

## Mood Disorders and Anxiety Between Gastritis in Nursing Students

Deffi Okta Hadi Prassetia<sup>1</sup>, Andikawati Fitriasari<sup>1,\*</sup>, Yurike Septianingrum<sup>1</sup>,  
Nur Ainiyah<sup>1</sup>, Syiddatul Budury<sup>1</sup>

<sup>1</sup> Nahdlatul Ulama University Surabaya, Jalan SMEA No 57 Surabaya, Indonesia

### Abstract

*Students are very vulnerable to experiencing psychological disorders, especially mood disorders, anxiety, and depression. Disturbed psychological and emotional conditions result in the digestive system, namely gastritis. This study contributed to determining the relationship between mood disorder and anxiety with the occurrence of gastritis symptoms in nursing students at the Faculty of Nursing and Midwifery, Universitas Nahdlatul Ulama Surabaya, Indonesia. The research method used is quantitative with a cross-sectional study. The sampling technique was stratified randomly with two strata (Class of 2018 and 2019). The number of samples is 125 participants. They measured instrument mood disorders using Mood Disorder Questionnaire (MDQ) and Hamilton Anxiety Range Scale (HARS). Analysis of the data used is Spearman's rank test. The statistical test results of this study found a relationship between Mood Disorder with symptoms of gastritis in nursing students with a p-value of  $0.000 \leq 0.05$ , and there is a relationship between anxiety with symptoms of gastritis in nursing students with a p-value of  $0.001 \leq 0.05$ . There is a significant relationship between mood disorders and anxiety with gastritis symptoms in nursing students. Psychological management of students is crucial in preventing signs of gastritis in students.*

**Keywords:** Ginger Compress; Warm Compress; Lower Back Pain

**Article info:** Sending on May 27, 2023; Revision on June 20, 2023; Accepted on July 17, 2023

\*) Corresponding author: Andikawati Fitriasari  
e-mail: [andikawati\\_f@unusa.ac.id](mailto:andikawati_f@unusa.ac.id)

### 1. Introduction

The number of university students experiencing mental health issues worldwide is increasing, and many students are dropping out of university as a result (Ladejo, J. 2023). Psychological disorders are experienced by students, especially mood, depression, and anxiety. Disturbed psychological and emotional conditions result in disturbances in the digestive system, namely gastritis (Fahrenheit, 2021). Gastritis, also known as peptic ulcers, can occur suddenly (acute or chronic) caused by risk factors such as smoking, alcohol, stress, mood disorders, anxiety, and infection. *Helicobacter pylori* that enter the body cause inflammation of the lining of the stomach wall, which causes manifestations such as stomach aches or pain, nausea, and loss of appetite (Fating & Sharma, 2019). Excessive anxiety disorders, worry, and even fear are closely related to increased stomach acid and can trigger digestive disorders.

According to the World Health Organization, incident gastritis affects 1.8 to 2.1 million people yearly. In Southeast Asia, there are 583.635 cases of gastritis each year. The incidence of gastritis in several areas is relatively high, with a prevalence of

274.396 cases out of 238.452.952 residents, or 40.8% (Fahrenheit, 2021). Student psychological disorders can come from internal problems, such as depression, anxiety, sleep problems, and suicidal thoughts, and external problems, such as hyperactivity, impulsivity, and others (Labrague, 2020). Psychological symptoms experienced by students resulted in gastrointestinal complaints. For some students, if they are experiencing mood disorders and anxiety, it will impact learning concentration, learning achievement tends to decrease, and the activity of activities in tertiary institutions. In addition to these impacts, students often experience gastrointestinal system disturbances, such as heartburn, bloating, abdominal pain, nausea, vomiting, and full stomach accompanied by headaches due to excessive stomach acid, known as gastritis. These symptoms can be acute, recurrent, and chronic. Gastritis recurrence or symptoms appear due to psychological factors. Mood and anxiety disorders are influential factors in the appearance of gastritis symptoms (Charles et al., 2021).

Unsupportive environmental stressors that students feel can affect the muscles around the

stomach can increase pressure on the organ and push stomach acid to rise upwards, causing hormonal changes in the body to stimulate excessive stomach acid production. As a result, the stomach will feel pain, pain, nausea, and can even be injured or called a stomach ulcer (Tavormina, 2020). There are many impacts of gastritis on health; if neglected, it will worsen to the point where it leads to complications that can lead to health problems and even be life-threatening (Lai et al., 2022). When anxiety and depression are increasing, an important role is to understand the risk factors that can cause disorders of the gastrointestinal system (Wu et al., 2022).

Appropriate handling efforts in overcoming gastritis are needed. Other research says that not only gastritis, but also glucose levels will increase due to anxiety (Susanti, S., & Bistara, D. 2022). Alternative actions that can be taken by nurses in dealing with gastritis symptoms are as educators. Efforts to reduce or prevent gastritis are by providing comprehensive information to the target community. Data can be provided to the public by giving health education regarding treatment to overcome symptoms of gastritis, such as maintaining a diet, regular exercise, always thinking positively so that anxiety does not occur, and controlling mood. This study contributed to determining the relationship between mood Disorder and anxiety with the occurrence of gastritis symptoms in nursing students at the Faculty of Nursing and Midwifery, Nahdlatul Ulama University, Surabaya. Indonesia.

## 2. Method

The research method used is quantitative with a cross-sectional study. The research participants were nursing students in the Nursing Study Program class 2018 2019 at Universitas Nahdlatul Ulama Surabaya, Indonesia, for the 2020/2021 academic year. The sampling technique was stratified randomly with two strata (Class of 2018 and 2019). The number of samples collected was 125 participants. Measuring instrument mood disorders which are used is Mood Disorder Questionnaire (MDQ) consists of 15 questions. Each question will have two answers: "Yes" and "No." If the participant answered "yes," then a score of 1 would be given; if the answer was "no," a score of 0 would be given. MDQ is only a screening tool for disorders, not a tool to replace a psychologist/psychiatrist's diagnosis. The anxiety measuring instrument used is Hamilton Anxiety Range Scale (HARS) with 14 question items. The two instruments the researchers used were tested for validity with a validity value of more than 0.8. The incidence of gastritis consists of 10 structured questions related to gastritis symptoms. The data analysis technique used is the Spearman rank test.

This research passed the ethical clearance test from the university, number 810/AA/01/NU/V/2022.

## 3. Results and Discussion

The results of this study are described in 5 tables, including the characteristics of the respondent's age, gender, education level, characteristics of mood disorders, and Anxiety Cross Tabulation with the Incidence of Gastritis Symptoms in Nursing Students in 2022, which was studied in July.

Based on Table 1 shows that almost all (92.0%) participants aged 21-22 years amounted to 115 students.

**Table 1.** Distribution of respondents based on student age at Nahdlatul Ulama University Surabaya, Indonesia 2022

No	Age (Years)	Frequency	Percentage (%)
1	19 - 20	10	8.0
2	21 - 22	115	92.0
Total		125	100

Source: Primary Data, July 2022

Based on Table 2 shows that almost all of the participants (80.8%) were female, amounting to 101 students.

**Table 2.** Distribution of respondents by gender

No	Gender	Frequency	Percentage (%)
1	Man	24	19.2
2	Woman	101	80.8
Total		125	100

Source: Primary Data, July 2022

Based on Table 3 shows that the majority (60.0%) of the 2018 class participants are 75 students.

**Table 3.** The distribution of respondents by force

No	Education	Frequency	Percentage (%)
1	Class of 2018	75	60.0
2	Class of 2019	50	40.0
Total		125	100

Source: Primary Data, July 2022

Table 4 shows the 81 participants who experienced mood disorders; most of the 48 participants (59.3%) experienced symptoms of mild gastritis, and almost half of 29 participants (35.8%) experienced symptoms of severe gastritis. In comparison, for 44 participants, 31 participants (70.5%) experienced symptoms of severe gastritis, and 13 (29.5%) experienced mild gastritis symptoms. The results of the Rank Spearman test

with a significance level of  $\alpha = 0.05$  obtained a value of  $p = 0.000$ , which indicates a relationship between mood Disorder and the incidence of gastritis symptoms in nursing students.

Based on [Table 5](#), it shows that of the 51 participants who did not experience anxiety, most of them 33 (64.7%) experienced symptoms of mild gastritis; of the 31 participants, almost half 15 (48.4%), experienced symptoms of mild gastritis, moderate anxiety of 19 participants, mostly experienced symptoms of severe gastritis 13 (68.4%), severe anxiety by 17 participants most of 12 (70.6%) experienced symptoms of severe gastritis. The results of the Rank Spearman test with a significance level of  $\alpha = 0.05$  obtained a value of  $p = 0.001 < 0.05 \leq \alpha$ , which means there is an anxiety relationship With the Occurrence of Symptoms of Gastritis in Nursing Students of the Faculty of Nursing and Midwifery, Nahdlatul Ulama University, Surabaya. Indonesia.

The results showed  $p = 0.000 < 0.05 \leq \alpha$ , which means there is a relationship between Mood Disorder with the incidence of gastritis symptoms in nursing students. Gastritis that occurs in college students is associated with emotional uplift, including significant mood swings and peer relationship problems. The results of a study of more than 4000 people aged 18-21 years in Germany showed that mood disorders were significantly more common in adolescents ([Özyurt et al., 2019](#)). Adolescence is when emotional development is unstable, where individuals efficiently receive information from outside without further thought. Mood disorders Symptoms experienced by students include anxiety, irritability because of unimportant issues, feeling sad and depressed, and losing interest and initiative in doing things ([Fahrenheit, 2021](#)). Environmental factors play an essential role in the expression of mood disorders. Studies show that student satisfaction in academic education can increase motivation to learn. Internal motivation comes from assessing students to learn and feel mastery of learning. In contrast, external motivation is teacher encouragement, grades, and other conditional rewards that are considered for students in terms of increasing academic achievement ([Moghadam & Ganji, 2019](#)).

Academic demands, such as the large number of coursework, the existence of learning in class and laboratories, the demands of doing final assignments, and competition between friends in obtaining academic achievements, make moods change quickly ([Sunandha et al., 2021](#)). Most mood disorders occur due to very significant hormonal changes in women. Women have many phases of hormonal changes in the body. These phases include puberty, premenstrual syndrome (PMS), pregnancy, postpartum, and menopause. Response

from mood disorders impacts the digestive physiology of the body, especially the stomach. The production of the hormone cortisol can trigger the stomach to secrete excess stomach acid. Increased stomach acid levels will cause irritation which is called gastritis.

The results of the study  $p = 0.000 < 0.05 \leq \alpha$  indicate that there is a relationship between anxiety with the incidence of gastritis symptoms in nursing students. Based on the study's results, the anxiety students experienced ranged from moderate to severe anxiety. Uncontrolled anxiety causes decreased academic achievement, low self-esteem, and delays in completing academic programs ([Kaur Khaira et al., 2023](#)). By ([Prasetyaningsih et al., 2021](#)) states that stress and anxiety can contribute to the development of gastritis. Anxiety experienced by students is related to conflicts with friends, breaking up with loved ones, selecting supervisors, satisfaction with the nursing profession, fear of failing in examinations, increased class workload, and fewer holidays ([Baruah et al., 2022](#)). When students experience psychological disorders, hormonal and immune disorders will be in the body, making students susceptible to gastritis. Gastritis is an inflammation of the stomach lining, and stress and anxiety can affect the stomach's ability to produce acid. Stress and anxiety can also cause changes in eating habits, which can also cause gastritis ([Al Quraan et al., 2019](#)). Their daily eating habits students' eating habits are often irregular, such as being late to eat or delaying eating, or even not eating can make the stomach feel empty for a long time. An irregular eating schedule can attack the stomach ([Surya et al., 2021](#)). Based on the results of completing the questionnaire, it was found that of the 95 respondents studied, gastritis was caused mainly by irregular eating patterns, such as most students only eating 1-2 times a day, and there were even students who ate only one time a day with large portions. In addition, the amount of carbohydrates, protein, vitamins, and minerals in the food consumed is not balanced. We also observed that college students tended to discuss their problems with their parents or other adults around them as they transitioned into adulthood. In addition, academically proficient students can easily access the Internet so that the information they get will be more significant ([Aoki et al., 2019](#)). Anxiety management is needed to reduce gastritis problems; increasing anxiety and stress will trigger gastrin to produce more stomach acid. If this happens, the longer it will irritate the gastric mucosa to increase and increase pain. The anxious respondents feel physical conditions, and research results show that students often experience mood changes while undergoing clinical practice learning ([Rajitha & Alamelu, 2020](#)). The physical condition of feeling

too anxious, stressed, and tired due to activities can cause a lack of appetite, which can trigger gastritis. Nursing actions are needed in dealing with gastritis

through medication guidance and psychological management to increase comfort (Xiao et al., 2021).

**Table 4.** Cross Tabulation Mood Disorder with the Incidence of Gastritis Symptoms in Nursing Students

Mood Disorder	Occurrence of Gastritis Symptoms						Amount	
	No Symptoms		Mild Symptoms		Severe Symptoms		F	%
	f	%	f	%	f	%		
Experience Mood Disorder	4	4.9	48	59.3	29	35.8	81	64.8
Not Experiencing Mood Disorder	0	0	13	29.5	31	70.5	44	35.2
Total	4	3.2	61	48.8	60	48.0	125	100.0
Test Rank Spearman	0.000							

**Table 5.** Anxiety Cross Tabulation with the Incidence of Gastritis Symptoms in Nursing Students

Emergency	Occurrence of Gastritis Symptoms						Amount	
	No Symptoms		Mild Symptoms		Severe Symptoms		F	%
	f	%	f	%	f	%		
Don't worry	2	3.9	33	64.7	16	31.4	51	40.8
Mild Anxiety	1	3.2	15	48.4	15	48.4	31	24.8
Moderately anxious	1	5.3	5	26.3	13	68.4	19	15.2
Heavy Anxiety	0	0	5	29.4	12	70.6	17	13.6
Panic	0	0	3	42.9	4	57.1	7	5.6
Total	4	3.2	61	48.8	60	48.0	125	100.0
Test Rank Spearman	0.001							

#### 4. Conclusions and Suggestions

Based on the study's results, it was stated that nursing students who experienced mood disorders and anxiety caused gastritis. Factors that cause gastritis come from internal and external aspects of students. Nursing intervention as suggestions for coping with mood disorders and anxiety in students should be given immediately to prevent the increase in gastritis.

#### 5. Acknowledgement

We are thankful to the college students for their participation in the study.

#### 6. References

- Al Quraan, A. M., et al. (2019). The psychotic impact of Helicobacter pylori gastritis and functional dyspepsia on depression: a systematic review. *Cureus*, 11(10). <https://doi.org/10.7759/cureus.5956>.
- Aoki, Y., et al. (2019). Seven-day shared decision making for outpatients with the first episode of mood disorders among university students: A randomized controlled trial. *Psychiatry Research*, 281(April), 112531. <https://doi.org/10.1016/j.psychres.2019.112531>.
- Auerbach, R. P., et al. (2019). World Mental Health Surveys International College Student Project: Prevalence and Distribution Of Mental Disorders. *Journal of Abnormal Psychology*, 127(7), 623–638. <https://doi.org/10.1037/abn0000362>.
- Baruah, C., et al. (2022). Prevalence and correlates of Depression, Anxiety, and Stress among Nursing Students. *Indian Journal of Community Health*, 34(2), 259–264. <https://doi.org/10.47203/IJCH.2022.v34i02.021>.
- Charles, N. E., et al. (2021). Increased mood disorder symptoms, perceived stress, and alcohol use among college students during the COVID-19 pandemic. *Psychiatry Research*, 296(December 2020), 113706. <https://doi.org/10.1016/j.psychres.2021.113706>.
- Fahrenheit, F. (2021). Gastritis and Mental Disorder: A Literature Review. *Psychiatric Science*, 4(1), 326–330. <https://doi.org/10.37275/scipsy.v4i1.54>.
- Fating, S. S., & Sharma, R. (2019). Advanced Practices in Nursing Assess the Knowledge Regarding Risk Factors of Gastritis among Second Year Engineering Students. *Advance Practice Nursing*, 4(3), 4–6. <https://d1wqtxtslxzle7.cloudfront.net/77607979/assess-the-knowledge-regarding>.
- Kaur Khaira, M., Raja Gopal, R. L., Mohamed Saini, S., & Md Isa, Z. (2023). Interventional Strategies to Reduce Test Anxiety among Nursing Students: A Systematic Review. *International Journal of Environmental Research and Public Health*,

- 20(2).  
<https://doi.org/10.3390/ijerph20021233>.
- Labrague, L. J. (2020). Resilience as a mediator between stress associated with the Covid-19 pandemic, life satisfaction, and psychological well-being in student nurses : A cross-sectional study. *Nurse Education in Practice*, 56(January), 1–7.  
<https://doi.org/10.1016/j.nepr.2021.103182>.
- Lai, M. H., et al. (2022). The Influence of Reducing Clinical Practicum Anxiety on Nursing Professional Employment in Nursing Students with Low Emotional Stability. *International Journal of Environmental Research and Public Health*, 19(14).  
<https://doi.org/10.3390/ijerph19148374>.
- Ladejo, J. (2023). A thematic analysis of the reported effect anxiety has on university students. *Education and Urban Society*, 55(3), 289-313.  
<https://doi.org/10.1177/00131245211062512>
- Moghadam, S. H., & Ganji, J. (2019). Evaluation of the nursing process utilization in a teaching hospital, Ogun State, Nigeria. *Journal of Nursing and Midwifery Sciences*, 6(3), 149–155.  
<https://www.jnmsjournal.org/article.asp?issn=2345-5756;year=2017;volume=4;issue=3>.
- Özyurt, G., et al. (2019). Evaluation of emotional, behavioral problems and family functioning in adolescents with chronic gastritis. *Argentine Archives of Pediatrics*, 117(2), 110–114.  
<https://doi.org/10.5546/aap.2019.eng.e110>.
- Prasetyaningsih, E., et al. (2021). The Description of Eating Patterns and Risk for Gastritis in Students At a Private University in Western Indonesia. *Nursing Current: Journal of Nursing*, 9(1), 48.  
<https://doi.org/10.19166/nc.v9i1.3456>.
- Rajitha, K., & Alamelu, C. (2020). A study of factors affecting and causing speaking anxiety. *Proceded Computer Science*, 172(2019), 1053–1058.  
<https://doi.org/10.1016/j.procs.2020.05.154>.
- Sunandha, M., et al. (2021). A Study to Assess the Academic Stress among Nursing Students at Selected Nursing College. *Annals of R.S.C.B*, 25(6), 497–503.  
<http://annalsofrscb.ro/index.php/journal/article/view/5315>.
- Surya, N., et al. (2021). *Proceeding The First Muhammadiyah International- Public Health and Medicine Conference analysis of dieting with gastritis in the students of Proceeding The First Muhammadiyah International- Public Health and Medicine Conference*. 1(November), 91–108.  
<https://doi.org/10.53947/miphmp.v1i1.32>.
- Susanti, S., & Bistara, D. (2022). Relationship between stress level and increased blood sugar levels in patients with diabetes mellitus. *Jurnal Keperawatan Respati Yogyakarta*, 9(3), 181 - 186.  
<http://dx.doi.org/10.35842/jkry.v9i3.692>.
- Tavormina, G. (2020). The connection between bipolar spectrum disorders and eating disorders. *Danubin's psychiatry*, 32(June 2019), S142–S145.  
<https://hrcak.srce.hr/262505>.
- Wu, H. et al. (2022). The status and risk factors for anxiety/depression in patients with chronic atrophic gastritis: a cross-sectional study. *Annals of Palliative Medicine*, 11(10), 3147–3159. <https://doi.org/10.21037/apm-22-730>.
- Xiao, H., et al. (2021). Influence of Standardized Nursing Intervention Combined with Mindfulness Stress Reduction Training on the Curative Effect, Negative Emotion, and Quality of Life in Patients with Chronic Gastritis and Gastric Ulcer. *Evidence-Based Complementary and Alternative Medicine*, 2021. <https://doi.org/10.1155/2021/2131405>.