Anxiety Level and Risk Factors in Medical Students

Arisyna¹, Florentina Sustini²*, Nalini Muhdi³

¹Faculty of Medicine, Universitas Airlangga, Surabaya, Indonesia.
²Department of Public Health and Preventive Medicine, Faculty of Medicine, Universitas Airlangga, Surabaya, Indonesia.
³Department of Psychiatry, Faculty of Medicine, Universitas Airlangga, Surabaya, Indonesia.

A B S T R A C T

Introduction: Medical students are more susceptible to anxiety than non-medical students. This study aimed to describe the anxiety level and its risk factors among the first, third, and fifth year medical students in Universitas Airlangga.

Methods: We conducted cross-sectional study involving 195 medical students by consecutive sampling. The inclusion criteria in this study were all first, third, and fifth year medical students who were willing to participate in the study. The data was recorded using questionnaire of anxiety risk factors, Hamilton Rating Scale for Anxiety, and Miller and Smith Stress Vulnerability Scale. All data then was processed and analyzed descriptively.

Results: From 195 students, 57 male (29.2%) and 138 female (70.8%) students participated, consisted of 63 first year, 68 third year, and 64 fifth year students. Anxiety mostly occurred in fifth year students (20.3%), followed by first year (19%), and third year students (11.8%). Anxiety mostly occurred in male (24.6%), at the age of 17 (33.3%), susceptible to stress (75%), dissatisfied with physical condition (29.2%), had chronic diseases (26.4%), on middle birth order (34.6%), had frequent conflict with parents in almost every month (50%), lived in dorm (20%), had no close friends (33.3%), perceived that health was not important (100%), orphaned (18.8%), low parental income (35%), overburdened with examination (26.3%), and dissatisfied with the examination criteria (26.5%).

Conclusion: Fifth year medical students had the highest frequency of anxiety, while third year students had the lowest frequency. Nevertheless, based on the age, anxiety mostly occurred at the age of 17. These conditions were caused by some risk factors.

© 2020 JUXTA: Jurnal Ilmiah Mahasiswa Kedokteran Universitas Airlangga. Available at https://e-journal.unair.ac.id/juxta

* Correspondence: florentina_sustini@yahoo.com

JUXTA: Jurnal Ilmiah Mahasiswa Kedokteran Universitas Airlangga
p-ISSN: 1907-3623; e-ISSN: 2684-9453
DOI: 10.20473/juxta.V11I22020.79-82
Open access under Creative Commons Attribution-ShareAlike 4.0 International License (CC-BY-SA)

ARTICLE INFO

Article history:
Received 19 June 2020
Received in revised form 3 July 2020
Accepted 20 July 2020

Keywords:
Anxiety,
Medical student,
HARS,
Miller and Smith Stress Vulnerability Scale.
Introduction

Nowadays, mental health becomes an apprehensive issue, including among the students. Anxiety is the most common mental health problem in students (41.6%), followed by depression (36.4%), and the remaining 35.8% are interpersonal relationships problems.1 Medical students are more susceptible to anxiety than non-medical students, with the highest frequency occur at third and fourth years.2 In Asia, a study in Lahore, Pakistan, found that 43.7% of female students experienced anxiety and 19.5% experienced depression. The prevalence of anxiety at first, second, third, fourth, and fifth year students was 35.0%, 30.0%, 20%, 55.2% and 46.7%, respectively.3 In Multan, Pakistan, the prevalence of anxiety and depression at first, second, third, fourth, and last year was 45.86%, 52.58%, 47.14%, 28.75%, and 45.10% sequentially.4 Data in Indonesia, from Faculty of Medicine, Sebelas Maret University, found the anxiety level between the preclinical students and co-assistants was significantly different, where co-assistant students were more anxious and depressive than preclinical students.5

A study showed that every individual has basic anxiety that would make a person more likely to experience anxiety in a stressful situation. This basic anxiety was part of the personality formed by life experience.6 All of the factors are classified into two, i.e. internal factors (gender, history of chronic illness, physical condition, perception of health, stress vulnerability, and personality) and external factors (year of study, parental status, domicile, number of close friends, frequency of conflict with parents, economic status, birth order, examination loads, and examination criteria dissatisfaction). This study described both internal and external factors, except personality. There are no studies that describe the level of anxiety, especially in students in Faculty of Medicine, Universitas Airlangga. Therefore, this study aimed to describe the level of anxiety in first, third, and fifth year students in Faculty of Medicine, Universitas Airlangga, to help identify early and determine the intervention or ways to reduce it. Moreover, it is expected that the study performance and the potential of first, third, and fifth year medical students of Universitas Airlangga can enhance optimally.

Methods

This study was a descriptive study with cross-sectional design conducted in Faculty of Medicine, Universitas Airlangga from July 2014 to September 2015. The sample of this study was 195 first, third, and fifth year students of Faculty of Medicine, Universitas Airlangga in the year of 2014-2015. The inclusion criteria in this study were all first, third, and fifth year medical students who were willing to participate in the study, while the exclusion criteria were students who had not passed the sub-program yudisium or had taken leave of at least one semester. This study used three questionnaire: Hamilton Rating Scale for Anxiety7, Miller and Smith Stress Vulnerability8, and a questionnaire listing internal and external risk factors which was validated. All subjects gave written informed consent. The data were collected by fulfilling the questionnaire online and offline, then processed and analyzed descriptively.

Results

This study conducted in Faculty of Medicine, Universitas Airlangga from July 2014 to September 2015, involving 195 students consisted of 68 third year students, followed by 64 fifth year students, and 63 first year students. The age varied from 17 to 25 years old and was dominated by female students. Table 1 describes the prevalence of anxiety based on the characteristics of the subjects. Although majority of the students had no anxiety, anxiety mostly occurred in the first and the fifth year students with a slight difference.

Table 1. The characteristics of the subjects.

| Variables          | Frequency N=195 | No anxiety n(%) | Mild n(%) | Moderate n(%) | Severe n(%) | Very Severe n(%) |
|--------------------|-----------------|-----------------|-----------|---------------|-------------|------------------|
| **Year of Study**  |                 |                 |           |               |             |                  |
| First              | 63              | 51 (81)         | 6 (9.5)   | 4 (6.3)       | 2 (3.2)     | 0 (0)            |
| Third              | 68              | 60 (88.2)       | 3 (4.4)   | 2 (3)         | 3 (4.4)     | 0 (0)            |
| Fifth              | 64              | 51 (79.7)       | 9 (14)    | 3 (4.7)       | 1 (1.6)     | 0 (0)            |
| **Gender**         |                 |                 |           |               |             |                  |
| Male               | 57              | 119 (86.2)      | 10 (7.2)  | 6 (4.4)       | 3 (2.2)     | 0 (0)            |
| Female             | 138             | 43 (75.4)       | 8 (14)    | 3 (5.3)       | 3 (5.3)     | 0 (0)            |
| **Age**            |                 |                 |           |               |             |                  |
| 17                 | 9               | 6 (66.7)        | 1 (11.1)  | 1 (11.1)      | 1 (11.1)    | 0 (0)            |
| 18                 | 19              | 18 (94.7)       | 1 (5.3)   | 0 (0)         | 0 (0)       | 0 (0)            |
| 19                 | 33              | 25 (75.9)       | 4 (12.1)  | 3 (9.1)       | 1 (3)       | 0 (0)            |
| 20                 | 29              | 25 (86.2)       | 1 (3.4)   | 1 (3.4)       | 2 (7)       | 0 (0)            |
| 21                 | 42              | 37 (88.1)       | 3 (7.1)   | 1 (2.4)       | 1 (2.4)     | 0 (0)            |
| 22                 | 21              | 18 (85.7)       | 2 (9.5)   | 0 (0)         | 1 (4.8)     | 0 (0)            |
| 23                 | 39              | 30 (76.9)       | 6 (15.4)  | 3 (7.7)       | 0 (0)       | 0 (0)            |
| 24                 | 2               | 2 (100)         | 0 (0)     | 0 (0)         | 0 (0)       | 0 (0)            |
| 25                 | 1               | 1 (100)         | 0 (0)     | 0 (0)         | 0 (0)       | 0 (0)            |
Table 2. Description of anxiety levels based on the year of study, gender, age, physical condition satisfaction, health perception, history of chronic illness, parental status, domicile, number of close friends, birth orders, frequency of conflict with parents, parental income, examination loads, satisfaction towards examination criteria, and levels of stress vulnerability.

| Variables                               | Frequency | No anxiety n(%) | Mild n(%) | Moderate n(%) | Severe n(%) | Very Severe n(%) |
|-----------------------------------------|-----------|-----------------|----------|--------------|-------------|-----------------|
| **Physical Satisfaction**              |           |                 |          |              |             |                 |
| Yes                                     | 147       | 128 (87.1)      | 13 (8.8) | 4 (2.7)      | 2 (1.4)     | 0 (0)           |
| No                                      | 48        | 34 (70.8)       | 5 (10.4) | 5 (10.4)     | 4 (8.4)     | 0 (0)           |
| **Health Perception**                  |           |                 |          |              |             |                 |
| Important                               | 194       | 162 (83.5)      | 17 (8.8) | 9 (4.6)      | 6 (3.1)     | 0 (0)           |
| Unimportant                             | 1         | 0 (0)           | 1 (100)  | 0 (0)        | 0 (0)       | 0 (0)           |
| **History of Chronic Illness**         |           |                 |          |              |             |                 |
| No                                      | 176       | 148 (84.1)      | 15 (8.5) | 8 (4.5)      | 5 (2.9)     | 0 (0)           |
| Yes                                     | 19        | 14 (73.6)       | 3 (15.8) | 1 (5.3)      | 1 (5.3)     | 0 (0)           |
| **Parental Status**                    |           |                 |          |              |             |                 |
| Both live and together                  | 171       | 142 (83)        | 15 (8.8) | 9 (5.3)      | 5 (2.9)     | 0 (0)           |
| One or both has died                    | 16        | 13 (81.2)       | 3 (18.8) | 0 (0)        | 0 (0)       | 0 (0)           |
| Both live but divorced                  | 8         | 7 (87.5)        | 0 (0)    | 0 (0)        | 1 (12.5)    | 0 (0)           |
| **Domicile**                           |           |                 |          |              |             |                 |
| Home                                    | 110       | 94 (85.5)       | 10 (9.1) | 3 (2.7)      | 3 (2.7)     | 0 (0)           |
| Dorm                                    | 85        | 68 (80)         | 8 (9.4)  | 6 (7)        | 3 (3.6)     | 0 (0)           |
| **Number of Close Friends**            |           |                 |          |              |             |                 |
| >5                                      | 139       | 120 (86.3)      | 10 (7.2) | 6 (4.3)      | 3 (2.2)     | 0 (0)           |
| 3-5                                     | 35        | 27 (77.2)       | 4 (11.4) | 2 (5.7)      | 2 (5.7)     | 0 (0)           |
| 1-2                                     | 18        | 13 (72.1)       | 3 (16.7) | 1 (5.6)      | 1 (5.6)     | 0 (0)           |
| 0                                       | 3         | 2 (66.7)        | 1 (33.3) | 0 (0)        | 0 (0)       | 0 (0)           |
| **Birth Order in Siblings**            |           |                 |          |              |             |                 |
| The last                                | 67        | 57 (85.1)       | 5 (7.5)  | 3 (4.5)      | 2 (2.9)     | 0 (0)           |
| Middle                                  | 26        | 17 (65.4)       | 2 (7.7)  | 5 (19.2)     | 2 (7.7)     | 0 (0)           |
| The first                               | 102       | 88 (86.3)       | 11 (10.8)| 1 (1)       | 2 (1.9)     | 0 (0)           |
| **Conflict with Parents**              |           |                 |          |              |             |                 |
| Rarely                                  | 154       | 136 (88.3)      | 12 (7.8) | 6 (3.9)      | 0 (0)       | 0 (0)           |
| Almost every month                      | 23        | 17 (73.9)       | 2 (8.7)  | 2 (8.7)      | 2 (8.7)     | 0 (0)           |
| Almost every week                       | 18        | 9 (50)          | 4 (22.2) | 1 (5.6)      | 4 (22.2)    | 0 (0)           |
| **Parental Income**                    |           |                 |          |              |             |                 |
| > Minimum Wage                          | 175       | 149 (85.1)      | 14 (8)   | 9 (5.1)      | 3 (1.8)     | 0 (0)           |
| < Minimum Wage                          | 20        | 13 (65)         | 4 (20)   | 0 (0)        | 3 (15)      | 0 (0)           |
| **Examination Loads**                  |           |                 |          |              |             |                 |
| Light                                   | 23        | 21 (91.4)       | 1 (4.3)  | 1 (4.3)      | 0 (0)       | 0 (0)           |
| Moderate                                | 134       | 113 (84.3)      | 15 (11.1)| 4 (2.1)      | 2 (1.5)     | 0 (0)           |
| Heavy                                   | 38        | 28 (73.7)       | 2 (5.3)  | 4 (10.5)     | 4 (10.5)    | 0 (0)           |
| **Examination Criteria Satisfaction**  |           |                 |          |              |             |                 |
| Yes                                     | 112       | 101 (90.2)      | 10 (8.9) | 1 (0.9)      | 0 (0)       | 0 (0)           |
| No                                      | 83        | 61 (73.5)       | 8 (9.6)  | 8 (9.6)      | 6 (7.3)     | 0 (0)           |
| **Levels of Stress Vulnerability**     |           |                 |          |              |             |                 |
| Good                                    | 94        | 88 (93.6)       | 3 (3.2)  | 2 (2.2)      | 1 (1)       | 0 (0)           |
| Moderate                                | 93        | 72 (77.4)       | 11 (11.8)| 6 (6.5)      | 4 (4.3)     | 0 (0)           |
| Poor                                    | 8         | 2 (25)          | 4 (50)   | 1 (12.5)     | 1 (12.5)    | 0 (0)           |
This study has some limitations; firstly, there was no data on anxiety in general population. Secondly, the questionnaire depended upon self-reported measures. Thirdly, the students tended to finish their questionnaire in a short time because of limited time. Fourthly, the anonymity of this study made it impossible to recheck the results.

CONFLICT OF INTEREST

The author stated there is no conflict of interest in this study.

REFERENCES

1. Association AP. College Students’ Mental Health is a Growing Concern, Survey Finds. In: Psychology Mo, (ed.). Washington DC2013.
2. Rosenthal JM and Okie S. White Coat, Mood Indigo — Depression in Medical School The New England Journal of Medicine. 2005.
3. Rab F, Mandou R and Nasir S. Rates of Depression and Anxiety among Female Medical Students in Pakistan. Eastern Mediterranean Health Journal 2008; 14: 126-33.
4. Jadoon N, Yaqoob R, Raza A, Shehzad M and Zeshan S. Anxiety and Depression among Medical Students: A cross-Sectional Study. Journal of Pakistan Medical Association. 2010; 60: 699-702.
5. Widosari Y. Perbedaan Derajat Kecemasan dan Depresi Mahasiswa Kedokteran Preklinik dan Ko-assisten di FK UNS Surakarta Surakarta: Universitas Sebelas Maret, 2010.
6. Auliani R. Hubungan Antara Tipe Kecemasan dengan Prestasi Belajar Statistik Mahasiswa Fakultas Psikologi UIN Jakarta Jakarta: UIN, 2010.
7. Hamilton M. Hamilton Anxiety rating Scale (HAM-A). 1959.
8. Anon. How Vulnerable Are You To Stress? The Miller- Smith Lifestyle Assessment Inventory. 2005.
9. Sadock B and Sadock V. Kaplan & Sadock’s Synopsis of Psychiatry: Behavioral Sciences/Clinical Psychiatry. Philadelphia: Lippincott Williams & Wilkins, 2014.
10. Alvi T, Assad F, Ramzan M and Khan FA. Depression, Anxiety and Their Associated Factors among Medical Students. Journal of the College of Physicians and Surgeons—Pakistan : JCPSP. 2010; 20: 122-6.
11. Nguyen HT, Dunne MP and Le AV. Multiple Types of Child Maltreatment and Adolescent Mental Health in Viet Nam. 2009.
12. Fitrasa I. Faktor yang Berhubungan dengan Kejadian Stres pada Mahasiswa Fakultas Kesehatan Masyarakat Universitas Airlangga Surabaya: Universitas Airlangga, 2011.