



Student Self-Medication Behavior in Stress Handling

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Abstract

Changing learning patterns from senior high school student to college student status is difficult, and each individual's response varies, some of which cause stress. Factors that cause stress are internal and external, and external factors consist of physical, conflict, emotional, and behavioral conditions. In comparison, the external factors consist of the physical environment, work environment, community environment, family environment, economic and legal problems. The burden of life stress is heavy and impacts the physical, such as feeling dizzy, nauseous, ulcers, and difficulty sleeping. Sometimes causes a person to take self-medication to overcome these uncomfortable symptoms. This study aims to determine the characteristics of early-level students and the stress level of early-level students at one of the State Universities of East Kalimantan Province. This study used a qualitative descriptive design on 121 students. Using a questionnaire through a cross-sectional approach with a purposive sampling technique. The results showed that the stress level of students showed mild stress as much as 30.58%, moderate stress at 56.20%, and severe stress as much as 13.22%. The number of students who did self-medication was more than those who did not provide treatment for the symptoms, 79.34%.

Keywords: Self-medication, Student, Stress

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1 Introduction

Health is a state of psychological, physical, and social well-being that enables everyone to live socially, economically, and with healthy, productive lives. Health problems will arise if physical, psychological, and social well-being are not fulfilled. Health problems need to be a concern for everyone, both physical and psychological health. The high economic burden, the broader social inequality, and the uncertainty of the social situation make people experience psychological disorders. The academic demands that must be faced and the individual's unpreparedness to deal with them can also cause psychological disorders such as stress. Stress is a condition that can be caused by uncontrolled physical demands, the environment, and social situations. The prevalence of stressful events is relatively high, and almost 350 million people in the world experience stress; according to WHO, it is a disease with the 4th rank in the world. Research on stress levels in students according to their choice of faculty has been carried out at several universities in the world. The prevalence of students in the world who experience stress is 38-71%, while in Asia it is 39.6-61.3% [1]. Meanwhile, the prevalence of students experiencing stress in Indonesia was 36.7-71.6% [2]. Increasing the amount of academic stress will reduce academic ability, affecting the achievement index. Even those considered too heavy can trigger memory problems, concentration, decreased problem-solving and intellectual abilities [3].

Diseases related to stress, one of which is the heart and cardiovascular disease. This disease results in increased blood pressure, damaging the heart and arteries and improving blood sugar levels. Lung organs can also cause asthma and bronchitis. Ulcers/ulcers, colitis, and chronic diarrhea can occur when there is an obstruction to digestive function. Stress plays a role in inhibiting tissue and bone growth which will cause decalcification and osteoporosis. The immune system is compromised through reduced work of white blood cells, so the body becomes more susceptible to disease. Another

consequence is increased muscle tension, fatigue, and headaches [4]. This increases the individual's desire to self-medicate to reduce discomfort due to stress symptoms. Self-medication is an effort to self-medicate without a doctor's prescription.

According to WHO, self-medication treatment is intended to treat symptoms and diseases that can be diagnosed by himself or use drugs that have been used continuously to manage chronic symptoms [5]. Self-medication occurs when obtaining medicines without a prescription, buying medicines based on old prescriptions, giving them to friends or family, or using leftover medication [6]. Several factors influence the selection of the community in determining self-medication treatment. Product advertising, treatment experience, economic and psychological conditions [7], education, and educational history [8] can determine the choice of self-medication treatment. Stress does not only have a negative impact but also has a positive impact, namely in the form of increasing creativity and triggering self-development, as long as the stress experienced is still within the limits of individual capacity. Everyday stress is still needed for student self-development [9].

Research [10] found a positive relationship between emotional intelligence and student resistance to stress. If emotional intelligence increases, students' resistance to stress will increase, and if emotional intelligence decreases, resistance to stress decreases. So researchers are interested in examining stress levels in students at Mulawarman University, East Kalimantan. This study aimed to determine the behavior of self-medication in dealing with stress in early-level students at Mulawarman University.

2 Methods

This descriptive-analytic research aims to determine the behavior of self-medication in dealing with stress in early-level students at Mulawarman University, East Kalimantan. The population of this study was students aged 18-19 years, as many as 155 students. The sampling

method in this study was a proportional random sampling of 121 respondents. Determination of the sample for each level is done by appointment using a random technique by filling out questionnaires distributed online through the social media of the head of the early generation level. The data used in this study is primary data, which was obtained by giving questionnaires to respondents in two parts of questions. The first part is gender which relates to the demographics of the respondents, while the second deals with statements that describe a person's stressful state.

Stress levels in this study were measured using the Depression Anxiety and Stress Scale 42 (DASS 42) by [11]. The DASS 42 measurement scale contains 42 statements relating to a person's depression, anxiety, and stress level. However, because this study will only measure the stress level of students, so the statements used in this study only use 14 reports related to stress levels. The stress statement contained in DASS 42 was modified to describe the state of the research subject. For self-medication behavior, it was obtained from questions about the symptoms caused and the pharmacological treatment carried out.

3 Results and Discussion

From the data collection results, the number of questionnaires completed by respondents was 121. In this study, the respondents used were undergraduate pharmacy students. Respondent data by gender can be seen in table 1.

Table 1 . characteristics of respondents by gender.

Gender	Person	Percentage (%)
Female	97	80,17
Male	24	19,83
Total	121	100

Table 1 above can explain that respondents who have female sex as much as 80.17%, while respondents who have male sex as much as 19.83%. From this description, it can be concluded that most of the Pharmacy students in this study were female.

Table 2. Student Stress Level

Stress Level	Person	Percentage (%)	Stress category
0-14	0	0	Normal
15-18	37	30,58	Light
19-25	68	56,20	Medium
26-33	16	13,22	Heavy
>33	0	0	Very heavy

Table 2 shows the results that the level of stress experienced by pharmacy students starts from the mild to severe category, with the dominance of stress at a moderate level of 56.20%.

Table 3. Symptoms that appear in students

Symptom	Person	Percentage (%)
Insomnia	49	40,49
Headache	33	27,27
Indigestion	17	14,05
Nausea and Vomiting	9	7,44
Stomach and nausea vomiting	13	10,75

Table 3 provides an overview of the number of stress-related symptoms, namely insomnia by 40.49%, headaches 27.27%, ulcers 14.05%, nausea and vomiting 7.44%, and ulcers and nausea and vomiting 10.75%. With the predominance of symptoms of insomnia, 49 students experienced it.

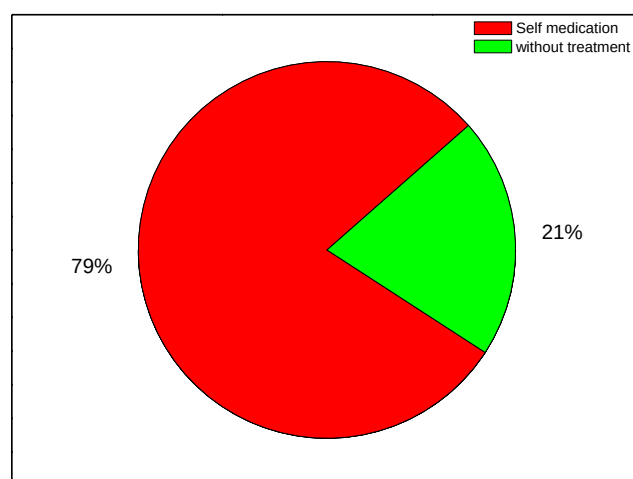


Figure 1. Number of students who do self-medication

Figure 1 shows that the number of students who did self-medication was more

than those who did not provide treatment for the symptoms, 79.34%.

Table 4. Types of pharmacological therapy in self-medication behavior

Symptom	Type of medicine	Percentage (%)
Insomnia	Diphenhydramine	30.21
Headache	Naproxen	29.17
Indigestion	Magnesium hydroxide and hydrotalcite, and simethicone (combination)	17.70
Nausea and Vomiting	Diphenhydramine	9.38
Stomach and nausea vomiting	Magnesium hydroxide, calcium carbonate, and famotidine	13.54

Table 4 describes the most commonly treated therapy, which is the symptom of insomnia, with the use of diphenhydramine by 30.21%. The incidence of headache due to the use of the drug naproxen was 29.17%, while the incidence of heartburn due to the use of a combination (magnesium hydroxide, hydrotalcite, and simethicone) was 17.70%. The incidence of nausea and vomiting using the drug diphenhydramine is 9.38%. The incidence of stomach ulcers, nausea, and vomiting due to using a combination of drugs (magnesium hydroxide, calcium carbonate, and famotidine) is 13.54%.

Characteristics of final year students. Based on the study's results according to gender, it was found that the female sex was more dominant in experiencing stress, as much as 80.17%, and the male 19.83%. According to Kaplan & Sadock [12] the theory supports this research, which states that stress is more common in women than men. Women are twice as likely to experience stress. The reason is that there are hormonal differences and differences in psychosocial stressors for women and men. Also supported by research in the United States states that women tend to have higher stress levels than men. In general, women experience 30% more stress than men. This research is also supported by Sutjiato [13] research that female students experience severe stress as much as 2.7 times greater than the male gender. So that among mild to moderate stress levels, the percentage of women who experience it is much higher than that of men. This research is

reinforced by the research of Sundari [15], that low stress and increased stress in women are more significant than in men. There are more female students than male students. There are 56 female students and 33 male students. Pathmanathan [16] stated that the average stress was higher in the male group (6.1%) compared to the female group (2.0%). Supported by Edward's opinion, which states that men need a longer time to recover than women, shows that the stress level in men is higher.

Based on the results of research on the stress level of students at the Faculty of Pharmacy, most students experienced moderate stress levels, amounting to 68 students (56.20%). However, some severe experience stress, with a total of 16 students (13.22%). Internal factors cause this: the inability to understand and respond to problems appropriately. External factors include problems in society, family or related relationships with other people. Other external factors are also related to the very different lecture load in high school and the busy laboratory practice activities, so students feel very tired. According to Pines and Aronson in Nursalam [17] burnout is physical, emotional, and mental exhaustion caused by long-term involvement in demanding situations. For early-level students, the condition that is full of demands is caused by the lecture process, practicum, and assignments they have to do after college.

The results of measuring stress levels in early-level students showed that students experienced moderate stress with self-medication behavior of 79.34%, the symptoms treated included insomnia, headaches, ulcers and nausea, and vomiting. The two biggest symptoms that often appear in the stress conditions of early-level students are insomnia (40.49%) and headaches (29.17%). With this type of pharmacological therapy, insomnia with diphenhydramine is 30.21%. Dizziness using naproxen by 29.17%. Thus, not all students who experience insomnia or headaches do self-medication. Self-medication uses drugs with minimal adverse effects on patients. Still, it has risks such as misdiagnosis, excessive drug doses, and long-term use, which can cause adverse effects on patients [18]. Self-medication can have beneficial effects if used regularly. But

without, knowing treatment information can trigger ADR. A study stated that 1.72% of 9.78% of patients required treatment in the Emergency Unit due to using self-medication drugs [19]. Another study reported in Germany that 7000 hospitalized patients showed an ADR of 3.9% due to the use of self-medication [20].

The emergence of ADR effects is due to a lack of vigilance in using self-medication drugs regarding potential side effects, drug interactions, and when to consult a doctor [21]. The use of self-medication of the analgesic drug class, NSAIDs, and benzodiazepines cause ADR in the form of gastrointestinal [19], bleeding, and kidney damage or prankeas [22]. Hal ini dikarenakan pengerjaannya hanya pada satu titik waktu, yaitu hanya diukur pada pertengahan semester genap. The results of this measurement are only felt by students at the time of measuring/filling out the questionnaire, it does not cover the three-time points, so this is a weakness in this study.

4 Conclusions

The characteristics of students based on gender are primarily female. The results showed that the stress level of students at the Faculty of Pharmacy showed that most students experienced moderate stress levels, amounting to 68 students (56.20%) with a self-medication behavior of 79.34%.

5 Conflicts of Interest

The authors declare no conflict of interest.

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