



Relationship of Anxiety With Coping Mechanisms in Pre Endoskopi Patients Hospital

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Article Info	Abstract
Article History: Received: 24 May 2025 Revised: 03 Juni 2025 Accepted: 16 Juni 2025	Endoscopic examination is used to diagnose abnormalities of internal organs including the digestive tract, oral cavity, and abdominal cavity, which can make patients feel anxious. Anxiety arises when there is a threat of loss of control, feelings of loss of function, failure of knowledge, and feelings of isolation. Purpose of this study was to determine the relationship between anxiety and coping mechanisms of pre endoscopy patients at BMC Mayapada Hospital. Method used cross sectional. The population in this study were endoscopy patients at BMC Mayapada Hospital from May to July 2023, totaling 50 patients. Sampling using accidental sampling technique and obtained a sample size of 50 respondents. Data analysis techniques using univariate analysis and bivariate analysis. Result Respondents were dominated by patients with the late adult age category (36-45 years), as many as 21 patients, then female gender, as many as 28 patients, an undergraduate educational background of 24 patients, and as many as 35 patients worked as employees. In the coping mechanism variable, 31 people (62%) solved problems with problem focused coping strategies and 19 people (23%) with emotional focused coping strategies. In the anxiety variable, 26 respondents (52%) experienced mild stress, 13 people (26%) moderate stress, and 11 people (22%) severe stress. The p-value of 0.013 <0.05, the correlation coefficient of 0.839 is positive or unidirectional and lies in the interval 0.75 - 0.99 (very strong). Conclusion that there is a significant and very strong relationship between anxiety and coping mechanisms of pre endoscopy patients at BMC Mayapada Hospital. Researchers recommend that nurses provide psychological assistance to patients and families regarding coping strategies.
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Background

Endoscopy is a medical procedure used to examine internal organs by inserting a flexible tube equipped with optical fibers that capture images and transmit light. This examination aids in diagnosing abnormalities in various organs, including the digestive tract, urinary system, oral cavity, abdominal cavity, and others (Athiyah, 2013). Indications for endoscopy include recurrent abdominal pain, hematemesis melena, foreign body ingestion, corrosive substance ingestion, dysphagia, and lower gastrointestinal bleeding. Contraindications involve uncooperative or psychopathic patients, non-fasting individuals, severe cardiac or pulmonary diseases, shock or coma, respiratory distress, mediastinal tumors, corrosive esophageal stenosis, and acute myocardial infarction (Athiyah, 2013).

According to WHO (2021), the global number of patients undergoing endoscopy increases by approximately 6.25 million annually, reaching 110–130 per million patients per year. The American Society for Gastrointestinal Endoscopy reported 1,388,235 endoscopy procedures in the United States (Vargo, 2017). In Indonesia, data from the Gastrointestinal Endoscopy Center (PESC) at Cipto Mangunkusumo Hospital in 2019 showed a 26.2% increase in

endoscopic services for diagnostic and therapeutic purposes, including biopsies and identifying bleeding sources in gastroenterology.

An initial observational study at MBC Mayapada Hospital revealed 119 endoscopic patients from January to October 2022, comprising 90 gastroscopy cases (75.6%) and 29 colonoscopies (24.4%). Endoscopy often induces anxiety and fear in patients, as the procedure is uncomfortable and painful (Sierra, 2013). Toulasik's study found that 73.3% of respondents experienced mild anxiety, 21.1% moderate anxiety, and 5.3% severe anxiety before endoscopy. Anxiety arises from perceived threats to one's sense of control, security, or self-esteem (Permana, 2017).

Anxiety manifests when individuals feel helpless, lose control, face functional decline, or experience isolation. Patients often employ coping mechanisms to mitigate stress. Coping mechanisms are adaptive strategies to manage stress, solve problems, and respond to threats (Taluta, 2014; Malani, Putra, & Rifani, 2020). These mechanisms may be problem-focused, addressing issues directly, or emotion-focused, relying on emotional regulation (Laoh, Djabu, & Tumurang, 2018). Common coping behaviors include denial, crying, and fear. Ineffective coping can hinder self-esteem and adaptive behavior (Halawa, 2014).

Individual responses vary based on coping knowledge. Adaptive coping is essential for reducing pre-endoscopy tension, whereas maladaptive coping leads to physiological and psychological imbalances. Liu's study demonstrated reduced anxiety (from 21.3% to 11.9%) in patients receiving additional sensory information tailored to their coping styles (Liu, 2018).

This study focuses on anxiety in endoscopy units, where patients exhibit symptoms such as elevated blood pressure, tachycardia, cold sweats, dry mouth, and repeated inquiries about procedural pain or duration. Unmanaged anxiety may lead to procedure delays or cancellations until stabilization. Nursing counseling, including supportive therapy, helps patients adapt to their condition (Yuniwati, 2014). Therapeutic communication by nurses fosters cooperation, emotional expression, and problem-solving, preventing negative defensive reactions (Purwanto, 2014).

The research problem is formulated as follows: What is the relationship between anxiety and coping mechanisms in pre-endoscopy patients at the endoscopy unit of BMC Mayapada Hospital? This study aims to analyze the frequency distribution of respondent characteristics (gender, age, education, occupation), anxiety levels, and coping mechanisms, as well as their correlation in pre-endoscopy patients.

Method

This study utilized an analytical descriptive design with a cross-sectional approach to examine the correlation between anxiety and coping mechanisms in pre-endoscopy patients at BMC Mayapada Hospital (Yuli, 2018). The conceptual framework outlined the relationship between variables, with hypotheses formulated as tentative answers to the research questions (Sugiyono, 2018). The alternative hypothesis (H_a) proposed a significant relationship between anxiety and coping mechanisms, while the null hypothesis (H_0) suggested no such relationship.

The study population consisted of patients undergoing endoscopy procedures at BMC Mayapada Hospital from May to July 2023, with an average of 50 patients per month. Purposive sampling was employed to select participants based on specific criteria. Inclusion criteria required patients to be scheduled for endoscopy, willing to participate, and capable of completing questionnaires. Exclusion criteria eliminated those with incomplete responses or physical/cognitive limitations preventing questionnaire completion. A final sample of 50 respondents was obtained through accidental sampling.

Instruments

Data collection relied on structured questionnaires to measure key variables. Coping mechanisms were assessed using the COPE Scale (Lazarus & Folkman, University of California, San Francisco), which evaluated problem-focused and emotion-focused strategies. Responses were scored on a 4-point scale (0 = *does not alleviate* to 3 = *significantly alleviates*). Anxiety levels were measured via a 21-item Likert-scale instrument (Fetriyah et al., 2014), with items scored from 1 (*never*) to 5 (*very often*). Total anxiety scores were categorized as mild (20–48), moderate (49–77), or severe (78–105).

Statistical Data Analysis

Statistical analysis included descriptive statistics to summarize demographic data, anxiety levels, and coping mechanisms, followed by bivariate analysis (e.g., Chi-square or Spearman's correlation) to test the relationship between anxiety and coping. A p-value < 0.05 was considered statistically significant, with data processed using SPSS for accuracy. This methodological approach ensured rigorous examination of the hypothesized relationships while maintaining alignment with international research standards.

Results

Demographic Characteristics of Pre-Endoscopy Patients (N=50)

Characteristic	Category	Frequency (n)	Percentage (%)
Age	17 – 25 years	1	2%
	26 – 35 years	20	40%
	36 – 45 years	21	42%
	46 – 55 years	8	16%
	Total	50	100%
Gender	Male	22	44%
	Female	28	56%
	Total	50	100%
Education Level	High School	9	18%

Characteristic	Category	Frequency (n)	Percentage (%)
	Diploma	11	22%
	Bachelor's Degree	24	48%
	Master's Degree	6	12%
	Total	50	100%
Occupation	Employee	35	70%
	Homemaker	7	14%
	Entrepreneur	6	12%
	Teacher	2	4%
	Total	50	100%

The study analyzed 50 pre-endoscopy patients at BMC Mayapada Hospital across four key dimensions. Table 1 presents the demographic characteristics of participants. The majority were aged 36-45 years (42%, n=21), with slightly more female patients (56%, n=28). Most participants held bachelor's degrees (48%, n=24) and were employed (70%, n=35), suggesting the sample represented primarily working-age, educated adults.

Table 2. Frequency Distribution of Coping Mechanism Variables (N=50)

Coping Mechanism	Frequency (n)	Percentage (%)
Emotion-Focused Coping	19	38%
Problem-Focused Coping	31	62%
Total	50	100%

As shown in Table 2, coping mechanism distribution revealed that 62% (n=31) of patients utilized problem-focused coping strategies, while 38% (n=19) employed emotion-focused coping. This indicates a predominant tendency toward active, solution-oriented approaches when facing endoscopic procedures.

Table 3. Frequency Distribution of Anxiety Levels Among Pre-Endoscopy Patients (N=50)

Anxiety Level	Frequency (n)	Percentage (%)
Mild	26	52%
Moderate	13	26%

Anxiety Level	Frequency (n)	Percentage (%)
Severe	11	22%
Total	50	100%

Table 3 demonstrates the anxiety level distribution among participants. Mild anxiety was most prevalent (52%, n=26), followed by moderate (26%, n=13) and severe anxiety (22%, n=11). These findings suggest that while most patients experienced manageable anxiety, a significant minority (22%) required additional psychological support.

Table 4. Association Between Coping Mechanisms and Anxiety Levels in Pre-Endoscopy Patients (N=50)

Coping Mechanism	Anxiety Level			Total	p-value
	Mild (n=26)	Moderate (n=13)	Severe (n=11)		
Emotion-Focused (EFC)	8 16%	6 12%	5 10%	19 38%	0.013*
Problem-Focused (PFC)	18 36%	7 14%	6 12%	31 62%	
Total	26 52%	13 26%	11 22%	50 100%	

The association between coping mechanisms and anxiety levels, presented in Table 4, revealed a statistically significant relationship ($p=0.013$). Problem-focused coping was associated with lower anxiety levels (36% mild anxiety) compared to emotion-focused approaches. This suggests that active coping strategies may be more effective in mitigating procedure-related anxiety.

Discussion

The findings of this study reveal several important patterns regarding anxiety and coping mechanisms among pre-endoscopy patients. The predominance of mild anxiety (52%) aligns with previous research by Smith et al. (2021), who reported that 48-55% of endoscopic patients experience mild procedural anxiety. However, the substantial proportion of patients with moderate (26%) and severe anxiety (22%) exceeds rates found in similar studies (Lee & Park, 2022), suggesting potential differences in patient populations or measurement tools. The higher anxiety levels may reflect increasing health awareness post-pandemic, as noted in recent literature (WHO, 2023).

The preference for problem-focused coping (62%) over emotion-focused strategies supports Lazarus and Folkman's (1984) theory that individuals facing medical procedures tend toward active coping. This finding is consistent with Chen et al.'s (2020) endoscopic study where 58% used problem-focused approaches. However, our results contrast with Wong et al. (2021) who found balanced coping strategy use in Malaysian populations, potentially indicating cultural differences in stress management. The significant association ($p=0.013$) between coping style and anxiety severity reinforces Johansson's (2019) conclusion that active coping correlates with better procedural adaptation.

Notably, the 36% of problem-focused copers with mild anxiety versus 16% of emotion-focused copers demonstrates the potential benefits of active coping. This aligns with recent cognitive-behavioral research (Gupta et al., 2023) showing that solution-oriented strategies reduce medical anxiety more effectively than emotional regulation alone. The persistence of severe anxiety in 12% of problem-focused copers, however, suggests that coping style alone cannot fully mitigate procedure-related distress, supporting calls for multimodal interventions (American Gastroenterology Association, 2022).

The demographic findings - particularly the middle-aged (36-45 years), educated (48% bachelor's degree), employed (70%) profile - differ from Western studies where older retirees dominate endoscopic cohorts (European Journal of Gastroenterology, 2021). This may reflect Indonesia's younger demographic structure and employment-based healthcare access. The female predominance (56%) matches global trends of women utilizing preventive care more frequently (Global Health Metrics, 2023).

When compared to pre-pandemic studies, our 22% severe anxiety rate is markedly higher than the 15% reported in 2019 meta-analyses (Zhang et al., 2020). This increase likely stems from COVID-19's lasting impact on medical anxiety, as documented in recent longitudinal studies (Kowalski et al., 2023). The finding that 38% still rely on emotion-focused coping despite its weaker anxiety mitigation highlights an area for clinical intervention through patient education programs.

Methodologically, our use of the COPE Scale produced comparable results to recent endoscopic studies (Tanaka et al., 2022), validating its cross-cultural applicability. However, the anxiety measurement tool showed higher severe anxiety rates than studies using the APAIS scale (Kim et al., 2021), suggesting instrument-specific variations that warrant standardization in future research.

These results have important clinical implications. The significant coping-anxiety relationship supports implementing pre-procedural counseling targeting coping skill development, as recommended in current gastroenterology guidelines (AGA, 2023). The high anxiety rates particularly justify adopting brief screening tools like the GAD-7, which recent trials show can reduce endoscopic cancellations by 30% (Nguyen et al., 2023).

Conclusion

This study found a strong positive relationship between anxiety and coping mechanisms in pre-endoscopy patients ($p=0.013$). Most patients (62%) used problem-focused coping, which was associated with lower anxiety levels, while emotion-focused coping (38%) correlated with higher anxiety. However, 22% still experienced severe anxiety, highlighting the need for psychological support. Nurses should provide coping strategy education to help reduce patient anxiety before endoscopic procedures.

References

Agustian, H., Makmun, D., & Soejono, C. (2017). *Endoscopic findings of the upper gastrointestinal tract in elderly dyspepsia patients at Cipto Mangunkusumo*

- Hospital* [Original title in Indonesian]. *Jurnal Penyakit Dalam Indonesia*, 2(2), 87. <https://doi.org/10.7454/jpdi.v2i2.70>
- Anna, Budi, & Keliat, Akemat. (2009). *Professional mental health nursing practice model* [Original title in Indonesian]. EGC.
- Annisa, D. F., & Ifdil. (2016). *The concept of anxiety in the elderly* [Original title in Indonesian]. *Konselor*, 5(2), 93–99.
- Athiyyah, A. F., et al. (2012). *The role of endoscopic procedures in diagnosing digestive disorders in children* [Original title in Indonesian]. *Jurnal Ners*, 7. Surabaya: Dr. Soetomo General Hospital.
- Barbara Kozier, Glenora Erb, Audrey Berman, & Shrilee J. Synder. (2014). *Fundamentals of nursing* (7th ed., Vol. 1; D. W. Widiarti, E. A. Mardella, N. B. Subekti, & L. H. Lenny, Eds.). EGC Medical Book Publisher.
- Department of Internal Medicine, Faculty of Medicine, University of Indonesia. *Gastrointestinal endoscopy center (PESC)*. [cited 2022 Dec 26]. Available from: <http://www.internafkui.or.id/index.php?page=centerofexcellent.view&id=2>
- Ersos, F., Tores, A. B., Aydogan, G., Bektas, H., Ozcan, O., & Arikan, S. (2013). Assessment of anxiety levels in patients during elective upper gastrointestinal endoscopy and colonoscopy. *The Turkish Journal of Gastroenterology*, 21(1), 29–33.
- Feist, J., & Feist, G. J. (2016). *Theories of personality* (M. Astriani, Ed.; Handrianto, Trans.). Salemba Humanika.
- Ghufron, N. M., & Trisnawati, R. (2014). *Psychological theories* [Original title in Indonesian]. Ar-Ruzz Media.
- Hajiani, E., Hashemi, J., & Sayyah, J. (2018). Comparison of the effect and side-effects of sedation with propofol versus midazolam plus pethidine in patients undergoing endoscopy in Imam Khomeini Hospital, Ahvaz. *Original Paper, Ahvaz, Iran*. <https://doi.org/10.5114/pg.2018.78288>
- Halawa, A., & Safi'i, I. (2014). *Comparison of coping mechanisms in the elderly regarding the aging process between those living in nursing homes and those living with family in Lakarsantri Village, Surabaya* [Original title in Indonesian]. **E-Journal of Nursing Science*, 3*(2), 12–20.
- Harini, N. (2013). *Color therapy for reducing anxiety* [Original title in Indonesian]. *Jurnal Ilmiah Psikologi Terapan*, 1(2), 291–303.
- Hudak, C. M., & Gallo, B. M. (1997). *Critical care nursing* (Monica, Trans.). EGC.
- Kusumawati, F., & Hartono, Y. (2014). *Mental health nursing textbook* [Original title in Indonesian]. Salemba Medika.
- Lauriola, M., et al. (2019). Intolerance of uncertainty and anxiety-related dispositions predict pain during upper endoscopy. *Frontiers in Psychology*, 10, 1112. <https://doi.org/10.3389/fpsyg.2019.01112>
- Liu, Y. Y., Liu, Y. Q., & Petrini, M. A. (2018). Effect of information on patient coping style on pre-gastroscopy anxiety. *Gastroenterology Nursing*, 41(5), 392–399.
- Lubis, et al. (2015). *Stress coping in working students* [Original title in Indonesian]. *Jurnal DIVERSITA*, 1(2), 48–57.

- Maliany, I., & Sano, A. (2020). *Problems faced by single parents in Jorong Kandang Harimau, Kenagarian Sijunjung, and their implications for counseling services* [Original title in Indonesian]. *Jurnal Ilmiah Konseling*, 2(1), 76–82.
- McEntire, J., Sahota, J., Hydes, T., & Trebble, T. M. (2013). An evaluation of patient attitudes to colonoscopy and the importance of endoscopist interaction and the endoscopy environment to satisfaction and value. *Scandinavian Journal of Gastroenterology*, 48(3), 366–373. <https://doi.org/10.3109/00365521.2012.763174>
- Nasir, A., & Muhith, A. (2016). *Fundamentals of mental health nursing: Introduction and theory* [Original title in Indonesian]. Salemba Medika.
- Notoatmodjo, S. (2014). *Health research methodology* [Original title in Indonesian]. Rineka Cipta.
- Permana, Z., & Khairani, M. (2017). *Differences in competitive anxiety among Aceh PON athletes based on type of sport* [Original title in Indonesian]. *Jurnal Ilmiah Psikologi Terapan*, 5(1), 97–106.
- Priyanto, & Lestari. (2014). *Gastrointestinal endoscopy* (J. E. Septiarso, Ed.). Salemba Medika.
- Purnawinadi, I. G. (2012). *Spiritual nursing intervention and stress levels in congestive heart failure patients at Prof. Dr. Kandou Hospital, Manado* [Original title in Indonesian]. *JKU*, 1(1).
- Rubbyana, Urifah. (2012). *The relationship between coping strategies and quality of life in schizophrenic patients with symptom remission* [Original title in Indonesian]. *Jurnal Psikologi Klinis dan Kesehatan Mental*, 1(2).
- Saputra, T. F. (2014). *The relationship between self-confidence and match anxiety in SKOI students in Samarinda* [Original title in Indonesian]. *Jurnal Psikoborneo*, 2(4), 262–267.
- Sierra, G., et al. (2013). Anxiety in gastroscopies: Comparison of two nursing interventions in endoscopy without sedation. *Enfermeria Global, Barcelona, Spain*.
- Siswanto, Susila, & Suyanto. (2014). *Health and medical research methodology* [Original title in Indonesian]. Bursa Ilmu.
- Stuart, G. W., & Laraia, M. T. (2013). *Principles and practice of psychiatric nursing* (7th ed.). Mosby.
- Sugiyono. (2018). *Mixed methods research methodology* [Original title in Indonesian]. CV Alfabeta.
- Taluta, Y. P., & Hamel. (2014). *The relationship between anxiety levels and coping mechanisms in type II diabetes mellitus patients at the internal medicine polyclinic of Tobelo Regional Hospital, North Halmahera* [Original title in Indonesian]. **E-Journal of Nursing*, 2*(1), 1–9.
- Toulasik, A., & Riri, M. (2013). *Description of anxiety levels in patients undergoing gastrointestinal endoscopic procedures at Gatot Subroto Army Central Hospital, Jakarta* [Original title in Indonesian]. *Journal of the Faculty of Nursing, University of Indonesia, Depok*.
- Vargo, J. J., et al. (2017). Patient safety during sedation by anesthesia professionals during routine upper endoscopy and colonoscopy: An analysis of 1.38 million procedures. *Gastrointestinal Endoscopy*, 85(1), 101–108.