

An Overview of Anxiety Prevention with Decreased Anxiety Levels in the Preoperative Room: A Cross-Sectional Study

Rahayu Setyaningsih¹, Sunaryo Joko Waluyo^{2*}

¹Bachelor of Applied Nursing Anesthesiology Program, Insan Husada Polytechnic, 57127, Central Java, Indonesia.

²Diploma of Nursing Program, Insan Husada Polytechnic, 57127, Central Java, Indonesia

*Correspondence: rahayusetyaningsih78@gmail.com

Abstract: Anxiety can occur in patients who are about to undergo surgery in the operating room. This can disturb the patient's hemodynamics including increased blood pressure, increased pulse and increased respiration. If there are no anxiety prevention measures then surgery may be delayed due to the effects of anxiety. This study described the prevention of anxiety carried out by anesthesiologists in the preoperative room in order to maintain patient hemodynamics so that surgery can be performed according to schedule and procedure. The purpose of this study was to determine the description of anxiety prevention with a decrease in anxiety levels in patients in the preoperative room. The research method descriptive-analytic research method with a cross-sectional research design, the samples were patients who performed surgery in the preoperative room of several hospitals that had been selected, sampling technique with purposive sampling during October-December 2024, data collection methods with questionnaires, instruments using questions that are included in the google form to be filled in by anesthesiologists, data collection methods with google form through WA groups, data analyzed with univariate analysis. The results showed that the actions taken to prevent the most were to create a therapeutic atmosphere to foster trust by providing explanations to patients and families, providing a comfortable environment, minimizing pain, creating a therapeutic relationship between health workers and the patient. The conclusion of the several actions taken by anesthesia stylists to reduce patient anxiety levels, the most chosen is the action of creating a therapeutic atmosphere to create trust between health workers and patients so it is recommended that this action be carried out also by other health workers to help patients in the preoperative room.

Keywords: anxiety, precautions, preoperative, surgery, patients

Submitted: 17 December 2024, revised: 9 January 2025, accepted: 10 January 2025, published: 30 January 2025

INTRODUCTION

Anxiety is a common emotional response experienced by patients who are about to undergo nursing or medical procedures. It can be caused by a variety of factors, including uncertainty about the procedure to be performed, the pain it may cause, and concerns about the final outcome of the procedure. Nursing procedures, such as invasive procedures, surgery or therapy, often trigger feelings of anxiety in patients. Research shows that anxiety can affect the healing process, increase pain, and prolong recovery time. Therefore, nursing interventions have a positive impact on pre-operative anxiety in adults. ([Ruiz Hernández et al., 2021](#)). The underlying phenomena of anxiety are also related to psychological and social factors. Negative self-perception, the presence of stigma, and fear of judgment can affect an individual's self-esteem and view of themselves, which ultimately contributes significantly to increasing anxiety. ([Aunjitsakul et al., 2021](#)). In addition, social support from those closest to you can provide significant emotional support to patients ([Hur et al., 2020](#)). Uncertainty about diagnosis and prognosis can also exacerbate feelings of anxiety by increasing feelings of helplessness and uncertainty about the future. ([Han et al., 2021](#)). By understanding the background and causes of this anxiety, healthcare professionals

can design more effective interventions to reduce patient anxiety, such as providing clear information about the procedure, offering emotional support, and implementing relaxation techniques. This not only benefits the patient, but can also improve the overall quality of care provided. Here are some previous studies that support my research, along with their references: [\(Harris, S. E., O'Moore, K., Kirk, D., & McCoy, 2017\)](#) This systematic review found that cognitive-behavioral therapy (CBT) is an effective prevention strategy for anxiety disorders. The study highlighted the need for further research on the prevention of anxiety disorders, particularly in high-risk populations. This study found that mindfulness-based interventions are effective in reducing anxiety symptoms in adults. [\(O'Connor, M., Rees, C. S., & Browne, 2019\)](#) The study suggested that mindfulness-based interventions may be a useful prevention strategy for anxiety disorders.

METHODS

The study aims to explore various preventive methods that can be applied to reduce anxiety in patients in the pre-operative room. This research method is descriptive-analytic by explaining the description of anxiety prevention measures taken by anesthesia stylists in the preoperative room to reduce anxiety levels in patients who will undergo surgery. Anxiety levels were measured with APAIS (The Amsterdam Pre Operative Anxiety And Information Scale). The research method descriptive-analytic research method with a cross-sectional research design, the samples were patients who will be undergoing surgery in the preoperative room of several hospitals that have been selected, sampling technique with purposive sampling during September-December 2024, data collection methods with questionnaires, instruments using questions that are included in the google form to be filled in by anesthesiologists, data collection methods with google form through WA groups, data analyzed with univariate analysis.

Ethical clearance: Ethics Committee of Kusuma Husada University. To gain access to the study population, the researcher sought consent from the Anesthesia Administrator and distributed the questionnaire through the WAG assisted by practicing students. Written informed consent was obtained from each participant after they were explained the nature and role of the study, as well as the importance of their participation in it. No invasive procedures were performed on the participants as this was a questionnaire survey study. The participants were informed of their right to participate voluntarily, to decide whether to take part in the study or decline without any influence, coercion, or inducement, and to discontinue the study at any time without penalty.

RESULTS

The implementation of the study began after the ethical review was issued, by briefing and asking the patient's willingness to participate in the study. The next step was to distribute questionnaires filled out by the Anesthesiologist which included the patient's age, patient's gender, history of having surgery, anesthesia technique, type of surgery undergone, anxiety score before surgery, cause of anxiety, actions taken by the Anesthesiologist, and anxiety score after preventive measures. After the data was collected, it was processed by univariate analysis of the frequency distribution model to present the results.

Table 1: Demographic characteristics of the participant's data

Variables	N (%)
Age (Year)	
3-17	8 (13.1)
19-45	34 (55.7)
46-69	19 (31.2)
Gender	
Male	26 (42.6)
Female	35 (57.4)

[Table 1](#) shows the demographic characteristics of the participants, indicating that most of the participants were in the age range of 19-45 years (55.7%), and the gender of the respondents was mostly female, namely 35 people (57.4%).

Table 2: History of Surgery and Type of Anesthesia

Variables	N (%)
Surgery History	
Ever had surgery	15 (24.6)
Never had surgery	46 (75.4)
Type of Anesthesia	
General	26 (42.6)
Regional	35 (57.4)

[Table 2](#) shows that there were 46 respondents (75.4%) who had never had a history of surgery, while 15 respondents (24.6%) had undergone surgery. There were 26 respondents (42.6%) who underwent surgery with general anesthesia, while 35 respondents (57.4%) had undergone regional anesthesia.

Table 3: Hospital Name and Type of Surgery

Variables	N (%)
Hospital	
RSUD Simo Boyolali	17 (27.9)
RS DKT Slamet Riyadi	11 (18.0)
RSUD Dr. Gunawan Ambarawa	10 (16.4)
RS PKU Muh. Sragen	8 (13.2)
RSUD Pandan Arang	6 (9.8)
RSUD Ibu Fatmawati	3 (5.0)
RSUD Diponegoro	2 (3.3)
RSUD Salatiga	2 (3.3)
RSUD Gondosuwarno Ungaran	2 (3.3)
Type of Surgery	
Appendectomy	12 (19.7)
Sectio Caesarea	9 (14.8)
Hernia	5 (8.2)
Pro Repair Hand	4 (6.5)
ORIF	4 (6.5)
Odontectomy	3 (4.9)
Excisi	3 (4.9)
Cysta	3 (4.9)
Tonsillectomy	2 (3.3)
Curettage	2 (3.3)
Debridement	2 (3.3)
TURP	2 (3.3)
Tumor	2 (3.3)
Ect (PCNL, Polip, Abces, Struma, Stoma, ROI, Hemoroid, Cardiac)	8 (13.1)

The most of patients from the hospital were from Simo Boyolali Hospital with 17 people (27.9%) and others varied from various hospitals. The most common surgery was appendectomy as many as 12 (19.7%) while other surgical actions varied greatly in disease cases.

Table 4: Anxiety Score with APAIS

Anxiety Score	Frequency N (%)
0-6 (Not anxiety)	12 (19.7)
7-12 (Mild)	17 (27.9)
13-18 (Moderate)	18 (29.5)
19-24 (Severe)	12 (19.7)
25-30 (Panic)	2 (3.2)

From [Table 4](#), it can be seen that most patients experienced moderate anxiety (13-18), then mild anxiety. Only two persons have a score of anxiety at severe.

Table 5: Action To Reduce Anxiety

Variables	N (%)
Create a therapeutic atmosphere to foster trust	60 (21.4)
Identify situations that cause anxiety	37 (13.2)
Use a calm and reassuring approach	36 (12.8)
Listen attentively	35 (12.5)
Encourage expression of feelings and perceptions	28 (10)
Provide non-pharmacological techniques (relaxation, spiritual approach, music therapy, aromatherapy, etc.)	26 (9.3)
Explain the procedure	25 (8.9)
Provide factual information about involvement and prognosis	17 (6.0)
Practice distraction activities to reduce tension	10 (3.6)
Involve parents (in the case of children)	7 (2.3)

The most common anxiety prevention measure taken by health staff is creating a therapeutic atmosphere to foster trust 60 times (21.4%).

DISCUSSION

One of the factors that influence anxiety is age, this can be explained that at that age is a phase of life where many individuals face various challenges including health problems that may require surgery. In adult and elderly patients undergoing elective surgery, preoperative anxiety is quite common, which is influenced by concerns about social support and surgical outcomes. ([Bedaso & Ayalew, 2019](#)). Surgery can cause anxiety due to various factors such as uncertainty about the outcome, the pain that may later be felt, and the recovery process that must be gone through ([Michael S. C. Wong, 2000](#)). The gender of most respondents was female, namely 35 people (57.4%).

Women more often experience surgical stress due to several factors including biological factors where higher estrogen hormones in women can affect emotional responses to stress. Psychological differences in women also tend to make women more vulnerable to stress associated with surgery. Social support is also highly influential, although women often have stronger social support networks, they are also more likely to feel pressured by social expectations and the roles expected of a woman. Traumatic experiences, women are more likely to have experienced traumatic experiences that can affect mental health, which makes women feel more anxious when facing medical procedures, including surgery ([King, 2017](#)).

Other factors are history of surgery / surgery. Respondents who have a history of never having had surgery tend to feel higher anxiety than those who have experienced surgery. Some of the reasons underlying this phenomenon include: 1. Uncertainty and fear: individuals who have never undergone surgery may feel more anxious due to uncertainty about what will happen during and after the procedure. They do not have first-hand experience that can help them understand the surgical process, so imagining bad possibilities can exacerbate anxiety. 2. Lack of knowledge: respondents who have

never undergone surgery may lack adequate information about the procedure, its risks and benefits. This lack of understanding may lead to greater anxiety compared to those who already have experience and knowledge about surgery. 3. Negative experiences from others. Those who have never undergone surgery may be influenced by stories or negative experiences from others who have undergone similar procedures. This may increase their fear and anxiety about the surgery they are about to undergo. 4. Perception of pain. Individuals who have never experienced surgery may be more worried about the pain they will experience during and after surgery. This fear of pain is often greater in those with no previous experience of surgery ([Sely Pratiwi, 2021](#)).

Another factor is the type of anesthesia. More respondents performed surgery with general anesthesia for several reasons including 1. easier and more certain control. General anesthesia provides greater control over the patient's condition during surgical procedures. With general anesthesia, the patient is in a state of complete unconsciousness and feels no pain at all, which provides a sense of security for both the patient and the doctor. This is easier to achieve with general anesthesia than regional anesthesia, which only relieves pain in a specific area ([Avidan, M. S., & Evers, 2019](#)). 2. Does not require patient cooperation. General anesthesia allows procedures to be performed without requiring active cooperation from the patient, while in regional anesthesia (e.g. nerve block), the patient still needs to be awake in some cases and patient cooperation can be important in certain procedures ([Macintyre, P. E., & Walker, 2016](#)). 3. Option for more complex procedures. In longer or complex procedures, general anesthesia is often considered safer because it provides better muscle relaxation and complete control over the patient's response during surgery ([Gulur et al., 2006; Mason & Jackman, 2021](#)). Regional anesthesia may require multiple blocks to ensure the surgical area is sufficiently anesthetized and is not always effective in large procedures. 4. Risk of complications of regional anesthesia. Regional anesthesia carries risks such as nerve damage or infection in the area where the anesthetic is injected. Although these risks are relatively low, some doctors may prefer medical conditions that require extra consideration ([Nicolau, S., & Perlas, 2017](#)). 5. Limitations of regional anesthesia in certain conditions. Some medical conditions or types of surgery may not be possible under regional anesthesia. For example, surgery in larger areas or in places that are difficult to access may require general anesthesia to provide more even anesthesia ([Williams, D. F., & Myles, 2017](#)).

Anxiety level before surgery. In research conducted by Zaider (2010) and Fawzy (2012), it was found that many patients showed moderate levels of anxiety before medical action because they faced mixed feelings between fear and hope for a good outcome ([Zaider, T. I., 2010](#)). Anxiety prevention measures such as counseling, patient education, or the use of relaxation techniques are often effective in reducing anxiety, but some patients still exhibit moderate levels of anxiety, which is often caused by the factors mentioned above ([Fawzy, F. I., 2012](#)). While the anxiety score after anxiety prevention measures were taken, most patients did not experience anxiety (0-6) as many as 35 patients (57.4%). It can be understood that the intervention provided is effective in reducing anxiety levels, some explanations that can underlie this phenomenon are as follows: the effectiveness of anxiety prevention measures, anxiety prevention measures such as education about medical procedures, relaxation techniques, or the use of sedatives before procedures, can help reduce patient anxiety. Clear education about what will happen during the procedure and the benefits of the medical procedure can reduce uncertainty, which is often a trigger for anxiety. According to research ([Fawzy, F. I., 2012](#)). The provision of appropriate information and an in-depth psychological approach can reduce post-procedure anxiety. 2. increased patient confidence, patients who receive a clear explanation of the medical procedure and the potential risks involved feel more mentally prepared. A decrease in anxiety may occur because they are more confident and have control over the situation. This supports the findings reported by ([Zaider, T. I., 2010](#)) who found that a greater understanding of medical procedures can reduce post-procedural anxiety. 3. reduction of fear of pain, much of the anxiety associated with medical procedures is related to fear of pain or discomfort. If precautions such as the use of local anesthesia, analgesics, or other techniques are successfully taken the patient may feel calmer and less anxious after the procedure. 4. social support, the presence of social support from both medical personnel and family can reduce feelings of post-procedural anxiety. Patients who feel accompanied and cared for tend to experience a

significant decrease in anxiety after the procedure. This support plays a role in reducing anxiety and providing a sense of security after medical procedures. Research conducted ([Cohen et al., 2007](#)) found that social support can greatly reduce anxiety and stress in patients undergoing medical procedures. 5. use of medication, some patients may be given sedatives such as benzodiazepines to help them feel more relaxed before or after the procedure. These drugs can rapidly reduce anxiety, which is reflected in low anxiety scores (0-6) in many patients ([Pope, C., 2013](#)) in his research also found that tranquilizers can help reduce anxiety in patients undergoing medical procedures.

Preventive measures for anxiety. Here are some reasons why creating a therapeutic atmosphere is very important in anxiety prevention: 1. increasing patient trust, building a good relationship, and showing empathy can help increase patients' trust in medical personnel, including anesthesiologists, which in turn reduces their anxiety ([McVey, 2016](#)). 2. Proper counseling, one way to reduce anxiety is to provide clear and adequate information about the procedure to be performed. This should be done in easy-to-understand language, giving the patient a better idea of what will happen, as well as explaining the steps taken to keep them safe. Adequate information can reduce the fear of the unknown ([Chan, V. W., 2017](#)). 3. A comfortable environment, and a calm and supportive atmosphere help to lower the patient's anxiety level. Anesthesiologists can modify the surrounding environment such as setting soft lighting, speaking in a soothing voice, and avoiding conversations that can increase anxiety ([Morgan, P. J., 2013](#)). The environment designed in a hospital can have a positive impact on patient outcomes. Factors such as design, unit layout, type of flooring material, indoor features, visibility of medical equipment, natural elements, lighting, and music all contribute to this impact ([Jamshidi et al., 2020](#)). 4. Individualized approach, each patient may have different levels of anxiety and different reactions to stress. Anesthesiologists who can tailor their approach to the patient's individual characteristics tend to be more successful in managing anxiety and creating a comfortable atmosphere ([Sanghavi, S. G., 2020](#)). 5. The role of empathy and emotional involvement, a therapeutic atmosphere involves not only the provision of information, but also an empathetic attitude from the anesthesiologist. When patients feel valued and understood, they are better able to release anxiety and more easily adapt to the medical procedure being performed ([Gordon, D. B., 2018](#)).

CONCLUSION

The conclusion of the several actions taken by anesthesia stylists to reduce patient anxiety levels, the most chosen is the action of creating a therapeutic atmosphere to create trust between health workers and patients. Suggestions for anesthesiologists are advised to also carry out anxiety prevention in accordance with the results of this study to reduce the level of anxiety in patients in the preoperative room. recommended that this action be carried out also by other health workers to help patients in the preoperative room.

ACKNOWLEDGMENT

This study aims to make a new contribution to the field of anesthesiology nursing by examining aspects that have not been widely explored or still need updated information in the existing literature. The originality of this research lies in several things that distinguish it from previous studies, one of which is a more representative sample because it is taken from various hospitals. This approach is expected to provide a deeper and more relevant perspective on the topic under study so that the results can provide broader and more applicable insights.

AUTHOR CONTRIBUTIONS

List of the authors: Rahayu Setyaningsih¹, Sunaryo Joko Waluyo^{2*}. The first researcher contributed significantly to designing the theoretical framework and methodology of this study. He was responsible for determining the main variables under study and formulating the basic hypotheses underlying the study. In addition, Researcher 1 also led the data collection process and analyzed the

results using relevant statistical analysis techniques. First researcher provided a strong foundation for more accurate data analysis and interpretation. The second researcher was instrumental in aspects of field data collection, particularly in terms of research instrument design and qualitative data processing. Contributed by providing deep insights into anxiety, which enriched the understanding of the research context. In addition, the Second researcher also assisted in drawing conclusions and providing recommendations based on the research findings.

CONFLICT OF INTEREST STATEMENT

The authors declare no conflict of interest.

FUNDING STATEMENT

This research was fully supported by funding provided by Politeknik Insan Husada Surakarta, which is an institution that strongly supports the development of science and research in the field of anesthesiology nursing. Financial support from Politeknik Insan Husada Surakarta has enabled the implementation of this research with adequate facilities and sufficient resources, both in aspects of data collection, analysis, and preparation of the final report.

ETHICAL STATEMENT

Principles of Research Ethics

Respect for Persons, Researchers must respect the autonomy and decisions of individuals. Every participant in research must give informed consent, which means they are given clear information about the purpose, procedures, and potential risks of the research and are given the freedom to participate or not. Welfare of Participants (Beneficence). Researchers must try to maximize benefits and minimize risks to participants. Research must be designed in such a way that it does not cause harm or danger, whether physical, psychological, social, or economic, to participants. Justice Researchers must ensure that the benefits and burdens of research are shared fairly among the groups involved. No particular group should be exploited or excluded from the benefits of the research. Decisions regarding who can become a participant should be based on fair and rational criteria. Integrity. Researchers must maintain honesty in every step of the research, including data collection, analysis, and reporting of results. Data falsification or plagiarism is strictly prohibited, and all research results must be presented with transparency. Obligation to Disclose Conflicts of Interest. Researchers must disclose any potential conflict of interest that may affect the integrity of the research, be it financial, personal, or professional, which may have an impact on the objectivity of the research.

This research registered with ethical clearance letter 0200/KEPK/Adm1/IV/2023 on April 21st, 2023. Ethics Committee of Kusuma Husada University

DATA AVAILABILITY STATEMENT

The researcher declares that the data used in this research are available and accessible in accordance with applicable regulations. Research data that includes [specify the type of data collected, e.g. quantitative data, qualitative data, interview results, experimental results, etc.] is properly stored and can be accessed by authorized parties for the purpose of verification and replication of research. All data relevant to this research will be made available to the public or other interested parties, in accordance with approved institutional policies and research ethics requirements.

REFERENCES

Aunjitsakul, W., McGuire, N., McLeod, H. J., & Gumley, A. (2021). Candidate Factors Maintaining Social Anxiety in the Context of Psychotic Experiences: A Systematic Review. *Schizophrenia Bulletin*, 47(5), 1218–1242. <https://doi.org/10.1093/schbul/sbab026> PubMed: [PMID: 33778868](https://pubmed.ncbi.nlm.nih.gov/33778868/)

- Avidan, M. S., & Evers, A. S. (2019). *Anesthesia and Analgesia*. Elsevier.
- Bedaso, A., & Ayalew, M. (2019). Preoperative anxiety among adult patients undergoing elective surgery: a prospective survey at a general hospital in Ethiopia. *Patient Safety in Surgery*, 13(1), 18. <https://doi.org/10.1186/s13037-019-0198-0> PubMed: [PMID: 31007718](#)
- Chan, V. W., et al. (2017). Patient Education and Anxiety in the Perioperative Setting: A Review. *Anesthesia & Analgesia*.
- Cohen, S., Janicki-Deverts, D., & Miller, G. E. (2007). Psychological stress and disease. *JAMA*, 298(14), 1685–1687. <https://doi.org/10.1001/jama.298.14.1685> PubMed: [PMID: 17925521](#)
- Fawzy, F. I., et al. (2012). Cognitive-Behavioral Stress Management in Cancer Patients. *Psychosomatic Medicine*.
- Gordon, D. B., et al. (2018). Empathy in Anesthesia: Enhancing the Patient Experience. *AANA Journal*.
- Gulur, P., Nishimori, M., & Ballantyne, J. C. (2006). Regional anaesthesia versus general anaesthesia, morbidity and mortality. *Best Practice & Research Clinical Anaesthesiology*, 20(2), 249–263. <https://doi.org/10.1016/j.bpa.2005.10.002> PubMed: [PMID: 16850776](#)
- Han, P. K. J., Gutheil, C., Hutchinson, R. N., & LaChance, J. A. (2021). Cause or Effect? The Role of Prognostic Uncertainty in the Fear of Cancer Recurrence. *Frontiers in Psychology*, 11(January), 1–12. <https://doi.org/10.3389/fpsyg.2020.626038> PubMed: [PMID: 33519656](#)
- Harris, S. E., O'Moore, K., Kirk, D., & McCoy, S. N. (2017). The effectiveness of cognitive-behavioral therapy for anxiety disorders in children and adolescents: A systematic review. *Journal of Child Psychology and Psychiatry*.
- Hur, J., DeYoung, K. A., Islam, S., Anderson, A. S., Barstead, M. G., & Shackman, A. J. (2020). Social context and the real-world consequences of social anxiety. *Psychological Medicine*, 50(12), 1989–2000. <https://doi.org/DOI: 10.1017/S0033291719002022> PubMed: [PMID: 31423954](#)
- Jamshidi, S., Parker, J. S., & Hashemi, S. (2020). The effects of environmental factors on the patient outcomes in hospital environments: A review of literature. *Frontiers of Architectural Research*, 9(2), 249–263. <https://doi.org/https://doi.org/10.1016/j.foar.2019.10.001>
- King, L. A. (2017). *The science of psychology: An appreciative view*. McGraw-Hill.
- Macintyre, P. E., & Walker, S. M. (2016). *Regional Anesthesia: A Problem-Based Learning Approach*. Elsevier.
- Mason, L., & Jackman, T. (2021). Comparative Analysis of Regional versus General Anesthesia. *Journal of Student Research*, 9(2 SE-). <https://doi.org/10.47611/jsr.v9i2.792>
- McVey, L. A. (2016). The Role of the Anesthesiologist in Reducing Preoperative Anxiety. *Journal of Perioperative Nursing*.
- Michael S. C. Wong. (2000). *Stress Management: A Comprehensive Handbook of Techniques and Strategies*. Wiley.
- Morgan, P. J., et al. (2013). Strategies for Reducing Preoperative Anxiety. *Journal of Clinical Anesthesia*.
- Nicolau, S., & Perlas, A. (2017). General Anesthesia Versus Regional Anesthesia: A Review of the Literature. *British Journal of Anaesthesia*.
- O'Connor, M., Rees, C. S., & Browne, G. (2019). The efficacy of mindfulness-based interventions for anxiety disorders: A systematic review and meta-analysis. *Journal of Affective Disorders*.
- Pope, C., et al. (2013). Sedation and Anxiety Reduction in Patients Undergoing Medical Procedures. *British Journal of Anaesthesia*.
- Ruiz Hernández, C., Gómez-Urquiza, J. L., Pradas-Hernández, L., Vargas Roman, K., Suleiman-Martos, N., Albendín-García, L., & Cañadas-De la Fuente, G. A. (2021). Effectiveness of nursing interventions for preoperative anxiety in adults: A systematic review with meta-analysis. *Journal of Advanced Nursing*, 77(8), 3274–3285. <https://doi.org/https://doi.org/10.1111/jan.14827> PubMed: [PMID: 33755246](#)
- Sanghavi, S. G., et al. (2020). Personalized Approaches in Managing Preoperative Anxiety: A Review of the Literature. *Anesthesiology Clinics*
- Sely Pratiwi. (2021). *Efektivitas Pengetahuan Kesehatan Terhadap Tingkat Kecemasan Pasien Pre Operasi Sectio Caesarea*. Poltekkes Singkawang Pontianak.
- Williams, D. F., & Myles, P. S. (2017). *Anesthesia and Analgesia*. Oxford University Press.

Zaider, T. I., et al. (2010). Psychological and Behavioral Consequences of Cancer: A Review of the Literature. *Journal of Clinical Psychology in Medical Settings*.
<https://doi.org/https://doi.org/10.1037/a0018473> PubMed: [PMID: 20141253](https://pubmed.ncbi.nlm.nih.gov/20141253/)