



Butterfly Hug and Music Therapy for Preoperative Anxiety in Benign Prostatic Hyperplasia (BPH) Patients: A Case Study

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ABSTRACT

Introduction: Preoperative anxiety is commonly experienced by patients undergoing surgery and may be related to concerns about anesthesia, surgical outcomes, postoperative pain, and possible complications. Non-pharmacological nursing interventions such as the Butterfly Hug technique and music therapy may provide relaxation and emotional support before surgery.

Objective: This case study aimed to describe the application of a combination of the Butterfly Hug technique and music therapy and the observed changes in preoperative anxiety among patients with benign prostatic hyperplasia (BPH) undergoing transurethral resection of the prostate (TURP).

Method: A descriptive case study was conducted in the Central Operating Theater of Surakarta Central General Hospital. Three male patients with BPH who were scheduled for TURP under spinal anesthesia and experienced preoperative anxiety were selected purposively. Anxiety was assessed before and after a single 10–15-minute session using the Amsterdam Preoperative Anxiety and Information Scale (APAIS). Changes in blood pressure, pulse rate, and observable behavioral responses were also documented.

Result: APAIS scores decreased in all three cases. Mr. J's score decreased from 24 to 14, Mr. S's from 23 to 15, and Mr. H's from 22 to 12. Before the intervention, all three patients were categorized as having severe anxiety. After the intervention, two patients were categorized as having moderate anxiety and one as having mild anxiety. The patients also appeared calmer, showed less facial tension, maintained better eye contact, and asked fewer repeated questions about the procedure.

Conclusion: The combination of the Butterfly Hug technique and music therapy was associated with an observed reduction in preoperative anxiety across the three cases. These preliminary findings suggest that the combination may be a feasible non-pharmacological nursing approach for supporting patients with preoperative anxiety; however, the findings cannot establish a causal effect and are not generalizable beyond the cases presented.

Keywords: benign prostatic hyperplasia, butterfly hug, music therapy, preoperative anxiety, APAIS

Introduction

Benign Prostatic Hyperplasia (BPH) is a benign enlargement of the prostate gland that commonly occurs in older men, particularly those over 50 years of age. According to the Indonesian Urological Association (Ikatan Ahli Urologi Indonesia/IAUI), the normal prostate volume in adult men is approximately 15–25 mL (15–25 cc), and prostate enlargement may progress with age. Prostatic enlargement can affect patients' quality of life by causing lower urinary tract symptoms (LUTS), including urinary hesitancy, weak urinary stream, incomplete bladder emptying, increased urinary frequency, and nocturia (Alghani et al., 2024). Persistent urinary obstruction may also increase the risk of complications, such as urinary tract infection, urinary retention, and impaired renal function.

The symptoms commonly experienced by patients with BPH are associated with Lower Urinary Tract Symptoms (LUTS), including urinary hesitancy, weak urinary stream, intermittent urination, a sensation of incomplete bladder emptying, increased urinary frequency, and nocturia. These symptoms may occur individually or simultaneously and can interfere with sleep, mobility, social activities, and daily functioning. Persistent urinary obstruction associated with prostatic enlargement may also increase the risk of complications when appropriate management is not provided. Such complications may include urinary tract infections, urinary tract obstruction, and impaired renal function (Alghani et al., 2024). Therefore, early identification of symptoms and appropriate management are important to prevent further deterioration and to improve patients' quality of life.

The choice of treatment for benign prostatic hyperplasia (BPH) depends largely on the severity of the symptoms and the patient's clinical status. When symptoms are mild and have little effect on the patient's routine activities, a conservative approach can be considered. In cases where symptoms are more pronounced, particularly at a moderate to severe level, medication may be prescribed to achieve better symptom control. Surgical management becomes an option when these approaches fail to produce satisfactory improvement or when the patient's condition indicates the need for a more definitive form of treatment. One of the established surgical approaches for BPH is Transurethral Resection of the Prostate (TURP), which is widely performed in clinical practice. During this procedure, the portion of the prostate responsible for urinary obstruction is removed, allowing urine to pass more effectively and helping to relieve lower urinary tract symptoms (Patandung & Warli, 2021).

Patients scheduled for surgical procedures commonly encounter psychological difficulties, with preoperative anxiety being one of the most frequently reported concerns. Such anxiety may be associated with various factors, including fear of the surgical procedure itself, anesthesia, postoperative pain, potential complications, and uncertainty about the expected treatment outcome. Accordingly, preoperative anxiety represents an important consideration in nursing care, as psychological distress can influence both the emotional state and physiological responses of patients prior to surgery. Inadequately controlled anxiety may stimulate sympathetic nervous system activity, thereby intensifying the physiological stress response. This may manifest in changes such as increased blood pressure, elevated heart rate, and a higher respiratory rate. These physiological reactions may subsequently influence the patient's comfort and psychological preparedness for the surgical procedure (Budiarti & Rinasari, 2025). Therefore, effective anxiety management should constitute an integral component of comprehensive preoperative nursing care.

Based on the assessment of three patients diagnosed with Benign Prostatic Hyperplasia (BPH) who were receiving nursing care prior to undergoing Transurethral Resection of the

Prostate (TURP), a common nursing problem was identified among all three patients, namely preoperative anxiety. Each patient reported concerns about the upcoming surgical procedure, the administration of anesthesia, and the potential outcome of the surgery. In addition to these verbalized concerns, the patients exhibited several nonverbal signs, including tension and restlessness. These assessment findings suggest that preoperative anxiety constitutes a significant psychological concern for patients with BPH who are preparing for surgical intervention.

In the first patient, Mr. J expressed concern about the surgical procedure and anesthesia and demonstrated limited eye contact during the assessment. His anxiety was assessed using the Amsterdam Preoperative Anxiety and Information Scale, with a score of 24, indicating severe anxiety. The second patient, Mr. S, reported anxiety regarding the surgical procedure and concern that the surgical outcome might not meet expectations or might fail because he had previously undergone TURP. During the assessment, he appeared tense and restless, and his APAIS score was 23, which was categorized as severe anxiety. The third patient, Mr. H, expressed fear of the surgical procedure, anesthesia, and the possibility of postoperative pain. His APAIS score was 22, also indicating severe anxiety. These findings demonstrate that the three patients experienced substantial preoperative anxiety, although the specific sources of their concerns differed according to their individual experiences and perceptions.

Preoperative anxiety requires proper management, as inadequate control of anxiety may adversely influence both the psychological well-being and physiological responses of patients. Various approaches can be used to alleviate anxiety, including pharmacological and non-pharmacological interventions. Pharmacological treatment may involve the administration of anxiolytic agents, particularly benzodiazepines, which are commonly prescribed for short-term use due to the potential risk of tolerance and dependence associated with prolonged administration. In addition to medication, non-pharmacological interventions may be incorporated into nursing care, including relaxation techniques, psychotherapy, hypnosis, and hypnotherapy. These non-pharmacological approaches are particularly applicable within nursing practice because they can serve as supportive interventions without increasing the patient's exposure to pharmacological treatment.

Within the framework of Evidence-Based Practice (EBP), non-pharmacological management was considered as an alternative approach for patients experiencing anxiety before surgery. In this context, the Butterfly Hug technique was combined with music therapy to provide a supportive intervention during the preoperative period. The Butterfly Hug involves placing the arms across the chest and gently tapping the shoulders in an alternating manner. This form of bilateral stimulation is intended to create a greater sense of security and comfort while assisting patients in regulating their emotional responses. According to Mahyuvu and Ramadhan (2025), the Butterfly Hug is a practical technique that can be implemented with relative ease and may be beneficial in reducing anxiety associated with stressful situations. Its straightforward procedure makes it potentially useful for patients waiting surgery, particularly because it can be performed without specialized equipment and requires only a limited amount of time.

Music therapy was incorporated alongside the Butterfly Hug as an additional intervention for managing preoperative anxiety. The use of music may create a calming environment through auditory stimulation, which can help patients relax and lessen psychological tension. It may also redirect attention away from apprehension and unpleasant thoughts associated with the upcoming surgical procedure, thereby contributing to greater

comfort before surgery (Budiarti & Rinasari, 2025). Evidence from previous research has likewise indicated a beneficial effect of music therapy on anxiety levels in patients preparing for surgery, suggesting its usefulness as a complementary component of nursing care (Bangsa et al., 2020). The two interventions can address anxiety through different but related mechanisms. Physical bilateral stimulation through the Butterfly Hug may assist emotional regulation and controlled breathing, whereas music can provide a soothing sensory experience and serve as a constructive form of distraction.

The use of these two interventions together may consequently be considered a feasible nursing strategy for patients with preoperative anxiety. Their practical characteristics are advantageous in the clinical setting because neither intervention requires complex procedures or extensive equipment, and both can be administered within a relatively brief preoperative period. For patients with BPH who are preparing for TURP, implementation of this combined approach is therefore expected to support anxiety reduction, encourage a more relaxed state, and strengthen their psychological preparedness for the surgical procedure.

Objective

To analyze the application of a combination of the Butterfly Hug technique and music therapy in reducing anxiety levels among preoperative patients with Benign Prostatic Hyperplasia undergoing the Transurethral Resection of the Prostate (TURP) procedure.

Method

Design and setting

This study used a descriptive case study design with before-and-after measurements. The case study focused on the application of a combined Butterfly Hug technique and music therapy during preoperative nursing care. The intervention was conducted in the Central Operating Theater of Surakarta Central General Hospital among patients with Benign Prostatic Hyperplasia (BPH) who were scheduled to undergo Transurethral Resection of the Prostate (TURP). The intervention was administered once during the preoperative preparation period and lasted approximately 10–15 minutes.

Population and sampling

The population consisted of preoperative patients experiencing anxiety in the Central Operating Theater. The inclusion criteria were patients diagnosed with Benign Prostatic Hyperplasia (BPH), scheduled to undergo Transurethral Resection of the Prostate (TURP), and experiencing preoperative anxiety. Patients with impaired consciousness, inability to follow instructions, emergency conditions, or clinically unstable conditions were excluded.

Three patients were selected purposively because they met the inclusion criteria during the clinical practice period in the Central Operating Theater. The participants were Mr. J (54 years old), Mr. S (81 years old), and Mr. H (66 years old). All three patients were male, diagnosed with BPH, and scheduled to undergo TURP under spinal anesthesia. Patient selection was based on nursing assessment conducted after arrival in the admission or preoperative preparation area.

Instrument and measurement

Preoperative anxiety was assessed using the Amsterdam Preoperative Anxiety and

Information Scale (APAIS) before and after the intervention. The APAIS consists of six items rated on a 5-point Likert scale. The score categories used in this case study were 6 = no anxiety, 7–12 = mild anxiety, 13–18 = moderate anxiety, 19–24 = severe anxiety, and 25–30 = panic. Physiological measurements, including blood pressure and pulse rate, and behavioral observations were also documented as complementary information regarding the patients' responses.

Data collection and analysis

The intervention consisted of a single session combining the Butterfly Hug technique and music therapy and was administered to each patient for approximately 10–15 minutes. The patient was positioned comfortably or in a semi-Fowler's position when appropriate. Before the intervention, the researcher explained the purpose and procedure of the intervention and obtained the patient's agreement to participate.

The Butterfly Hug technique was performed by asking the patient to cross both arms over the chest, with the right hand placed on the left shoulder and the left hand placed on the right shoulder. The patient was guided to breathe slowly while gently tapping the right and left shoulders alternately. During the procedure, the patient was encouraged to focus on the breathing pattern, tapping sensation, and music.

Music therapy was provided simultaneously with the Butterfly Hug technique using a mobile phone and headset. The music selected for the intervention was "Melangitkanmu" by Ghea Indrawari, which has a soothing and reflective character. The volume was adjusted to a comfortable level for each patient. The music therapy procedure followed the general music therapy nursing standard operating procedure (SOP) used in the case study. The available case documentation did not specify the sound intensity in decibels, musical tempo in beats per minute, or whether the music was individually selected by each patient. Therefore, these parameters were not reported as standardized characteristics of the intervention.

Therapeutic communication and routine preoperative information were provided as part of the patients' nursing care before the intervention. The post-intervention APAIS assessment was conducted 1 minute after completion of the intervention during the preoperative preparation period. The data were analyzed descriptively by comparing APAIS scores before and after the intervention for each patient, as well as comparing blood pressure and pulse rate before and after the intervention.

Result

All three patients were male, aged 54–81 years, and had a medical diagnosis of Benign Prostatic Hyperplasia (BPH). All patients experienced preoperative anxiety, primarily characterized by fear of the surgical procedure, anesthesia, possible surgical failure or outcomes, and postoperative pain, accompanied by restlessness, tension, and frequent questions regarding the procedure.

Table 1. Characteristics of the Patients

Patient	Age	Sex	Occupation	Medical Diagnosis
Mr. J	54 years old	Male	Entrepreneur	<i>Benign Prostatic Hyperplasia</i>
Mr. S	81 years old	Male	Farmer	<i>Benign Prostatic Hyperplasia</i>
Mr. H	66 years old	Male	Retired	<i>Benign Prostatic Hyperplasia</i>

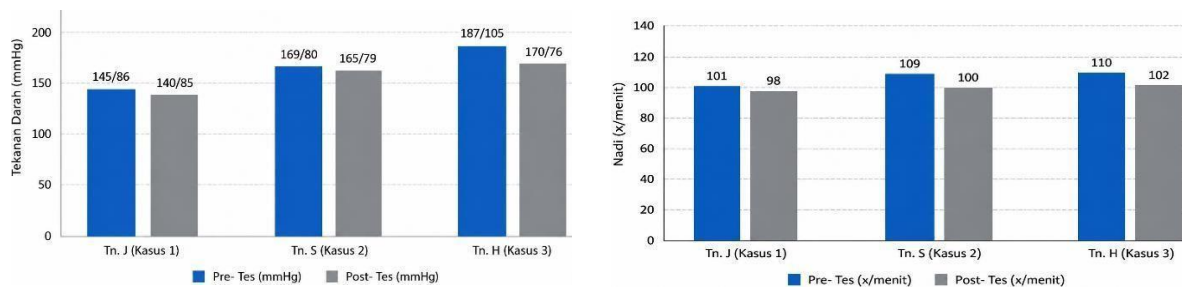
Following the administration of the combined Butterfly Hug technique and music therapy, all patients demonstrated a reduction in APAIS scores. The greatest absolute reduction was observed in Mr. J and Mr. H, with a decrease of 10 points each, while Mr. S experienced an 8-point reduction. Clinically, these changes were accompanied by improvements in the patients' condition, as evidenced by a calmer and more relaxed appearance, reduced facial tension, improved eye contact, and a decreased frequency of questions regarding the surgical procedure.

Table 2. Pre- and Post-Intervention APAIS Scores

Patient	Pre- Tes	Category	Post- Test	Category	Reduction
Mr. J	24	Severe anxiety	14	<i>Moderate anxiety</i>	10
Mr. S	23	Severe anxiety	15	<i>Moderate anxiety</i>	8
Mr. H	22	Severe anxiety	12	<i>Mild anxiety</i>	10

Based on the documented physiological measurements, Mr. J blood pressure decreased from 145/86 mmHg to 140/85 mmHg, while his pulse rate decreased from 101 to 98 beats per minute. In Mr. S, blood pressure decreased from 169/80 mmHg to 165/79 mmHg, and his pulse rate decreased from 109 to 100 beats per minute. Mr. H experienced a decrease in blood pressure from 187/105 mmHg to 170/76 mmHg, while his pulse rate decreased from 110 to 102 beats per minute.

Figure 1. Comparison of Blood Pressure and Pulse Rate Before and After the Intervention



Discussion

The findings of this case study indicate that the application of a combination of the Butterfly Hug technique and music therapy was associated with a reduction in preoperative anxiety among three patients with Benign Prostatic Hyperplasia (BPH) undergoing Transurethral Resection of the Prostate (TURP). Before the intervention, APAIS scores ranged from 22 to 24, indicating severe anxiety. Following the intervention, the scores decreased to 14 in Mr. J, 15 in Mr. S, and 12 in Mr. H, representing reductions of 10, 8, and 10 points, respectively. The reduction in APAIS scores was accompanied by observable behavioral changes, including a calmer and more relaxed appearance, reduced facial tension, improved eye contact, and a decreased frequency of questions regarding the surgical procedure. These findings demonstrate a consistent decrease in APAIS scores across all three cases following the intervention. Nevertheless, because this was a case study involving only three patients without a comparison group, the findings should be interpreted as observed changes rather than definitive evidence of a causal effect.

The three patients experienced preoperative anxiety mainly because of concerns about

surgery, anesthesia, postoperative pain, and the possible surgical outcomes. These concerns can become psychological stressors for patients with BPH who are scheduled for TURP. Uncertainty about the surgical process and anesthesia may further increase fear and tension. This is especially likely when patients are worried about the procedure or its expected results. The Butterfly Hug technique may help patients manage these concerns through bilateral stimulation combined with controlled breathing. The technique involves alternating tapping movements on both shoulders while the patient focuses on breathing and bodily sensations. This activity may help shift attention away from anxiety-provoking thoughts and promote a greater sense of calm and psychological comfort. Its simple procedure also allows it to be implemented without specialized equipment.

Music therapy was given together with the Butterfly Hug technique to provide additional relaxation. Music can act as a positive distraction by directing attention toward a calming auditory stimulus. This may prevent patients from continuously focusing on the upcoming surgery. The combination of bilateral stimulation, controlled breathing, and music may therefore support relaxation and emotional regulation during the preoperative period.

Changes in physiological parameters were also observed after the intervention. In Mr. J, blood pressure decreased from 145/86 mmHg to 140/85 mmHg, while pulse rate decreased from 101 to 98 beats per minute. In Mr. S, blood pressure decreased from 169/80 mmHg to 165/79 mmHg, and pulse rate decreased from 109 to 100 beats per minute. In Mr. H, blood pressure decreased from 187/105 mmHg to 170/76 mmHg, while pulse rate decreased from 110 to 102 beats per minute. These changes occurred along with a calmer condition in the patients after the intervention. However, physiological parameters can also be affected by clinical condition, environmental factors, measurement timing, and other circumstances. Therefore, these findings should be interpreted carefully. In this case study, APAIS remained the primary indicator for assessing changes in anxiety.

The findings are consistent with previous studies examining non-pharmacological approaches to preoperative anxiety. Putri et al. (2024) reported a reduction in anxiety among preoperative patients following the application of the Butterfly Hug technique. This finding supports the potential role of bilateral stimulation and controlled breathing in helping patients manage anxiety before surgery. Mahyuni and Ramadhan (2025) also described the Butterfly Hug technique as a simple approach that may assist in anxiety management and can be used as a self-healing strategy.

The present findings are also consistent with studies on music therapy. Budiarti and Rinasari (2025) reported that music therapy could help reduce anxiety among preoperative patients, while Bangsa et al. (2020) demonstrated a reduction in anxiety following music therapy in preoperative patients. These findings suggest that music may serve as a complementary nursing intervention to create a more comfortable psychological environment before surgery. The present case study provides a clinical illustration of the potential benefit of combining music therapy with the Butterfly Hug technique to address preoperative anxiety.

From a nursing perspective, the combination of the Butterfly Hug technique and music therapy may be considered a simple, low-cost, and easily implemented non-pharmacological intervention during preoperative preparation. The intervention does not require complex equipment and can be performed within a relatively short period, making it potentially practical for use in the preoperative setting.

Nurses can begin by assessing the patient's anxiety level and identifying the main sources of concern. Therapeutic communication and appropriate preoperative information can then

be provided according to the patient's needs. The Butterfly Hug technique can subsequently be introduced while the patient listens to suitable relaxing music. This approach may complement routine preoperative nursing care by addressing patients' psychological needs in addition to their physical preparation. It may also provide patients with a simple strategy for managing anxiety immediately before entering the operating room.

This case study has several limitations. First, the study involved only three patients, which limits the representativeness of the findings. Second, the intervention was administered only once, so the study does not provide information regarding the effects of repeated or longer-term intervention. Third, there was no control or comparison group; therefore, the observed reduction in anxiety cannot be attributed exclusively to the combination of the Butterfly Hug technique and music therapy.

Other factors, including therapeutic communication, information provided before surgery, the presence of healthcare professionals, and changes in the immediate preoperative environment, may also have contributed to the observed changes. In addition, anxiety was assessed within a relatively short period before surgery. Consequently, this case study cannot determine whether the reduction in anxiety was sustained during or after the surgical procedure. These limitations mean that the findings should be considered preliminary clinical observations and should not be generalized to the broader population of patients with BPH.

Future studies should involve larger samples and use controlled or comparative designs to provide stronger evidence regarding the potential effectiveness of the combined Butterfly Hug technique and music therapy in reducing preoperative anxiety. Further research could examine different intervention frequencies and durations, standardize the type and duration of music, and include follow-up assessments to determine whether changes in anxiety are sustained over time. A larger sample would help determine whether similar reductions in anxiety occur consistently among patients with BPH undergoing TURP.

Further research could also examine different intervention frequencies and durations to identify the most appropriate application in preoperative nursing care. Standardization of the type, duration, and characteristics of the music used may improve reproducibility between studies. Future studies could also include follow-up assessments to determine whether reductions in anxiety are sustained over time and whether the intervention influences other preoperative physiological or psychological outcomes.

Conclusion

The combination of the Butterfly Hug technique and music therapy was associated with reduced preoperative anxiety among three patients with BPH undergoing TURP. APAIS scores decreased from 24 to 14 in Mr. J, from 23 to 15 in Mr. S, and from 22 to 12 in Mr. H. The reduction in anxiety was accompanied by calmer and more relaxed patient behavior. The combined intervention may therefore be considered a simple non-pharmacological nursing intervention during preoperative preparation, although the findings should be interpreted in consideration of the limitations of the case study design. These findings suggest that the combined intervention may help reduce preoperative anxiety and support patients' psychological readiness before surgery.

Author Contribution

O.M.A. conducted the patient assessment, collected patient data, analyzed the data, implemented the intervention, interpreted the findings, and prepared and revised the

manuscript. I.I. and Y.B.D.A. served as supervisors, provided supervision and guidance, and conducted critical revisions of the manuscript. All authors read and approved the final version of the manuscript.

Conflict of Interest

The authors declare that there are no conflicts of interest related to this case study.

Ethical Clearance

This case study was conducted in accordance with nursing ethical principles, including obtaining verbal consent from the patients prior to the intervention. The researcher directly asked each patient whether they were willing to participate in the Butterfly Hug technique and music therapy intervention. Patient information was kept confidential throughout the process.

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References

- Alghani, S. R., Ristiyaning, P., & Sangging, A. (2024). Benigna Prostatic Hiperplasia Benign Prostat Hyperplasia. *Medula Medical Profesional Journal of Lampung*, 14, 508–511.
- Bangsa, U. H., Anestesiologi, K., Bangsa, U. H., & Anestesiologi, K. (2020). Fildzah Husna Izzati pada ibu hamil yang menjelang persalinan Pra-Eksperimental dengan pendekatan Populasi dalam penelitian ini adalah seluruh pasien SC yang mengalami. 50, 9–18.
- Berth, H., Petrowski, K., & Balck, F. (2007). The Amsterdam Preoperative Anxiety and Information Scale (APAIS) - the first trial of a German version. *Psycho-Social Medicine*, 4, Doc01. <http://www.ncbi.nlm.nih.gov/pubmed/19742298> <http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=PMC2736533>
- Budiarti, A., & Rinasari, G. M. (2025). *Jurnal Keperawatan Muhammadiyah*. 10(2), 62–67.
- Hashim, H., Herrmann, T., Malde, S., Netsch, C., De Nunzio, C., Rieken, M., Sakalis, V., Tutolo, M., Baboudjian, M., Bhatt, N., Creta, M., Karavitakis, M., Moris, L., & Farag, F. (2025). Non-Neurogenic Male Lower Urinary Tract Symptoms (LUTS) EAU Guidelines on. *European Association of Urology*, 1–140.
- Healing, S., Hug, B., & Caesarea, S. (2025). Al-Asalmiya Nursing *Jurnal Ilmu Keperawatan (Journal of Nursing Sciences) Efektivitas Butterfly Hug Dalam Mengurangi Kecemasan Preoperatif Pada Ibu Hamil Yang Menjalani Sectio Caesarea Terencana Di Rumah Sakit , Indonesia Pendahuluan Kecemasan seringkal*. 14, 111–119.
- Nadidah Faras Dita Putri, N., Mumpuni, M., & Chairani, R. (2024). Effect Of Butterfly HugTherapy On Reducing Anxiety Level Of Laparotomy Pre-Operation Patients. *Journal of Health and Cardiovascular Nursing*, 4(2), 113–122. <https://doi.org/10.36082/jhcn.v4i2.1877>
- Ni Kadek Sari Savitri Anjani, Arniawan, & Mikaela Delpin Fristalia. (2026). Pengaruh Terapi

- Butterfly Hug terhadap Penurunan Kecemasan pada Pasien Pre Operasi Apendisitis Di Rumah Sakit Woodward Palu. *Jurnal Pengabdian Masyarakat Dan Riset Pendidikan*, 4(4), 23411–23418. <https://doi.org/10.31004/jerkin.v4i4.5992>
- Patandung, R., & Warli, S. M. (2021). Outcome benefits to transurethral resection of the prostate in patients with Benign Prostatic Hyperplasia at Medan regional hospital. *Jurnal Kedokteran Dan Kesehatan Indonesia*, 137–143. <https://doi.org/10.20885/jkki.vol12.iss2.art6>
- Septyandini, P., Nur Faizah, H., Suhartono, S., & Putri Ryandini, T. (2025). Pengaruh Terapi Butterfly Hug Terhadap Tingkat Kecemasan Akademik Pada Remaja Putri di Pondok Pesantren Jenu Tuban. *Jurnal Pustaka Keperawatan (Pusat Akses Kajian Keperawatan)*, 4(1), 109–114. <https://doi.org/10.55382/jurnalpustakakeperawatan.v4i1.1465>
- Tata Mahyuvi, & Sukma Cahya Ramadhan. (2025). Exploring the Effectiveness of Self-Healing Butterfly Technique for Anxiety Management: A Systematic Review. *SEHATMAS: Jurnal Ilmiah Kesehatan Masyarakat*, 4(1), 240–250. <https://doi.org/10.55123/sehatmas.v4i1.4775>
- Tjahjodjati, Doddy M. Soebadi, Rainy Umbas, Chaidir A. Mochtar, Besut Daryanto, Noegroho, B. S., Danarto, H. R., Mirsa, S., Lukman Hakim, & Syakri Syahrir. (2021). PPK Pembesaran Prostat Jinak (Benigna Prostatic Hyperplasia/BPH).