

THE FINAL YEAR OF MEDICAL SCHOOL TOGETHER WITH THE COVID-19 PANDEMIC WAS RELATED TO EMOTIONAL EATING BEHAVIOR

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ABSTRACT

Emotional eating, or overeating to ease unpleasant emotions, is one of the harmful impacts of stress. Students in their final year of college are more susceptible to emotional eating because their stress level is high. The main purpose of this study was to examine the association between stress and emotional eating behavior in final-year Medical Education Study Program students of Universitas Sriwijaya. Data was collected in January 2021, with as many as 121 students from the 2017 class participating. The Perceived Stress Scale (PSS) questionnaire was used in this study to assess students' stress levels, while the Dutch Eating Behaviour Questionnaire (DEBQ) was used to assess emotional eating behavior. The Chi-square test was used to examine the data. Overall, this study discovered that 19 students (15.7 percent) were classified as having low stress, 82 students (67.8 percent) as having moderate stress, and 20 students (16.5 percent) as having high stress. Emotional eating affects up to 74 (61.2%) of students, with female students experiencing more. The Chi-square test yielded $p=0.018$ ($p 0.05$) and OR 3.282 (1.186-9.081) indicating a significant link between stress and emotional eating behavior in final-year Medical Education Study Program students of Universitas Sriwijaya.

Keywords: medical school, university students, COVID-19, stress, emotional eating

1. INTRODUCTION

The COVID-19 pandemic has compelled Indonesia's education sector to adjust to the "New Normal".¹ The learning process is carried out online at various levels of education, including in the medical field. The online learning system appears to be a viable future learning model in medical education.² However, the process is not immediately easy.

Time restrictions, low technological skills, insufficient infrastructure, a lack of institutional strategies and support, and negative attitudes of everybody engaged are the major challenges to the development and implementation of online learning in medical education.³ These factors can put students under stress, as indicated by the discovery that high stress dominates

students' stress levels while online learning in Indonesia (55,4%).⁴

Stress is the body's response to any demand.⁵ Medical students were shown to have greater stress levels than non-medical majors.⁶ Time pressure, a hard workload, fear of failure, and the frequency of exams were the most common factors of academic stress. This level of stress was found to be higher in final-year students than in first-year students.⁷ Exam pressure is a source of stress for final-year students, and in Indonesia, the thesis trial serves as the culmination of all exams for undergraduate students.⁸

Stress can have a variety of impacts. One of the homeostasis that can be disturbed due to stress is eating behavior. Stress perceived because of the COVID-19 pandemic was found to be highly correlated with emotional eating.⁹ Increased glucocorticoid release in response to stress can boost feeling and urge to eat, and food can act as a calming in response to unpleasant stress, known as emotional eating. Individuals with a high level of negative affect or a higher cortisol sensitivity consumed more foods with high sugar and fat content.¹⁰ If goes untreated, this tendency can result in obesity.

There is a limited amount of time available throughout the thesis writing process at the medical faculty of Universitas Sriwijaya. While students are completing their thesis, they are often juggling a rigorous class schedule. This circumstance may function as a stressor, resulting in emotional eating. The goal of this study was to determine the stress levels of final-year medical students, the prevalence of emotional eating among students, and the relationship between stress levels and the prevalence of emotional eating among final-year medical students during the COVID-19 pandemic.

2. METHODS

Study Participant

This study was a cross-sectional study that looks at final-year medical students' stress levels and emotional eating behavior. The participants were from the Medical Education Study Program Universitas Sriwijaya. This university represents the largest university in South Sumatra, Indonesia. The data collection took place in January 2021. Due to the COVID-19 pandemic's restrictions, questionnaires were distributed electronically via Google Forms. This study involves final-year students (class of 2017) who are working on their thesis. This study did not include students who were on a weight loss or gain program. The target sample size was 121 students. Until the sample size was reached, convenient sampling was used.

Study Instrument

The Perceived Stress Scale 10 (PSS-10) developed by Cohen, Kamarck, and Mermelstein and translated by Yuniaty was used to assess stress in this study.¹¹ This questionnaire consists of ten questions with weights ranging from 0 to 4. The total score obtained is 0-40, with the results interpreted according to the criteria for low stress: 0-13, moderate stress: 14-26, and high stress: 27-40. The Dutch Eating Behavior Questionnaire (DEBQ), created by Van Strien and translated by Khotibuddin, is used to identify emotional eating.¹² This questionnaire consists of 13 questions ranging from 1 to 5. Emotional eating is defined as having a score of more than 32.5. Ethical approval for the study was obtained from The Ethics Review Committee of Medical Faculty Universitas Sriwijaya (Protocol No. 021-2021). All participants provided informed consent before participating.

Statistical analysis

The results were transcribed into an Excel spreadsheet. The data were analyzed using the Statistical Package for Social Sciences (SPSS) software version 26. The Chi-squared test was used to investigate the links between stress levels and emotional eating behavior. All statistical analyses were given a statistical significance level of 0.05.

3. RESULTS

A total of 121 respondents, consisting of 37 males and 84 females participated in this study. Perceived stress levels showed that most of those surveyed fall into the "moderate" range. Table 1 shows the stress levels of students by gender.

Table 1. Perceive stress and emotional eating among respondents

Level of Stress	Gender			
	Male		Female	
	n	%	n	%
Low	10	27.0%	9	10.7%
Moderate	24	64.9%	58	69.1%
High	3	8.1%	17	20.2%
Emotional Eating				
Yes	18	48.6%	56	66.7%
No	19	51.4%	28	33.3%
Total	37	100%	84	100%

Anxiety and stress can lead to emotional eating as a form of stress coping. Emotional eating affects up to 74 (61.2 percent) of students. Our study found that the incidence of emotional eating is slightly more common in the female group. To examine the association between perceived stress and emotional eating, the stress level category is separated into mild and moderate-high stress, respectively (Table 2).

Table 2. Association between perceived stress and emotional eating among respondents

Level of Stress	Emotional Eating				P value (p=0,05)	OR (CI95%)
	Yes		No			
	n	%	n	%		
Moderate-High	67	65.7%	35	34.3%	0.018	3.282 (1.186-9.081)
Low	7	36.8%	12	63.2%		
Total	74	61.2%	47	38.8%		

4. DISCUSSION

This study discovered that 19 students (15.7 percent) were classified as having low stress, 82 students (67.8 percent) as having moderate stress, and 20 students (16.5 percent) as having high stress. Students reported 15.7% low stress, 67.8% moderate stress, and 16.5% high stress. Male medical students were much less stressed than girls across all school years, according to a previous study.^{7,8} Our study also found that females were more likely than males to fall into the moderate and high-stress categories. Female medical students may be more competitive, more worried with their grades, more anxious about their performance, more likely to exaggerate their melancholy, and less likely to exercise as a result of the differences found in this study.⁷

Academic-related stressors were the most common source of high stress (55.4%) among medical students enrolled in distance learning programs in Bali.⁴ We did not identify the sources of stress in the respondents in this study. However, it was reasonable to infer that the reality of a demanding lecture schedule combined with the pressure of completing a thesis in a relatively short time (less than one year) was the primary source of stress for most students, as found by a previous study.^{7,13} The thesis guidance procedure occurs independently of the institution's massive class lectures. As a result, the supervisor's adaptation to distant learning is also critical to the thesis's seamless completion.³

Females are more likely than men to suffer stress that leads to overeating, according to previous research on college students.¹⁴ This is consistent with the findings of our study, which showed that females were more likely than males to engage in emotional eating. In contrast to the findings of this study, a study conducted in Malaysia discovered that males were more likely than females to overeat when experiencing unpleasant emotions. It's possible that females are trying to keep their bodies in proportion so that they don't

end up overeating.¹⁵ There may have been a variation in outcomes since our study was conducted after the pandemic had been raging for more than a year. When the HPA axis is chronically triggered in response to chronic stress, energy conservation and appetite stimulation occur.¹⁶

The results of the analysis showed that there was a relationship between stress and emotional eating behavior in final-year students in the COVID-19 Pandemic. This finding is consistent with a study conducted in Brazil, which discovered that students who experienced more stress, compared to those who did not, scored higher on the eating behavior known as emotional eating ($p=0.03$).¹⁷ University students in Malaysia have shown a shift in their eating preferences from healthy to pleasant items during the COVID-19 Pandemic, according to similar studies.¹⁵ Daily routines have shifted considerably throughout the pandemic. Numerous individuals work or study from home and struggle to maintain a balance between home and work routines. This also affects the food choices that are simple to make and enjoy, as well as the actions of all the frantic chores performed at home. "Comfort food" is seen as critical for alleviating stress and generally increasing mood.⁹ It is possible that eating can help people cope with their negative feelings and their challenging position during the COVID-19 epidemic.

There are several limitations to this study that must be acknowledged. The formation of causal associations between stress and emotional eating is limited by the cross-sectional study design. Second, stress assessment relies on self-reporting and does not go into detail about the stressors that respondents face, which may or may not be related to the situation in which they are in their final year of medical school.

5. CONCLUSION

To the best of the authors' knowledge, this is the first study to investigate the link between stress and emotional eating in a medical school in Palembang. Most students are under moderate to high stress. Emotional eating affects most students, especially those in the moderate-to-high-stress group. There was a significant link between stress and emotional eating behavior in final-year Medical Education Study Program students of Universitas Sriwijaya. Students must receive stress management training to avoid emotional eating.

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