Study on the Difference in Anxiety Levels between First-Year and Fourth-Year Medical Undergraduate Students at Halu Oleo University in 2022

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Abstract. Anxiety is a condition that arises due to a response to stress or conflict, leading to feelings of unease, worry, or fear. Adaptation is an essential requirement for the development of individual mental health. Medical students are those enrolled and engaged in the teaching-learning process within the medical faculty at the higher education level. This study aimed to determine the difference in anxiety levels between first-year and fourth-year medical undergraduate students at Universitas Halu Oleo in 2022. This study employed an observational analytic method with a cross-sectional approach. The research was conducted at the Medical Faculty of Universitas Halu Oleo with 158 respondents, including active students of the medical undergraduate program at UHO from the 2019 (first-year) and 2022 (fourth-year) cohorts, selected using the Stratified Random Sampling technique. Data collection was conducted using the SZAZ questionnaire, followed by data analysis using the Chi-Square test. Out of the total respondents, 70 (44.3%) experienced mild anxiety, and 88 (55.7%) experienced moderate anxiety. Specifically, among the first-year students, 20 (12.7%) experienced mild anxiety and 67 (42.4%) experienced moderate anxiety. Among the fourth-year students, 50 (31.6%) experienced mild anxiety, and 21 (13.3%) experienced moderate anxiety. The results of the bivariate analysis indicated a significant difference in anxiety levels between first-year and fourth-year students (p-value < 0.0001). This study demonstrated a difference in the anxiety levels between first- year and fourth-year medical undergraduate students at Universitas Halu Oleo in 2022.

Keywords: Anxiety Levels, Medical Students, ZSAS Questionnaire.

1   Introduction

According to the World Health Organization (WHO), health is a state of complete physical, mental, and social well-being, and not merely the absence of disease or infirmity. An important implication of this definition is that mental health goes beyond the absence of mental disorders or disabilities [1]. Among various mental disorders, anxiety disorders are the most common [2]. Anxiety arises as a response to stress or

conflict. It often occurs when individuals experience changes in their life circumstances and are required to adapt. Anxiety is closely intertwined with human life, depicting worries, unease, fear, and feelings of unrest, which are usually associated with perceived threats, whether internal or external. Anxiety is a normal symptom in humans and is considered pathological when its symptoms persist over a certain period and disrupt an individual's sense of tranquility [3]. Anxiety disorders encompass conditions characterized by excessive fear and anxiety, along with related behavioral disturbances [2].

The prevalence of anxiety disorders is relatively high. According to WHO data from 2015, approximately 3.6% of the global population, or 264 million individuals, suffer from anxiety disorders. Among the six WHO regions, 23% of cases occur in the Southeast Asia region [1]. The prevalence of anxiety disorders in Indonesia, as indicated by the Basic Health Research (Riskesdas) results in 2013, showed a national prevalence of 6.0% among individuals aged 15 and above who experienced emotional and mental disorders [4]. Similarly, according to the 2018 Riskesdas data for individuals aged 15 and above, the national prevalence rose to 9.8%. Furthermore, on a provincial level, Southeast Sulawesi had a prevalence rate of 11% for emotional and mental disorders, while in the city of Kendari, the prevalence reached 12.17%. University students, often referred to as tertiary-level learners, are integral members of the academic community known as the academic populace [5]. Students' lives are intertwined with anxiety as well. The causes of anxiety among students may stem from their academic life [6]. Medical education is recognized as a stressful environment that can have negative impacts on students' academic progress, physical health, and psychosocial well-being. Therefore, medical students have a higher level of anxiety, depression, and stress compared to the general population within the same age group. Concerns about finances, workload, academic pressure, poor student-teacher relationships, parent-child issues, family problems, peer-related challenges, and worries about the future contribute to mental disorders among medical students [6].

Research findings indicate a difference in anxiety levels between students in the early and final academic stages at the Faculty of Medicine, University of Lampung. The anxiety scores were higher in the early-stage group compared to the final-stage group. One of the causes of higher stress levels among first-year medical students is the dense schedule of lectures and practical sessions in the first-year curriculum compared to the second year curriculum. The research suggests that one of the stress- inducing factors for first-year students is the lack of time for themselves, family, friends, and leisure. On the other hand, final-year students are required to work on their thesis or final projects, which results in stress despite their adaptation to the academic environment. Completing a thesis becomes a source of anxiety for final-year students due to its challenging nature [6]. Based on the background and the previously mentioned research data, it can be concluded that the anxiety levels among medical students, both at the first-year and fourth-year levels, remain considerably high, which has negative implications for the students themselves. This was the foundation for the researcher's interest in conducting a study titled"Analysis of the Difference in Anxiety

Levels Between First-Year and Fourth-Year Medical Undergraduate Students At Halu Oleo University in 2022."

2   Methods

The research methodology employed in this study is quantitative, utilizing an analytical observational design known as cross- sectional. The study population consists of the Medical Students of the Faculty of Medicine, Halu Oleo University, Batch 2022, with a total population of 139 individuals, and Batch 2019, with a total population of 114 individuals. Thus, the overall population size is 253 individuals. The sampling technique utilized is Stratified Random Sampling, resulting in 87 respondents from the first-year students and 71 respondents from the fourth-year students. The research instrument employed is a questionnaire. The dependent variable is anxiety, while the independent variable is categorized into first-year students and fourth-year students. Data analysis is conducted using the Chi-square statistical test. This research has received ethical approval from the Health Research Ethics Commission with Ethical Approval   Letter   No. 50/UN29.17.1.3/ETIK/2022.

3   Results

Based on the data presented in Table 1, it is evident that there were 87 respondents (55.1%) from the first- year students and 71 respondents (44.9%) from the fourth-year students. Regarding the characteristics based on gender, the majority of the respondents were female, with a total of 112 respondents (70.9%), while male respondents numbered 46 (29.1%). The distribution of respondent characteristics by age revealed that 21 respondents (13.3%) were aged 17 years, 45 respondents (28.5%) were 18 years old, 19 respondents (12%) were 19 years old, 10 respondents (6.3%) were 20 years old, 45 respondents (28.5%) were 21 years old, and 18 respondents (11.4%) were 22 years old. In terms of the distribution of anxiety levels among respondents, 70 respondents (44.3%) exhibited mild anxiety levels, and 88 respondents (55.7%) showed moderate anxiety levels.

According to the data in Table 2, out of the 87 first-year student respondents, 20 respondents (12.7%) experienced mild anxiety, while 67 respondents (42.4%) experienced moderate anxiety. Among the 71 fourth-year student respondents, 50 respondents (31.6%) had mild anxiety, and 21 respondents (13.3%) experienced moderate anxiety.

Table 1, Distribution of Characteristic Respondents of First-Year and Fourth-Year Medical Undergraduate Students at Halu Oleo University in 2022

Characteristics of Respondents		amount (n)	Percentage (%)
Student	1st year	87	55,1
	4th year	71	44,9
Total		158	100,0

Gender	Female Male	112	70,9
		46	29,1
Total		158	100,0
	17 years	21	13,3
	18 years	45	28,5
Age	19 years	19	12
	20 years	10	6,3
	21 years	45	28,5
	22 years	18	11,4
Total		158	100,0
Anxiety Level	Mild Anxiety	70	44,3
	Moderate Anxiety	88	55,7
Total		158	100,0

Primary data, November 2022

Table 2. Difference in Anxiety Levels Between first (1st) and fourth (4th) years Medical Undergraduate Students at Halu Oleo University in 2022.

Anxiety Student	Level	Mild Anxiety		Moderate Anxiety		Total		
		N		(%)		N	(%)	P value
1st year		20	12,7	67	42,4	N	(%)	
4th year		50	31,6	21	13,3	87	55,1	
Total		70	44,3	88	55,7	71	44,9	0,000

Primary data, November 2022

4   Discussion

Anxiety serves as a signal that awakens awareness, alerting individuals to impending threats and enabling them to take precautionary actions. It can manifest as vague objectless worry [3]. An underlying conclusion drawn from anxiety is that it is a response to an unknown source of threat [7]. Anxiety is a normal human symptom and is deemed pathological when its symptoms persist over a specific period and disrupt an individual's tranquility [3]. The emergence of anxiety among students has been demonstrated by Pasaribu's research, which asserted that medical students are vulnerable to anxiety, manifesting throughout various phases of their academic journey, including academic stages and professional programs. The study findings indicated a difference in anxiety levels between first-year and fourth-year students of the medical undergraduate program at Universitas Halu Oleo in 2022. This finding aligns with the study by Ramadhan [6], which stated a significant difference in anxiety levels between fourth-year and first- year medical students, with a p-value of 0.034. This study also

revealed that anxiety scores were higher in the first-year student group compared to the fourth-year student group. Block system curricula are commonly employed in medical education, nursing, and other healthcare-related fields. The implementation of the block system offers benefits such as instilling discipline and facilitating focused learning processes. The block-based learning system within higher education involves the interaction between students, educators, and learning resources through the organization of subject matter into distinct blocks, facilitating efficient learning and providing a framework for comprehensive understanding of the subject matter. This approach promotes in-depth understanding and better retention of the material compared to traditional curriculum approaches. In the context of medical education, the block system aims to equip students with comprehensive knowledge and skills in a well-structured manner, preparing them for the practical challenges they will face in their future medical careers.

The implementation of the block system for students is highly demanding mentally and physically due to the condensed course content and tight assignment deadlines [8]. The Faculty of Medicine at Universitas Halu Oleo also adopts the block system. The tightly packed schedule, extensive course materials, and assignments that must be mastered and completed within a short time frame are sources of anxiety for first-year students. Incomparison to the academic schedule of the 2019 batch (fourth-year students), the 2022 batch (first-year students) faces a much more intense schedule due to the condensation of the previous 5-week learning period into 4 weeks. The first-year curriculum comprises 4 block subjects (Biomedic I, Biomedic II, Basic Mechanism Disease, and Basic Diagnosis and Therapy) and 3 non-block subjects (Religion, Pancasila, Indonesian Language), each with varying levels of difficulty. The accelerated learning process is undertaken without considering the differing abilities of each student. In the span of approximately one week, students are required to attend face-to-face sessions with lecturers 5-6 times, involving 6-8 hours of class time per day. The continuous compression of the learning time affects theoretical lessons, practical sessions, and assignments according to the competencies. Additionally, for students who fall ill or are granted leave, missing classes due to illness results in a backlog of study materials, potentially even exceeding the maximum allowable absence limit. The academic responsibilities and demands on students can contribute to the anxiety experienced by them.

In this research, among the 87 first- year student respondents, 20 (12.7%) experienced mild anxiety. This is associated with the successful adaptation of first-year students to new social environments and the ability to adjust to a new curriculum. This perspective is supported by a prior study conducted by Mukarin, which indicated that medical undergraduate students, especially first-year students, are in a transitional phase from high school to university life. Mild anxiety is not uncommon among students who have successfully adjusted to challenging conditions. Adaptation is a crucial requirement for maintaining individual mental health. Within this research, a significant number of the 87 first-year student respondents, specifically 67 (42.4%), experienced moderate anxiety. This is tied to the process of adaptation. Many students encounter anxiety and depression due to their inability to adapt to high-pressure

conditions. Adaptation is an individual's response to environmental demands, and failure to adapt can lead to psychological disturbances. First-year students are particularly susceptible to stress during the transitional period into university life. They must adjust to maintaining academic performance and navigate new social environments. According to the researcher, one of the factors contributing to elevated stress levels Elevated stress levels in first-year medical students are largely attributed to the packed schedule of lectures, practicals, exams, and assignments that must be completed promptly in the curriculum's first year compared to the second year. This demanding schedule ultimately consumes a significant amount of time for these first-year students. This viewpoint is supported by prior research conducted by Ramadhan [6] at the Faculty of Medicine, Universitas Lampung. The study stated that one of the triggering factors for stress in first-year students is the lack of time for oneself, family, friends, and leisure. Anxiety in medical students can lead to a decline in academic performance.

In this study, among the 71 fourth-year student respondents, a significant number of 50 (31.6%) experienced mild anxiety. This is linked to the discovery of differences in anxiety levels based on study duration. Anxiety levels depend on one's experiences, influencing how individuals evaluate anxiety-inducing situations. Students with a longer study duration have more experience in facing academic challenges, rendering them more resilient to the pressures they encounter compared to first-year students. Anxiety isn't solely dependent on human variables but also stimuli that trigger anxiety, such as examination situations, academic loads, and the surrounding environment. Among fourth-year students, there are also those who repeat courses. Repeating courses becomes a contributing factor to anxiety among fourth-year students, despite having adapted to their academic environment. Anxiety among students retaking courses can also stem from the difficulty level of each subject. One of the stressors in students' lives is the demands of education. Students are not just expected to achieve good grades but also to comprehend, delve into, and apply the knowledge they've learned. A thesis is a scholarly work written by students as part of the final requirements for academic education. The thesis defense is also used as a measure of students' graduation from higher education. This measure becomes the trigger for feelings of anxiety and fear among students due to the challenging nature of thesis writing. Anxiety in thesis writing is influenced by various factors, including internal and external factors. Internal factors stem from oneself, such as feelings or anticipations of failure in the examination and not passing, behavioral factors, biological or bodily metabolism factors, cognitive and emotional factors. External factors encompass the physical and social environment, such as pressure from specific parties and low social support [9].

In this study, among the 71 fourth- year student respondents, 21 (13.3%) experienced moderate anxiety. This is tied to the requirement for fourth- year students at the Faculty of Medicine, Universitas Halu Oleo, to work on their theses. Thesis writing becomes a source of fear for final- year students as it is no easy task, resulting in heightened anxiety levels among them. This is not exempt from stress even though they have adapted to the academic environment. Apart from working on their thesis, fourth-year students also include those who are retaking blocks they previously didn't pass and

those who are simultaneously working on their thesis while undergoing regular blocks. As a result, students' minds must be divided between their thesis and the blocks they have to attend. These factors have the potential to contribute to moderate anxiety levels among fourth-year students.

5   Conclusion

Based on the results of data analysis and the discussions conducted, it can be concluded that there is a difference in anxiety levels between first-year and fourth-year students of the medical undergraduate program at Universitas Halu Oleo in the year 2022. For future researchers, it is recommended to continue the research using a mixed-method approach to analyze the factors causing anxiety for each cohort of medical undergraduate students and to investigate whether anxiety sources are related to academic or non-academic aspects.

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