



Relationship between Patient Characteristics and Major Preoperative Anxiety Level at North Aceh Cut Meutia Hospital

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Abstract

Introduction: Anxiety in preoperative patients can cause worsening of hemodynamic conditions to complications, in the form of dialysis imbalance syndrome. Preoperative patient anxiety can be influenced by several factors, including patient characteristics. This study aims to determine the relationship between patient characteristics and major preoperative anxiety at Cut Meutia North Aceh Hospital for the September-November 2023 period. **Methods:** This is observational analytical quantitative research with a cross-sectional design. The total sample in this study was 105 patients with obstetric, gynecological and urological surgery. Sampling in this study uses a purposive sampling technique. The data obtained was analyzed by the Spearman Rank correlation test. Data collection used observation sheets and questionnaires of the Amsterdam Preoperative Anxiety and Information Scale (APAIS). **Results:** The results of the study showed that the majority of respondents in this study were elderly men (55-90 years old) with marital status and severe poverty category as many as 58 respondents (55.2%). Most respondents with secondary education and an income of < 5 million. The results of the relationship analysis showed that there was a relationship between age and the level of preoperative anxiety with a value of $p = 0.038$ and a correlation coefficient ($r = -0.203$) with a negative direction, meaning that the older the patient, the less anxiety the patient would be and vice versa. From the analysis, it was also obtained that there was a relationship between income and pre-operative anxiety with $p = 0.028$ and a correlation coefficient value ($r = -0.214$) with a negative direction, meaning that the lower the income, the higher the anxiety experienced by the patient and vice versa. **Conclusion:** The conclusion of this study shows that there is a relationship between age and income and major preoperative anxiety.

Keywords: Characteristics, Anxiety, Preoperative.

Introduction

Surgery is an invasive medical procedure to diagnose or treat a disease, injury, or deformity of the body, which can be differentiated into major and minor surgeries. Surgery injures

tissues and causes physiological changes in the body that affect other organs, as well as causing pain that can cause fear, stress, and anxiety in patients. The increase in the number of surgical patients is increasing significantly every year, with the WHO recording 140 million patients undergoing surgical procedures in 2015 and increasing to 148 million in 2016. In Indonesia, surgical procedures rank 11th out of 50 diseases with a percentage of 12.8%. Patients who are about to undergo surgery often experience anxiety, which can affect their physical and mental conditions, such as hypertension, increased heart rate, and other complications (1,2).

Anxiety in pre-operative patients can be affected by several factors, including age, education level, gender, marital status, and income. Research shows that women, young age, and low education are more prone to experiencing anxiety. Untreated anxiety can lead to changes in vital signs, such as increased heart rate and blood pressure, which can negatively impact the continuity of surgery. A 2020 study by Yuliana & Mirasari reported that almost 80% of patients who will undergo surgical procedures experience anxiety. Other data showed that the prevalence of anxiety disorders in Indonesia was 11.6% at >15 years of age, and another study in Pakistan showed that 57.65% of pre-operative patients experienced anxiety (3,4).

Further research is needed to understand the characteristics of patients that affect the level of pre-operative anxiety at Cut Meutia General Hospital Aceh Utara, which is a referral hospital in North Aceh Regency and Lhokseumawe City. Data shows that the hospital performed 841 surgeries from January to March 2023, and 2,684 surgeries in 2022, including general surgery, obstetrics and gynecology, ENT, ophthalmic, dental and oral surgery, orthopedic, digestive, urology, and other surgeries. Muhammad Idham Lubis' research in 2021 showed a high level of anxiety in pre-operative breast tumor patients at this hospital, with the majority of patients having a moderate anxiety level of 30%. This study is expected to provide more information about the factors that affect anxiety in pre-operative patients based on their characteristics (5-7).

Material and methods

This study is observational analytical quantitative research with a cross-sectional approach conducted from September 20 to November 21, 2023 in the patient's rest room or waiting room before entering the sterile room at the surgical station of Cut Meutia Hospital, North Aceh. The target population is all patients undergoing major surgery in the operating room of Cut Meutia Hospital, while the affordable population is elective major surgery patients (obstetrics, gynecology, and urology). Samples were taken using a non-probability sampling technique with a purposive sampling method from patients who met the inclusion and exclusion criteria, with a minimum sample of 96 respondents and 105 respondents taken.

This study has two variables, namely an independent variable (characteristics of pre-operative patients) and a dependent variable (anxiety level in pre-operative patients). The research instruments included an informed consent sheet, a respondent characteristic data

sheet, and an Amsterdam Preoperative Anxiety and Information Scale (APAIS) questionnaire that measures anxiety about anesthesia, surgery, and curiosity about information about surgery. Data collection was carried out by researchers and five students of the Faculty of Medicine, Malikussaleh University after obtaining permission from Cut Meutia Hospital. The collected data was then processed through the stages of editing, coding, data entry, and tabulating to be analyzed univariate and bivariate using the Spearman Rank test with a p-value ≤ 0.05 .

The data collection process begins with the approval of the research proposal, the application for a research permit, and the initial data collection from the Cut Meutia Hospital. After obtaining permission, the researcher and his team directed the patient to fill out a questionnaire and check the completeness of the data. Univariate data analysis was carried out to determine the frequency distribution of patient demographic data, while bivariate analysis was carried out to determine the relationship between patient characteristics and anxiety levels using SPSS. The results of the analysis showed that there was a relationship between patient characteristics and anxiety levels in pre-operative patients at Cut Meutia Hospital with a p-value ≤ 0.05 .

Results

Based on the analysis of respondent characteristic data, this study involved 105 respondents with a majority age distribution in the elderly category (>60 years) as many as 40 respondents (38.1%). The majority of respondents were male as many as 65 respondents (61.9%), with married status as many as 100 respondents (95.2%). Most of the respondents had an income of less than 5 million rupiah, namely 89 respondents (84.8%) and the majority had secondary education as many as 62 respondents (59%). There were no respondents in the widow or widower category, and no one had a D3, master's, or doctoral education.

Table 1 Characteristics of Respondents

No	Category	Frequency	Percentage (%)
I.	Age		
	Teenager (15-24 years old)	7	6,7%
	Adult (25-44 years)	36	34,3%
	Intermediate (45-59 years)	22	21,0%
	Elderly (60-74 years old)	39	37,0%
	Senior (>75 years)	1	1,0 %
II.	Gender		
	Man	65	61,9%
	Woman	40	38,1%
III.	Marital status		

No	Category	Frequency	Percentage (%)
	Marry	100	95,2%
	Unmarried	5	4,8%
	Widow	-	-
IV.	Income		
	<5 million	89	84,8%
	>5 million	16	15,2%
V.	Education		
	Elementary (Elementary, Junior High)	26	24,8%
	Secondary (Highschool)	62	59,0%
	Postgraduate (College)	17	16,2%
	Total	105	100,0

The anxiety level of major pre-operative patients based on univariate data showed that the majority of respondents experienced severe anxiety as many as 58 respondents (55.2%), moderate anxiety as many as 21 respondents (20.0%), and mild anxiety as many as 26 respondents (24.8%). The relationship between patient characteristics and the level of major pre-operative anxiety at Cut Meutia Hospital Aceh Utara showed that there was a relationship between age and anxiety level with a value of $p = 0.038$ and a correlation coefficient ($r = -0.203$), which means that there was a negative relationship with very weak strength.

Table 2 Distribution of Respondents Anxiety Levels

No.	Category	Frequency	Percentage (%)
I.	Mild anxiety (score 6-13)	26	24,8%
II.	Moderate anxiety (score 14-21)	21	20,0%
III.	Severe anxiety (score 22-30)	58	55,2%
	Total	105	100,0

In addition, there was a relationship between income and anxiety levels of pre-operative patients with a value of $p = 0.028$ and a correlation coefficient ($r = -0.214$), which also showed a negative relationship with very weak strength. Gender, marital status, and education did not show a relationship with the patient's anxiety level because the p-value was greater than 0.05. Thus, age and income have an influence on the anxiety level of major pre-surgery patients at Cut Meutia Hospital in North Aceh.

Table 3 Relationship of Patient Characteristics with Anxiety Level

Patient Characteristics Pre Operation	Preoperative Anxiety Levels								Correlation Coefficient (r)	p- value (p)	
	Mild		Moderate		Heavy		Total				
	F	%	F	%	f	%	f	%			
Age	Adolescent	0	0	2	28,5	5	71,4	7	100	-0,203	0,038
	Adult	4	11,1	11	30,5	21	58,3	36			
	Middle	5	22,7	5	22,7	12	54,5	22			
	Elderly	16	41,0	3	7,7	20	51,3	39			
	Elderly	1	100	-	-	-	-	1			
Gender	Man	19	29,2	13	20,0	33	50,7	65	100	0,132	0,181
	Woman	7	17,5	8	20,0	25	65,2	40			
Marital status	Marry	26	26,0	19	19,0	55	55,0	100	100	0,063	0,522
	Unmarried	-	-	2	40,0	3	60,0	5			
	Widow	-	-	-	-	-	-	-			
Income	<5 million	18	20,0	19	21,1	53	58,9	89	100	-0,214	0,028
	>5 million	8	50,0	2	12,5	6	37,5	16			
Education	Elementary	13	50,0	6	23,0	7	27,0	26	100	-0,040	0,682
	Secondary	5	8,1	12	19,4	45	72,5	62			
	Postgraduate	8	47,0	3	18,0	6	35,0	17			

Discussion

The majority of respondents in this study were diagnosed with Benign Prostate Hyperplasia (BPH), which is common in elderly patients. Research at Bethesda Hospital Yogyakarta by Roberth, Siagian, Jayadi, and Hariatmoko (October 2021-June 2022) shows an increase in BPH cases in men >60 years old, along with increasing age and increasing prostate volume. Most of the respondents are married adults, according to the age of physical and mental readiness to get married, which is 21 years for women and 25 years for men. The majority of respondents have secondary education (SMA). Research by Adi Rizka, Iskandar, and Siti Akramah (2023) at Cut Meutia Hospital in North Aceh shows that the majority of breast cancer patients also have secondary or basic education. Riska Rohmawati's (2022) research at Dr. Soetomo Hospital Surabaya showed similar results, with the majority of respondents having secondary education. Most of the respondents have an income of less than 5 million rupiah, which is related to the level of education. The higher the education, the better the job and income obtained. Research by Lilik Hanifah and Ani Nur Fauziah (2019) in Surakarta supports this. The income of respondents in the middle to lower category is equivalent to or below the UMR of Aceh (Rp 3,460,672), which is also related to education (8-11).

Research shows that the majority of patients who undergo urology and obstetric gynecological surgery at Cut Meutia Hospital in North Aceh experience severe anxiety

(55.2%). This anxiety is affected by age, with elderly patients tending to experience increased anxiety. Andi Palla's research (2018) shows that patients' unpreparedness for surgery also causes anxiety, which can be caused by a lack of knowledge or information from medical personnel. The majority of respondents with secondary education experienced severe anxiety, influenced by a lack of knowledge about medical procedures. Higher levels of education allow for more rational responses and better understanding of information. Pre-operative anxiety is also affected by information about the cost of surgery, with the majority of patients earning less than 5 million rupiah per month. Research by Saiful and Malang (2020) shows that income of less than 3 million rupiah can affect respondents' behavior and increase anxiety, related to the relationship between income, education, and employment (12-15).

The results showed that the highest level of anxiety in patients before surgery in the operating room of Cut Meutia Hospital Aceh Utara occurred in the adolescent age group (15-24 years old), with a total of 7 people (6.7%) consisting of 5 people (71.4%) experiencing severe anxiety and 2 people (28.5%) moderate anxiety. This finding is in line with previous research by Vincencia Desy Ayuningtyas, Hermani Triredjeki, and Susi Tentrem R.T in 2018 at Tidar Magelang Hospital and Dr. Soedjono Hospital Magelang City, where the majority of patients who experience severe anxiety are in early adolescence to late adolescence, with the highest anxiety details at the age of 13 years (26.5%), 14 years (26%), 15 years old (25.25%), 16-17 years old (20%), and 18 years old (18.5%). The age factor greatly affects a person's readiness to undergo surgery, where the younger the age, the less readiness for surgery there is due to a lack of maturity in thinking and making decisions. Age also plays an important role in the process of growth and development of individuals, where the accumulation of life experiences affects knowledge, perceptions, and attitudes towards various diseases or events, including anxiety. In general, faith in God Almighty will grow as we age, which can help reduce anxiety through feelings of surrender and prayer (16-18).

The study also showed that the level of preoperative anxiety was higher in women than in men, with 40 female respondents (38.1%) experiencing severe anxiety in 25 (62.5%). This is in line with research by Rismawan (2019) which states that anxiety disorders are more commonly experienced by women because they are more emotional and sensitive than men who are more active and exploratory. Women's anxiety response is higher because they are more sensitive and highlight feelings rather than logic. The analysis of the relationship between marital status and anxiety levels showed that out of 105 respondents, 5 unmarried respondents experienced severe anxiety (60%), while 55 married respondents experienced severe anxiety (55%). The Spearman Rank correlation test showed a value of $p=0.522$ ($p>0.05$), which means that there was no relationship between marital status and the patient's anxiety level. This is supported by research by Wahyu (2023) which found that there was no significant relationship between marital status and anxiety (19,20).

The relationship between income and pre-operative anxiety showed that patients with incomes below 5 million rupiah most commonly experienced severe anxiety, with a total of 89 respondents. The Spearman Rank correlation test showed a value of $p=0.028$ ($p<0.05$), which indicates a relationship between income level and anxiety. This is in line with the research of Putri and Darmayanti (2022) which showed a relationship between job status and anxiety disorders. The study also showed that there was no correlation between education levels and pre-operative anxiety levels. Of the 105 respondents who experienced severe anxiety, the majority had secondary education (45 respondents), primary education (7 respondents), and higher education (6 respondents). The Spearman Rank correlation test showed that there was no relationship between education level and anxiety. However, previous research by Zamriati W. showed a correlation between education levels and anxiety. The level of education affects the ability to think rationally and absorb information, so individuals with higher education tend to be more able to use effective and constructive coping strategies (21-23).

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Conclusion

Based on the results of the research and discussion described in the previous chapter, the following conclusions can be drawn: there is a relationship between age and anxiety level in pre-major surgery patients, there is no relationship between gender and anxiety level in pre-major surgery patients, there is no relationship between marital status and anxiety level in pre-major surgery patients, there is a relationship between income and anxiety level in pre-major surgery patients, and there was no relationship between education and anxiety levels in pre-major surgery patients. The suggestions given are as follows: it is hoped that other researchers can use this study as a source of additional information and evaluation material as well as to find other factors that can affect preoperative anxiety in major surgery patients, and for health workers it is hoped that they can provide more complete services and information about the actions to be taken to patients in a language that the patient can understand.

Disclosure

The author reports no conflicts of interest in this work.

References

1. Muafiah A. Gambaran Tingkat Kecemasan Pasien Pre Operasi Pembedahan Ortopedi di Rumah Sakit Umum Pusat Sanglah. *Jurnal Biomedik*. 2019;8(5):55.
2. Suparyanto Dan Rosad. Pengaruh Penggunaan Warming Blanket Terhadap Suhu Tubuh Pasien Pasca Operasi Dengan General Anestesi Di Ruang Pacu Rsup Dr. M. Djamil Padang. *Suparyanto Dan Rosad*. 2020;5(3):248–53.
3. Oxyandi M, Fitrayani C. Hubungan Umur, Komunikasi Terapeutik Perawat Dan Dukungan Keluarga Terhadap Tingkat Kecemasan Pasien Pre Operatif Di Ruang Marwah Rumah Sakit. *Jurnal Kesehatan*. 2018;1(1):1–12.
4. Adham Muhammad Lubis, Anna Millizia, “Artikel Penelitian,” *J. Perspekt.*, vol. 4, no. 4, p. 519, 2021, doi: 10.24036/perspektif.v4i4.466.
5. Putri Sb, Darmayanti A, Dewi Np. Hubungan Tingkat Kecemasan Preoperatif Dengan Karakteristik Pasien Di Kamar Operasi Rsi Siti Rahmah. *Baiturrahmah Medical Journal*. 2022;1(2):11–25.
6. Nuriyah Yuliana, Triana Mirasari. Pemberdayaan Keluarga Dengan Tingkat Kecemasan Pasien Rawat Inap Di Rsud Dr Moewardi. *Infokes: Jurnal Ilmiah Rekam Medis dan Informatika Kesehatan*. 2020;10(1):28–35.
7. Haryoko I, Juliastuti. Volume 4, Nomor 1, Juni 2016. 2016;4(march 2014):46–54.
8. Iskandar, Rizka A, Akramah S. Analisis Hubungan Tingkat Pendidikan dan Pengetahuan Terhadap Kepatuhan Kemoterapi Pada Pasien Kanker Payudara di Rumah Sakit Umum Cut Meutia Aceh Utara. *J Ilm Mns Dan Kesehat*. 2023;6(1):69–77.
9. Rohmawati R, Sudarti E, Faizah I, Yunita Sari R, Nur Hasina Fakultas Keperawatan dan Kebidanan S. Korelasi Usia Terhadap Kecemasan Pada Pasien Pre Operasi Histerectomi. *JKJ) Persat Perawat Nas Indones*. 2022;12(1):9–16.
10. Putri AD. Pengaruh Umur, Pendidikan, Pekerjaan Terhadap Pendapatan Rumah Tangga Miskin Di Desa Bebandem. *E-Journal EP Unud*. 2019;2(4):173–80.
11. Cahyono SA. Karakteristik Sosial Ekonomi yang Mempengaruhi Pendapatan Rumah Tangga Penyadap Getah Pinus di Desa Somagede. *Kebumen: Jawa Tengah. Jurnal UGM*;
12. Rosyidah NE, Maulida R, Mumpuni RY, Cahyono BD. Hubungan Antara Komunikasi Terapeutik dengan Tingkat Kecemasan Klienpra Operasidigestif di Ruang Instalasi Bedah Sentral RSUD Dr. Saiful Anwar Malang. *Malahayati Nurs J*. 2023;5(2):306–23.
13. Hasanah N. Hubungan Pengetahuan Pasien Tentang Informasi Pre Operasi Dengan Kecemasan Pasien Pre Operasi. *J Ilm Kesehat*. 2017;6(1):48–54.

14. Leniwita H. Hubungan pengetahuan dan karakteristik pasien terhadap kecemasan dalam menghadapi operasi di RSUD UKI Jakarta tahun 2017. *J Ilm WIDYA* [Internet]. 2019;6(1):1–6. Available from: <http://repository.uki.ac.id/1743/>
15. Mailawati T, Laksono RM, Fatoni AZ. Hubungan Faktor Sosiodemografi dengan Angka Kejadian Nyeri Kronik pada Pasien Pasca Operasi Bedah Mayor di Rumah Sakit Dr. Saiful Anwar Malang. Vol. 1, *Journal of Anaesthesia and Pain*. 2020. p. 1–6.
16. Sutarwi; Warsito Bambang Edi. Pengaruh Supportif Edukatif terhadap Kecemasan pada Pasien Pre Operasi: Literatur Review. *J Ilmu Keperawatan Indones*. 2019;12(1):18–
17. Annisa Dona Fitri, Ildil I. Konsep Kecemasan (Anxiety) pada Lanjut Usia (Lansia). Vol. 5, *Konselor*. 2016. p. 93.
18. Aini Z, Dakwah F. Komunikasi, Ar-raniry UIN, Aceh B. Implementasi doa dalam mereduksi kecemasan pasien di rumah sakit umum daerah meuraxa kota banda aceh. 2023;
19. Rismawan W. Tingkat Kecemasan Pasien Pre Operasi di RSUD dr. Soekardjo Kota Tasikmalaya. *J Kesehat Bakti Tunas Husada J Ilmu-ilmu Keperawatan, Anal Kesehat dan Farm*. 2019;19(1).
20. Bachri S, Cholid Z, Rochim A. Perbedaan Tingkat Kecemasan Pasien Berdasarkan Usia, Jenis Kelamin, Tingkat Pendidikan dan Pengalaman Pencabutan Gigi Di RSGM FKG Universitas Jember. *e-Jurnal Pustaka Kesehat*. 2017;5(1):138–44.
21. Cahyono SWT. Hubungan Komunikasi Terapeutik Perawat Dengan Kecemasan Pasien Pre Operasi. *Prof Heal J*. 2023;4(2):422–8.
22. Nursalam. *Metodologi Penelitian Ilmu Keperawatan Edisi 5* (P. P. Lestari (ed.)). Salemba Medika. Jakarta: Salemba Medika; 2020.
23. Perdana A, Fikry Firdaus M, Kapuangan C. Uji Validasi Konstruksi dan Reliabilitas Instrumen The Amsterdam Preoperative Anxiety and Information Scale (APAIS) Versi Indonesia Construct Validity and Reliability of The Amsterdam Preoperative Anxiety and Information Scale (APAIS) Indonesian Version. *Anesth Crit Care*. 2015;31(1):1–8.