



## The Relationship Between Depression Levels and Antisocial Behavior Among Students in the Faculty of Medicine at Nusa Cendana University

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### Abstract

The prevalence of psychological distress among medical students is higher than that of the general population, with depression being one of the most commonly reported conditions. Psychosocial disorders, such as stress and depression, may develop into more severe depressive disorders and antisocial behavior if left untreated. This study aimed to identify the relationship between depression levels and antisocial behavior among students at the Faculty of Medicine, Nusa Cendana University. A cross-sectional design was employed in this study. The sample consisted of 122 students from the Faculty of Medicine, Nusa Cendana University, from the 2017, 2018, and 2019 cohorts. Depression levels were measured using the validated Beck Depression Inventory-II (BDI-II) questionnaire, while antisocial behavior was assessed using the Subtypes of Antisocial Behavior (STAB) questionnaire. Data were analyzed using Somers' d correlation test. The results showed that 86 respondents (70.49%) had minimal or no depression, 19 respondents (15.57%) had mild depression, 11 respondents (9.02%) had moderate depression, and 6 respondents (4.92%) had severe depression. Regarding antisocial behavior, 109 respondents (89.34%) demonstrated low levels of antisocial behavior, 13 respondents (10.66%) demonstrated moderate levels, and no respondents exhibited high levels of antisocial behavior. The analysis revealed a p-value of 0.001 ( $\alpha < 0.05$ ), indicating a statistically significant relationship between depression levels and antisocial behavior among students. Therefore, this study concluded that depression levels were significantly associated with antisocial behavior among students at the Faculty of Medicine, Nusa Cendana University ( $p = 0.001$ ).

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### INTRODUCTION

The medical study program has become one of the most popular choices among students entering higher education (Mohd Sidik et al., 2003). However, medical education is considered more stressful than other professional study programs due to its intensive academic demands and clinical requirements (Jeong et al., 2010). The prevalence of psychological distress among medical students has been reported to be higher than that of the general population, with depression being one of the most frequently reported mental health concerns among university students (Bahri Yusoff et al., 2013).

Depression is a common mental health disorder characterized by persistent depressed mood, loss of interest or pleasure, reduced energy, feelings of guilt or low self-esteem, disturbed sleep or appetite, and impaired concentration (Marcus, 2012). In Indonesia, the prevalence of depression among individuals aged over 15 years is highest in Southeast Sulawesi Province at 12.3%, while the lowest prevalence is reported in Jambi Province at 1.8%. East Nusa Tenggara Province ranks third highest after Southeast Sulawesi and Gorontalo (Ministry of Health of the Republic of Indonesia, 2018).

A study conducted across 21 countries, including countries in America, Europe, and Asia, found that approximately 27.2% of medical students experienced depressive symptoms,

while 11.1% reported suicidal thoughts (Rotenstein et al., 2016). Another study involving health science students in China found that 35.8% of participants experienced depression (Cheung & Yip, 2015). Similarly, a study at Diponegoro University involving 132 medical students reported that 27.3% of students experienced depression (Hardjosoesto et al., 2017).

Based on data from the National Collaborating Centre for Mental Health in the United Kingdom in 2010, psychosocial disorders commonly experienced by adolescents, such as stress and depression, may contribute to the development of more severe depressive disorders and antisocial behavior if left untreated (National Collaborating Centre for Mental Health, 2010).

Antisocial behavior is defined as behavior that violates social, family, school, or legal norms due to an individual's disregard for established social rules and expectations (Happy, 2017). Epidemiological studies conducted by Moran P. (2006) in several countries reported that the prevalence of antisocial behavior among adolescents in Indonesia was approximately 5 million individuals, or 2.1%, with a higher occurrence among males (Moran, 2006). Research conducted by P. Hossini at Kermanshah University of Medical Sciences showed that 15.3% of medical students exhibited aggressive behavior (Mirzaei\_Alavijeh et al., 2015). A study by M. Irfan at Peshawar Medical College in 2018 found that 20.3% of medical students demonstrated antisocial behavior (Irfan et al., 2018). Research conducted by Riastiningsih S. and Sidarta N. among students in Bogor found that 222 of 350 students (63.4%) exhibited antisocial behavior and that this condition was significantly associated with depression levels (Riastiningsih & Sidarta, 2018).

Based on previous studies, several research gaps remain. First, limited research has specifically examined the relationship between depression levels and antisocial behavior among medical students in East Nusa Tenggara, despite the province having one of the highest depression prevalence rates in Indonesia. Second, previous studies on medical student depression have primarily been conducted in Java and other regions, resulting in limited understanding of this issue in eastern Indonesia (Kloping et al. 2022; Lili et al. 2022; Ramadianto et al. 2022). Third, most existing studies have investigated depression and antisocial behavior separately or among general student populations, with limited attention given to medical students who experience unique academic pressures and stressors. Fourth, limited evidence is available regarding the strength of the relationship between depression levels and antisocial behavior specifically among medical students, as previous studies have predominantly focused on adolescents or general student populations.

This study provides several novel contributions. First, it specifically examines the relationship between depression levels and antisocial behavior among medical students at Nusa Cendana University, addressing geographical and population gaps in mental health research in eastern Indonesia. Second, this study applies validated instruments, namely the Beck Depression Inventory-II (BDI-II) for assessing depression levels and the Subtypes of Antisocial Behavior (STAB) questionnaire for assessing antisocial behavior, to generate reliable evidence regarding the prevalence and relationship between these conditions among medical students. Third, this research provides baseline information regarding mental health conditions among medical students in East Nusa Tenggara, which may support future intervention programs and policy development. Fourth, this study contributes to the limited literature examining the association between depression and antisocial behavior specifically within medical student populations.

Based on the aforementioned background, this study was conducted under the title “The Relationship Between Depression Levels and Antisocial Behavior Among Students in the Faculty of Medicine at Nusa Cendana University.” This study aims to identify the relationship between depression levels and antisocial behavior among students at the Faculty of Medicine, Nusa Cendana University, particularly those from the 2017, 2018, and 2019 cohorts. Theoretically, this study contributes to the understanding of the relationship between mental health disorders and behavioral problems among medical students while providing additional evidence from an understudied population in eastern Indonesia. Practically, the findings provide supporting data for the Faculty of Medicine at Nusa Cendana University to develop mental health screening programs, early intervention strategies, academic support policies, and counseling services. Furthermore, this research serves as a foundation for future studies investigating risk factors and intervention strategies related to depression and antisocial behavior among medical students.

## METHOD

This study employed a quantitative research method with a cross-sectional design to examine the relationship between depression levels and antisocial behavior among medical students. The study was conducted among students of the Faculty of Medicine, Nusa Cendana University (FK UNDANA), from the 2017, 2018, and 2019 cohorts. Data were collected using the Beck Depression Inventory-II (BDI-II) questionnaire to assess depression levels and the Subtypes of Antisocial Behavior (STAB) questionnaire to assess antisocial behavior.

The sample was selected using a stratified proportional random sampling technique, resulting in 122 respondents. The research was conducted at the Faculty of Medicine, Nusa Cendana University, Kupang City, from March to September 2020. The inclusion criteria consisted of FK UNDANA students from the 2017, 2018, and 2019 cohorts who agreed to participate, completed the questionnaires, and were not taking antidepressant medication. Students who did not complete the questionnaires were excluded from the study.

Data were analyzed using IBM SPSS Statistics version 25. Univariate analysis was performed to describe the distribution of depression levels and antisocial behavior, while bivariate analysis was conducted using Somers’ d correlation test to examine the relationship between the two variables.

## RESULTS AND DISCUSSION

### Sample Characteristics

In this study, data were obtained regarding the characteristics of the respondent which will be described in the following table.

**Table 1.** Characteristics of Respondents

| No | Variabel       | n   | %     |
|----|----------------|-----|-------|
| 1  | Gender         |     |       |
|    | a. Male        | 37  | 30,33 |
|    | b. Total Women | 85  | 69.67 |
|    |                | 122 |       |

| No | Variabel          | n   | %     |
|----|-------------------|-----|-------|
| 2  | Age               |     |       |
|    | a. 18 years old   | 13  | 10,66 |
|    | b. 19 years old   | 24  | 19,67 |
|    | c. 20 years       | 42  | 34,42 |
|    | d. 21 years old   | 30  | 24,59 |
|    | e. 22 years Total | 13  | 10,66 |
|    |                   | 122 |       |

Source: Primary data collected from questionnaire administration at the Faculty of Medicine, University of Nusa Cendana (March-September 2020).

Based on table 1 above, it can be seen that the number of male respondents was 37 people (30.33%) and the number of female respondents was 85 people (69.67%), so it can be seen that the number of female samples is more than men.

#### Frequency Distribution of Depression Rates

**Table 2.** Frequency Distribution of Depression Rates

| No | Level Depression                   | n   | %     |
|----|------------------------------------|-----|-------|
| 1. | Without Depression/Depresi Minimal | 86  | 70,49 |
| 2. | Depression Lightweight             | 19  | 15,57 |
| 3. | Depression Medium                  | 11  | 9,02  |
| 4. | Major Depression                   | 6   | 4,92  |
|    | Total                              | 122 | 100   |

Source: Primary data obtained from BDI-II questionnaire administration at the Faculty of Medicine, University of Nusa Cendana (March-September 2020).

The results of obtaining primary data on students of the Faculty of Medicine, Nusa Cendana University through the BDI-II questionnaire indicated that the number of students who experienced minimal/no depression was 86 people (70.49%), 19 people (15.57%) had mild depression, 11 people (9.02%), and 6 people had severe depression (4.92%).

#### Frequency Distribution of Antisocial Behavior

**Table 3.** Frequency Distribution of Antisocial Behavior

| No | Behavior Antisocial | Frequency | %     |
|----|---------------------|-----------|-------|
| 1  | Low                 | 109       | 89,34 |
| 2  | Medium              | 13        | 10,66 |
| 3  | Height              | -         | -     |
|    | Total               | 122       | 100   |

Source: Primary data obtained from STAB questionnaire administration at the Faculty of Medicine, University of Nusa Cendana (March-September 2020).

The results of obtaining primary data on students of the Faculty of Medicine, Nusa Cendana University through the STAB questionnaire indicated that 109 people had low antisocial behavior (89.34%), 13 people had moderate antisocial behavior (10.66%), and there were no respondents with high antisocial behavior.

Analysis of the Relationship between Depression Level and Antisocial Behavior From the results of the statistical test using SPSS 25, the values of  $p = 0.001$  and  $<0.05$  were obtained so that  $H_0$  was rejected and  $H_1$  was accepted and it can be concluded that there is a relationship between the level of depression and the antisocial behavior of Faculty student.

#### **Medicine, Nusa Cendana University.**

The results of this study also received a correlation coefficient value of 0.245 or it can be concluded that there is a weak correlation relationship between dependent variables and independent variables. The direction of the correlation coefficient obtained between the level of depression and antisocial behavior also has a positive correlation or goes in the same direction.

The data collected obtained the number of male respondents was 37 people and the number of female respondents was 85 people. Women are more prone to depression than men because of several factors, one of which is hormonal changes in women in the form of a decrease in the hormone estrogen at the beginning of the menstrual cycle which can affect the appearance of depression. Research by Shafa also stated that the female gender has a higher incidence of depression than the male gender (Shafa, 2016).

In this study, it was also found that the average age of respondents was 20 years. Age in this case is related to the level of the student's semester, so based on research conducted by Adissa Dinda, she said that students, both from the first semester to the end, always find it difficult when viewed in terms of lecture adaptation. The difficulties in the first semester due to the busy lecture schedule, continuous exams, and many assignments, are very different when they take the high school level. The existence of many activities also makes them even more overwhelmed and difficult to manage their time, in the following semesters they already have more friends, so they can face the burden of lectures together and help them adapt (Adissa Dinda Khairunnisa, n.d.). A survey conducted by Mental Health and Wellbeing in the UK reported that 2.8–4.0% of 18–64 year olds were diagnosed with antisocial personality disorder. This rate tends to decrease with age and occurs in both male and female genders (National Collaborating Centre for Mental Health, 2010).

The findings of this study show that students who are indicated to have depression are the most in no depression/at least depression as many as 86 people (70.49%). In this study, it was found that 6 students were indicated to have severe depression (4.92%). This shows that there are actually students who experience severe depressive disorder and need further attention, because there is an impact on students' academics. This is based on research by DeRoma, Leach, and Leverett in Andri Setia, there is a significant negative relationship between depression and academic performance. By screening for depression symptoms in students, it is hoped that a decline in students' academic scores can be anticipated early (Andri Setia, 2019).

The occurrence of depression in a person can occur due to psychosocial stressors such as past traumatic experiences, living under great social pressure, or a person's inability to adapt to the existing environment such as the family environment, school environment, and the community environment. Such a situation can increase a person's risk of depression and if not handled properly will continue to be antisocial behavior that will have a negative impact on social life. Rowe R. also said that adverse life events can result in a person's depressive events and have an impact on antisocial life (Rowe, 2006).

The results of this study also stated that the most antisocial behavior was found at a low level of 109 people (89.34%), followed by moderate antisocial as many as 13 people (10.66%).

The research from Dewi Simanullang said that one of the most dominant factors is the family process factor that affects antisocial behavior in adolescents. The family process includes family support, the application of effective discipline, parental attitudes, the parenting style applied, the role of parents and conflicts in the family (Simanullang & Daulay, n.d.). The research by Yudriansyah concluded that parental parenting greatly affects how children behave in the future (Yudriansyah, 2012). It was later clarified that the same study conducted by Novasari on 248 students in Surabaya found that authoritarian and pessimistic parenting tends to cause children to behave antisocially (Novasari, 2016). A study by Kastutik on 110 students in Bojonegoro found that parents with authoritarian parenting are more at risk of causing children to behave antisocially (Kastutik, 2014).

Data from the two variables studied after the somers' d analysis test using the SPSS 25 application obtained results of  $p = 0.001$  and  $<0.05$  which are statistically significant. The results of this study concluded that there is a significant relationship between the level of depression and antisocial behavior.

**Table 4.** Cross-Tabulation of Depression Levels and Antisocial Behavior

|                    |                                         | Antisocial Behavior |        | Total | Value<br>p | Correlation<br>Coefficients |
|--------------------|-----------------------------------------|---------------------|--------|-------|------------|-----------------------------|
|                    |                                         | Low                 | Medium |       |            |                             |
| Depression<br>Rate | No Depression<br>/Minimal<br>Depression | 84                  | 2      | 86    | 0,001      | 0,245                       |
|                    | Mild Depression                         | 13                  | 6      | 19    |            |                             |
|                    | Moderate Depression                     | 7                   | 4      | 11    |            |                             |
|                    | Major Depression                        | 5                   | 1      | 6     |            |                             |
| Total              |                                         | 109                 | 13     | 122   |            |                             |

Source: Bivariate analysis using Somers' d correlation test performed with IBM SPSS 25. Primary data collected from BDI-II and STAB questionnaires administered at the Faculty of Medicine, University of Nusa Cendana (March-September 2020).

This research is in line with research conducted by Baskoro on 37 students in Semarang city which showed that there is a relationship between the level of depression and antisocial behavior. Baskoro also mentioned that his research got an idea that a person with depressive disorder has a 10 times greater risk factor for developing antisocial behavior disorder compared to those who do not suffer from depression. Meanwhile, people who are not depressed have a risk factor of only 0.3 times to experience antisocial behavior disorder compared to people who are depressed (Baskoro, 2010).

This research is also supported by a study by Riastiningsih and Sidarta on 350 students in Bogor who stated that there is a relationship between the level of depression and antisocial behavior (Riastiningsih & Sidarta, 2018). The same research conducted by Ritakallio stated that the high incidence of depression can lead to antisocial behavior and antisocial tendencies that are more closed off from social support (Ritakallio et al., 2010).

## CONCLUSION

Based on the research findings, a significant relationship was identified between depression levels and antisocial behavior among students of the Faculty of Medicine, Nusa Cendana University, with a p-value of 0.001. Most students were categorized as having minimal or no depression, totaling 86 students (70.49%), followed by 19 students (15.57%) with mild depression, 11 students (9.02%) with moderate depression, and 6 students (4.92%) with severe depression. Regarding antisocial behavior, most students were categorized as having low levels of antisocial behavior, totaling 109 students (89.34%), while 13 students (10.66%) demonstrated moderate levels, and no students exhibited high levels of antisocial behavior. Based on respondent characteristics, female respondents outnumbered male respondents, with the average age of respondents being 20 years. The analysis further showed that the relationship between depression levels and antisocial behavior was weak but positive, with a correlation coefficient ( $r$ ) value of 0.245. This finding indicates that higher levels of depression tended to be associated with increased antisocial behavior, although the strength of the relationship was weak.

Based on these findings, this study recommends that the Faculty of Medicine at Nusa Cendana University establish regular mental health screening programs using validated instruments, such as the Beck Depression Inventory-II (BDI-II), to identify students at risk of depression and antisocial behavior. The university should strengthen counseling services and provide accessible mental health support systems, including professional psychological services and peer support programs, particularly for students showing early signs of psychological distress. Furthermore, mental health education and awareness programs should be integrated into the medical curriculum to reduce stigma and encourage students to seek professional support when needed. Academic policies should also consider strategies to manage excessive academic stress that may contribute to depressive symptoms. Future research should employ longitudinal designs to better examine causal relationships, investigate additional factors contributing to depression and antisocial behavior, expand sample coverage across multiple medical schools in eastern Indonesia, and evaluate the effectiveness of early intervention programs in reducing depression symptoms and preventing antisocial behavior among medical students.

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