

Guided Imagery Technique in Reducing Anxiety in Pre-Operative Patients with Gangrene

Ledy Ervita¹, Zikri Alhalawi¹

¹ Department of Nursing, Faculty of Medicine, Universitas Tanjungpura, Indonesia

* Correspondence e-mail; ledyervita@ners.untan.ac.id

Article history

Submitted: 2025/03/14; Revised: 2025/04/14; Accepted: 2025/04/24

Abstract

Anxiety is among the most prevalent mental health conditions, significantly affecting daily functioning and quality of life. This case report presents a comprehensive evaluation and intervention approach for a patient experiencing severe anxiety symptoms before undergoing surgery. A case study methodology was employed to document the clinical presentation, assessment, and treatment plan of a patient diagnosed with anxiety. Data collection included patient history, symptoms, and evaluation using standardized scales and non-pharmacological intervention such as guided imagery technique. The result such that the patient demonstrated a reduction in anxiety symptoms following the combined therapeutic approach. Psychological assessment scores improved and the patient reported enhanced coping mechanisms and overall well-being. The conclusion of this case report highlights the importance of an integrated therapeutic approach in managing anxiety. Non-pharmacological can significantly improve outcomes in anxiety in pre-operative patients.

Keywords

Adolescence; Anxiety; Guided Imagery; Non-Pharmacological; Preoperative



© 2025 by the authors. Submitted for possible open access publication under the terms and conditions of the Creative Commons Attribution 4.0 International (CC BY SA) license, <https://creativecommons.org/licenses/by-sa/4.0/>.

1. INTRODUCTION

Surgery is an invasive medical procedure performed to diagnose or treat diseases, injuries, or body deformities. Surgical procedures cause tissue damage, which can lead to physiological changes in the body and affect other organs (Rismawan, 2019; Saputri et al., 2022). Surgery is an invasive procedure that involves opening a part of the body for corrective purposes. It is typically performed under anesthesia for pain management, vital sign stabilization, and perioperative care to support the success of the procedure (Pakpahan & Damanik, 2023). If necrosis occurs in any part of the body due to a lack of blood and oxygen supply, this condition is called "gangrene." It is a type of tissue death. Although necrosis can occur in any part of the body, it is more commonly found in the feet, toes, hands, and fingers (A, 2020). If left untreated, gangrene can cause severe complications, including systemic infections that may necessitate amputation. Therefore, prompt diagnosis and appropriate management are crucial in improving patient outcomes (Goyal et al., 2024).

Surgical procedures pose both actual and potential threats that can lead to psychological and physiological stress in patients, making the experience challenging for almost all individuals. When facing surgery, patients encounter various stressors that trigger anxiety and fear, with even the waiting period contributing to increased anxiety. These physiological responses generally reduce the patient's energy levels, ultimately affecting the surgical procedure and the postoperative healing process (Fatmawati & Pawestri, 2021). Anxiety is a brief emotional experience and a normal response when an individual faces stress or life-threatening events (Harkomah et al., 2022). Preoperative anxiety affects the surgical process. Anxiety in preoperative patients can be prevented using relaxation techniques. According to researchers, many preoperative patients experience anxiety because it arises from concerns about the consequences of surgery and uncertainty about what will happen during and after the procedure (Idris, 2022). Preoperative anxiety has a significant impact on surgical outcomes. It can lead to high blood pressure, increased heart rate, and bleeding. Additionally, high levels of preoperative anxiety have been shown to be associated with an increased need for postoperative pain relief. The extent to which each patient expresses anxiety about their upcoming experience depends on various factors, including age, gender, the type and extent of the recommended surgery, previous surgical experiences, and individual sensitivity to stressful situations. Recent studies have investigated the relationship between preoperative anxiety and morbidity/mortality. Anxiety can also cause unnecessary delays in performance (Bedaso, A. & Ayalew, M., 2019; Musyaffa et al., 2023).

One relaxation technique used to decrease anxiety in patients is guided imagery therapy. Relaxation techniques help divert attention and alleviate anxiety. The guided imagery process involves identifying the source of the problem by recording oneself after listening to music in a relaxed state with closed eyes. The next step is building a positive image through daily guided imagery practice. By replacing irrational thoughts, individuals can assess their situation more objectively. Guided imagery is a process that harnesses the power of the mind to direct the body toward self-healing, maintaining health, and achieving relaxation through internal communication involving all senses—sight, touch, guidance, vision, and hearing (Idris, 2022).

2. METHODS

This article presents a case study of a 14-year-old female patient who was admitted to the hospital and consented to receive nursing care. The patient, a junior high school student, was hospitalized with complaints of pain in her injured right leg. She reported having been in a motorcycle accident about two weeks prior, sustaining a leg injury while on her way to school. The patient fell, and her injured leg was further exposed to a metal sheet at school due to ongoing renovations.

Upon assessment, edema was observed in the patient's injured right leg. She appeared tense due to fear of surgery, as this was her first surgical experience. The patient was then medically diagnosed with gangrene in her right leg because her injured leg was further exposed to an infection. Before the surgery, the subjective data collected included the patient expressing worry about the procedure and difficulty concentrating due to anxiety over her first surgery. Objective data showed that the patient appeared restless and tense. The patient's anxiety level was recorded as 7 on the anxiety scale. Consequently, the nursing diagnosis for the patient was anxiety related to surgical procedures, as evidenced by feelings of confusion, worry, difficulty concentrating, restlessness, and tension.

A case study is an article that explores a nursing issue in depth. The method used in this case study is a descriptive approach, employing a nursing care framework that includes assessment, nursing diagnosis, nursing interventions, implementation, and evaluation. Nursing intervention in this study uses non-pharmacological therapy, and guided imagery therapy. The implementation is given to the patient the day before the patient's surgery, and then the couple of hours before surgery. The evaluation was known after a couple of hours of surgery.

The intervention for this case study such as assessing anxiety levels using the Visual Analog Scale (VAS), observation inadequate for concentration or other

symptoms that disturbed cognitive ability, monitoring response for relaxation therapy, creating a calm environment without disturbance with comfortable lightning and room temperature, use guided imagery technique as a supporting strategy for non-pharmacological, education by explaining the purpose and benefits of the chosen therapy, encouraging the patient to take a comfortable position, encouraging her to relax and feel the sensation of therapy, demonstrating and practicing guided imagery techniques.

3. FINDINGS AND DISCUSSION

After repeatedly undergoing guided imagery therapy before surgery until the patient could independently demonstrate the technique, the patient reported a significant reduction in anxiety levels. Preoperative interventions included assessing anxiety levels using the Visual Analog Scale (VAS) from 7 change to be 5, the patient reported able to sleep better with a semi-fowler position and felt mentally and emotionally more prepared for the procedure with kept practicing guided imagery techniques. She stated that the calming imagery learned during therapy made her feel more positive and ready to face the surgical process.

After the surgery, the patient felt relieved and calm. The patient reported that her anxiety had almost completely disappeared after the procedure of her surgery with her anxiety scale (VAS) had decreased to 2. The patient smiled and felt happy because the surgery had finished, she wanted to go back to school again and meet her friends.

The result from this study indicates that after undergoing two sessions of guided imagery therapy, before and after the surgery, the patient experienced a significant reduction in preoperative anxiety. Previously, the patient felt extremely anxious about the upcoming medical procedure. However, after therapy sessions and independently demonstrating the technique, the anxiety, almost completely disappeared. This case study, it reflects the effectiveness of guided imagery therapy in managing anxiety, particularly in medical contexts involving invasive procedures such as surgery. In this case, after the therapy, physical symptoms of anxiety, such as a rapid heartbeat and restlessness, significantly decreased, demonstrating that this technique is effective in calming both the body and mind.

3.1. Age and Anxiety

In this study, the patient was 14 years old with an anxiety scale that continued to decrease from an initial assessment scale of 7 to 5 when preoperatively and decreased to 2 after surgery. In the study of Aulia et al., (2024) that the level of anxiety based on age occurred in <17 years. Most of the respondents in this study were <17 years old (47,6%). This age is included in the category of adolescence. Adolescence is a transition period from childhood to adulthood with an unstable emotional state in facing several unexpected conditions (Dayya et al., 2022). Mental readiness that is not yet fully mature and still lacks experience in dealing with anxiety occurs at this stage. The older the teenager, the more difficult the developmental stages that must be passed through, causing anxiety in the individual (Aulia et al., 2024). Adolescents often struggle with mental preparedness and limited experience in handling anxiety-provoking situations (Dayya et al., 2022).

The transition from childhood to adulthood involves biological, cognitive, and emotional changes, which contribute to increased vulnerability to anxiety (Batiari et al., 2022). Adolescents frequently struggle with self-regulation and emotional control, leading to heightened stress responses in medical settings. At different stages, anxiety symptoms may manifest in various ways, ranging from irritability and withdrawal to heightened sensitivity to stressful situations (Aulia et al., 2024).

3.2. Gender and Anxiety

Gender differences play a significant role in how individuals experience and manage anxiety. In this study, the patient, a female adolescent, reported a significant reduction in anxiety levels following guided imagery therapy. Prior research suggests that females tend to experience higher levels of anxiety compared to males, particularly in academic, social, and medical settings (Bao & Han, 2024). Anxiety symptoms and diagnoses often increase in late childhood/early adolescence, particularly among girls (Smith et al., 2022). Psychological responses to stress differ between genders, with females often displaying heightened sensitivity to distressing experiences (Çelikkaleli & Demir, 2022). Studies also show that women are generally more prone to anxiety disorders, with prevalence rates estimated to be twice as high as those in men (Khairani et al., 2023). These findings underscore the importance of considering gender-specific interventions when addressing preoperative anxiety in adolescent patients.

3.3. Guided Imagery and Anxiety

Guided imagery relaxation is a technique that requires a person to create a mental image or imagination of things they like. The formed imagination is perceived as a stimulus by various senses, then transmitted to the brainstem, passing through the thalamic sensor to the hippocampus, where it is processed as a memory record. Guided imagery relaxation has shown significant results in reducing anxiety. If anxiety can be managed early, it will be beneficial in minimizing further risk factors, including psychosocial problems and other mental health issues (Rahayu et al., 2024). Guided imagery intervention helps reduce the severity of anxiety symptoms and improve the quality of life in patients with anxiety disorder. Guided imagery is a better and more effective treatment for moderating anxiety. It is easy and safe to apply, which provides immediate relief and helps in dropping anxiety. Practicing it regularly helps in growing positive coping and improving the quality of life in patients with anxiety disorders (Kumari & Patil, 2023).

The implementation of evidence-based practice using guide imagery as a therapy before the patient is operated on is proven to reduce the level of pain and anxiety of the patient. One of the advantages of this guide imagery therapy is that patients can carry out this therapy themselves using their own cell phone and headset facilities to reduce patient pain and anxiety (Sriwahyuni et al., 2023).

4. CONCLUSION

The implementation of guided imagery therapy proved effective as a non-pharmacological supportive intervention for reducing preoperative anxiety in patients. This technique not only helped alleviate anxiety but also provided a relaxing sensation, reducing muscle tension and promoting comfort. Additionally, guided imagery therapy may have broader applications, including pain management for patients suffering from various medical conditions. The relaxation induced by this technique facilitates the release of endorphins, contributing to a calmer and more positive physiological state.

Several recommendations are proposed to enhance the application of guided imagery therapy in clinical practice and future research. For healthcare practitioners, guided imagery therapy should be incorporated as a routine nursing intervention for preoperative patients to reduce anxiety and improve overall surgical outcomes. For future research, further studies with larger sample sizes are recommended to explore

the long-term effects of guided imagery therapy on anxiety reduction and postoperative recovery.

REFERENCES

- A, K. (2020). Gangrene: Types, Characteristics and Treatment. *Clinical Dermatology Open Access Journal*, 5(2). <https://doi.org/10.23880/cdoaj-16000211>
- Aulia, A. W. Z., Yuliasuti, E., & Suyatno, S. (2024). Pengaruh Terapi Butterfly Hug terhadap Tingkat Kecemasan pada Remaja. *ASJN (Aisyiyah Surakarta Journal of Nursing)*, 5(1), 1–8. <https://doi.org/10.30787/asjn.v5i1.1514>
- Bao, C., & Han, L. (2024). Gender difference in anxiety and related factors among adolescents. *Frontiers in Public Health*, 12(January), 1–10. <https://doi.org/10.3389/fpubh.2024.1410086>
- Batiari, N. M. P., Budiharto, B., & Suratmi, T. (2022). Kecemasan Remaja: Faktor-faktor Risiko Berdasarkan Model Ekologi Sosial. *INSAN Jurnal Psikologi Dan Kesehatan Mental*, 7(1), 36–53. <https://doi.org/10.20473/jpkm.v7i12022.36-53>
- Çelikkaleli, Ö., & Demir, S. (2022). Anxiety in High School Adolescents by Gender: Friend Attachment, Ineffective Coping with Stress, and Gender in Predicting Anxiety. *Educational Process: International Journal*, 11(3), 32–47. <https://doi.org/10.22521/edupij.2022.113.2>
- Dayya, D., O'Neill, O. J., Huedo-Medina, T. B., Habib, N., Moore, J., & Iyer, K. (2022). Debridement of Diabetic Foot Ulcers. *Advances in Wound Care*, 11(12), 666–686. <https://doi.org/10.1089/wound.2021.0016>
- Fatmawati, L., & Pawestri, P. (2021). Penurunan Tingkat Kecemasan pada Pasien Pre Operasi Sectio Caesarea dengan Terapi Murotal dan Edukasi Pre Operasi. *Holistic Nursing Care Approach*, 1(1), 25. <https://doi.org/10.26714/hnca.v1i1.8263>
- Goyal, S., Buragommula, N., Charan, K., & Tiwari, V. K. (2024). An accomplished study on gangrene. *ISAR Journal of Medical and Pharmaceutical Sciences*, 2(1), 29–34.
- Harkomah, I., Maulani, M., AZ, R., & Dasuki, D. (2022). Teknik Relaksasi Napas Dalam Menurunkan Ansietas Lansia Dengan Hipertensi Di Puskesmas Putri Ayu Kota Jambi. *JUKESHUM: Jurnal Pengabdian Masyarakat*, 2(2), 184–190. <https://doi.org/10.51771/jukeshum.v2i2.305>
- Idris, S. (2022). The Effect of Guide Imagery Relaxation Techniques on Anxiety Levels of Pre-Op Vitrectomy Patients at Smec Eye Specialist Hospital Medan in 2021. *Science Midwifery*, 10(3), 2303–2312. <https://doi.org/10.35335/midwifery.v10i3.647>
- Khairani, M., Sari, S. M., & Indra, R. L. (2023). Factors Affecting the Anxiety Level of Pre-Surgical Patients in Hospital. *Jurnal Riset Kesehatan*, 12(1), 57–66. <https://doi.org/10.31983/jrk.v12i1.9618>
- Kumari, D., & Patil, J. (2023). Guided imagery for anxiety disorder: Therapeutic efficacy and changes in quality of life. *Industrial Psychiatry Journal*, 195–201. <https://doi.org/10.4103/ipj.ipj>

- Musyaffa, A., Wirakhmi, I. N., & Sumarni, T. (2023). Gambaran Tingkat Kecemasan Pada Pasien Pre Operasi. *Jurnal Penelitian Perawat Profesional*, 6(3), 939–948. <http://jurnal.globalhealthsciencegroup.com/index.php/JPPP>
- Pakpahan, J. E. S., & Damanik, D. H. (2023). Hubungan Peran Perawat dengan Tingkat Kecemasan pada Pasien Pre Operasi di RSUD Sundari Medan. *Jurnal Kebidanan, Keperawatan Dan Kesehatan (J-BIKES) 2023*, 3(2), 1–8. <https://doi.org/10.51849/j-bikes.v>
- Rahayu, P., Sartika, M., & Neningsih, E. (2024). Pemberian Guide Imagery Sebagai Tatalaksana Respon psikologis Pada Remaja Dengan Resiko Dm Di Sman 3 Tambun Selatan Tahun 2023. *PROFICIO: Jurnal Pengabdian Kepada Masyarakat*, 5(1), 1–6.
- Saputri, I. R. D., Yuswanto, T. J. A., & Widodo, D. (2022). Efektivitas Guided Imagery, Slow Deep Breathing dan Aromaterapi Mawar Terhadap Kecemasan Pasien Pre Operasi. *Jurnal Vokasi Kesehatan*, 8(2), 51. <https://doi.org/10.30602/jvk.v8i1.1023>
- Smith, A. R., Jones, E. L., Subar, A. R., Do, Q. B., Kircanski, K., Leibenluft, E., Brotman, M. A., Pine, D. S., & Silk, J. S. (2022). The role of anxiety and gender in anticipation and avoidance of naturalistic anxiety-provoking experiences during adolescence: An ecological momentary assessment study. *JCPP Advances*, 2(3), 1–11. <https://doi.org/10.1002/jcv2.12084>
- Sriwahyuni, S., Sulasri, S., Erika, K. A., Ningrat, S., Maliga, M., & Djalil, N. K. (2023). The Effectiveness of Imagery Therapy Guide on Pain and Anxiety in URS Perioperative Patients in Lontara Room 2 Lower Front of Urological Surgery, RSUP Dr. Wahidin Sudirohusodo Makassar. *International Journal Of Health Science*, 3(3), 51–61. <https://doi.org/10.55606/ijhs.v3i3.2728>