

THE RELATIONSHIP BETWEEN ANXIETY LEVELS AND DYSPEPSIA SYNDROME IN STUDENTS

Istiqomah Nur Oktavia¹, Ratna Yulawati^{2*}, Lia Kurniasari³

^{1,3}Public Health Study Program, Muhammadiyah University of East Kalimantan, Samarinda, Indonesia

²Environmental Health Study Program, Muhammadiyah University of East Kalimantan, Samarinda, Indonesia

ABSTRAK

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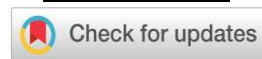
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Abstract:

Dyspepsia syndrome, a form of digestive system disorder related to psychological conditions, especially anxiety, which can directly affect an individual's perception of the physical symptoms they experience. The purpose of this study was to identify anxiety levels in students of the Public Health Undergraduate Program at the Muhammadiyah University of East Kalimantan, identify the incidence of dyspepsia syndrome, and analyze the relationship between anxiety levels and the incidence of dyspepsia syndrome. This study used a quantitative approach with a cross-sectional design, involving 208 students selected through stratified random sampling techniques, and analyzed using the Fisher's Exact Test. The results showed that most respondents were 20 years old and mostly female. Most respondents experienced mild anxiety, and as many as 88.9% of respondents experienced dyspepsia syndrome. Bivariate analysis showed a significant relationship between anxiety levels and the incidence of dyspepsia syndrome ($p = 0.000$). Based on these findings, it is recommended to increase awareness of the importance of mental health, as well as the provision of psychological counseling services on campus to prevent psychological impacts that can affect students' physical health and digestive system.

Abstrak:

Sindrom dispepsia, salah satu bentuk gangguan pada sistem pencernaan yang berkaitan dengan kondisi psikologis, khususnya kecemasan, yang secara langsung dapat memengaruhi persepsi individu terhadap gejala fisik yang dialaminya. Tujuan penelitian ini untuk mengidentifikasi tingkat kecemasan pada mahasiswa Program Studi S1 Kesehatan Masyarakat Universitas Muhammadiyah Kalimantan Timur, mengidentifikasi kejadian sindrom dispepsia, serta menganalisis hubungan antara tingkat kecemasan dengan kejadian sindrom dispepsia. Penelitian ini menggunakan pendekatan kuantitatif dengan desain cross-sectional, melibatkan 208 mahasiswa yang dipilih melalui teknik stratified random sampling, serta dianalisis menggunakan uji Fisher's Exact Test. Hasil penelitian menunjukkan bahwa mayoritas responden berusia 20 tahun dan sebagian besar berjenis kelamin perempuan. Sebagian besar responden mengalami kecemasan ringan, dan sebanyak 88,9% responden mengalami sindrom dispepsia. Analisis bivariat menunjukkan adanya hubungan yang signifikan antara tingkat kecemasan dengan kejadian sindrom dispepsia ($p = 0,000$). Berdasarkan temuan tersebut, disarankan adanya peningkatan kesadaran mengenai pentingnya kesehatan mental, serta penyediaan layanan konseling psikologis di lingkungan kampus guna mencegah dampak psikologis yang dapat memengaruhi kesehatan fisik dan sistem pencernaan mahasiswa.



*Corresponding Author:

Ratna Yulawati
Public Health Study Program,
Muhammadiyah University of East Kalimantan,
Samarinda, Indonesia
Email: miftahul@umtas.ac.id

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INTRODUCTION

The prevalence of dyspepsia in Indonesia reaches 40–50%. Based on population data in 2021, there has been an increase in cases of digestive disorders. Approximately 28 million people, or approximately 11.3% of the total population, are affected [1].

One of the most common digestive system problems worldwide is dyspepsia. This disorder can last for quite a long time, ranging from a few weeks to months, and if not properly treated, can progress to more severe symptoms [2]. Symptoms of dyspepsia, which is a digestive disorder, are often related to psychological issues, especially anxiety. Common symptoms of dyspepsia, such as upper abdominal pain, nausea, and a feeling of fullness after eating, can worsen if left untreated. Anxiety can also cause an increase in stress hormones, which in turn can lead to excess stomach acid.

Anxiety is a psychological disorder that causes discomfort, accompanied by feelings of helplessness and vague worries, which spread without clear reasons [3]. Anxiety is defined as a condition accompanied by physical symptoms such as worry, fear, anxiety, or restlessness. Anxiety can be divided into mild and severe levels depending on its intensity. Psychosocial stress factors that can trigger stress and disrupt mental and physical health are one of the reasons why adolescents, especially students, often experience anxiety [4].

High levels of anxiety in college students can increase the risk of functional dyspepsia. This condition, caused by academic pressure, social environment, and the transition to adulthood, can affect the digestive system through the release of stress hormones like cortisol, which slows gastric emptying and increases sensitivity to abdominal pain.

College students are under immense pressure due to these demands, which often lead to anxiety, such as during exams, difficult assignments, financial problems,

or friendship problems. Dyspepsia, which is characterized by symptoms such as heartburn, nausea, vomiting, and bloating, can be influenced by various factors, including irregular eating patterns, lack of physical activity, anxiety, excessive caffeine consumption, and irregular sleep patterns [5].

RESEARCH METHOD

This study used a quantitative approach with a cross-sectional design. The aim was to determine anxiety levels and the frequency of dyspepsia syndrome, as well as to analyze the relationship between anxiety levels and the incidence of dyspepsia syndrome in undergraduate students in Public Health. Data collection was conducted using a Likert-scale questionnaire through a Google Form distributed to 208 respondents who met the inclusion and exclusion criteria. Students from the 2022–2023 intake who met the inclusion criteria were those who were academically active and ready to participate in research. The exclusion criteria were students with a history of digestive disorders and those taking stomach medication. These students were selected as the study population.

This research was conducted in the Public Health Undergraduate Program, Faculty of Public Health, Muhammadiyah University of East Kalimantan, Samarinda. The sampling technique used was probability sampling with stratified random sampling. The data collection tools that will be used are respondent characteristic data (age, gender), as well as the Hamilton Anxiety Rating Scale (HARS) questionnaire which consists of 14 anxiety symptoms such as anxiety, tension, fear, sleep disturbances, intellectual disorders, depression (mood), somatic/ physical symptoms (muscle), somatic/ physical symptoms (sensory), cardiovascular symptoms, respiratory symptoms (breathing), gastrointestinal symptoms (digestion), urogenital symptoms (urine and genital), autonomic symptoms, and behavior

(attitude) [6]. And the Rome Criteria IV questionnaire to diagnose functional gastrointestinal disorders (FGIDs), with 6 questions that have been adapted to Criteria IV as the latest version of the Rome Criteria III standard. In this study, no reliability test was carried out, because this study has been proven valid and reliable. The instrument in the dyspepsia syndrome questionnaire, namely Rome IV, obtained a Cronbach's alpha value of 0.696 which exceeds 0.61-0.80 so it is said to be reliable [7]. The instrument in the Hamilton Anxiety Rating Scale (HARS) questionnaire has a validity and reliability of 0.93 and 0.97, respectively, so it is said to be quite high and proven valid for measuring anxiety [8]. Both questionnaires have been used by several experts and proven to be valid instruments.

RESULT AND ANALYSIS

This study was conducted within the Bachelor of Public Health Study Program at Muhammadiyah University of East Kalimantan from 26 February to 6 March 2025. Data were collected using a Likert-scale questionnaire distributed via Google Forms to 208 respondents who met the established inclusion and exclusion criteria.

In this section, the researcher presents the research results in tabular form, with a total of 208 students from the Public Health Undergraduate Study Program, intake 2022–2023.

Table 1.
Frequency Distribution of Respondents by Age

Age (years)	Frequency (N)	Persentase (%)
19	27	13,0
20	82	39,4
21	81	38,9
22	13	6,3
23	5	2,4
Total	208	100,0

Based on the table above, most of the respondents in this study were 20 years old (39.4%).

Table 2.
Frequency Distribution of Respondents by Gender

Gender	Frequency (N)	Persentase (%)
Male	37	17,8
Female	171	82,2
Total	208	100,0

Based on the table above, the majority of respondents were female, as many as 171 respondents (82.2%).

Table 3.
Frequency Distribution of Anxiety Level

Anxiety Level	Frequency (N)	Persentase (%)
Mild Anxiety	140	67,3
Severe Anxiety	68	32,7
Total	208	100,0

Based on the table above, the majority of respondents experienced mild anxiety, as many as 140 respondents (67.3%).

Table 4.
Frequency Distribution of Dyspepsia Syndrome

Categories	Frequency (N)	Persentase (%)
Yes	185	88,9
No	23	11,1
Total	208	100,0

Based on the table above, the majority of respondents experienced Dyspepsia Syndrome with the answer category YES as many as 185 respondents (88.9%).

Table 5.
Data Distribution of the Relationship between Anxiety Level and Dyspepsia Syndrome

Anxiety Level	Dyspepsia Syndrome				Total	OR	P value
	Yes		No				
	f(n)	%	f(n)	%			
Mild Anxiety	117	83.6	23	16.4	140	0.836	0.000
Severe Anxiety	68	100.0	0	0.0	68		
Total	185	88.9	23	11.1	208		

The data in the table shows that the Fisher's Exact Test yielded a value of 0.00, which is <0.005 . This indicates a statistically significant relationship between anxiety levels and dyspepsia syndrome. All 68 respondents with severe anxiety (100%) reported experiencing dyspepsia. In the group with mild anxiety, 23 respondents (16.4%) did not experience dyspepsia.

DISCUSSION

Anxiety is a feeling that anyone can experience, especially in critical situations. The book *"Teori Psikologi Konseling & Kesehatan Mental"*, explains the importance of a counseling approach to helping people overcome psychological problems that interfere with their quality of life [9]. Although common, fear can cause physical and emotional discomfort, even impairing the ability to think clearly or concentrate. Fear often triggers anxiety and fear of failure, especially in students who must face academic and social demands [10]. Data collection was conducted using a questionnaire covering 14 symptom indicators, such as anxiety, tension, and fear, which was distributed to all participants. Symptoms assessed included sleep disturbances, mental disorders, depressive mood, somatic/physical symptoms involving muscles and sensors, cardiovascular symptoms, respiratory disorders, gastrointestinal disorders, urogenital symptoms (related to the urinary and reproductive organs), autonomic system symptoms, and behavioral responses. Based on the frequency distribution results, the majority of respondents were in the mild anxiety category, with 140 individuals (67.3%) showing anxiety symptoms.

Anxiety disorders in adolescents and college students have become a serious psychological problem. College students undergoing life transitions often experience stress due to academic pressure, unsupportive social environments, and concerns about the future. Excessive stress has the potential to cause psychological disorders, including severe anxiety.

Unhealthy lifestyle factors, such as lack of sleep, excessive caffeine consumption, and low social support, can exacerbate these disorders. College students often neglect their mental health, even though it impacts their academic performance and well-being [11].

The results of this study indicate that the highest average of 208 respondents experienced symptoms of anxiety (3.27%), gastrointestinal symptoms (2.34%), and symptoms of intellectual disability (2.51%). This indicates that anxiety not only affects an individual's psychological aspects, but also impacts cognitive function, the digestive system, and emotional well-being [12]. The symptoms frequently experienced by students include heartburn or pain, bloating, nausea, and vomiting.

The results of the frequency distribution data for dyspepsia syndrome show that the majority of respondents (88.9%) suffer from dyspepsia syndrome based on the ROME IV questionnaire. Adolescents and college students are vulnerable to digestive disorders because they are in a transitional phase towards adulthood, where physical and emotional stress can affect their digestive health. Students facing a high academic load tend to experience increased academic stress. Piling up assignments and a busy class schedule limit rest time, leading to physical and emotional exhaustion, which can increase susceptibility to anxiety [13]. Their unconscious habits can cause dyspepsia syndrome, which is a result of anxiety that disrupts digestive functions, including food movement, gastric acid production, and intestinal moisture. This disorder occurs because the gut-brain axis is disturbed by anxiety [14].

Based on previous research and researchers, there is a significant relationship between anxiety disorders and dyspepsia. Untreated digestive disorders such as bloating, fullness, or upper abdominal pain can cause psychological distress, and even mild anxiety disorders

can affect the digestive system. Severe anxiety increases the risk of dyspepsia. Therefore, treatment should include psychological approaches such as stress management, not just physical interventions [15].

CONCLUSION

Based on the results of the data analysis conducted by the researchers, using both univariate and bivariate analyses, it was found that the majority of students, 140, experienced mild anxiety, while 68 experienced severe anxiety. Furthermore, the majority of respondents, 185, exhibited symptoms of dyspepsia, while 23 did not experience these symptoms. The analysis also showed a significant relationship between anxiety levels and the incidence of dyspepsia.

Suggestions for all students include increasing awareness of the importance of maintaining mental health, especially when facing academic and social pressures. Good stress management, a healthy lifestyle, and time management skills will help reduce the risk of anxiety and digestive disorders.

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