

Correlation Between Academic and Non-Academic Factors with Burnout Syndrome Incidence in Medical Study Program Faculty of Medicine Airlangga University

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Abstract

Background: Burnout is a symptom of emotional exhaustion, cynicism, and fatigue that occurs in an individual who does work by providing a form of service to others or the like. Burnout has the possibility of happening to students even though professionally students are not considered to be working or not having a job.

Objective: This study aims to determine the prevalence of burnout syndrome based on the year of lecture and to determine academic and non-academic factors that influence the occurrence of burnout syndrome in medical students.

Method: This study is a cross-sectional with respondents from the Medical Study Program, Faculty of Medicine, Airlangga University in the 2019-2021 class. The sampling technique was carried out by consecutive sampling. Data collection using a questionnaire. Instrument used is a burnout scale questionnaire made by Freudenberger and Richelson which has been translated into Indonesian

Results: The results showed that 136 medical students had filled out the distributed questionnaires. The total number of students affected by burnout is 71 people with a percentage of 52.2%. In this study, the academic and non-academic factors that were found to have a significant effect on the occurrence of burnout in students were the average lecture time (p-value = 0.011), study fatigue (p-value = 0.038), and free time (p-value = 0.037) through logistic regression.

Conclusion: There is a correlation between the incidence of burnout with the variable duration of daily lectures, study fatigue, and free time.

Keywords: Burnout, Medical Students, Academic Factors, Non Academic Factors, Prevalence

1. Introduction

Burnout is a symptom characterized by emotional exhaustion and cynicism that often occurs in individuals with activities that have a workload with demands for interaction with others [1]. Many studies on burnout have been carried out in various fields, not limited to the workforce, but carried out by medical students as respondents [2]. Burnout has the possibility that it can also occur in students even though by definition students are not considered to be working or not having a job. According to the psychological aspect, a student is considered "working" because he is involved in activities that are structured and mandatory, such as attending classes and completing assignments [3].

Students of medical study programs with continuous exposure to high levels of stress can lead to Burnout Syndrome [4]. Factors that contribute to an increase in student stress levels can come from academic factors themselves such as the learning system model used with the results of student expectations related to learning systems that are equated with learning systems of other educational institutions. Apart from factors from the educational environment, other factors can also come from non-academic factors such as student background which shows the ability of students to adapt while attending lectures [5,6].

A good and effective learning process has an influence on the occurrence of burnout in medical students, besides that the adaptability of students is also one of the factors that can influence the emergence of burnout syndrome in students. Another factor mentioned in the research is the lecture activities undertaken, the great pressure from the activities undertaken by students tends to cause students to withdraw from the lectures being undertaken. Besides that, other factors belonging to the academic field that influence the occurrence of burnout are fatigue in learning and satisfaction with the teaching system [5]. Motivation in learning and duration of daily lecture time are also factors with a fairly high association with burnout [6].

Non-academic factors were also found to have an influence on the occurrence of burnout in several studies that have been conducted, namely gender [5]. One other non-academic factor that has an association with the occurrence of burnout is age [7]. Leisure time also has a relationship with burnout [6]. In the same study it was also explained that physical activity has a significant relationship with the occurrence of burnout syndrome in medical students. Parents' income can have an influence on the occurrence of burnout by means of support provided by families with parents' income who are quite capable of providing the support needed by students in reducing stress [8]. Order of birth can shape personality which determines attitudes in dealing with stress [9], while the number of births is also explained as a factor related to the occurrence of burnout because it is suspected that only children have difficulties in dealing with stress which leads to burnout [10].

For students, burnout can have a negative impact which causes students to be lazy to study, experience a decrease in learning achievement, lose or experience a decrease in learning motivation, and have boredom in participating in teaching and learning activities [11]. In addition, when students experience burnout, students will experience symptoms such as feeling tired of their senses, reduced enthusiasm for participating in learning, no significant results from the lectures they attend [12]. Based on the reviews mentioned in several of the above literacies, the researcher wanted to know the relationship between the factors mentioned above and the sample in the Airlangga University Medical Study Program which is expected to contribute as basic data in the field of psychiatry.

2. Methods

This study is a cross-sectional with respondents from the Medical Study Program, Faculty of Medicine, Airlangga University in the 2019-2021 class. The sampling technique was carried out by consecutive sampling. The minimum sample size is 90 ($N = 854$ $d = 0.10$). Data collection using a questionnaire.

$$n = \frac{N}{N \cdot d^2 + 1}$$

The instrument used in this research is a burnout scale questionnaire made by Freudenberger and Richelson which has been translated into Indonesian. The questionnaire is used to find out information about the burnout level of the respondents. The questions asked were 14 items with Likert scale answers from the range 1-5 with each answer meaning the degree of severity of each question asked. After the respondent filled in, the total score was found to be categorized as not burnout and burnout, for a score with a total of 0-35 indicates that the respondent did not experience burnout while for a score with a total of 36-65 and above indicates that the respondent experienced burnout. This questionnaire has been validated and has a Cronbach Alpha value of 0.902 which indicates the reliability of the instrument meets the requirements according to the explanation from research that has been conducted [13].

1. Inclusion Criteria

Students of the Faculty of Medicine, Airlangga University who are carrying out pre-clinical studies for the 2019 - 2021 class year who are willing to fill out the questionnaire by signing or agreeing to the informed consent.

2. Exclusion Criteria

Filling in an incomplete questionnaire

3. Results

Retrieve data with a questionnaire in July - August 2022. Based on the data, 136 samples were obtained that fulfilled the requirements inclusion criteria.

3.1 Prevalence of Burnout Syndrome Incidence Rate in College Students

Table 1. Results of the Freudenberger and Richelson Burnout Scale

Burnout Rate	Frequency	Percentage
No Burnout	65	47.8%
Burnout	71	52.2%
Total	136	100%

Table 1 show screening section using the Freudenberger and Richelson burnout scale to determine the burnout level of the sample is to add up the Likert scores of each question and interpret them with a score of 0-35 indicating no burnout, while a score of 36-65 indicates experiencing burnout. From the table above it is known that students who did not experience burnout had a total of 65 people with a percentage of 47.8% and students who experienced burnout had a total of 71 people with a percentage of 52.2%.

3.2 Relationship between Academic and Non-Academic Factors with Burnout Syndrome

Table 2. Characteristics of Patent Ductus Arteriosus Patiens Using Occluder Transcatheter Based on Patient's Gender

Variable	With Burnouts N (%)	P
Duration of daily lecture time (hours)		0.020
4	8 (11.2%)	
4.5	0 (0%)	
5	13 (18.4%)	
5.5	1 (1.4%)	
6	20 (28.2%)	
6.5	2 (2.8%)	
7	10 (14.1%)	
7.5	0 (0%)	
8	16 (22.5%)	
8.5	0 (0%)	
9	1 (1.4%)	
Study fatigue		0.045
Yes	70 (98.6%)	
No	1 (1.4%)	
Leisure time		0.044
No	25 (35.2%)	
Yes	47 (64.8%)	

* p-value from regression logistic backward

Academic factor variables that have a correlation with the incidence of burnout syndrome are the duration of daily lecture time ($p = 0.020$) and study fatigue ($p = 0.045$), while for non-academic factors there is a variable of free time ($p = 0.044$).

3.3 The Effect of Academic and Non-Academic Factors on Burnout Syndrome

Table 3. Characteristics of Patent Ductus Arteriosus Patiens Using Occluder Transcatheter Based on Patient's Body Weight

Variable	B	Odd ratio
Duration of daily lecture time	-0.323	0.551
Study fatigue	2.178	1.052
Leisure time	-0.876	0.178

Duration of daily lecture time, shows a value of $OR = 0.724$ ($OR < 1$). A negative B value also tells if the relationship that occurs between the independent and dependent variables is negative so that it can be interpreted that the shorter the duration of daily lectures, the less likely it is for burnout to occur in students. Study fatigue shows a value of $OR = 8,826$ ($OR > 1$). A positive B score has an interpretation that the relationship caused by the independent variable with the dependent variable has a positive meaning so that students who do not have learning fatigue have a 8,826 times greater risk of not experiencing burnout syndrome. The odds ratio (OR) value of the non-academic factor variables of leisure time owned by students shows a value with $OR = 0.417$ ($OR < 1$). A negative B value for this variable indicates that the relationship

between the independent variables referred to as the dependent variable is negative, which means that students who do not have free time have a smaller risk of burnout not occurring.

4. Discussion

Prevalence of Burnout Syndrome Incidence Rate in College Students

The results of the burnout syndrome screening in this study are in accordance with several studies regarding the level of burnout events in students who have a percentage range of burnout events from 21 to 71%. For example, research conducted on medical students in Switzerland showed that 47% of students experienced burnout out of a total number of respondents of 127 medical students [14]. The same thing happened in a study conducted in Minnesota where as many as 45% of medical study program students experienced burnout with a total sample size of 545 students [15]. Differences in the number of different prevalences in research on burnout in medical students are caused by differences in the use of scales or instruments in measuring burnout and differences in the criteria used in categorizing burnout in the same instrument. Another thing that can cause differences in the prevalence of burnout can be divided into many factors such as differences in curriculum, teaching methods, available facilities, and other factors from the institutional and personal sides [16].

The timing of the research that was carried out after the pandemic could also be a factor in the incidence of burnout in this study. The global pandemic effect has caused teaching and learning activities to change from conventional learning to online learning. These sudden changes are not always followed by teaching staff who have technology-related capabilities that can support learning activities. Even though online learning can prevent transmission during a pandemic, there are negative effects such as depression, anxiety, and stress [17]. These negative effects can arise from the capacity of students to accept and adapt to the learning load during a pandemic.

Relationship of Academic and Non-Academic Factors to Burnout Syndrome

Through data analysis using the logistic regression method, three variables were found that had an effect on the occurrence of burnout syndrome in college students based on the Freudenberger and Richelson burnout scale. The results of the logistic regression showed that the academic factor variables, the duration of daily lecture time and fatigue in learning had an influence on the occurrence of burnout in this study, while in the non-academic factor variables there was a variable of free time which had an influence on the occurrence of burnout syndrome. Other studies also show the results that these three variables have a significant influence on the occurrence of burnout syndrome in medical students as indicated by the significant p-value as follows: the variable duration of daily lecture time has a p-value of less than 0.001, the variable fatigue in studying has a p-value of 0.013 and the leisure variable has a p-value of 0.005 [6].

Study fatigue causes a higher prevalence of burnout because it can cause loss of motivation, decreased sleep quality, and makes students susceptible to disease [18]. In this study, the relationship between learning fatigue and burnout rates can also be seen from the number of respondents. This can be seen from the number of respondents who answered that they experienced learning fatigue totaling 127 people, 70 of whom experienced burnout syndrome. The high number of study fatigue among the respondents in this study can occur due to the high demands of learning loads to achieve certain goals without being followed by adequate free time or rest. This also underlies the association of students with learning fatigue having a large number of incidents of burnout syndrome with a greater incidence. A study showed that there was a relationship between the occurrence of emotional exhaustion and the duration of lecture time as indicated by a significant p-value of 0.004. This study showed that students with a duration of more than 5 hours of study time had a high level of emotional exhaustion [19]. Other studies also discuss the burden of lectures such as excessive duration of lecture time which is one of the causes of stress for medical students at the beginning of lectures. Stress that arises from the burden of lectures can lead to depression and burnout in medical students [20].

The link between free time and the frequency of burnout syndrome in college students has also been explained in research that has been conducted, this relationship is based on free time as a coping mechanism to compensate for the stress felt by students. The study also explained that students with insufficient free time more easily accept stress which can lead to burnout. In the study, this was shown by the number of students who answered that they had enough free time, 51 of whom did not experience symptoms of burnout syndrome [6].

The Effect of Academic and Non-Academic Factors on Burnout Syndrome

On the results of the logistic regression test, after looking at the relationship between the variables of academic factors and non-academic factors on the incidence of burnout, a review of the effect caused by

variables that have a significant relationship to the incidence of burnout is carried out. Students with study fatigue have a greater risk of experiencing burnout syndrome, this is based on the consequences of learning fatigue in addition to causing stress which will develop into burnout can also make students experience a decrease in sleep quality and become more susceptible to disease [18]. Students with study fatigue indicate that the learning load they are carrying has caused stress which can lead to burnout syndrome. The effects of this are not only disruptive in academic terms but can also occur in other ways such as physical disturbances as mentioned earlier.

According to the results of the logistic regression test, the academic factor variable, the duration of daily lectures, has a negative effect on the incidence of burnout syndrome. These results differ from several findings from other literature which explain that the longer duration of daily lecture time can lead to high emotional exhaustion which leads to stress and triggers burnout [20]. The regression results showing the duration of daily lecture time has a negative relationship can be explained because the range of respondents' answers regarding the duration of lecture time which has a large distance and at the same time most respondents suffer from burnout are only distributed into short daily study durations. This difference can occur due to a number of factors, such as a small response rate for completing the questionnaire even though it has exceeded the minimum limit for the required sample. To further ensure this, it is necessary to conduct research with similar variables in the future.

In non-academic factor variables in free time, students who do not have free time have a greater risk of experiencing burnout syndrome. The negative relationship between the leisure time variable and the incidence of burnout syndrome can be explained after seeing that respondents who stated that they had sufficient free time experienced fewer burnouts. This indicates that using free time properly can be a preventive strategy against burnout in students. The effect of lack of free time is greater for students in the early years of lectures who still have difficulty adapting to the busy world of lectures. In addition, in a longer academic year, a lack of free time can occur with a greater study load offset by greater demands to achieve goals [21].

5. Conclusion

Based on the results of research "Correlation Between Academic and Non-Academic Factors with Burnout Syndrome Incidence in Medical Study Program Faculty of Medicine Airlangga University", the following conclusions can be drawn:

- 1) The prevalence of burnout syndrome in students of the Medical Study Program, Faculty of Medicine, Airlangga University, was 71 people from a total sample of 136 students.
- 2) Academic factor variables, duration of daily lectures and study fatigue experienced by students have a significant influence on the incidence of burnout syndrome in students of the Medical Study Program, Faculty of Medicine, Airlangga University, class year 2019-2021.
- 3) The variable non-academic factors of free time experienced by students have a significant influence on the incidence of burnout syndrome in students of the Medical Study Program, Faculty of Medicine, Airlangga University, 2019-2021 class year.
- 4) The shorter the duration of daily lectures, the less likely it is for students not to experience burnout, while students who experience study fatigue have a greater risk of experiencing burnout syndrome.
- 5) Students with sufficient leisure time have a smaller risk of burnout.

6. Recommendations

Future research is expected to have a greater response rate and use a comprehensive interview method

Acknowledgement

We thank the following individuals for the following expertise and assistance throughout all aspects of our study and for their help in writing the manuscript. We thank Prof. Dr. Budi Santoso, dr., SpOG(K) as the Dean of Faculty of Medicine, Airlangga University period 2020 - 2025. We thank Dr. Purwo Sri Rejeki, dr., M.Kes as the Coordinator of Faculty of Medicine, Airlangga University. And we thank Dr. Pudji Lestari, dr., M.Kes as the person in charge for research module in Faculty of Medicine, Airlangga University.

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