
Preoperative Anxiety in Elective Oncology Surgery: A Descriptive Study

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ABSTRACT

Background: the phenomenon of cancer not only attacks the physical, but also the psychological. One of the actions to deal with physical problems is through elective oncology surgery, which often causes anxiety for patients. This anxiety cannot be considered a small thing because it can have an impact on delaying and even canceling oncology surgery.

Objective: this study aims to describe the anxiety level of preoperative patients of elective oncology surgery.

Methods: this study employed a descriptive observational study with a cross-sectional approach. Respondents were selected using a purposive sampling technique with specific inclusion and exclusion criteria. Data were collected through the distribution of demographic questionnaires and the Depression Anxiety Stress Scale-21 (DASS-21) questionnaire and analyzed by descriptive statistics.

Results: respondents in this study totaled 106, with 56 respondents who did not experience anxiety (52.8%), 27 respondents who experienced moderate anxiety (25.5%), 12 respondents who experienced severe anxiety (11.3%), 11 respondents who experienced mild anxiety (10.4%), and no one experienced panic attacks.

Conclusion: most respondents did not experience anxiety, and almost half of the respondent's experienced anxiety from low to severe levels. Nurses are expected to innovate in providing counseling, information, and education with digital media and technology related to reducing anxiety before oncology surgery, both in the inpatient and outpatient rooms.

Keywords:

Anxiety; cancer; elective oncology surgery; preoperative

BACKGROUND

Cancer is the growth of abnormal cells in large numbers that spread to several organs or body tissues (Harbelubun & Rahmawati, 2024). Cancer has a metastatic process as a major cause of morbidity and mortality that allows the spread of cancer to other parts of the body, this can occur when cancer cells detach from the primary tumor then enter the circulatory and lymphatic systems, avoid immune attacks, exit into distant capillaries, and multiply in other organs (Rakasiwi et al., 2020). Several risk factors can trigger the appearance of cancer, including age, alcohol consumption, exposure to carcinogenic substances, chronic inflammation, sunlight, and radiation (National Cancer Institute, 2022). According to the World Health Organization (WHO), in 2020 explained that as many as 10 million the worldwide died from cancer. The number of cancer cases in Indonesia, according to the Ministry of Health in 2018, reached 1.79 out of 1,000 population, so that in Indonesia, cancer cases reached 1,017,290. According to Risesdas data (2018) that the prevalence shows a rate of 2.27 per 1,000 population in Bali, or as many as 16,481 cancer cases in Bali with a population of 4.3 million people (Kemenkes Ditjen P2P, 2019; Risesdas, 2018). Cancer patients can undergo several actions in their management, including surgical and non-surgical actions, while oncology surgery can be used as cancer management.

Cancer with surgical indications must go through the oncology surgery process, because it can cure cancer at an early stage, prevent spread or metastasis to other organs, and prevent further damage (Sudarsa, 2019). The problems that arise before the preoperative phase of oncology are physical and mental preparation. Physical preparation consists of an overall physical examination, nutrition, fluid balance, electrolytes, and personal hygiene of the patient. While mental preparation includes information provided about the time of action, mental support, and providing information related to premedication, it is not uncommon for patients to feel fear of surgery due to the lack of time the patient has in preparing everything (Megawati & Suryana, 2021). Surgical events are seen as a major threat to the patient's survival by family and relatives, which can cause anxiety.

Anxiety in cancer patients can be psychologically disturbing. This happens because patients face uncertain situations, are anxious about the impact of cancer treatment, and feel fear of cancer that continues to grow, but in different situations, individuals can also be angry, feel fear, and often experience changes in themselves (Baqtayan, 2019). Anxiety that can be experienced by patients includes anxiety about threats and traumatic conditions due to surgery (Fahri, 2019). Patients who will undergo medical action certainly cause patients to feel fear, both because they do not understand the actions taken, fear of causing death, fear of being anesthetized, and fear of experiencing disability (Hastuti, 2024). Anxious conditions can affect physiological body functions before the patient is operated on, including increased pulse and respiration, changes in blood pressure and temperature, relaxation of smooth muscles in the bladder, skin becomes cold and moist, and the mouth becomes dry to reduce the patient's energy level. Psychologically, anxiety causes increased postoperative pain, slows wound healing, increases physical disability, and decreases quality of life (Handayani, 2018; Koo, 2020). Therefore, anxiety experienced by cancer patients tends to make they feel low and helpless (Hermanto, 2020).

Noor's research (2023) says preoperative anxiety is very dangerous for patients, one of the causes is lack of information, the impact of anxiety on patients who will be operated on is difficult to concentrate, confused, worried, feeling uneasy, increased heart rate, increased blood pressure and also trembling can certainly interfere with the surgical process of the patient. Previous research on the topic of preoperative anxiety in all patients who will undergo surgery under regional anesthesia (Asnawi, 2022) and are given anesthetic information before surgery (Nur'aeni, 2022). Arifin's research (2021) also examined preoperative anxiety in specific fracture surgery patients. The results of the three studies still illustrate varying levels of anxiety. In addition, these studies still focus on the non-surgical oncology population, which could be different because the anxiety of surgical oncology patients starts from the time they are diagnosed with a suspected or even a tumor/cancer until they undergo surgery, so this affects the differences in patient anxiety levels. This study provides an overview of new perspectives for anxiety levels in elective oncology surgery patients, so that it can provide ideas or an overview of innovations in oncology nursing interventions in the future.

PURPOSE

The purpose of this study was to determine the level of anxiety of preoperative patients of elective oncology surgery through a provincial hospital in Bali.

METHODS

This study is a descriptive observational quantitative study to describe a phenomenon using data in the form of numbers by making observations without intervening in the research variables, and supported by a cross-sectional approach. Researchers used a non-probability sampling technique, namely purposive sampling, with inclusion criteria in this study being elective oncology surgery patients registered in the Central Surgical Installation at Bali Mandara Hospital, patients with Composmentis consciousness, patients aged ≥ 18 years, and patients who were willing to become research respondents. The exclusion criteria in this study are patients who experience mental disorders or will undergo surgery and are unconscious, and patients who do not complete the questionnaire to completion or withdraw in the middle of the research that has not been completed. The samples that participated in this study certainly met the predetermined requirements, both inclusion criteria and exclusion criteria.

Data collection was conducted from April to May of 2025. The data collection procedure began with the researcher equalizing perceptions with enumerators via a WhatsApp Group. Furthermore, researchers and enumerators first explained about the research and data collection methods to respondents, to later asked for approval to participate in the study by giving informed consent if the respondent had understood and agreed to become a respondent. Researchers and enumerators continued to interview respondents regarding demographic data and anxiety symptoms. However, in this study, only 7 anxiety statement items from 21 statement items were processed and analyzed.

The instrument used to measure anxiety is the DASS-21 Questionnaire, by only 7 statement items about anxiety from the 21 items available on the questionnaire. The DASS-21 questionnaire has an alpha coefficient value ranging between 0.70 and 0.87 on a clinical anxiety scale (Antony, Bieling, Cox, Enns, & Swinson, 1998; Bottesi et al.,

2015; Clara, Cox, & Enns, 2001 in Arjanto, 2022). Based on the results of the internal consistency reliability test of the DASS-21 questionnaire, Cronbach's alpha was obtained at 0.85, 0.84, and 0.84, while the Spearman-Brown coefficient was 0.84, 0.83, and 0.85. Therefore, all question items on this questionnaire can be declared valid & reliable (Arjanto, 2022). All data collected from respondents with this questionnaire were analyzed using univariate descriptive statistical tests, including determining cross tabulations on anxiety levels against their demographic data.

This study has passed the ethical test and obtained a research permit. Researchers obtained ethics and research permits from the Bali Mandara Hospital Research Ethics Committee with letter number 024/EA/KEPK.RSBM.DISKES/2025. This research considers autonomy, confidentiality, and usefulness for each respondent.

RESULTS

The results of this study explain that 106 respondents who participated in this study were mostly aged 46-55 years, with 42 respondents (39.6%). When viewed based on gender, 93 respondents (87.7%) were female. The distribution of respondents based on the level of education shows that the majority of respondents have an education up to high school (SMA), as many as 49 respondents (46.2%). Respondents had surgical experience, as many as 78 respondents occupied the majority position (73.6%), and as many as 67 respondents (63.2%) had a moderate socio-economic level.

Table 1. Frequency Distribution of Demographic Characteristics of Respondents

Characteristics of Respondents	Frequency (<i>f</i>)	Percentage (%)
Age		
18-25	10	9,4
26-35	10	9,4
36-45	21	19,8
46-55	42	39,6
56-64	18	17,1
≥65	5	14,7
Gender		
Male	13	12,3
Female	93	87,7
Education Level		
Not in School	3	2,8
Elementary School/equivalent	10	9,4
Junior High School/equivalent	9	8,5
Senior High School/equivalent	49	46,2
University/College	35	33,1
Operation Experience		
Ever	78	73,6
Never	28	26,4

Characteristics of Respondents	Frequency (<i>f</i>)	Percentage (%)
Socioeconomic Level		
High	14	13,2
Medium	67	63,2
Low	25	23,6

Table 2. Central Tendency of Research Respondents Based on Age

Variable	Mean	Median	Mode	Standard Deviation	Min-Max
Age	46,38	49,00	52	12,282	19-83

Table 2 shows that the respondents had an average age of 46.38 years (SD = 12.28), with a median of 49 years and a mode of 52 years. The age range of participants was 19 to 82 years, indicating that the majority were middle-aged adults

Table 3. Patient Anxiety Level

Variable Anxiety Level	Frequency (<i>f</i>)	Percentage (%)
Not Anxious	56	52,8
Mild Anxiety	11	10,4
Moderate Anxiety	27	25,5
Severe Anxiety	12	11,3
Panic	0	0

The results of table 3 regarding the level of anxiety in research respondents using the DASS-21 questionnaire found that most respondents did not experience anxiety with a total of 56 respondents (52.8%).

Table 4. Patient Anxiety Levels by Age

Age (years)	Anxiety Level				Total
	No Anxiety	Mild Anxiety	Moderate Anxiety	Severe Anxiety	
18-25	4	2	2	2	10
26-35	6	1	2	1	10
36-45	11	1	8	1	21
46-55	16	8	12	6	42
56-64	8	1	7	2	18
≥65	3	0	2	0	5

Based on Table 4, it was found that in the early elderly, the majority did not experience anxiety, as many as 16 respondents experienced mild anxiety, as many as 8 respondents experienced moderate anxiety as many as 12 respondents and as many as 6 patients with severe category anxiety.

Table 5. Patient Anxiety Levels by Gender

Gender	Anxiety Level				Total
	Not Anxious	Mild Anxious	Moderate Anxiety	Severe Anxiety	
Male	4	1	4	4	13
Female	52	10	23	8	93

Table 5 explains that most of the respondents were female, including 52 respondents without anxiety, 10 respondents with mild anxiety, 23 respondents with moderate anxiety, and 8 respondents experiencing severe anxiety. Therefore, this result concludes that female respondents are the respondents who experience the most anxiety than male respondents.

Table 6. Anxiety Level based on Patient Education Level

Education Level	Anxiety Level				Total
	Not Anxious	Mild Anxiety	Moderate Anxiety	Severe Anxiety	
Not in School	1	0	1	1	3
Elementary School / Equivalent	6	1	3	0	10
Junior High School/equivalent	4	0	2	3	9
Senior High School/equivalent	24	8	13	4	49
University/College	21	2	8	4	35

Table 6 shows that 24 respondents at the high school education level did not experience anxiety, 8 respondents experienced mild anxiety, 13 respondents experienced moderate anxiety, and 4 other respondents with severe anxiety.

Table 7. Anxiety Level based on Patient Surgery Experience

Surgery Experience	Anxiety Level				Total
	Not Anxious	Mild Anxiety	Moderate Anxiety	Severe Anxiety	
Ever	39	6	25	8	78
Never	9	7	8	4	28

Table 7 shows that the anxiety level of patients based on surgical experience was found to be 39 respondents without anxiety, 6 respondents had mild anxiety, 25 respondents had moderate anxiety, and 8 other respondents had severe anxiety.

Table 8. Anxiety Levels based on the Socioeconomic Level of Patients

Socioeconomic Level	Anxiety Level				Total
	No Anxiety	Mild Anxiety	Moderate Anxiety	Severe Anxiety	
High	9	1	4	0	14
Medium	36	5	19	7	67
Low	11	5	4	5	25

As seen in Table 8 that respondents who did not experience anxiety reached 36 respondents, then 5 respondents were known to experience mild anxiety, 19 respondents experienced moderate anxiety, and 7 other respondents experienced severe anxiety.

DISCUSSION

Anxiety, or called *ansietas* according to Wahyudi *et al* (2019), is a fear or worry about something that happens. Anxiety is a problem that is not easy for elective oncology surgery patients and can trigger emotional and behavioral disorders. Respondents who did not experience anxiety dominated the results of this study. This is predicted because patients who will undergo elective oncology surgery have known the diagnosis for a long time and have time to prepare themselves both physically and mentally, so that eventually, patients are able to develop adaptive coping mechanisms. Social support, accurate medical information, and patient acceptance of their condition support their adaptive coping. The same thing is also conveyed in Ahmad's research (2022), which highlights the role of psychosocial interventions and adaptive coping strategies in reducing emotional distress in cancer patients who will undergo elective surgery. This study showed that patients who were taught relaxation techniques or received preoperative counseling had lower levels of anxiety. The results regarding the absence of anxiety in this study are supported by research by Nabila Jasmine (2018) that found 94.9% of patients did not feel anxious at the time of preoperative.

Another study from Amalia (2022) stated that as many as 34 out of 63 (54.0%) respondents experienced moderate anxiety levels before surgery. Respondents with moderate anxiety levels in this study ranked second most. These results indicate that a person can do something more purposeful but experience selective attention. Moderate anxiety experienced by respondents is caused by uncertainty about the process and

outcome of surgery, although there is hope, there is still significant uncertainty regarding the results of surgery such as whether the tumor or cancer will be completely removed, the postoperative prognosis will be better, the postoperative recovery process, pain, side effects, and long-term impact on quality of life. Facing elective oncology surgery, especially for cancer, is one of the most significant stressors in a cancer patient's life. A normal and adaptive psychological response to a perceived threat can be demonstrated through moderate anxiety. This response is not pathological, but rather an internal warning that reminds the individual to prepare for the challenge/threat. This is supported by Stuart and Sudeen's theory that someone who experiences moderate anxiety tends to be able to put aside other things and focus more attention on important things (Ulita, 2022). Therefore, a person is better able to carry out something that is directed but experiences selective attention. According to Videbeck, the response of moderate anxiety includes muscles with moderate tension, vital signs become more increased, the appearance of sweat, pacing, such as confusion, the voice becomes unstable (vibrating), the tone of voice becomes higher, frequent urination, headaches, ineffective sleep patterns, pain in the back, while cognitive responses, including the field of perception becomes increasingly narrow, less selective attention, focus on increasing stimulus, inability to solve problems, if seen in emotional responses, irritability, discomfort and decreased trust (Ulita, 2022).

The results of the research in Table 4, which shows anxiety based on age, are in line with Cahyanti's research (2020), where 14 respondents aged early elderly experienced anxiety, more than other age groups. This shows that the elderly are prone to anxiety. The more health problems experienced by the elderly due to increasing age, not only physical health, but also mental health, such as anxiety. A decrease in physical activity levels and functional status occurs due to anxiety in the elderly. Changes such as changes in physical, cognitive, and psychological aspects are caused by increasing age in the elderly group. In addition, according to Prastyaningrum (2024), at the age of 60, the elderly must face physical changes such as wrinkled skin, blurred vision, reduced body balance, and degenerative diseases begin to attack a lot. This condition is a stressor that must be adapted to by the elderly. However, the same table also shows that as many as 16 respondents in the early elderly did not experience anxiety, this number is more than in other age groups. The results of this study are in line with research conducted by Rindayanti (2020), where it was found that 23 respondents aged early elderly did not experience anxiety, more than other age groups. The theory of Kaplan and Sadock (2010) suggests that young individuals are more prone to anxiety disorders than older individuals. The maturity of experience in dealing with life's problems makes the elderly calmer and less prone to anxiety.

Women who experience anxiety hold the majority position in Table 5 in this study. Nur'aeni's research (2022) revealed the same thing that men and women feel or experience different levels of anxiety. Of course, men must have more masculine traits, be active, rational, and unemotional. Women tend to feel more anxious than men, because men are considered more courageous, less anxious, and not weak, which could be under social pressure. Men and women experience different levels of anxiety, and women tend to be more sensitive to feelings than men, who are better able to control their thoughts to stabilize their mood (Videbeck, in Asnawi, 2022). Looking at gender, women experience higher levels of anxiety than men. According to Assyifa (2023), women have more

estrogen hormones than men. The hormone estrogen is known to inhibit Gamma-Aminobutyric Acid (GABA) receptors, which are the main inhibitory system in the brain to suppress aversive stimuli and increase 5-HT, which is involved in mood disorders. Women tend to harbor sadness, which can be stressful. Women's brains are more active than men's when feeling sad (Assyifa, 2023).

This study found that most had a high school education. Mulugeta (2018) found a relationship between preoperative anxiety level and one's level of education. In addition, it was also explained that a person's high level of education tends to cause a low level of anxiety. A greater understanding of the surgical procedure and anesthesia to be performed is only possessed by someone with a higher level of education, so this may occur. And vice versa, the understanding of the procedure will be less owned by patients with lower education levels. Kristanti & Faidah (2022) also support that the level of education can be an influence on the patient's anxiety level. This happens because knowledge is needed to overcome anxiety more effectively. Respondents who had more surgical experience did not experience anxiety in Table 7. In line with Sugiartha's research (2021), which shows that as many as 26 subjects who have had surgery experience anxiety, this number is less than 44 subjects who have never had surgery and experience anxiety. This can be caused by the patient's level of knowledge or misunderstanding of the surgical procedure or anesthesia. It can be assumed that respondents who have their first experience are more concerned about the pain after surgery, which is different from respondents who already have a history of previous operations.

Most of the respondents who did not experience anxiety were at a moderate socioeconomic level. This is similar to research by Vellyana (2017), which explains that as many as 7 respondents with high socioeconomic levels showed anxiety, while as many as 33 respondents who were in the low socioeconomic category showed anxiety, which means that low socioeconomic levels tend to experience more anxiety than high levels of socioeconomic levels. This shows that socioeconomic level affects the anxiety of preoperative patients. Socioeconomics is an important factor in the quantity and quality of health, so there is a relationship between income and a person's health condition. Socioeconomics will affect habit patterns in maintaining health, and further handling plays a role in the priority of health utilization based on economic capacity or income in a family. In addition, access to information about surgical procedures, surgical side effects, and management options is easier to obtain. Individuals are also able to seek a second opinion from reputable oncology surgeons and read relevant medical literature. Comprehensive and accurate information from trusted sources can reduce uncertainty, which is a major trigger of anxiety. For those with low socioeconomic status, they are only able to meet their health needs as they are; if their income level is good, their health utilization will be better (Stuart and Sundeen, cited in Ulia, 2022).

The nursing implications of this study can be seen from the level of anxiety of patients undergoing elective oncology surgery. If the results show that the majority of patients do not experience anxiety, then surgical nurses need to dig deeper into whether the absence

of anxiety is due to adaptive coping mechanisms or a lack of understanding of procedures and potential risks. On the other hand, if moderate anxiety predominates, this indicates a reasonable concern as a normal psychological response, but needs further nursing intervention to reduce anxiety and readiness for elective oncology surgery. In addition, resilience and social support are protective factors against excessive anxiety. Patients who can adapt and have strong support tend to experience lower anxiety and even have better psychological well-being. Therefore, surgical nurses can identify coping mechanisms that patients already have. Nursing interventions that can be done include breathing exercises, progressive muscle relaxation, positive visualization, or mindfulness practices (Ariawan, Raya, & Swedarma, 2022). Surgical nurses also need to assess and mobilize the patient's social support system such as the involvement of family, friends, and support groups. If the patient shows severe anxiety and even tends to panic, so that it is necessary to delay the time for surgery, the nurse makes a referral to a psychologist or psychiatrist for further action.

In the results of this study, researchers have not included types of cancer in demographic data. Knowing the types of cancer and their stages is important because each type and stage of cancer has different characteristics, severity, and prognosis, which it is likely to affect the anxiety level of preoperative patients, especially elective oncology surgery. In addition, the type of oncology surgery is also not included in this study, because many types of oncology surgery, such as curative surgery, preventive surgery, staging surgery, supportive surgery, reconstructive surgery, and palliative surgery, have different procedures and postoperative side effects. Therefore, further research involving the types of cancer and types of oncology surgery experienced and undergone by preoperative patients of elective oncology surgery is needed to obtain a more comprehensive picture of preoperative anxiety.

CONCLUSION

The majority of patients who will undergo elective oncology surgery do not experience anxiety, but almost half of all respondent's experience anxiety from mild to severe levels. Nurses are expected to innovate in providing counseling, information, and education with digital media and technology related to reducing anxiety before elective oncology surgery, both in the inpatient room and outpatient room (oncology surgery polyclinic). These innovations not only aim to reduce anxiety scores, but also to improve patient health literacy, empower patients and families in the decision-making process, which in turn is useful for optimizing postoperative outcomes through a more stable psychological condition.

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