Surgical Anxiety among Patients at Banggai District Hospital: A Cross-Sectional Study

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Preoperative is a condition that begins when the decision for surgical intervention is made and ends when the patient is sent to the operating room, the treatment process in the hospital often ignores psychological aspects, causing various psychological problems for patients, one of which is anxiety. The anxiety experienced is usually related to foreign procedures and also threats to life safety due to all kinds of surgical procedures and anesthesia. The purpose of this study was to determine the factors that influence the level of anxiety of patients who will undergo elective major surgery at the Banggai Regency Hospital. The research method used was analytical with a cross-sectional approach. A sample of 46 respondents with a systematic sampling technique. The statistical test used was the Chi Square Test. The results showed that from the samples studied, there was a significant relationship between education level and anxiety level, obtained a p value = 0.043, stated as significant at the 0.05 level. The level of knowledge about surgery with anxiety levels had a significant relationship at the 0.05 level, with a p value = 0.044. Experience with anxiety levels also has a significant relationship with a value of p = 0.045 stated as significant at the level of 0.05. While there is no significant relationship between gender, age and support with a value of p> 0.05. The conclusion in this study is that most respondents had a good level of knowledge, which was 58.7% and most respondents experienced mild anxiety, which was 67.4%. Suggestions are further reviewed regarding preoperative patient preparation, especially psychological preparation and in overcoming anxiety.

Keywords: Anxiety; Elective major surgery; Preoperative; Education level; Knowledge about surgery.

1. Introduction

One of the problems experienced by someone when sick is anxiety, especially if the person has to undergo medical procedures, namely surgery and acts as a patient. Various bad possibilities can occur that will be dangerous for the patient. So it is not surprising that patients and their families often show a somewhat excessive attitude with the anxiety they experience. Anxiety is something that often happens in human life. Anxiety is one of the most common emotional responses experienced by individuals when facing illness, especially when it involves undergoing medical procedures such as surgery. Being in a vulnerable state of health, the patient is often overwhelmed by uncertainty about the outcome of the procedure, the potential complications, and the overall impact on their future well-being.(Chung & Kim, 2020)

This emotional burden can be significantly heightened when one is not only dealing with physical discomfort but also grappling with the fear of the unknown. Surgery, in particular, is a major source of anxiety because it entails risks that can be life-threatening or alter the patient's quality of life. The thought of being under anesthesia, experiencing pain post-surgery, or even the possibility of complications or failure can drive fear and anxiety to considerable levels. Consequently, anxiety becomes a natural, albeit distressing, part of the preoperative phase for many patients. Patients are not the only ones affected by anxiety in medical situations; their families often experience similar levels of distress. The anxiety felt by family members can manifest in different ways, including worry about the safety of their loved one, fear of adverse outcomes, or concern over the patient's emotional and physical recovery. It is not uncommon for families to express this anxiety through overprotectiveness or excessive questioning of medical professionals. This heightened level of concern is sometimes perceived as overreaction, but it stems from a deep-rooted fear for the well-being of someone they care about. In fact, for both patients and their families, anxiety serves as a psychological defense mechanism against perceived threats, allowing them to prepare mentally for the possibility of a negative outcome.(Lopuszanska-Dawid et al., 2022)

Anxiety in the context of illness and surgery is a universal experience, often linked to the innate human fear of loss of control and the vulnerability that comes with it. In medical situations, patients are placed in an environment where they may feel powerless, as they must rely on healthcare professionals to make critical decisions on their behalf. This sense of helplessness can exacerbate feelings of anxiety, as the patient is no longer in control of their own body or its fate. In addition, the unfamiliarity of medical procedures, hospital environments, and the use of medical jargon can further heighten the patient’s anxiety. For many, the lack of understanding regarding the surgical procedure or the potential risks involved creates an atmosphere of fear and apprehension. Medical anxiety can also be linked to personal experiences or stories heard from others. A patient who has previously undergone surgery and had a negative experience may be more prone to feeling anxious about future medical procedures.(Garcia et al., 2022)

Similarly, individuals who have heard about others' bad experiences with surgery may internalize those fears, even if their current situation is significantly different. This anticipation of the worst-case scenario can cloud the patient's ability to think rationally and process information logically, leading to increased anxiety levels. Anxiety is a normal part of human

life, especially in situations where the outcome is uncertain. However, if not managed properly, this anxiety can have detrimental effects on a patient's overall well-being and recovery process. Prolonged or excessive anxiety can interfere with the body's ability to heal, weaken the immune system, and increase the perception of pain. It is crucial for healthcare providers to recognize and address the emotional and psychological needs of patients, especially when facing surgery. Providing clear, compassionate communication and offering psychological support can help mitigate the effects of anxiety, allowing the patient to approach surgery with a calmer mindset. Managing anxiety effectively is essential not only for the patient's mental health but also for ensuring a smoother, more positive recovery process.(Vancea & Apostol, 2021)

Anxiety can also be a heavy burden that causes the individual's life to always be under the shadow of prolonged anxiety and considers anxiety as mental tension accompanied by body disorders that cause a sense of being unaware of threats, anxiety is related to physiological and psychological stress. This means that anxiety occurs when someone is threatened either physically or psychologically (Asmadi, 2008). Banggai Regency Hospital is one of the government hospitals located in Banggai Regency. This hospital accepts various types of surgical procedures, both major and minor operations. Based on data from Surgical Installation activities during 2021, the number of patients who will undergo surgery in Elective, Cito, and One Day Care (ODC) services is 309 people with the following details: elective services are 100 people, cito services are 120 people, One Day Care services are 89 people. Elective surgery activities with major surgery types are 20 people. The results of observations and interviews in the operating preparation room at the Banggai Regency Hospital, it was obtained that 90% of patients who were going to undergo surgery expressed their anxiety about the surgery they were going to undergo. The forms of anxiety they showed were, patients said they were afraid, in pain, could not sleep, and worried that the surgery they had performed would not be successful. Some of them experienced increased anxiety when they entered the patient reception room in the Surgical Installation room.(Hagan et al., 2022)

Anxiety is an emotional state that can become a significant burden for individuals, particularly when it reaches a level of chronic or prolonged stress. When anxiety becomes a constant presence in a person's life, it can overshadow every aspect of their daily experiences. This prolonged anxiety creates a cycle of mental tension that can be extremely difficult to break, causing individuals to live in a constant state of apprehension and fear. The emotional toll of this kind of anxiety is not just a mental burden; it often manifests physically as well, leading to a host of physiological symptoms that further exacerbate the individual's distress. Anxiety, as defined by Asmadi (2008), is a form of mental tension that is accompanied by various physical disorders, such as an increased heart rate, sweating, dizziness, shortness of breath, or muscle tension. These bodily reactions are the result of the body's response to a perceived threat, triggering the "fight or flight" mechanism. While this response is natural and can be helpful in truly dangerous situations, anxiety leads to the activation of this system even in the absence of an immediate physical threat. In such cases, the individual is left feeling as if they are constantly under siege, both mentally and physically, even though no tangible danger exists. This state of hypervigilance can lead to exhaustion and significantly lower the quality of life for those affected.(Rattay et al., 2021)

Anxiety is often rooted in both physiological and psychological stress. On a physiological

level, stress can trigger anxiety when the body reacts to stimuli that it interprets as harmful or threatening. For instance, a person may feel anxious in response to illness, injury, or other physical challenges that threaten their health or well-being. In the context of hospitals, such as the Banggai Regency Hospital, patients may experience heightened anxiety due to the unfamiliar environment, invasive medical procedures, or concern over their diagnosis and treatment. This anxiety is often worsened by the uncertainty surrounding the outcome of medical interventions, which can leave patients feeling helpless and afraid.(Lau et al., 2022) On the psychological side, anxiety arises when individuals face emotional threats, such as fear of failure, social judgment, or emotional trauma. When combined with physiological stressors, psychological stress can make anxiety even more overwhelming. For example, a patient at Banggai Regency Hospital might experience psychological stress if they are worried about the financial burden of medical treatment or the impact of their illness on their family. These psychological factors can intensify the emotional and physical symptoms of anxiety, creating a complex web of stress that is difficult to untangle without proper support. In medical settings, such as at Banggai Regency Hospital, anxiety is a common issue among patients who are facing surgical procedures or serious health conditions. Hospitals are often viewed as places associated with illness, suffering, and uncertainty, which can heighten the feelings of anxiety for both patients and their families. Patients entering surgery may be particularly vulnerable to anxiety, as they are often concerned about the risks involved, potential pain, and the recovery process. The thought of undergoing anesthesia or facing the possibility of complications can be incredibly distressing, especially for those who have little knowledge of what to expect.(Geren et al., 2021)

The environment of a hospital itself can also contribute to feelings of anxiety. The sterile and impersonal nature of the hospital, combined with the use of medical jargon, unfamiliar procedures, and the sight of other patients in distress, can be overwhelming. This unfamiliar environment can increase the patient's sense of isolation and vulnerability, which in turn amplifies their anxiety. Healthcare providers must be aware of these psychological stressors and provide compassionate care to address the emotional well-being of their patients. Addressing anxiety in medical settings like Banggai Regency Hospital requires a holistic approach that considers both the physiological and psychological aspects of stress. Healthcare professionals play a crucial role in alleviating anxiety by offering clear communication, emotional support, and reassurance to patients. By taking the time to explain procedures, answer questions, and provide comfort, healthcare workers can help ease the patient's fears and create a more supportive and calming environment. Additionally, integrating psychological support services, such as counseling or stress management techniques, can be an effective way to help patients manage their anxiety and improve their overall hospital experience.(Zhou et al., 2022)

2. Methodology

This type of research is descriptive with a Cross-sectional research method. In this design, the researcher emphasizes the time of measurement or observation of independent and dependent variable data, and the population and sample are all patients who will undergo major surgery who are treated at the Banggai District Hospital with a population of patients who will undergo

elective surgery with the type of major surgery in one month as many as 63 people. This study is a descriptive study using a cross-sectional research method.

Cross-sectional research is a type of observational research that measures or observes independent and dependent variable data at a certain time, without any intervention by the researcher. In this design, the researcher does not manipulate the variables studied, but only observes or measures the conditions that exist at the time the study is conducted. This approach is useful for understanding the relationship between the variables studied in a certain population at a certain time, so that it can describe the prevalence or distribution of a condition in the population studied. In this study, the population used was all patients who would undergo major surgery and were treated at the Banggai Regency Hospital. Major surgery is a medical procedure that requires general anesthesia, involves extensive surgical procedures, and usually requires hospitalization after the procedure is performed. In one month, there were 63 patients who would undergo elective surgery with the type of major surgery. Elective surgery itself is a surgery that is scheduled in advance and is not an emergency, so that patients have time to prepare themselves physically and mentally before the operation is carried out.(Nwokenna et al., 2022)

Data collection in this study was carried out at a certain time, so that it is possible to see the relationship between independent variables, such as education level, experience, and patient knowledge about surgical procedures, with the dependent variable, namely the level of anxiety experienced by patients before undergoing major surgery. This cross-sectional method is suitable for research that aims to describe the relationship between several variables at once in a population at a certain time. The sampling process was carried out using a systematic sampling method, where each element of the population has an equal chance of being selected as a sample. In this study, the population consisted of 63 patients who would undergo major surgery at the Banggai Regency Hospital within one month.(Yuan et al., 2021) From this population, all patients who met the inclusion criteria, namely patients who were scheduled to undergo elective surgery with a major type of surgery, would be included in the study as respondents. This study also involved measuring anxiety variables using validated instruments, such as a preoperative anxiety questionnaire, which was filled out by patients before undergoing surgery. Preoperative anxiety is one of the important aspects that needs to be considered in the care of patients who will undergo surgery, because anxiety can affect the physical and mental condition of the patient and the final results of the surgical procedure. After the data from the questionnaire and observations are collected, the researcher will conduct a statistical analysis to identify the relationship between the variables studied. In this study, the statistical test used is the Chi Square test, which aims to see whether there is a significant relationship between independent variables, such as education level, knowledge of surgery, and patient experience, with the dependent variable, namely the level of patient anxiety before surgery. The Chi Square test was chosen because it is suitable for analyzing categorical data, such as anxiety levels and demographic variables.(Ji et al., 2023). This study is expected to provide a clear picture of the factors that influence patient anxiety before undergoing major surgery at the Banggai Regency Hospital. The results of this study can be the basis for hospitals to develop more effective programs or interventions in managing preoperative anxiety in patients, so as to improve the quality of health services and postoperative outcomes for patients undergoing major surgery.(Eichengreen et al., 2023)

3. Results

This section will explain the description of the research data from each variable from 46 respondents, namely the respondent characteristic variables, knowledge level and anxiety level variables. Distribution of Respondents Based on Patient Characteristics

Table 1. Distribution of Respondents Based on Age Characteristics of Banggai Regency Hospital Patients

UAge	Frequent	Percentage (%)
15-20	5	10,9
21-40	20	43,5
41-65	21	45,7
Total	46	100

Source: primary data, 2022

Table 1. shows that most respondents are between 21-40 years old, namely 20 people (43.5%), 41-65 years old totaling 21 people (45.7) and 15-20 years old totaling 5 people (10.9). Distribution of Respondents Based on Patient Characteristics

Table 2. Distribution of Respondents Based on Gender Characteristics of Banggai Regency Hospital Patients

UGender	Frequent	Percentage (%)
Male	22	47,8
Female	24	52,2
Total	46	100

Source: primary data, 2022

Table 2. shows that most of the respondents were female, namely 24 people (52.2%), and male gender amounted to 22 people (47.8). Distribution of Respondents Based on Patient Characteristics

Table 3. Distribution of Respondents Based on Patient Education Characteristics of Banggai Regency Hospital

Education	Frequent	Percentage (%)
Low	19	41,3
Medium	15	32,6
High	12	26,1
Total	46	100

Source: primary data, 2022

Table 3. shows that most respondents have low education, namely 19 people (41.3%), high education, namely 12 people (26.1%), and moderate education, namely 15 people (32.6). Distribution of Respondents Based on Patient Characteristics

Table 4. Distribution of Respondents Based on Characteristics of Patient Experience at Banggai Regency Hospital

Experience	Frequent	Percentage (%)
Yes	16	34,8
No	30	65,2
Total	46	100

Table 4. shows that most respondents are inexperienced, namely 30 people (65.2%), and those who are inexperienced are 16 people (34.8). Distribution of Respondents Based on Patient Characteristics

Table 5. Distribution of Respondents Based on Patient Support Characteristics of Banggai Regency Hospital

Experience	Frequent	Percentage (%)
Yes	44	95,7
No	2	4,2
Total	46	100

Source: primary data, 2022

Table 5. shows that the majority of respondents who support are 44 people (95.7%), and those who do not support are 2 people. Distribution of Respondents Based on Patient Knowledge Level

Knowledge of surgical information is patient knowledge related to information on the surgery to be performed, namely the type of surgery, benefits of surgery or complications that may arise from the surgery. The level of patient knowledge is measured from the results of the patient's answers in answering 8 questions on the questionnaire. This study categorizes the level of knowledge into 3 categories, namely poor, sufficient, good. The answer is poor if the score is <55%, if the score is between 56% - 75%, and is said to be good if> 76%.

Table 6. Distribution of Respondents Based on Patient Knowledge Level at Banggai Regency Hospital

Knowledge	Frequent	Percentage (%)
Good	5	10,9
Middle	10	21,7
Low	31	67,4
Total	46	100

Source: primary data, 2022

Table 6. shows that it can be seen that most respondents have a poor level of knowledge regarding the information on the operation to be carried out (67.4%). Distribution of Patient Anxiety Levels

Table 7. Distribution of Respondents Based on Patient Anxiety Levels at Banggai Regency Hospital

Anxiety	Frequent	Percentage (%)
No Anxiety	12	26,1
Low Anxiety	31	67,4
Middle Anxiety	3	6,5
Total	46	100

Source: primary data, 2022

Table 7. shows that it can be seen that most respondents experienced mild anxiety in facing surgery as many as 31 people (67.4%), moderate anxiety as many as 3 people (6.5%) and no anxiety as many as 12 people (26.1%). Bivariate analysis in this study was to determine the relationship between factors that influence the level of anxiety, namely patient characteristics and the level of patient knowledge with the level of anxiety of patients who will undergo

surgery in the operating room of Banggai District Hospital. The analysis used in this study was chi square as follows. Relationship between age and the level of anxiety of patients who will undergo surgery

Table 8. Analysis of the relationship between age and the level of anxiety of patients who will undergo surgery at Banggai District Hospital.

Age	Level Anxiety					
	No anxiety N(%)	Have Low N(%)	Middle N(%)	Total N(%)	P value	95%Cl
15-20	0(0%)	5 (10,9%)	0 (0%)	5 (10,9%)	0,168	0,05
21-40	7(15,2%)	13 (28,3%)	0 (0%)	20 (41,7%)		
41-65	5(10,9%)	13 (28,3%)	3 (6,5%)	21 (45,8%)		
Total	12(26,1%)	31 (67,4%)	3 (6,5%)	46 (100%)		

Source: primary data, 2022

In Table 8. it can be seen that most respondents experienced mild anxiety (67.4%) consisting of ages 41-65 years (28.3%), ages 21-40 years (28.3%), ages 15-20 years (10.9%). There were 12 respondents who did not experience anxiety consisting of ages 41-65 years (10.9%), ages 21-40 years (15.2%), and only 3 respondents who had moderate anxiety, namely ages 41-65 years (6.5%). From the results of the statistical test, the p value = 0.169 ($\alpha = 0.05$) was obtained, thus the p value is greater than alpha so that Ho is accepted. So it can be concluded that there is no relationship between age and the level of anxiety of patients with pre-elective major surgery at the Banggai Regency Hospital. Relationship between gender and anxiety level

Table 9. Analysis of the relationship between gender and anxiety level of patients who will undergo surgery at the Banggai Regency Hospital

Gender	Level Anxiety					
	No anxiety N(%)	Low N(%)	Middle N(%)	Total N(%)	P value	95%Cl
Male	5(10,9%)	14 (30,4%)	3 (6,5%)	22 (47,8%)	0,17	0,05
Female	7(15,2%)	17 (37,0%)	0 (0%)	24 (52,2%)		
Total	12(26,1%)	31 (67,4%)	3 (6,5%)	46 (100%)		

Source: primary data, 2022

Table 9. shows that there are 31 respondents experiencing mild anxiety, including female (37.0%), male (30.4%). There are 12 respondents who do not experience anxiety, including female (15.2%), male (10.9%), and only 3 respondents who experience moderate anxiety, namely male (6.5%). From the results of the statistical test, the p value = 0.170 ($\alpha = 0.05$) was obtained, thus the p value is greater than alpha so that Ho is accepted. So it can be concluded that there is no relationship between gender and the level of anxiety of patients pre-elective major surgery at the Banggai Regency Hospital. Relationship between Education and Anxiety

Level

Table 10. Analysis of the Relationship between Education and Anxiety Level of Patients Who Will Undergo Surgery at the Banggai Regency Hospital

Education	Level Anxiety					
	No Anxiety	Low	Middle	Total	P value	95%Cl
	N(%)	N(%)	N(%)	N(%)		
Low	4(8,7%)	12 (26,1%)	3 (6,5%)	19 (41,7%)	0,043	0,05
Middle	7(15,2%)	8 (17,4%)	0 (0%)	15 (31,3%)		
High	1(2,2%)	11 (23,9%)	0 (0%)	12 (27,1%)		
Total	12(26,1%)	31 (67%)	3 (6,5%)	46 (100%)		

Table 10. shows that 31 respondents experienced mild anxiety, including respondents with low education (26.1%), moderate education (17.4%), and high education (23.9%). There were 12 respondents who did not experience anxiety consisting of respondents with low education (8.7%), moderate education (15.2%), and high education (2.2%), and only 3 respondents experienced moderate anxiety, namely respondents with low education (6.5%). From the results of the statistical test, the p value = 0.043 ($\alpha = 0.05$) was obtained, thus the p value is smaller than alpha so that Ho is rejected. So it can be concluded that there is a relationship between education and the level of anxiety of pre-elective major surgery patients at the Banggai Regency Hospital.

From the table above, two OR values can be seen = 0.273 and OR = 0.104 indicating that respondents with low education are at risk of experiencing mild anxiety 0.273 times while respondents with moderate education are at risk of experiencing mild anxiety 0.104 times compared to those with high education. Relationship between experience and anxiety level

Table 11. Analysis of the relationship between experience and anxiety level of patients undergoing surgery at Banggai District Hospital.

Experience	Level Anxiety					
	No Anxiety	Low	Middle	Total	P value	95%Cl
	N(%)	N(%)	N(%)	N(%)		
Yes	3(6,5%)	10 (21,7%)	3 (6,5%)	16 (34,8%)		
No	9(19,6%)	21 (45,7%)	0 (0%)	30 (65,2%)	0,045	0,05
Total	12(26,1%)	31 (67,4%)	3 (6,5%)	46 (100%)		

Table 11. shows that 31 respondents experienced mild anxiety, including respondents who had previous surgical experience (21.7%), respondents who did not have surgical experience (45.7%). There were 12 respondents who did not experience anxiety consisting of respondents who had surgical experience (6.5%), respondents who did not have experience (19.6%), and only 3 respondents who had moderate anxiety, namely respondents who had surgical experience (6.5%). From the results of the statistical test, the p value = 0.045 ($\alpha = 0.05$) was obtained, thus the p value was smaller than alpha so that Ho was rejected. So it can be

concluded that there is a relationship between the type of experience and the level of anxiety of patients with pre-elective major surgery at the Banggai Regency Hospital and the OR value = 1.429 is known, this means that respondents who have previous surgical experience are at risk of experiencing mild anxiety 1,429 times more than respondents who do not have surgical experience. Relationship between support and anxiety levels.

Table 12. Analysis of the relationship between support and anxiety levels of patients who will undergo surgery at the Banggai Regency Hospital.

Knowledge	Level Anxiety					
	No Anxiety	Low	Middle	Total	P value	95%Cl
	N(%)	N(%)	N(%)	N(%)		
Not Goog	8(25,8%)	20 (64,5%)	3 (9,7%)	31 (67,4%)		
Enough	4(33,3%)	6 (19,4%)	0 (0%)	10 (21,7%)	0,354	0,05
Good	0(0%)	5 (16,1%)	0 (0%)	5 (16,1%)		
Total	12(26,1%)	31 (100%)	3 (6,5%)	46 (100%)		

Table 12. shows that most respondents experienced mild anxiety including respondents who had a poor level of knowledge (64.5%), had sufficient knowledge (19.4%), had good knowledge (16.1%). There were 12 respondents who did not experience anxiety including respondents who had a poor level of knowledge (25.8%), had sufficient knowledge (33.3%), had good knowledge (0%), and only 3 respondents experienced moderate anxiety, namely respondents who had a poor level of knowledge (9.7%). From the results of the statistical test, p value = 0.354 ($\alpha = 0.05$) was obtained, thus p value is greater than alpha so that Ho is accepted. It can be concluded that there is no relationship between the level of knowledge and the level of anxiety of elective major pre-operative patients at the Banggai Regency Hospital.

4. Discussions

In the results of this study, several variables will be explained including a discussion of the results of the study on the characteristics of respondents, respondent anxiety and the relationship between the level of knowledge and anxiety of patients who will face surgery at the Banggai Regency Hospital. Anxiety level. Based on table 5.3, the results show that most respondents experience mild anxiety, namely 33 respondents (68.8%), while for patients who experience moderate anxiety, there are 3 respondents (6.3%), and patients who do not experience anxiety there are 12 respondents (25%). The results of this study indicate that respondents who have mild anxiety are higher when compared to respondents who have moderate anxiety, and there are several respondents who do not experience anxiety.(Sun et al., 2024) Signs that often appear in respondents include often waking up at night, increased pulse, trembling, feeling afraid of the operating room, equipment, and fear of the operation they are doing failing. This is because a person's anxiety response depends on personal maturity, understanding in facing challenges, self-esteem, and coping mechanisms used and also self-defense mechanisms used to overcome anxiety, including suppressing conflict, impulses that cannot be accepted consciously, not wanting to think about things that are unpleasant to him (suppression).(Liu et al., 2022).

The results of this study are in accordance with research with a sample of 38 people, showing that most respondents experienced mild anxiety (44.7%), moderate anxiety (28.9%) and severe anxiety (26.3%). Signs and symptoms that often appear in respondents are increased heart rate, shortness of breath, symptoms of stomach discomfort and trembling. Respondent characteristics. Based on table 5.1 regarding the characteristics of respondents that affect the level of anxiety of patients who will undergo elective major surgery, it shows that most respondents are aged between 41-65 years (45.7%), female (52.2%), low education (41.3%), almost all respondents (65.2%) have had previous surgery (58.7%), and almost all respondents received psychological support (95.7%).(Chen et al., 2022).

The study shows that most respondents are aged 40-65 years (45.7%), in the middle age of 40-65 years, changes both physically and psychologically begin to occur. The results of the bivariate analysis in table 5.4 show that there is no significant relationship between the age of respondents and the anxiety experienced ($p = 0.143$, $\alpha = 0.05$), this study is not in accordance with the results of research conducted by Budi Santoso in 2008 with a sample of 35 people showing a significant relationship between age and anxiety levels with $X2 = 10.503$ $df = 2$ $p = 0.000$ stated significant level 0.05 and showed a relationship between age and anxiety in fracture patients.(Ayraler et al., 2023) Patients who are categorized as elderly are more able to respond to fracture events with good individual coping compared to the age. According to age shows a measure of the growth and development time of an individual. Age is correlated with experience, experience is correlated with knowledge, understanding and views on a disease or event so that it will form perceptions and attitudes. Maturity in the thought process in adults makes it more possible for them to use good coping mechanisms compared to children, it was found that most children who experienced fracture incidents tended to experience more severe anxiety responses than adults.(Hosen et al., 2021).

Education According to the Big Indonesian Dictionary, education is a process of changing a person's attitude and behavior in an effort to mature humans through teaching and training. The results of the bivariate analysis in table 5.6 show that there is a significant relationship between education level and patient anxiety ($p = 0.043$, $\alpha = 0.05$) and the OR value = 0.273 shows that respondents with low education levels are at risk of experiencing mild anxiety 0.273 times while respondents with moderate education levels are at risk of experiencing mild anxiety 104 times compared to those with high education. The results of research showed that respondents with high education were better able to use their understanding in responding to fracture incidents adaptively compared to groups of respondents with low education. This condition shows that severe anxiety responses tend to be found in respondents with low education because of their low understanding of fracture incidents, thus forming a frightening perception for them in responding to fracture incidents.(Haugan et al., 2021).

The results of the bivariate analysis in table 5.7 show that there is a significant relationship between experience and anxiety in patients who will face major surgery ($p = 0.045$, $\alpha = 0.05$). This study shows an OR value of 1.429, meaning that respondents who have previous surgical experience are at risk of experiencing mild anxiety 1.429 times more than respondents who have no surgical experience. This is in accordance, past experiences with both positive and negative diseases can influence the development of coping skills. A person's success in the past can help individuals develop coping skills, conversely failure or emotional

reactions cause someone to use maladaptive coping to certain stressors.(Feng et al., 2021).

The results of the bivariate analysis described in table 5.5 show that there is no significant relationship between gender and patient anxiety ($p = 0.170$, $\alpha = 0.05$). This is in accordance with the results of a study conducted by Budi Santoso entitled the relationship between demographic characteristics and anxiety of pre-operative patients at the Islamic Hospital Amal Sehat Sragen in 2008, the sample studied amounted to 35 people showed no significant relationship between gender and anxiety levels with a value of X2 = 3.457 df = 1 p = 0.063 declared insignificant at the level of 0.05. This study does not comply with the results of observations by the independent psychological team of the University of Indonesia psychological study program, which found that 56.41% of female individuals tended to respond more anxiously to fractures than male individuals.(Vanderauwera et al., 2019) Strengthened by the theory Relating to anxiety in men and women, who wrote in his book that in general an adult male has a strong mentality towards something that is considered threatening to him compared to women. Men have a wider level of knowledge and insight than women, because men interact more with the outside environment while most women only stay at home and carry out their activities as housewives, so the level of knowledge or information transfer obtained is limited about disease prevention, that women are more anxious about their inability than men, men are more active, explorative, while women are more sensitive. Other studies show that men are more relaxed than women.(Joannès et al., 2023).

The results of the bivariate study in table 5.8 show that there is no significant relationship between family support and anxiety in patients who will face surgery with major surgery ($p = 0.709$, $\alpha = 0.05$). This is not in accordance with the theory of Kaplan and Saddock, 1994 which states that family psychosocial support is a mechanism of interpersonal relationships that can protect someone from the bad effects of stress, and research conducted by Priyadi that there is a significant relationship between Social Support System (Support) and Anxiety Level of Pre-Operation Patients with a Significance value (r) of 0.000 where the r value <0.05 then Ho is rejected. This proves that not all respondents who receive full support from their families do not have anxiety and respondents who do not receive support from their families have mild anxiety.(Çayak & Eskici, 2021).

The results of this study are supported by Friedman, 1998, who stated that the affective function of the family is the psychosocial support of the family to its members, so that the family members feel comfortable and loved, but if this important function is inadequate, the individual will feel isolated and unwanted by the family. The results of the univariate analysis showed that the majority of respondents (67.4%) had a high level of knowledge, had a sufficient level of knowledge (21.7%), and had a good education (10.9%).(Pförtner et al., 2022) Based on the results of the bivariate study, it showed that there was no significant relationship between the Relationship between the level of knowledge and the anxiety of patients who would face major elective surgery at the Banggai Regency Hospital. The results above can be seen from the results of the statistical test obtained $p = 0.354$ which means it is smaller than $\alpha = 0.05$, so it can be concluded that the Ho hypothesis is accepted so that there is no significant relationship between the Relationship between the level of knowledge and the anxiety of patients who will face major elective surgery.(Idrus, Modding, et al., 2022).

This is not in accordance with the research conducted by X entitled The relationship

between the level of knowledge of pre-operative information and the level of anxiety of pre-operative patients which illustrates that 57.1% of respondents have good knowledge of pre-operative information, 92.9% of respondents experience moderate anxiety when undergoing surgery and research by Budi Santoso, 2008 which shows that there is a significant relationship (0.05, X2 value = 22.857 df = 2 p = 0.000) between the level of knowledge about surgery and the level of anxiety.(Idrus, Sunarno, et al., 2022) This shows that not all respondents who have high knowledge do not experience anxiety as well as respondents who have less pre-operative knowledge will experience severe anxiety, this may depend on the perception or acceptance of the respondents themselves towards the surgery they will undergo, self-defense mechanisms and coping mechanisms used. For some people who know pre-surgery information well, it will actually increase their anxiety, and conversely, for respondents who know minimal pre-surgery information, it will actually make them relaxed in facing their surgery, every time there is a stressor that causes an individual to feel anxious, efforts will automatically appear to overcome it with various coping mechanisms.(Idrus et al., 2023)

5. Conclusion

Based on the results of research and analysis of factors that influence the level of anxiety of patients who will undergo elective major surgery at the Banggai District Hospital, it can be concluded as follows: Respondent characteristics that influence the level of anxiety are that most respondents are aged between 41-65 years (45.7%), female (52.2%), low education (41.3%), most respondents (65.2%) have had previous surgery, and almost all respondents received psychological support (95.7%). Most respondents have a good level of knowledge, namely 58.7%. Most respondents experience mild anxiety, namely 67.4%. Of the 6 independent variables studied, there are 4 variables, namely age variables, support variables, gender variables and knowledge level variables, which are stated to have no relationship with anxiety levels. There is a significant relationship between experience and anxiety levels. There is a significant relationship between education levels and anxiety levels.

6. Limitations and Future Studies

This study was conducted at a single hospital with a limited sample size, which may limit the generalizability of the findings to other settings or populations. The use of self-reported questionnaires to measure anxiety could introduce bias, as patients may not accurately assess or report their anxiety levels. The cross-sectional nature of the study limits our ability to observe changes in anxiety levels over time or the impact of different interventions on pre- and post-operative anxiety. Exclusion of Psychological and Medical Factors: The study did not account for other psychological or medical conditions that may contribute to anxiety levels, such as depression or chronic illnesses. Future research should include multiple hospitals and larger sample sizes to enhance the external validity of the results. Conducting longitudinal studies could provide insights into how anxiety fluctuates over time and how pre-operative interventions impact recovery and patient outcomes. Future studies should explore the role of comorbid psychological conditions and their interactions with surgical anxiety to provide a more comprehensive understanding.

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