Bayantari NM et al., JPKI, 2023;12(3):395-400
doi: 10.22146/jpki.77978

CASE STUDY

CORRELATION OF LEARNING SELF-REGULATION WITH ACADEMIC STRESS IN FIRST-DEGREE MEDICAL STUDENTS

Ni Made Bayantari[1], Putu Indah Budiapsari[1*], Suyasning Hastiko Indonesiani[1]
[1]Faculty of Medicine and Health Science, Warmadewa University, Denpasar – INDONESIA

Submitted: 24 Sep 2022; Final Revision from Authors: 10 Aug 2023; Accepted: 24 Aug 2023

ABSTRACT

Background: Academic stress is response to academic activity in school or university especially student's task and activity caused feelings of discomfort, tension, and changes in behaviour. Academic stress often occurs, especially in college students with a prevalence of 38-71% for college students in the world, 39.6-61.3% in Asia and in Indonesia itself, it is found that 36.7-71.6 students experience stress. As academic stress increases, self-regulation becomes important in learning. Stress and frustration can be resolved by good self-regulation and also problem solving strategies where self-regulation is a process to activate and maintain thoughts, behaviours, emotions to achieve goals. This study aimed to determine correlation of learning self-regulation with academic stress in first degree medical students.

Case Discussion: this study was analytic observational with cross sectional approach design, which conducted on 156 college students. The average score of academic stress and self -regulation were 86.92 ± 7.72 and 143.55 ± 38.40; respectively, which negative significance relationship $p<0.05$ and $r= - 0.702$.

Conclusion: there was negative relationship between stress academic with self-regulation good self-regulation cause lowering academic stress. It was recommended that the students should be decreased the academic stress and increase the self-regulation.

Keywords: self, regulation, academic stress

PRACTICE POINTS

- The good self-regulation especially in learning management is a key point to decrease academic stress.
- Self-regulation is needed to be practice daily in home and campus.

*corresponding author, contact: putuindah51@yahoo.com

INTRODUCTION

Academic stress is a student's response to the demands of a school or university that suppresses and causes feelings of discomfort, tension and changes in behaviour.[1] Academic stress experienced by students certainly has an impact on the results of their learning achievements.[2] Academic stress is influenced by many things such as time management, academic demands and the academic environment.[3] Stress does not only have a negative impact but also has a positive impact on students, they must be more creative and ambitious to solve the task.[4] The usefulness of stress is trigger spirit for becoming excellent student, as long as the stress experienced is still within the limits of individual capacity.[5] However, if stress overload and cannot resolve clearly, it can trigger memory impairment, decrease of concentration, lowering problem-solving ability, and academic ability.[6] Many negative and wrong way used to resolve stress such as drinking alcohol, smoking, free sex and soon.[7] The prevalence of stress events according to WHO is quite high, which is experienced by more than 350 million people in the world and is ranked 4th in the world's diseases.[8] Meanwhile in Indonesia, around 1.33 million people are estimated to experience mental health problems or stress. This reached 14% of the total population with acute stress levels (severe stress) reaching 1-3%.[9] Amaze phenomena found in Indonesia, that 36.7-71.6% student suffering from stress.[12]

According to research, first degree and second degree students actually have higher stress levels compared to students in other years.[10] The stress experienced by first-year students mostly comes from academic stress, namely stress caused by the influence of the learning process or lectures on campus.[11] Stress triggers for students in the world and in Indonesia consist of various factors such as the adaptation phase, transition phase, poor self-regulation, and pressure from both the family and the environment.[13] Academic stress on students is most common among students of the Faculty of Medicine compared to students of other faculties. Based on the results of research conducted previously at the Faculty of Medicine, University of Muhammadiyah Palembang (FK UMP) it was found that around 50.8% of FK UMP students experienced stress and 49.2% did not experience stress. Medical students tend to experience very high stress when compared to other study programs in the non-medical sector. Stress levels in medical students tend to range from 25% to 75%. The causes of stress in medical students vary, including living far from their parents/family, finances, piling up lecture assignments, lack of time management in studying and academic achievement.[14]

To cope the stress experienced by students, it is important to do self-regulation in learning. The implementation of problem-solving strategies by regulated our self is needed to reach goals of learning, behaviours and stable emotion in adult process learning.[15] Students with good self-regulation are shown by regular study habits and are capable to apply their learning plan to achieve good results of study.[16] Previous research also found there was positive implication of regulated our self in learning process with reduce stress of all of academic task, examination and soon.[14]

CASE DESCRIPTION

This study uses an analytical method with a cross sectional design. The study was conducted in one of medical faculty in Denpasar, Bali, Indonesia for period March to May 2022. The subjects in this study were the first degree of medical students, batch 2021. The sample was determined using a total sampling technique. The total population is 157 so that the required number of respondents is 157 students. The data used to support this research is primary data obtained directly from the results of filling out the questionnaire prepared by the researcher. How the student regulated their self in learning become independent variable and academic stress become the dependent variable. Data collection in this study consisted of several stages, namely the preparation stage and the research implementation stage. The analysis technique in this research is univariate and bivariate analysis.

The study was conducted from March to May 2022 on medical students batch 2021. Based on the data that has been obtained, the research subjects in

this study amounted to 156 medical students, male and female, where the initial population was 157 students but there was 1 student who was on leave.

Table 1. Characteristics of Research Subjects

Characteristics	n	%
Gender		
Male	61	39,1
Female	95	60,9
Age		
≥ 18 years old	156	100
Organizational Participation		
≤ 1 organization	125	80,1
> 1 organization	31	19,9

As shown in Table 1, the subjects in this study amounted to 156 students. The 156 students consisted of 61 male students with a percentage of 39.1% and 95 female students with a percentage of 60.9%. There are 156 students aged 18 years with a percentage of 100%. There are no students aged < 18 years. Students who participate in 1 organization are 125 students with a percentage of 80.1%, while students with > 1 organization are 31 students with a percentage of 19.9%. The score of self-regulation and score of academic stress described in Table 2 below.

Table 2. Description of Research Data

Characteristics	Mean ± SD	Minimum	Maximum
Self-regulation score	86,916 ± 7,722	64.0	105.0
Academic stress score	73,051 ± 14,381	35.0	99.0

As shown in Table 2, the average self-regulation score is 86, 916 with a standard deviation of 7.72 was categorised moderate self-regulation, with the lowest score of 64.0 and the highest score of 105.0. Mean of academic stress score is 73,051 with a standard deviation of 14.38 indicated low level of academic stress, with the lowest score of 35.0 and the highest score of 99.0. The normality assumption tested by the Kolmogorov-Smirnov. The research data was assumed normally if p>0.05, in contrary not assumed normally if p < 0.05.

Table 3. Data Normality Test with Kolmogorov-Smirnov Test

Variable	Coeffisient KS-Z	P	Description
Academic stress	4,051	0,234	Normal
Self-regulation	3,513	0,320	Normal

* p > 0,05, KS-Z = 4,051

The normality test show both academic stress and self-regulation was normally distributed (p = 0.234 (p > 0.05); p = 0.320 (p > 0.05). so the correlation of self-regulation with academic stress was tested by Pearson correlation. The result was showed in table 4.

Table 4. Result of Pearson Correlation Test

Variable	r	p	Description
Self-regulation Academic stress	-,702	0,000	Significant

Based on the results of hypothesis testing on self-regulation with academic stress shows p = 0.000 (p <0.05) with r = -.702. this result indicated that self-regulation inversely proportional with academic stress.

DISCUSSION

Self-regulation in learning

Result above indicated that the research subject were in the moderate categorization. This result was accordance with previous study, the majority of students in Jakarta had moderate self-regulation scores about 69% (160 respondents).[16] In addition, majority of Medical Faculty students also had moderate self-regulation scores with a prevalence of 54.5% (67 respondents).[11] The level of individual self-regulation was influenced by various factors such as motivation, time management, capability in task resolving. Poor self-regulation caused individuals not able to complete tasks optimally

which ultimately leads to depravity.[8] Moderate self-regulation indicate that on average first-year medical students are able to manage time and motivate themselves in carrying out responsibilities such as making assignments on time and actively studying material by looking for other reading sources.[9]

Academic stress

This study found, majority of academic stress scores tend to be low. Previous research showed that both regular and extension students showed that the majority of students were in the low stress category with a prevalence of 56%. for regular students and 84% for extension students.2 Besides being influenced by the average score, the low or high category of stress is also influenced by various factors such as the causes and ways of dealing with stress. Academic stress occurs due to pressure in conditions of academic competition to show individual achievements and advantages so that they feel burdened by various academic demands and pressures. According to Busari the causes of academic stress include too many assignments, competition between students, failure, financial factors, poor relationships between students and lecturers and problems that occur in the home environment.[12]

Correlation of Learning Self-Regulation with Academic Stress

Based on the results of hypothesis testing on self-regulation in learning with academic stress shows $p = 0.000$ ($p < 0.05$) with $r = -.702$. This shows that there is a negative correlation between self-regulation in learning and the level of academic stress. The negative correlation between self-regulation in learning and academic stress means that the higher the self-regulation in learning, the lower the academic stress and vice versa.[8]

This study is in accordance with a similar study conducted in Yogyakarta which was conducted on 220 medical students of the Islamic Indonesia University class 2015 and 2016 and the results showed that there was a negative correlation between self-regulation in learning and academic stress levels with the results of hypothesis testing shows $p = 0.000$ ($p<0.05$) with $r = -.486$.[14]

The results of research conducted by Alfiana1 also show that individuals with poor self-regulation will cause individuals to be unable to control their behaviour, so that these conditions cause individuals to feel depressed or stressed. This research is also in accordance with research conducted by Zimmerman which shows that self-regulation can actually overcome various pressures that exist in a person's life, individuals who carry out self-regulation well have more adaptive responses to deal with stress in their lives and are able to deal with stress.[16]

Every task and requirement of studying produce difference type of stress, by good regulation of themselves to maintain the time, ability, continuous spirit and concentration, focus of learning we can dissolve the academic stress. This is evidenced by students who are able to regulate themselves well in learning are able to reduce the risk of academic stress. The strength of this study was provide new knowledge in managing academic stress by doing prompt self-regulation, and also accurately measure the high stress level in medical student that never done before. The weakness in this research is that researchers do not make observations in the teaching and learning process directly in the classroom. Researchers only distributed questionnaires without directly observing the teaching and learning process in the classroom. In addition, there are weaknesses in the measuring instrument used on the academic stress scale, not all items on the academic stress scale can directly describe that the individual is experiencing academic stress.[4]

CONCLUSION

According to explanation above we reach conclusion that good self-regulation produce good management in academic stress, so the implication of stress can be minimize. First year medical student is group person that easily suffering from stress, so the institutions and lecturer must train the student how to manage stress especially stress produced by academic activity.

RECOMMENDATION

For further researchers, it is expected to observe the teaching and learning process directly in the

classroom. Because in this study it is known that the research only distributes questionnaires to students without seeing directly the teaching and learning process in the classroom.

ACKNOWLEDGEMENT

We thanks to all participant that contributed in this research both directly and indirectly. We also thank to dean of faculty of medicine and health sciences who give allowance to conduct this research.

COMPETING INTEREST

The authors declare that there are no competing interests related to the study and and the manuscript.

AUTHORS' CONTRIBUTION

Ni Made Bayantari – collecting, tabulating and analysing the data.

Putu Indah Budiapsari – write the manuscript and analysing the data.

Suyasning Hastiko Indonesiani – arrange concept and completing the discussion.

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