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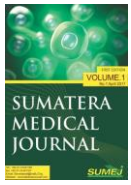

Relationship between Stress Level of USU Medical Faculty Students with the Primary Headache during Online Lecture

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Abstract. COVID19 has made lectures turn online. This sudden change can cause stress for students. Stress levels in students are ranging from mild, moderate, to severe stress. There are few symptoms of stress experienced by these students and headache is one of the common forms of stress. Primary headaches show a very high prevalence rate in college students and psychological conditions are the most triggering factors for tension headaches in college students**.** This study aims to determine the association between the stress level of USU Medical Faculty students with primary headaches during online lectures. The study used observational analytical methods by design cross-sectional study. The sample was 262 students of the Faculty of Medicine, University of North Sumatra who met the inclusion criteria. The data used is primary data that will be obtained from questionnaires filled out online through the application Line, WhatsApp and Instagram.**Results.** Of the 77 respondents, 48 were female (62.3%), and 29 were male (37.7%). There are 42 students who experience primary headaches, and 27 suffer from moderate stress, 9 mild stress and 6 severe stress. In the chi-square test, there is a significant association between stress levels and primary headaches with a value of p=0.010 (p<0.05).**Conclusion.** There is an association between the stress level of USU Medical Faculty students and primary headaches during online lectures.

Keyword: Online Lecture, Stress, Primary Headache, Headache, Stress Level

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1. Introduction

The Covid-19 outbreak has resulted in several changes in daily activities. Especially in the field of education, especially universities. The Ministry of Education and Culture has prohibited universities from conducting face-to-face (conventional) lectures and ordered them to hold lectures or learning online (on a network). Although the online lecture process is effective in preventing Covid-19 infection, the change from face-to-face lectures to online lectures that are carried out suddenly makes lectures unable to run optimally. Changes that occur suddenly can certainly cause stress for students. The prevalence of students who experience stress in Indonesia itself is 36.7-71.6% [2]. During the online lectures, students were found to be mentally disturbed, stressed and unable to follow the learning process properly and correctly [7].

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Based on the results of research conducted by Wahyu and Simanullang 2020, of 47 respondents showed that students who experienced mild stress due to changes in learning models using online were 23 (48.3%) respondents, moderate stress was 20 (42.6%), and those who experienced severe stress were 4 (8.5%) respondents.

Symptoms of the stress experienced by these students can have an impact on disturbed sleep patterns or difficulty sleeping, headaches, anxiety, irritability and physical fatigue [5]. Headaches are one of the most common forms of stress. Previous research has found that there is a significant relationship between stress levels and headaches [4].

Primary headaches show a very high prevalence rate in college students. According to the results of research on students of the Faculty of Medicine, Hasannudin University, the most common type of headache is tension type headache, followed by migraine headache and the least is cluster headache. And, psychological conditions are the most triggering factors for tension headaches in college students [1].

Based on the description above, the author aims to conduct research on the relationship between stress levels and the occurrence of primary headaches in USU Medical Faculty students during the online learning process.

2. Research Methode

This research method uses an observational analytical design to determine the relationship between stress levels and headaches during online lectures. The research design used is a cross-sectional study.

The type of data that will be obtained in this study is primary data obtained from filling out a questionnaire of 72 samples by the 2018 batch of students from the Faculty of Medicine, University of North Sumatra. The questionnaire data collection was carried out for 2 months starting from July to August 2021. The distribution of the questionnaires was carried out through social media in the form of Line, WhatsApp, and Instagram in the form of Google Forms that could be accessed via the internet.

The data obtained from this study will be processed and analyzed using the Statistical Package for Social Science (SPSS) software. This study aims to determine the relationship between the stress level of USU Medical Faculty students and the occurrence of primary headachesduring the online learning process, Chi Square statistical hypothesis test was used.

3. Results

4.1. Table 4.1 Demographic Characteristics

Characteristics	Frequency (n)	Percentage (%)
Gender		
Man	29	37.7%
Woman	48	62.3%
Age		
19 years old	1	1.3%
20 years	28	36.4%
21 years	44	57.1%
22 years	4	5.2%

In Table 4.1, 29 respondents (37.7%) were male and 48 respondents (62.3%) were female. For age, most of the respondents were 21 years old as many as 44 people (57.1%), 28 respondents were 20 years old (36.4%) 4 respondents were 22 years old (16.2%) and only 1 respondent was 19 years old.

To measure the stress level of the students of the Faculty of Medicine, University of North Sumatra, the Perceived Stress Scale questionnaire consists of 10 questions with scores according to the answers. However, for questions 4, 5, 7 and 8, the assessment was scored in reverse (0=4, 1=3, 2=2, 3=1, 4=0) and then divided into three categories, namely mild stress (total stress). score 1-14), moderate stress (total score 15-26), severe stress (total score >26).

4.2. Table 4.2 Stress Level Distribution

Stress Level	Frequency (n)	Percentage (%)
Mild stress	27	35.1%
Moderate stress	38	49.4%
Heavy stress	12	15.6%
Total	77	100%

Based on table 4.2, 38 students of the Faculty of Medicine, University of North Sumatra experienced moderate stress levels (49.4%), 27 students experienced mild stress levels (35.1%) and 12 students experienced severe stress levels (15.6%). .

4.3. Table 4.3 Distribution of Stress Levels by Gender

Stress level	Woman		Man	
	F	%	F	%
Mild stress	18	23.4%	9	11.7%
Moderate stress	24	31.2%	14	18.2%
Heavy stress	6	7.8%	6	7.8%
Total	48	62.3%	29	37.7%

It can be seen in table 4.3 that the female gender experiences more stress, as many as 48 people (62.3%). With 24 of them experiencing moderate stress (31.2%), 18 of them mild stress (23.4%), and 6 of them experiencing severe stress (7.8%). Meanwhile, as many as 29 male students experienced stress (37.7%), with 14 of them experiencing moderate stress (18.2%), 9 of them experiencing mild stress (11.7%), and 6 of them experiencing severe stress (7 ,8%).

Headache assessment in this study used the HO-KH & ONG BK-C questionnaire based on diagnostic criteria by HIS.

4.4. Table 4.4 Headache Distribution

Primary Headache	**Frequency (n)**	**Percentage (%)**
Suffering from Primary Headache	42	54.5%
Not Suffering from Headaches		
Total	35	45.5%
	77	100%

Based on table 4.4, it was found that 42 students (54.5%). And, there were 35 students who did not suffer from primary headache (45.5).

4.5. Table 4.5 Distribution of Headaches by Gender

Primary Headache	Woman F %	Man F %
Suffering from Primary Headache	25 32.5%	17 22.1%
Not Suffering from Primary Headache	23 29.9%	12 15.6%
Total	48 62.3%	29 37.7%

Of the 42 students who suffered from primary headaches, 25 of them were female students (32.5%), and only 17 male students had primary headaches (22.1%). And, the number of female students who did not suffer from primary headaches was 23 people (29.9%), and for male students who did not suffer from primary headaches there were as many as 12 people (15.6%).

Of the 44 students who suffered from primary headaches, the degree of headache was assessed using the Numeric Rating Scale instrument with a scale of 0-10 and the results were as described in table 4.6.

4.6. Table 4.6 Distribution of Headache Degrees

Headache Degree	**Frequency (n)**	**Percentage (%)**
Light	18	42.9%
Currently	19	45.2%
Heavy	5	11.9%
Total	42	100%

Based on table 4.6, out of a total of 42 samples of primary headache sufferers, 19 students suffered from moderate headache (45.2%), 18 students suffered from mild headache (42.9%), and 5 students suffered from severe headache (11.9%).

4.7. Table 4.7 Relationship between Stress Levels and Primary Headache

Stress Level	Frequency (n)	Percentage (%)	P value
Mild Stress	9	11.7%	
Moderate Stress	27	35.1%	
			0.01
Heavy Stress	6	7.8%	
Total	42	54.5%	

From Table 4.7 above, 42 respondents who experienced primary headache dominated by moderate stress as many as 27 respondents (35.1%). Then, as many as 9 respondents who suffered from primary headaches experienced mild stress (11,7%). And respondents who suffer from primary headaches who experience severe stress are only 6 people (7.8%).

Respondents who did not suffer from primary headaches tended to experience more mild stress, as many as 18 people (23.4%). There were 11 people who experienced moderate stress (14.3%) and as many as 6 respondents experienced severe stress (7.8%).

Analysis of the data in this study using chi square, and obtained a p value of 0.010 ($p < 0.05$). This suggests that there is a relationship between stress levels and primary headaches. It can also be seen that patients with primary headaches tend to experience more moderate stress. And, the respondents who do not suffer from primary headaches tend to experience more mild stress.

4. Discussion

The results of the above study indicate that there is a significant relationship between stress levels and primary headaches in which most of the samples experience moderate stress. In line with research conducted by Dharmawita, et.al (2020), which explains thatthere is a relationship between level stress with primary headache in medical students the medical faculty

of Malahayati University in 2020 and most of them also experienced moderate stress. This significant association could be attributed to the fact that stress is a psychosocial factor that is generally recognized as a central contributor to primary headache, and sensitivity to stress was found to be associated with an increase in headache duration.(Nash & Thebarge, 2006).

The results showed that the prevalence of students experiencing moderate stress was more common in female students, compared to male students. Although this may be due to the majority of respondents being women, the same results were also found in a study conducted by AlAteeq, et al (2020) on medical students and school students conducting online learning in Saudi Arabia, which revealed that stress levels in women had a higher higher numbers and among them experienced moderate levels of stress. This study also revealed that there was a significant relationship between women and students with stress levels. The higher stress levels found in these women can be attributed to many factors,

The results also showed that as many as 42 respondents suffered from primary headaches, and 25 of them were female students and 17 were male students. Several previous studies conducted on medical students also showed similar results, namely the high prevalence of primary headaches. And some studies also show the prevalence of primary headache is more common in women. As research conducted by Ghorbani, et al (2013), showed that headache has a high prevalence found in medical students. The high prevalence of Tension Type Headache found in medical students can occur because psychological factors are the most triggering factors for TTH in students.(Akbar, 2017).

Wang, et al (2021), have also conducted research on medical students from three different universities in China and found that academic factors, psychosocial factors and health factors were all positively related to the occurrence of stress levels in students during online learning.

As described in table 4.6, respondents who suffered from primary headaches mostly experienced moderate-grade primary headaches. A longitudinal population-based study conducted by Schramm et al (2014), revealed thatan increase in headache frequency was positively correlated with an increase in stress intensity, regardless of headache subtype.

It is necessary for further research to conduct research in a wider area in order to get more subjects so that the stress trigger factors and characteristics of primary headaches obtained are more varied.

5. Conclusion

From 77 respondents, 38 students experienced moderate stress, 27 students experienced mild stress, and 12 students experienced severe stress.

Academic factors, psychosocial factors, and health factors are factors that trigger stress in students during online lectures.

There are 42 students from the Faculty of Medicine, University of North Sumatra who suffer from primary headaches. 20 people had primary headaches with moderate headaches, 16 people had primary headaches with mild headaches, and 8 people had primary headaches with severe headaches.

From the results of data analysis using the chi-square test, a p value of 0.010 was obtained, which means that there is a significant relationship between stress levels and primary headaches.

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