Hubungan Tingkat Stres Akademik dengan Perilaku Makan pada Mahasiswa Sarjana Fakultas Kesehatan Masyarakat Universitas Airlangga

Relationship between Academic Stress Level with Eating Behavior in Undergraduate Students of Faculty of Public Health Airlangga University

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ABSTRAK

Latar Belakang: Mahasiswa merupakan sekelompok individu yang termasuk dalam masa remaja dan dewasa muda dengan kebiasaan makan yang umumnya kurang baik yang dapat disebabkan oleh berbagai faktor. Tekanan dalam masalah akademik merupakan salah satu faktor utama stres mahasiswa, seperti keinginan untuk mendapatkan nilai tinggi dan kecemasan mahasiswa untuk berusaha agar tidak gagal. Mahasiswa seringkali mengabaikan beberapa rutinitas yang sebenarnya dapat menunjang performa dalam pembelajaran, salah satunya yaitu makan. Gaya hidup semacam ini dikaitkan dengan kesehatan yang buruk, yang pada akhirnya mempengaruhi kepuasan hidup. Kepuasan hidup orang dewasa muda salah satunya berkaitan dengan makan, karena makan dapat menentukan kondisi kesehatan.
Tujuan: Penelitian ini bertujuan untuk menganalisis hubungan tingkat stres akademik dengan perilaku makan pada mahasiswa Sarjana Fakultas Kesehatan Masyarakat Universitas Airlangga.
Metode: Penelitian ini merupakan penelitian kuantitatif dengan pendeketan cross sectional. Sampel penelitian sebesar 60 orang, diperoleh secara acak dengan simple random sampling pada microsoft excel. Pengumpulan data meliputi pengisian kuesioner karakteristik responden, tingkat stres akademik dengan Student-Life Stress Inventory, dan perilaku makan dengan Adult Eating Behaviour Questionnaire. Analisis data yang digunakan dalam penelitian ini adalah uji korelasi Spearman.
Hasil: Ditemukan 58,3% mahasiswa memiliki perilaku makan cenderung food avoidance dan 41,7% mahasiswa memiliki perilaku makan cenderung food approach. Sebanyak 58,3% mahasiswa mengalami tingkat stres akademik kategori sedang. Terdapat hubungan antara tingkat stres akademik (p = 0,001) dengan perilaku makan.
Kesimpulan: Kesimpulan dari penelitian ini yaitu mahasiswa yang memiliki tingkat stres akademik yang sedang mengalami perilaku makan cenderung food avoidance. Disarankan sebaiknya mahasiswa tetap dapat melakukan manajemen stres dengan baik dan melakukan pengaturan perilaku makan yaitu dengan memilih makanan yang sesuai dengan prinsip gizi seimbang dan tidak melewatkan sarapan atau makan.

Kata kunci: Gaya hidup sehat, Mahasiswa, Perilaku makan, Tingkat stres akademik

ABSTRACT

Background: College students are a group of individuals who belong to adolescence and young adulthood with generally poor eating habits that can be caused by various factors. Pressure in academic matters is one of the main factors of student stress, such as the desire to get high grades and student anxiety to try not to fail. Students often neglect some routines that can actually support performance in learning, one of which is eating. This kind of lifestyle is associated with poor health, which in turn affects

life satisfaction. Life satisfaction of young adults is related to eating, because eating can determine health conditions.

Objective: This study aims to analyze the relationship between academic stress levels and eating behavior in undergraduate students of the Faculty of Public Health, Universitas Airlangga.

Methods: This study was a quantitative study with a cross sectional approach. The research samples was 60 people, obtained randomly by simple random sampling on Microsoft Excel. Data collection included filling out a questionnaire of respondent characteristics, academic stress levels with the Student-Life Stress Inventory, and eating behavior with the Adult Eating Behaviour Questionnaire. Data analysis used in this study was Spearman correlation test.

Results: It was found that 58.3% of students had eating behavior that tended to food avoidance and 41.7% of students have eating behavior that tended to food approach. A total of 58.3% of students experienced academic stress levels. There was a relationship between academic stress level ($p = 0.001$) and eating behavior.

Conclusion: The conclusion of this study is that students who have moderate levels of academic stress experience eating behaviors that tend to be food avoidance. It is recommended that students still be able to manage stress well and regulate eating behavior by choosing foods that are in accordance with the principles of balanced nutrition and not skipping breakfast or eating.

Keywords: Academic stress level, Eating behavior, Healthy lifestyle, Student

INTRODUCTION

Students are a group of adolescents and young adults with generally poor eating habits (Alfiasari et al, 2012). Eating habits are often irregular, often snacking or snacking, often skipping breakfast or even not eating lunch at all (Amandatiana, 2019). Currently, students like fast food such as instant noodles, so they consume less foods that contain fiber (Jafar et al, 2014). There are several factors that can affect student eating behavior. The main influencing factors are university policies, the presence of restaurants, family, students and peers (Gryzela, 2020). The existence of globalization is also one of the factors that can change the eating behavior of these students, namely increasing food consumption outside the home and consuming more processed foods (Surjadi, 2013). Limited lunch breaks, certain meetings or events, tight class hours, and empty class time can make students choose to eat fast food. Especially when class hours are empty, it will cause students to eat and chat together, and often choose a place to eat, namely fastfood restaurants or canteens (Surjadi, 2013). Seeing the existence of several factors that can affect a person's eating behavior and the negative impact, one of which is overweight, eating behavior raises an urgency because it plays a role in everyday life.

Students are defined as individuals who are studying in higher education and are responsible for completing their studies (Wulandari, 2012). Students tend to explore the life path they will choose, because individuals will begin to search and determine their identity, learn to adapt to new environments, focus on achieving goals, and think about what will happen in the future (Santrock, 2019). To achieve maximum performance, of course, fosters good health. But in general, what happens is a decrease in the level of health and strength that is physically visible because individuals complain of decreased ability (Tamrin, 2021). This happens because when growing up, individuals are so focused on what must be achieved that in adulthood individuals do not realize that they have developed a pattern of skipping breakfast, eating irregularly, and relying on snacks as the main source of food throughout the day (Tamrin, 2021). Students often ignore some routines that can actually support performance in learning, one of which is eating. Students often skip breakfast because they wake up late due to doing assignments until late at night and usually choose the food available in the canteen, because there is little time to go to class the next hour or don't even have time to think about food because they feel dizzy with the coursework that must be completed (Tamrin, 2021). According to research conducted by Arraniri et al (2017), only 45% of students have regular breakfast habits. Meanwhile, another study showed that only 4.1% of students regularly consume breakfast (Kurniyanti et al, 2018). This is in line with the opinion that early adult age groups consistently tend to skip meals compared to other age groups (Australian Bureau of Statistics, 2014).

In general, stress is a part of student life (Khan et al, 2013). The responsibilities and demands of academic life on students can be part of the stress that students commonly face. The number of students who experience academic stress increases every semester. The stress most often experienced by students is academic stress. Academic stress is

defined as a condition in which individuals experience pressure due to perceptions and judgments about academic stressors related to science and education in higher education (Kountul et al, 2018). Pressure in academic matters is one of the main causes of student stress, the desire to get high grades, and student anxiety to try not to fail. The obstacles, challenges, and constraints that students must face in completing their higher education, one of which is completing the final project. Time management is one of the problems faced by students during the study period, especially during the study completion period. This means that students must be able to manage themselves in various ways to optimize their time (Ulfah, 2010). Based on the findings of Rosyad (2019), of the six STIKes Yogyakarta nursing students who were preparing a thesis, four students said they had no interest in research, had difficulty determining research titles, had difficulty getting references, and three students said they felt anxious to meet with the supervisor, while working on the thesis felt more tired and felt burdened every time a friend had an exam. These factors are stressors that cause students stress while working on the thesis.

Students who are unable to overcome stressors with good coping skills can make students vulnerable to stress. When someone experiences stress, the stress can disrupt the patient's body balance (Miliandani & Meilita, 2021). One of the body balances that is disturbed due to stress is the body's physiology related to food intake. When the body experiences stress, the body gives orders from the hypothalamus to the adrenal glands to release the hormones adrenaline and cortisol. This cortisol hormone has the effect of increasing appetite. Meanwhile, the decrease in appetite is caused by the adrenal glands producing more epinephrine hormone, triggering the body's response to delay eating (Rahmawati, 2020). According to Wahyuni's research (2017) stress responses in students can be in the form of task avoidance, withdrawal, sleep disturbances, constant sleep, and eating difficulties. This is because they receive various kinds of stressors from various parties, such as demands from parents to get a high Grade Point Average, assignments with short deadlines, and student activities, such as organizations or UKM (Student Activity Unit) to improve soft skills. In addition, there is an additional burden when students are in their final year, namely working on a thesis as a graduation requirement (Wijayanti et al, 2019). The research is similar to a 2016 study conducted in America where 72% of students experienced stress (Nicholas, 2016). Some studies show that students who experience stress show a decrease in academic performance, decreased health, depression, and also experience sleep disturbances (Gaol, 2016).

Based on the description above, the researcher wants to analyze the relationship between academic stress level and eating behavior in undergraduate students of the Faculty of Public Health, Universitas Airlangga, because although health students are considered to have adequate nutritional knowledge, this is not always followed by the selection and proper eating behavior. This study is expected to provide an overview of information regarding the level of academic stress with eating behavior in undergraduate students of the Faculty of Public Health, Universitas Airlangga.

METHODS

This type of research is quantitative research with a cross sectional approach. The research was conducted at the Faculty of Public Health, Universitas Airlangga. The population in this study were undergraduate students of the Faculty of Public Health Class of 2019 and 2020 who were actively studying at Universitas Airlangga, which amounted to 703 students. Determination of the sample in this study was carried out by simple random sampling, where the researcher collected a list of names of class students from each class from class Public Health Science (IKM) A to Nutrition B class of 2019 and class IKM A to Nutrition B class of 2020, then the sample was taken randomly by lottery / drawing using the random formula in Microsoft Excel. The number of samples in this study was 60 people, obtained using the calculation of the Lemeshow et al, 1990 formula and selected according to the inclusion criteria of this study.

The inclusion criteria include students in 2019 and 2020 who are actively studying at the Faculty of Public Health, Universitas Airlangga and are willing to become research subjects and are willing to fill out the questionnaires given. As for the exclusion criteria, including students in a state of illness, undergoing special diets related to diet (such as vegan, vegetarian diets, disease diets under the supervision of a nutritionist or doctor, as well as athlete diets with the aim of increasing / decreasing weight), and having a history of visiting or consulting a psychiatrist.

This study used a questionnaire instrument to obtain data on the characteristics of respondents, the level of academic stress using the Student-Life Stress Inventory questionnaire. The score results were then categorized into three categories, namely low ($X \leq 49.67$), medium ($49.67 \leq X < 72.33$), and high ($X \geq 72.33$). Eating behavior using the Adult Eating Behaviour Questionnaire. The scores were then categorized into food avoidance eating behavior (if the subscales Slowing in Eating, Emotional Under Eating, Satiety Responsiveness, Food Fussiness < mean) and food approach eating behavior (if the subscales Hunger, Food Responsiveness, Emotional Over Eating, Enjoyment of Food > mean). Mean is obtained from the total score of respondents divided by the number of respondents.

The data analysis technique used was the Spearman correlation test. This research has obtained approval from the ethical feasibility commission of the Faculty of Dentistry, Universitas Airlangga with number 692/HRECC.FODM/VI/2023.

RESULT AND DISCUSSION

Characteristics of Respondents

The research conducted aims to see the relationship of academic stress levels with eating behavior in Undergraduate Students of Faculty of Public Health Universitas Airlangga Class of 2019 & 2020 involving 60 respondents. The characteristics of respondents identified were age, gender, residence, monthly money, and intra/extra campus activities or organizations.

Table 1. Distribution of Characteristics in Undergraduate Students of Faculty of Public Health Universitas Airlangga Class of 2019 & 2020

Characteristics of Respondents	Frequency	Percentages (%)
Age (years)		
20	8	13,3
21	28	46,7
22	19	31,7
23	5	8,3
Total	60	100,0
Gender		
Male	6	10,0
Female	54	90,0
Total	60	100,0
Residence		
Home	34	56,7
Boarding House/Contract	26	43,3
Total	60	100,0
Monthly Money		
<800.000	23	38,3
800.000-1.200.000	15	25,0
>1.200.000	22	36,7
Total	60	100,0
Intra/Extra Campus Activities or Organizations		
None	36	60,0
1-2 Organizations	19	31,7
>2 Organizations	5	8,3
Total	60	100,0

The distribution of respondent characteristics including age, gender, residence, monthly money, intra/extra campus activities or organizations can be seen in Table 1. Most participants were women aged 20-23 years with an average age of 21 years. As many as 56.7% of respondents lived at home, as many as 38.3% of respondents had pocket money of Rp. <800,000, and as many as 60% of respondents did not participate in intra/extra campus activities or organizations.

Academic Stress Level

Information regarding the frequency of academic stress levels in respondents to identify the level of academic stress in respondents. The frequency of academic stress levels is divided into 3 categories, namely low ($X \leq 49.67$), medium ($49.67 \leq X < 72.33$), and high ($X \geq 72.33$).

Table 2. Distribution of Academic Stress Levels in Undergraduate Students of Faculty of Public Health Universitas Airlangga Class of 2019 & 2020

Academic Stress Level	Frequency	Percentages (%)
Low	11	18,3
Medium	35	58,3
High	14	23,3
Total	60	100,0

Based on the research results in Table 2. shows that of the 60 students studied there were 11 students (18.3%) with low academic stress levels, 35 students (58.3%) with moderate academic stress levels, and 14 students (23.3%) with high academic stress levels. The data illustrates that the majority of 2019 and 2020 undergraduate students of the Faculty of Public Health, Universitas Airlangga have moderate levels of academic stress.

Academic stress is a situation where students cannot cope with academic demands and perceive the academic demands received as a disturbance. Academic stress is caused by academic stressors (Sayekti, 2017). The level of academic stress in this study was obtained from the Student-Life Stress Inventory (SLSI) form. The results of the study were categorized into three scores, namely high, medium, and low. Categorization is done using the mean results. The results showed that 58.3% or as many as 35 out of 60 respondents had moderate levels of academic stress. This has similarities with research conducted by Astuti et al (2017) who examined the description of student stress levels at Universitas Muhammadiyah Magelang where the description of student stress levels showed moderate stress as many as 58 students (57.4%). This is also in line with the research of Rasyid et al (2021), students experience the most academic stress in the moderate category, namely 80 people (39.2%) and research conducted by Purwati (2012), the stress level of regular students of class 2010 Faculty of Nursing Science (FIK) Universitas Indonesia mostly experienced moderate levels of academic stress.

Data collection related to the level of academic stress was taken when the class of 2019 was in the period of completing the final project or thesis and the class of 2020 was in the final semester exam period where the higher the level of the course

load, the more difficult the course. During this time, the 2019 and 2020 batch students also tend to experience a period of boredom/burnout. According to Pines and Aronson in Astuti (2017) burnout is physical, emotional, and mental fatigue caused by long-term involvement in demanding situations caused by the process of preparing a thesis and studying to get the desired academic score and completing assignments. The causes of academic stress can be caused by various things such as academic pressure, high expectations, limited opportunities, and high competitiveness (Nakalema & Ssenyonga, 2013). Students feel stressed due to external demands in order to complete the final project or thesis for students in 2019 and study to get the desired grades and complete various report assignments for students in 2020. Another cause is that there are high expectations but this does not match reality (Laksmiwati & Bunga, 2022).

Eating Behavior

Information on the frequency of eating behavior in respondents to identify eating behavior in respondents. The frequency of eating behavior is divided into 2 categories, namely food avoidance and food approach.

Table 3. Distribution of Eating Behavior in Undergraduate Students of Faculty of Public Health Universitas Airlangga Class of 2019 & 2020

Eating Behavior	Frequency	Percentages (%)
Food Avoidance	35	58,3
Food Approach	25	41,7
Total	60	100,0

Based on the research results in Table 3. shows that of the 60 students studied, there are 35 students (58.3%) with eating behaviors that tend to be food avoidance and 25 students (41.7%) with eating behaviors that tend to be food approach. The data illustrates that the majority of 2019 and 2020 undergraduate students of the Faculty of Public Health, Universitas Airlangga have eating behaviors that tend to be food avoidance.

Eating behavior is a complex interaction of physiological, psychological, social, and genetic factors that influence meal timing, quantity of food intake, food preferences, and food selection and involves taste selection, food preferences, pathological eating behavior, food size, and food selection (Grimm & Steinle, 2011). Eating behavior in this study was obtained from the Adult Eating Behavior Questionnaire (AEBQ) form. The results of the study are based on eight subscales, namely the subscale of 'food approach' (Hunger, Food Responsiveness, Emotional Over Eating, Enjoyment of Food) and the subscale of 'food avoidance' (Slowing in Eating, Emotional Under Eating, Satiety Responsiveness, and Food Fussiness) (Hunot et al,

2016). The results showed that 58.3% or 35 out of 60 respondents had eating behaviors that tended to be food avoidance and 41.7% or 25 out of 60 respondents had eating behaviors that tended to be food approach. This has similarities with research conducted by Khoiroh (2022) where 58.3%% of respondents have poor eating behavior and research conducted by Pujiati et al (2015) states that the majority of adolescent eating behavior is not good as many as 37 adolescents (60.9%) of 62 samples. This shows that respondents have a low interest in eating.

Data collection related to eating behavior was taken when the class of 2019 was in the period of completing the final project or thesis and the class of 2020 during the final semester exams. This student eating behavior is influenced by several internal and external factors. Internal factors are triggered by physiological factors in the form of hunger, satiety, and psychological factors, namely seen from appetite, emotions (mood, stress), and personality type. While external factors are influenced by peers, culture, religion, advertising media, economic level, atmosphere in the family, and education or awareness of health (Mardalena, 2017). Students are included in the range of physical changes, this often has unhealthy eating behavior. This can be seen in student behavior such as reducing food intake by skipping breakfast and holding back hunger (Sulaeha, 2018). There are also students who often spend their time or a lot of campus activities or off-campus activities so they tend to skip meals and often consume snacks or snacks. The snacks are usually fast food but are often high in calories and fat such as junk food. It is likely that the food consumed does not have good nutrition for the body and health. So that there is a lack of nutrients and can result in reduced learning ability and concentration. Nutrient deficiencies in students will have an impact on their activities, such as looking lethargic, getting tired easily, and a decrease in their learning achievement (Masdewi et al, 2011).

Relationship between Academic Stress Level and Eating Behavior

Based on Table 4. it can be seen that students with moderate levels of academic stress have eating behaviors that tend to food avoidance by 31.7% and eating behaviors that tend to food approach by 26.7%. In the spearman test, the p-value resulted 0.001 which is <0.05 α, so it can be concluded that this value indicates a relationship between the level of academic stress and eating behavior in 2019 and 2020 undergraduate students of the Faculty of Public Health, Universitas Airlangga. This result is certainly in line with research conducted by Tamrin (2021) and Wijayanti et al (2019) which states that there is a significant relationship between academic stress levels and eating behavior in students. Another study by Marhama (2015) regarding the effect of stress on

eating behavior in students showed that respondents experiencing moderate to high stress had poor eating patterns. This means that the higher the level of academic stress, the more respondents tend to have poor eating behavior. In line with El Ansari's research in Syahrofi & Muniroh (2019), that stress can result in changes in unhealthy eating behavior and low consumption of vegetables and fruit. In certain stressful conditions some people can lose weight due to decreased appetite. This is in line with the statement of Wijayanti et al (2019) that some people when under stress will consume small amounts of food or even not eat at all. Stress is known to cause eating disorders, either in the form of decreased or increased appetite. Some people with certain characteristics when in a stressful position consume more snacks and experience an increase in total food intake. Unstable emotions cause individuals to choose escapism by consuming high energy foods, as food is proven to create feelings of comfort. In addition to increased appetite, stress can also cause a decrease in appetite because the mood is not supportive of providing food intake to the body (Defie & Purbosari, 2018).

The advantages of this study are able to show that there is a level of academic stress with eating behavior in Undergraduate Students of Faculty of Public Health Universitas Airlangga Class of 2019 & 2020. It is hoped that further similar research can examine the level of academic stress based on the dimensions of each variable in order to enrich the discussion and support the results of the study and can also relate to variables of respondent characteristics or with different variables.

Table 4. Relationship between Academic Stress Level and Eating Behavior in Undergraduate Students of Faculty of Public Health Universitas Airlangga Class of 2019 & 2020

Academic Stress Level	Eating Behavior				Total		p-value
	Food Avoidance		Food Approach				
	n	%	n	%	n	%	
Low	11	18,3	0	0	11	18,3	
Medium	19	31,7	16	26,7	35	58,3	0,001
High	5	8,3	9	15	14	23,3	
Total	35	58,3	25	41,7	60	100	

CONCLUSIONS

The majority of 2019 and 2020 batch students of the Faculty of Public Health Universitas Airlangga had moderate levels of academic stress and eating behavior tends to be food avoidance. From this study, it was found that there is a relationship between academic stress level and eating behavior in 2019 and 2020 batch students of the Faculty of Public Health, Universitas Airlangga. Thus, academic stress that cannot be avoided during the completion of final assignments and coursework can be minimized by discussing problems with others with the aim of finding solutions or as a place to share and it is also expected that students pay more attention to eating behavior as a preventive measure from nutritional problems that arise in the future, and to support the quality of health status, especially in the field of nutrition.

Author Contributions

SARN: *conceptualization, data curation, formal analysis, funding acquisition, investigation, methodology, project administration, resources, software, visualization, roles/writing - original draft*, SS: *supervision, writing-review & editing*.

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