**Journal Indonesian Impression (JII)**
**Vol. 4, No. 1, January 2025**
p-ISSN: 2828-1284 e-ISSN: 2810-062x
website: https: //rivierapublishing.id/JII/ index.php / jii /index

# RELATIONSHIP BETWEEN STRESS AND EAR-NOSE-THROAT DISORDER EXAM VALUES IN MEDICAL EDUCATION STUDENTS OF THE FACULTY OF MEDICINE, SAM RATULANGI UNIVERSITY

**Gebriela Naomi Waani[1], Linda Maya Tompodung[2], Heriyannis Homenta[3]**
gebrielawaani011@student.unsrat.ac.id[1], linda_tompodung@unsrat.ac.id[2],
herihomenta@unsrat.ac.id
Samratulangi University, Indonesia

**Keywords**
Stress level, ENT exam score, perceived stress scale

**Abstract**
Stres academic is one of significant challenges for student medicine, especially Because burden dense and demanding curriculum high academic. Stress This can influence performance academic in a way direct and also No directly. Research This focus on relationships between level stress and results exam module Disturbance Ear Nose Throat (ENT-KL) in students medical class of 2022 at Sam Ratulangi University. Research This aiming For analyze connection between level stress experienced students and results mark exam module ENT-KL disorders, as well as give outlook related interventions that can done For support welfare students. Research use design observational analytic with cross-sectional approach. The sample consists of of the 204 students who met the requirements criteria inclusion. Stress level measured use Perceived Stress Scale (PSS-10) instrument, while mark exam module obtained from notes academic official. Analysis done using the Spearman-rho correlation test to determine connection between level stress and results mark exam. Most of student be at the level stress moderate (71.1%) and successful to obtain A grade (92.6%) on the exam module. The Spearman-rho test shows No existence connection significant between level stress and value test ($p = 0.756$; $r = 0.022$). Findings This show that level stress No in a way direct influence achievement academic student in module this. Research results This indicates that although level stress currently often experienced by students, this is the No always become barrier for achievement academic. Support institutional, such as training management stress and counseling, can help student with level stress tall for reach balance between pressure academic and performance.

Corresponding Author : Gebriela Naomi Waani
E-mail: herihomenta@unsrat.ac.id

## INTRODUCTION

Stres has be one of problem psychological the biggest one faced individuals worldwide. The World Health Organization (WHO) states that stress is " an epidemic " health 21st century," with more of the 350 million people worldwide experience it every year. In the context of education high, stress academic has identified as reason main disturbance mental health, such as anxiety and depression, which results in a decrease in quality life students. According to the American Psychological Association (APA), stress is response emotional and physical to pressure or perceived demands someone. Student medical in a way special face far

Doi: 10.58344/jii.v4i1.6271

pressure more big compared to student from field studies other Because dense curriculum, responsibility answer clinical, and expectations For reach performance high academic standing (APA, 2024;Abdulghani et al., 2011)

Worldwide, The prevalence stress in students medical reported to be very high. A research in Saudi Arabia shows that more from 70% of students medical experience level stress currently until heavy consequence pressure academic (Abdulghani et al., 2011). Something similar was also found in Indonesia, where research by Bakhtiar (2020) revealed that level stress in students medical can influence quality life and results academic they . Stress This No only influence mental health, but also has impact straight to ability student For understand material learning and completing task academic with Good (Joseph et al., 2021).

In context local in Indonesia, students medical often face unique challenges, including burden curriculum based on block, pressure exam clinical, and preparation For exam module that has weight big in evaluation end. Disturbance Module Ear Nose Throat (ENT) is one of the module important in education medical treatment that requires mastery material deep as well as ability high analysis. Research byAkbar et al. (2024) show that high stress in students medical can cause decline mark academic in a way significant. In addition, the factor culture in Indonesia, such as expectation family to success academic, can also increase pressure psychologically felt student (Alesha et al., 2024).

Stres academics who are not managed with Good can cause disturbance serious mental health, including risk kill increased self (Alesha et al., 2024). In context student medicine, impact stress This can influence the future professional they as doctor. Therefore that 's important For understand to what extent stress influence results academic students, especially in the module ENT Disorders. Research this also has relevance practical Because the result can used For to design purposeful intervention increase welfare students and results academic they.

Study previously has show mixed results related connection between stress and performance academic. For example, Abdulghani et al. (2011) found that level high stress in a way significant influence ability student medical for finish exam with good. On the other hand, research by (Harahap & Riza, 2024) show that stress at the level currently can functioning as a motivator, helping student reach more results Good. The theory of eustress and distress proposed by Bienertova-Vasku et al. (2020)is also relevant in explain How stress can impact positive or negative depends on the way individual manage it. Study byBaik et al. (2019) emphasize importance tool measuring valid stress, such as the Perceived Stress Scale (PSS-10), in understand perception stress student.

Study This offer Updates with focus on relationships between level stress and value exam module ENT disorders, which have not been Lots under review in a way specifically in Indonesia. In addition, research This use a comprehensive approach with merge tool measuring valid stress and reliable academic data. The results of the study this expected can give contribution new in field education medicine, in particular in context local.

Study This aiming For Analyze level stress experienced student Sam Ratulangi University Medical School in preparation face exam ENT Disorders. Identifying connection between level stress and results mark exam module ENT Disorders. Providing recommendation

strategic for reduce stress academic and improve welfare as well as performance academic student.

## RESEARCH METHODS

### Types of research

Study This is study observational purposeful analytics For analyze connection between level stress with mark exam module Disturbance Ear Nose Throat (ENT) in students medicine.

### Approach Study

Study This use cross-sectional approach, where data is collected at one time time certain For identify connection between variable level stress and value exam.

### Population and Sample

**Population :** Students batch 2022 Medical Education Study Program Faculty Faculty of Medicine, Sam Ratulangi University.

**Sample:** Research sample determined use total sampling technique, namely as many as 204 students who meet the requirements criteria inclusion.

### Data collection technique

**Primary Data:**

- Stress levels measured use Perceived Stress Scale (PSS-10) questionnaire which has been validated.
- Questionnaire shared online via Google Forms.

**Secondary Data :** Exam scores module Acquired ENT disorders from notes academic Faculty Faculty of Medicine, Sam Ratulangi University.

### Data Analysis Techniques

**Analysis Univariate :** Describes distribution frequency level stress and value exam module .

**Analysis Bivariate :**

- Connection between level stress and value exam tested using the Spearman-Rho test, because the data is on an ordinal scale.
- Significance level set at $p<0.05p < 0.05p<0.05$.

### Analysis Tools

**Stress Level Instrument :**

- Perceived Stress Scale (PSS-10) was used For measure perception stress .
- Stress score grouped become :
  - Low : 0-13
  - Medium: 14-26
  - Height: 27-40

**Criteria Validity and Reliability :**

- PSS-10 instrument has Cronbach's Alpha reliability of $\alpha=0.78\alpha = 0.78\alpha=0.78$, indicating level high internal consistency (Cohen et al., 1983).
- Validity tool measuring has tested on a population similar and shows adequate results.

### Analysis Tool Criteria

**Validity :** Measuring instrument considered valid if show significant relationship between the measured items with construction theoretically expected.

**Reliability :** Cronbach's Alpha is higher big from 0.70 is considered Enough For show reliability internal consistency.

**Interpretation Coefficient Correlation :**

- 0.00−0.190.00-0.190.00−0.19: Very weak relationship
- 0.20−0.390.20-0.390.20−0.39: Relationship weak
- 0.40−0.590.40-0.590.40−0.59: Relationship currently
- 0.60−0.790.60-0.790.60−0.79: Relationship strong
- 0.80−1.000.80-1.000.80−1.00: Very strong relationship

## RESULTS AND DISCUSSION

Research result obtained from subject data research consisting of 204 students batch 2022 Medical Education Study Program Faculty Sam Ratulangi University of Medicine which has fulfil criteria inclusion and through total sampling technique of population affordable study.

**Characteristics Subject**

**Table 1. Characteristics Subject**

| No | Characteristics | Category | n | % |
|---|---|---|---|---|
| **1.** | Age | 18 | 1 | 0.5 |
| | | 19 | 52 | 25.5 |
| | | 20 | 110 | 53.9 |
| | | 21 | 37 | 18.1 |
| | | 22 | 3 | 1.5 |
| | | 23 | 1 | 0.5 |
| **2.** | Gender | Woman | 131 | 64.2 |
| | | Man | 73 | 35.8 |

Characteristics subject study consists of from **age** and **type gender**, which can give description profile student medical class of 2022 who became respondents.

**Age**

- Majority student aged **20 years** as many as 110 people ( **53.9%** ).
- Age 19 years occupy position second with 52 people ( **25.5%** ).
- Student with 21 years old is 37 people ( **18.1%** ), while only **4 people** aged over 21 years ( 22 and 23 years old respectively 1.5% and 0.5%).
- This data show majority student are at a normal age for level education this, indicates relevant curriculum with range age they.

**Gender**

- As many as **131 students women** ( **64.2%** ) dominate amount participants compared to with **73 students male** ( **35.8%** ).
- Composition This reflect trend common in education medicine, where participation Woman often more tall.

**Distribution Stress Level Frequency**

**Table 2. Distribution of Stress Levels by Category**

| Category | Mark | n | % |
|---|---|---|---|
| **Light** | 0-13 | 40 | 19.6 |
| **Currently** | 14-26 | 145 | 71.1 |
| **Tall** | 27-40 | 19 | 9.3 |
| **Total** | | **204** | **100** |

Measurement results stress use instrument **The PSS-10** (Perceived Stress Scale) provides description level pressure academic experience student.

- **Stres Mild** : Experienced by **40 students** (**19.6%**). Group This show level good adaptation to pressure academic.
- **Moderate Stress** : Majority students (**145 people, 71.1%**) are in the category this. Condition This show existence pressure sufficient academic significant but Not yet reach dangerous level.
- **High Stress** : As many as **19 students** ( **9.3%** ) experienced stress high. Student in category This at risk experience impact negative on health physical and mental if No get adequate support.

**Distribution of Module Exam Scores**

**Table 3. Distribution of Exam Scores by Category**

| Category | Mark | n | % |
|---|---|---|---|
| **A** | 80.00-100 | 189 | 92.6 |
| **B+** | 76.00-79.99 | 15 | 7.4 |
| **B** | 70.00-75.99 | 0 | 0 |
| **C+** | 65.00-69.99 | 0 | 0 |
| **C** | 60.00-64.99 | 0 | 0 |
| **D** | 50.00-59.99 | 0 | 0 |
| **E** | <50 | 0 | 0 |
| **Total** | | **204** | **100** |

**Disorders** Module Exam Score **-KL** show very good result in a way Overall :

- As many as **189 students** (**92.6%** ) succeeded to obtain **A value** (80.00–100). This result show mastery very good material in parts big student.
- **15 students** (**7.4%** ) received **B+ grade** (76.00–79.99). Although classified as good, group This need evaluation For identify possible obstacles influence performance academic they.
- n't any students who get grades below B+ ( category B to lower).

**Interpretation** : This result show that curriculum and methods learning applied in study programs this succeed support performance optimal academic.

**Analysis Bivariate**

**Distribution Based on Category Stres**

**Table 4. Overview of Stress Levels with Exam Scores**

| PSS Category | | Module Exam Score | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|---|
| | | A | B+ | B | C+ | C | D | E | |
| **Light** | n | 38 | 2 | 0 | 0 | 0 | 0 | 0 | 40 |
| | % | 18.6 | 1 | 0 | 0 | 0 | 0 | 0 | 19.6 |
| **Currently** | n | 133 | 12 | 0 | 0 | 0 | 0 | 0 | 145 |
| | % | 65.2 | 5.9 | 0 | 0 | 0 | 0 | 0 | 71.1 |
| **Tall** | n | 18 | 1 | 0 | 0 | 0 | 0 | 0 | 19 |
| | % | 8.8 | 0.5 | 0 | 0 | 0 | 0 | 0 | 9.3 |
| **Total** | n | 189 | 15 | 0 | 0 | 0 | 0 | 0 | 100 |
| | % | 92.6 | 7.4 | 0 | 0 | 0 | 0 | 0 | 100 |

- **Stres Light** :
  - 38 students (18.6%) received A grade.
  - 2 students (1%) received B+ grade.
- **Moderate Stress** :
  - 133 students (65.2%) received A grade.
  - 12 students (5.9%) received B+ grade.
- **High Stress** :
  - 18 students (8.8%) received A grade.
  - 1 student (0.5%) received B+ grade.

**Interpretation** :
- Student with stress light until currently dominate acquisition value A, shows that stress at the level certain No always detrimental, but can become booster motivation.
- Student with stress tall still capable to obtain mark good (category A and B+), which indicates possibility existence factor Supporter such as effective coping strategies or support social.

**Statistical Test Results**

**Table 5. Spearman rho Correlation Test of Stress Level with Exam Scores**

| Variables | n | r | p |
|---|---|---|---|
| **Stress Level** | 204 | 0.022 | 0.756 |
| **Test scores** | 204 | | |

Analysis bivariate done for know connection between level stress and value exam module using correlation test **Spearman-rho**.

**Statistical Test Results**
- **P value** : 0.756 ( **p > 0.05** ), indicating **No There is connection significant** in a way statistics between level stress and value exam module.
- **Coefficient correlation (r)** : 0.022, indicating very weak relationship with direction positive. This means, the increase level stress No impact real on the increase or decline mark exam.

## Discussion

Stres academic has become issue main in the world of education high, especially among student medicine that faces curriculum solid, pressure competition, and expectations mark high. Research This aiming For evaluate connection between level stress and results academic, especially in module ENT-KL disorders. Although Lots study has identify existence connection between stress and performance academic, inconsistent results bring up need For explore more carry on in context local.

Research result show that majority students (71.1%) experienced level stress moderate, and some large (92.6%) success to obtain value A. Spearman-rho correlation test shows No existence connection significant between level stress and value exam module ($p = 0.756$; $r = 0.022$). Findings This support a number of studies previously which shows that stress No always influence results academic in a way direct.

## Analysis

### *Stress Level*

- Student with level stress currently dominating, consistent with another study where students medical often experience pressure academic currently consequence demands learning. This is support theory **Teaching and Learning Related Stressors (TLRS)** which states that pressure in education can become stress positive (**eustress** ) if balanced with mechanism good coping.
- However, some small students (9.3%) with stress tall show the need attention special Because prolonged stress can impact negative on mental and physical health they.

### *Connection Stress and Achievement*

- Absence connection significant between level stress and value exam can explained by the existence of factors mediation like support social, motivation intrinsic, and method effective learning. This is consistent with studies previously by Annas B who also showed results similar among student medicine.
- On the other hand, some study others, such as those conducted by Jessica T & Arlends C, found connection significant between stress and performance academic. Differences This can caused by variation tool measuring stress or condition different academics in institutions other education.

### *Distribution of Values*

Distribution high score (92.6% of students) to obtain value A) reflects success curriculum implemented in the Faculty Sam Ratulangi University of Medicine. This can also be done show that level stress in the majority student No hinder they For reach results optimal academic. Discussion This highlight that level stress currently No always become inhibitor performance academic. On the other hand, if balanced with mechanism good coping, stress can become motivating factors. However, attention special need given to student with level stress tall For ensure their mental health still awake, so that No impact negative on success academic they.

## CONCLUSION

Study This show that although majority student be at the level stress while, they still capable reach results good academics, as indicated by its height proportion A grade on the ENT Disorders Module -KL exam. The absence of connection significant between level stress and value exam indicates that factor others, such as learning strategies, support social, or ability adaptation, maybe more play a role in achievement academic students. Findings This highlight the need a more approach holistic in support welfare students, in particular in environment education medical.

## REFERENCE

Abdulghani HM, AlKanhal AA, Mahmoud ES, Ponnamperuma GG, Alfaris EA. Stress and its effects on medical students: a cross-sectional study at a college of medicine in Saudi Arabia. J Health Pop Nutr . 2011 Oct;29(5):516–22. DOI:10.3329/ jhpn.v 29i5.8906

Akbar TR, Fithriyah I, Dewanti L, Nyong Husain A. Relationship between Stress Level and Academic Grade in Medical Students of Airlangga University. Available from: https://e-journal.unair.ac.id/jps . https://doi.org/10.20473/jps.v13i1.48630

Alesha Muslim M, Auliya Rahmawati N, Mu Z, Billah Tasimah , Sultan Ageng Tirtayasa U. Causal Factors Suicide in College Students . Journal Jurisprudence [Internet]. 2024;1(2):261–6. Available from: DOI: https://doi.org/10.62017/syariah.v1i2.585

Al- Rouq F, Al-Otaibi A, AlSaikhan A, Al-Essa M, Al- Mazidi S. Assessing Physiological and Psychological Factors Contributing to Stress among Medical Students: Implications for Health. Int J Environ Res Public Health [Internet]. 2022 Dec 1;19(24). Available from: https://doi.org/10.3390/ijerph192416822

WHAT. Stress Definition [Internet]. Available from: https://www.apa.org/topics/stress

Fine SH, Fox RS, Mills SD, Roesch SC, Sadler GR, Klonoff EA, et al. Reliability and validity of the Perceived Stress Scale-10 in Hispanic Americans with English or Spanish language preference. J Health Psychol. 2019 Apr 1;24(5):628–39. DOI:10.1177/1359105316684938

Bakhtiar A. Relationship between Stress Levels To Academic Achievement in College Students . Jakarta ; Nov 2020

Bienertova-Vasku J, Lenart P, Scheringer M. Eustress and Distress: Neither Good Nor Bad, but Rather the Same? BioEssays . 2020 Jul 17;42(7). DOI:10.1002/bies.201900238

Casogi Adryana N, Oktafany , Apriliana E, Oktaria D. Comparison of Stress Levels in First, Second and Third Year Students of the Faculty of University of Lampung Medicine. Vol. 9. Lampung; 2020 Dec.

Chu B, Marwaha K, Sanvictores T, Awosika AO, Ayers D. Physiology, Stress Reaction. 2024.

Cohen S, Kamarck T, Mermelstein R. A Global Measure of Perceived Stress. J Health Soc Behav . 1983 Dec;24:385 –96. DOI:10.2307/2136404

Dani Feriyanto D, Sulistyani S, Ichsan B, Herawati E. The Relationship Between Stress Levels and To Index Performance Cumulative Student Faculty Medicine . Surakarta; 2021.

Ebrahim OS, Sayed HA, Rabei S, Hegazy N. Perceived stress and anxiety among medical students at Helwan University: A cross-sectional study. J Public Health Res [Internet]. 2024 Jan 1;13(1). Available from: https://doi.org/10.1186/s12888-024-05820-1

Elani HW, Allison PJ, Kumar RA, Mancini L, Lambrou A, Bedos C. A systematic review of stress in dental students. J Dent Educ. 2014 Feb;78(2):226–42. DOI:10.1002/j.0022-0337.2014.78. 2.tb05673.x

Fares J, Al Tabosh H, Saadeddin Z, El Mouhayyar C, Aridi H. Stress, burnout and coping strategies in preclinical medical students [Internet]. Vol. 8, North American Journal of Medical Sciences. North American Journal of Medical Sciences; 2016. p. 75–81. Available from: https://doi.org/10.4103/1947-2714.177299

Folkman S. Stress: Appraisal and Coping. Encyclopedia of Behavioral Medicine . 2013;1913–5.

Gibbons C. Measuring stress and eustress in nursing students [Internet]. 2008 June. Available from: https://doi.org/10.1111/j.1365-2648.2007.04497.x

Habashi K, Simanton E. Wellness Activities, Stress, and Academic Performance in Medical Students. Cureus [Internet]. 2024 Jun 19; Available from: https://doi.org/10.7759/cureus.62704

Harahap N. Relationship Stres Student Year First with Study Skills Block Value in the Faculty Medicine, Muhammadiyah University of North Sumatra. Medan; 2017.

Helmahani MA, Biromo AR. Stress Level Relationship with Learning Outcomes Student Faculty Tarumanagara University Medical School Class of 2017. EBERS PAPYRUS. 2022;28(2):31–40.

Hendikawati P. Analysis of Influencing Factors Index Performance Students . :27–35.

Irawaty ES, Soebaryo RW, Felaza E. Overview of Stress Levels Student Faculty Tarumanagara University Medical School in Face Exam Skills Clinical .

Joseph N, Nallapati A, Machado MX, Nair V, Matele S, Muthusamy N, et al. Assessment of academic stress and its coping mechanisms among undergraduate medical students in a large Midwestern university. Current Psychology [Internet]. 2021 Jun 1;40(6):2599–609. Available from: https://doi.org/10.1007/s12144-020-00963-2

Karnina R. The Comparison of the Cumulative Grade Point Average on Medical Student Living in Dormitory and Boarding House of a Medical School [Internet]. Vol. 8, Indonesian Journal of Medical Education -The Indonesian Journal of Medical Education Resiana Karnina . Jakarta; 2019 Mar. Available from: https://doi.org/10.22146/jpki.35778

Karuppaiah G, Lee MH, Bhansali S, Manickam P. Electrochemical sensors for cortisol detection: Principles, designs, fabrication, and characterization. Biosens Bioelectron . 2023 Nov;239:115600.

Karyotaki E, Cuijpers P, Albor Y, Alonso J, Auerbach RP, Bantjes J, et al. Sources of Stress and Their Associations With Mental Disorders Among College Students: Results of the World Health Organization World Mental Health Surveys International College Student Initiative. Front Psychol [Internet]. 2020 Jul 30;11. Available from: https://doi.org/10.3389/fpsyg.2020.01759

Khatake P, Twinkle H, Salgar A. Stress among medical students and its impact on academic performance. Biomedicine (India) [Internet]. 2022 Jul 3;42(3):620–2. Available from: https://doi.org/10.51248/.v42i3.1212

Lahey BB. Psychology: an introduction. McGraw-Hill Higher Education; 2012.

Maitri G, Dharma I, Yuliadi I, Setyowati R. Relationship between Adversity Quotient and Distress Psychology in Medical Students of Sebelas Maret University Surakarta [Internet]. Vol. 4, Philanthropy Journal of Psychology. Online; 2020. Available from: http://journals.usm.ac.id/index.php/philanthropy

McLeod C, Guy-Evans O. The Yerkes-Dodson Law of Arousal and Performance Literature Review. 2023 Nov.