IDENTIFICATION OF ANXIETY LEVELS AMONG MEDICAL STUDENTS AT GORONTALO STATE UNIVERSITY WHEN FACING BLOCK LEARNING SYSTEMS

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Anxiety is a normal reaction to stress and can be beneficial in certain situations. It can make us alert to dangers, help us prepare, and pay attention to our surroundings (Parekh, 2017). According to the World Health Organization (WHO, 2017), anxiety is a common mental disorder with the highest prevalence compared to other mental disorders. Anxiety can be found among medical students in every academic year. This study aims to identify the level of anxiety among students of the Faculty of Medicine at Gorontalo State University. The method used in this research is quantitative research with an analytical descriptive approach. The population in this study consists of 143 medical students from Gorontalo State University, enrolled between 2019 and 2021, and the sampling technique used is total sampling. It was found that the majority of respondents experienced moderate and severe levels of anxiety, with 52 students (36.4%) falling into each of these categories. Additionally, 26 students (18.2%) were categorized as having mild anxiety, and 13 students (9.1%) were categorized as normal (no anxiety). It can be concluded that the highest levels of anxiety among students at Gorontalo State University's Faculty of Medicine are in the moderate and severe anxiety categories.

INTRODUCTIONS

Anxiety is a normal reaction to stress and can be beneficial in some situations. It makes us alert to dangers, helps us prepare, and be mindful of our state (Parekh, 2017). Generally, anxiety involves repetitive negative thoughts, particularly about potential errors. It's also a cognitive symptom of Generalized Anxiety Disorder (GAD), characterized by somatic symptoms and negative impacts on daily functions (American Psychiatric Association, 2013).

According to the World Health Organization (WHO, 2017), anxiety is a common mental disorder with a higher prevalence than other mental disorders. Over 200 million people worldwide (3.6% of the population) suffer from anxiety. In Southeast Asia, the prevalence of anxiety is about 23% of the entire population. Recent research by the Ministry of Health's Research and Development Agency found a 6.8% increase in anxiety disorders. The Basic Health Research (Riskesdas) report in 2018 showed a prevalence of depression and anxiety symptoms for people above 15 years old at 6.1% of the entire population, equivalent to more than 19 million people in Indonesia (Riskesdas, 2018). This data is consistent with the Institute for Health Metrics and Evaluation's report on the prevalence of mental health risk factors, especially anxiety, in Indonesia in 2019, which was 6.76% for early adulthood (Institute for Health Metrics and Evaluation, 2021).

Anxiety is caused by various factors, including internal emotions and external environmental influences (Savitri, 2003). It can affect anyone of any age group. People aged 18-24, including university students, are particularly vulnerable. Students, especially medical students, are susceptible to psychiatric disorders (Bruffaerts et al., 2018). Anxiety serves as a warning signal, prompting action to face the threat. It is marked by diffuse, unpleasant fear, often accompanied by autonomous symptoms like muscle tension, headaches, sweating, chest tightness, mild stomach disturbances, and restlessness (Sadock et al., 2015).

Medical students, particularly those at Gorontalo State University, experience higher levels of anxiety due to their intense academic schedules, which include theory classes, practical sessions, Problem-Based Learning (PBL) discussions, and Clinical Skill Labs (CSL). The consecutive nature of these activities results in numerous closely timed exams, increasing the likelihood of anxiety. Moreover, the duration of medical education is neither short nor easy. Medical students, having tight schedules, must manage their time efficiently for both academic and non-academic activities. These academic activities include attending lectures, completing assignments, group discussions, and participating in practical sessions. Non-academic activities involve participating in student organizations or committees, which, albeit enriching, can also induce anxiety.

A study at Airlangga University's Faculty of Medicine from 2016-2018 revealed that the prevalence of anxiety among medical students was 51.5% for the 2016 batch, 60.4% for the 2017 batch, and 54.3% for the 2018 batch. For university students, the main causes of depression, anxiety, and stress are academic performance, pressure to succeed, and post-graduation plans. Therefore, most students experiencing these issues are in higher semesters. Other research shows that self-perception regarding academic performance is strongly associated with high depression, anxiety, and stress scores. Another subjective opinion states that the academic workload and dense schedules are major factors contributing to high scores among medical students (Maulida T. R., et. al, 2020). Another study conducted on 150 medical students at Tanjungpura University revealed that 55.4% experienced anxiety. Similarly, a study involving 160 medical students at Cendana University found that 40% of them experienced anxiety (Lenga et al., 2022). In summary, the prevalence of anxiety among medical students remains relatively high, especially at various universities in Indonesia.

Based on preliminary observations of medical students at Gorontalo State University, nearly 8 out of 10 students have felt anxious while managing their academic and non-academic activities amidst their demanding schedules. This situation raises concerns about the potential occurrence of dyspepsia syndrome among medical students at Gorontalo State University, which could adversely affect their academic performance, similar to previous studies on medical students from various Indonesian universities.

Given this background, the researcher is interested in studying the identification of anxiety levels among medical students at Gorontalo State University in the context of block learning systems.

METHODS

The method used in this study is quantitative research with a descriptive-analytical approach. The study's population comprises 143 medical students from Gorontalo State University, enrolled between 2019 and 2021. Total sampling technique was used for sample selection. Data collected for this research include both primary and secondary data. Primary data were obtained through a questionnaire filled out by respondents, consisting of several questions related to the variables under investigation. The research instrument used in this study is the Beck Anxiety Inventory (BAI). Secondary data were sourced from the existing databases at the Faculty of Medicine, Gorontalo State University.

The **Beck Anxiety Inventory (BAI)** *is a commonly used anxiety measurement scale that explores emotional, cognitive, and physical aspects. It comprises 21 questions, with each item having 4 answer options ranging from 0 to 3. BAI scoring categories are as follows:*

(I) Scores 0-7 = normal
(II) Scores 8-15 = mild anxiety
(III) Scores 16-25 = moderate anxiety
(IV) Scores 26-63 = severe anxiety

The BAI's reliability, as measured by Cronbach's α, is 0.92, and the test-retest reliability (1 week) is 0.75. BAI validity correlates with anxiety measures (r=0.25) in a mental health sample (Lanjarto and Indah Fitriana, 2021).

RESULTS AND DISCUSSIONS
Results

The sample for this study consisted of 143 participants, all of whom were medical students at Gorontalo State University, enrolled between 2019 and 2021.

Table 1. Distribution of Respondent Characteristics Based on Age

Number	Age (years)	N	%
1.	18	9	6,3
2.	19	37	25,9
3.	20	49	34,3
4.	21	36	25,2
5.	22	13	8,4
	Total	**143**	**100**

Based on Table 1, it was found that the respondents' ages in this study ranged from 18 to 22 years, with the majority being 20 years old, totaling 49 students (34.3%). This was followed by 37 students (25.9%) who were 19 years old, 36 students (25.2%) who were 21 years old, 13 students (8.4%) who were 22 years old, and the fewest respondents were 18 years old, totaling 9 students (6.3%).

Table 2. Distribution of Respondent Characteristics Based on Gender

Number	Gender	N	%
1.	Male	35	24,5
2.	Female	108	75,5
	Total	**143**	**100**

According to Table 2, it was found that there were more female respondents than male respondents. The percentage of female respondents was 108 students (75.5%), while the percentage of male respondents was 35 students (24.5%).

Table 3. Distribution of Respondent Characteristics Based on Academic Year

Number	Academic Year	N	%
1.	2019	9	32,9
2.	2020	37	30,8
3.	2021	49	36,4
	Total	**143**	**100**

According to Table 3, the majority of respondents in this study were enrolled in the year 2021, totaling 52 students (36.4%), followed by 47 students (32.9%) from the 2019 cohort, and 44 students (30.8%) from the 2020 cohort.

Table 4. Distribution of Anxiety Levels among Respondents

Number	Level of Anxiety	N	%
1.	Normal	13	9,1
2.	Mild Anxiety	26	18,2
3.	Moderate Anxiety	52	36,4
4.	Severe Anxiety	52	36,4
	Total	**143**	**100**

According to Table 4, the majority of respondents experienced moderate and severe levels of anxiety, with 52 students (36.4%) falling into each of these categories. Additionally, 26 students (18.2%) were categorized as having mild anxiety, and 13 students (9.1%) showed no signs of anxiety (normal category).

DISCUSSIONS

Based on the results of the conducted research, out of 143 respondents, only 13 students (9.1%) did not experience anxiety. 26 students (18.2%) experienced mild anxiety, while the majority of the respondents, 52 students (36.4%), experienced moderate anxiety, and another 52 students (36.4%) experienced severe anxiety. These findings align with the study by Tamimi et al. (2020), which found that the majority of their respondents (72.7%) experienced moderate to high levels of academic stress.

The study by Rizqiyah in 2019 indicated that the academic experience during medical education, with its dense and longer lecture schedules compared to other majors, combined with numerous exams in each block, makes medical students vulnerable to anxiety (Rizqiyah, 2019). Another study by Chandratika and Purnawati in 2014 stated that medical students experience higher levels of mental fatigue, including anxiety, compared to the general population due to their packed lecture schedules, tutorials, practicals, skills labs, and the demand for self-directed learning outside of class hours. These factors create heavier mental and physical pressures, posing a risk to their mental health during the learning process (Chandratika and Purnawati, 2014).

Based on existing theories, the researcher assumes that one of the causes of high levels of anxiety among medical students at Gorontalo State University is the dense schedule of lectures, practicals, skill labs, tutorials, and exams compared to other study programs.

In the research findings, it was discovered that 26 students (18.2%) experienced mild anxiety. However, a study by Lenga et al. (2022) found that 46 respondents (28.7%) experienced mild anxiety, while a study by Rahmadyah et al. (2019) reported that 32.7% of their respondents experienced mild anxiety. It can be concluded that there is a significant difference with this study regarding the prevalence of mild anxiety among medical students.

According to Stuart (2016), mild anxiety is considered normal and can be a part of everyday life, causing individuals to be alert and attentive. It can enhance problem-solving abilities. Mukholil (2018) stated in his research on anxiety in the learning process that anxiety with moderate intensity is still considered to have a positive value for self-motivation. However, if the intensity of anxiety is very strong and negative, it can cause losses and disrupt the physical and mental state of an individual. Based on these theories, the researcher assumes that some medical students at Gorontalo State University who experience mild anxiety may exhibit symptoms of anxiety but still have positive value as motivation, enabling them to manage the issues causing their anxiety

Based on the results of this study, only a small portion of students, 13 out of 143 (9.1%), experienced normal levels of anxiety. This finding contrasts with several studies examining anxiety levels among medical students. For instance, a study by Rahmadyah et al. (2019) reported that 44.7% of medical students experienced normal levels of anxiety, while another study by Lenga et al. (2022) indicated that 60% of medical students in their sample had normal anxiety levels. The students in this study who experienced normal anxiety levels suggest that perhaps only a small fraction of the medical students at Gorontalo State University understand techniques or methods to cope with the anxiety they experience. According to Nurrahmasia et al. (2021), coping mechanisms are efforts to overcome problems and act as defense mechanisms for self-protection in dealing with changes or burdens that trigger responses within oneself. An individual can adapt to a change or burden they experience if their coping mechanisms are successful. Based on this theory, the researcher assumes that only a small fraction of Gorontalo State University's medical students understand coping mechanisms. The high demands placed on medical students that lead to anxiety may affect this small group of students in utilizing effective coping mechanisms, thereby preventing them from experiencing anxiety.

Based on the characteristics of the respondents in this study, it was found that the age range of the participants was between 18 to 22 years old, and the majority of them experienced anxiety. This finding aligns with a study conducted by Sari and colleagues in 2021, where their respondents were also medical students aged between 18 to 22 years old. According to Sari et al. (2021), anxiety symptoms can occur in various age groups, depending on the triggering factors specific to each individual. Stuart and Laraia (as cited in Vellyana et al., 2017) stated that the maturity or maturation of an individual influences their ability to cope. More mature individuals find it challenging to experience anxiety because they have better adaptive mechanisms to cope with anxiety compared to those who are less mature. From this theory, it can be concluded that the more mature an individual is, the better their adaptive mechanisms are in dealing with anxiety..

Other factors suspected to play a role in the occurrence of anxiety include gender. Based on the results of this research, it was found that mild, moderate, and severe levels of anxiety were mostly experienced by female respondents. Out of 108 female respondents, 14 students (9.8%) experienced mild anxiety, 42 students (29.4%) experienced moderate anxiety, and 45 students (31.5%) experienced severe anxiety. This aligns with the research conducted by Redjeki and Tambunan (2019) regarding anxiety, where females are more vulnerable to experiencing anxiety compared to males. This is because males are more active and explorative in responding to their anxiety, whereas females are more sensitive, making them more responsive to the occurring anxiety. Kaplan and Sadock (2015) also stated that females are more prone to anxiety due to excessive autonomic nervous system responses, increased sympathetic system, increased norepinephrine release, abnormal regulation of serotonin, and increased release of catecholamines.

Apart from age and gender, the level of education is also suspected to be one of the factors related to anxiety. In this study, respondents were medical students from three different admission years, namely 2019, 2020, and 2021. Based on the research results, it was found that mild and severe anxiety categories were mostly experienced by students from the 2021 admission year. This aligns with the research conducted by Chandratika and Purnawati (2014), who found significant differences in anxiety disorder scores between semester I and semester VII students, where the anxiety scores of semester I students were higher than those of semester VI students. This is due to the demands of adapting to a new environment in the early years of university study.

Meanwhile, the severe anxiety category in this study was more prevalent among students admitted in 2019 and 2020 compared to those admitted in 2021. This is in line with the research conducted by Sari et al. (2021), which found that the anxiety levels of students from the 2016 and 2017 cohorts were higher than those of students from the 2018 cohort. According to the statement of the previous researcher, it is assumed that many medical students from the 2019 cohort at Gorontalo State University experienced severe anxiety due to the larger amount of coursework and assignments they had to undertake compared to students from the 2020 and 2021 cohorts.

Based on the research results, the aspect of anxiety most experienced by respondents in this study was feeling worried. According to theory, this aspect falls under the cognitive symptoms of anxiety, which include excessive fear and worry that can lead to decreased concentration or difficulty concentrating, excessive alertness to a situation, confusion, poor memory, and difficulty speaking (Chand et al., 2021).

CONCLUSION

Based on the results and discussions above, it can be concluded that the anxiety levels among medical students at Gorontalo State University are categorized as severe anxiety for 52 students (36.4%), moderate anxiety for 52 students (36.4%), mild anxiety for 26 students (18.2%), and normal anxiety for 13 students (9.1%).

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