relaxation and Guided Imagery within a structured nursing care process can reduce pain intensity and anxiety levels among patients with ovarian cancer. The implementation of these relaxation techniques for three consecutive days produced observable improvements in patient comfort, stabilization of vital signs, and enhanced emotional responses. The combination of pharmacological and non-pharmacological pain management strategies provided synergistic effects that supported patient adaptation to illness. The findings indicate that relaxation-based nursing interventions can serve as complementary strategies for managing cancer-related pain in clinical settings. Nurses are encouraged to incorporate relaxation techniques into routine nursing care to improve patient comfort and psychological well-being. Future studies with larger sample sizes and experimental designs are recommended to further evaluate the effectiveness of these interventions in broader clinical populations.

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Declaration of conflict of interest

The authors declare no competing interests.

Declaration on the Use of AI

No AI tools were used in the preparation of this manuscript.

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