

Depression Symptoms and Nutritional Status in Adolescents: Descriptive Study

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Abstract

Introduction: Depression is one of the mood disorders and often begins in adolescence. Adolescence is a golden period because the optimal process of cognitive, physical, social, and psychosocial growth and development occurs during adolescence. Adolescent health needs to be improved, including by optimizing nutritional status.

Method: This study aims to identify the prevalence of depression symptoms and nutritional status in adolescents. The variables in this study are depression symptoms and nutritional status. This study is a descriptive study with the cross-sectional method. The population of this research is adolescents aged 12-17 years. The research subjects are 115 students selected using a consecutive sampling technique.

Result: The results show that 68 respondents have no symptoms of depression (59.1%), and 47 respondents (40.9%) have symptoms of depression. The majority of respondents, 88 respondents (76.5%) have good nutritional status, 1 student has poor nutrition (0.9%), 3 respondents have less nutrition (2.6%), 15 respondents are overweight (13%), and 8 respondents are obese (7%).

Conclusion: The majority of respondents in this study have no symptoms of depression and have good nutritional status.

Keywords: adolescent, depression, nutritional status, mental health

1. Introduction

Depression is a mental health problem characterized by loss of interest, low emotional mood, and cognitive, physical, and daily behavior disturbances. Depression is one of the causes of global disability and often starts in adolescence (Rice et al., 2019). Adolescents have several risk factors, such as biological, environmental, social, and intrapersonal factors (Kris-Etherton et al., 2021). Adolescents with depressive symptoms have low levels of self-esteem due to poor interpersonal relationships, control of life events, and emotional control. In addition, interpersonal stressors such as relationships with parents, teachers, and friends that are not good enough can trigger depression (Fiorilli et al., 2019).

The incidence of depression globally in 2015 reached 4.4% or around 322 million people worldwide (WHO, 2017). Global data shows that depression is the fourth cause of illness and disability in adolescents aged 15-19 and the fifteenth for adolescents aged 10-14 (WHO, 2021). In Indonesia, the prevalence of depressive disorders in adolescents (15-24 years) reaches 6.2% of the Indonesian population (Indrayani & Wahyudi, 2019).

Depression often causes symptoms such as bad mood, loss of interest, loss of pleasure, guilt, low self-esteem, sleep disturbances, poor appetite, tiredness, poor concentration, and suicidal thoughts. A study shows differences between depressive symptoms that often appear in adolescents and adults. Symptoms of depression that are often found in adolescents are vegetative/physical disturbances such as loss of energy,

changes in weight, appetite, and changes in sleep patterns (Rice et al., 2019). Depressive symptoms have a negative impact, such as decreased function and quality of life, thus triggering various metabolic diseases (Penninx et al., 2013). In addition, someone with depression tends to have an unhealthy lifestyle and poor self-care (Penninx et al., 2013).

Depression and nutritional status in adolescents are important topics to study. Therefore, because of the importance of treating depression and the high incidence of depression globally, this study is present to describe depressive symptoms and nutritional status in adolescents.

2. Method

This study is a descriptive study with the cross-sectional method. The population in this study is adolescent students aged 12-17 years in boarding schools. The total sample is 115 students who have met the inclusion and exclusion criteria. The minimum sample limit is calculated using the Slovin formula. The sampling technique in this study used a consecutive sampling technique.

This study has two variables, nutritional status as the independent variable and depressive symptom status as the dependent variable. Nutritional status is calculated using anthropometry, while depressive symptom status is measured using the Children Depression Inventory (CDI) questionnaire.

3. Result

3.1. Depression Symptoms

Depression is an emotional disorder that can interfere with mental and physical health, so it has a negative impact on daily life and interpersonal relationships (Dirgayunita, 2016). Adolescents have emotional and physical development challenges, such as mental health disorders and emotional well-being (Alderman & Breuner, 2019).

Table 1. Frequency Distribution of Respondents' Depression Symptoms Status

Depression Symptoms Status	Frequency (f)	Percentage
Depressive symptoms	47	40,9%
No depressive symptoms	68	59,1%
Total	115	100%

In this study, the Children Depression Inventory (CDI) questionnaire was used to measure depressive symptoms. CDI can describe the psychological manifestations of depressive symptoms based on five dimensions: anhedonia, negative mood, negative self-esteem, ineffectiveness, and interpersonal problems (Kang et al., 2021). These five dimensions are shown in the CDI questionnaire in 27 questions. The cut-off for depressive symptoms on the CDI questionnaire is if the total score is ≥ 13 .

The results of this study (Table 1.) indicate differences in the prevalence of depressive and non-depressive symptoms in the sample that is not large enough. In this study, 47 students (40.9%) have symptoms of depression, and 68 students (59.1%) have no symptoms of depression. This study shows that the prevalence of depressive symptoms in the sample is high. The results of other studies related to the prevalence of depression in junior high school adolescents also show that as much as 51.1% of the sample experienced depression, ranging from mild, moderate, moderate, and severe categories. The remaining 48.9% are not depressed (minimum level of depression) (Febrianti & Husniawati, 2021). The 2018 Riskesdas data shows that the

prevalence of depression for ages 15-14 is 6.2% of the Indonesian population or around 11 million people. In Central Java, the prevalence of depression for residents aged > 15 years is 4.4% of the Indonesian population (Kementerian Kesehatan RI, 2018).

Several factors can cause the large incidence of depressive symptoms in this study. The risk factors for mental disorders are divided into 3: biological factors, such as genetic, brain function deficits, earlier puberty, and gray matter volume; social factors, such as environmental stressors and maternal depression; and sociological factors, such as low self-control (Lynch et al., 2021). The high incidence of depression in adolescents is caused by unstable moods and inadequate coping skills with stressors. Several factors might cause the adolescent to get depressed, including interpersonal relationships with parents, friends, or other people who are not good enough, academic difficulties, economic problems, and problems at home and school (Goyal et al., 2009).

3.2. Nutritional Status

Adolescence is a golden period because a person's physical and psychological growth and maturation are optimal, so it requires an adequate and balanced nutritional status (Das et al., 2017). According to (Par'i et al., 2017), nutritional status is the balance between consumed nutrient intake and the body's nutritional needs. Nutritional status in adolescents needs to be considered because nutritional status plays a role in the process of growth and development of adolescents.

Assessment of nutritional status in this study used anthropometric assessment with an index of assessment, namely Body Mass Index by Age. The results of the nutritional status assessment were divided into 5 categories: poor nutrition, less nutrition, good nutrition, overweight, and obesity.

Table 2. Frequency Distribution of Respondents' Nutritional Status

Nutritional status	Frequency (f)	Percentage
Poor nutrition	1	0,9%
Less nutrition	3	2,6%
Good nutrition	88	76,5%
Overweight	15	13%
Obesity	8	7%
Total	115	100%

Table 2. shows that most students have good nutrition totaling 88 students (76.5%). The remaining 1 student (0.9%) has poor nutrition; 3 students (2.6%) have less nutrition; 15 students (13%) have overweight status; 8 students (7%) have obesity status. The data shows that some students have abnormal nutritional status. The ratio between students with normal nutrition and abnormal nutrition is 3:1.

The same results were obtained in a study conducted on adolescents at other private boarding schools that showed most of the samples had good nutrition, but some samples had abnormal nutritional status (Abdullah et al., 2022). In that study, the ratio of students with normal and abnormal nutrition was 4:1. The results of this study indicated that 58 students (80.6%) have good nutrition; 1 student has less nutrition (1.4%); 11 students have overweight status (15.3%); 2 students have obesity status (2.8%). The 2018 Riskeddas data regarding the prevalence of nutritional status in adolescents aged 13-15 years in Central Java, Indonesia, also shows similar results. The prevalence of nutritional status in adolescents in Central Java found that 77% of

adolescents have normal nutrition, 1.8% were very thin; 6.6% thin; 10.1 % fat; and 4.5% obesity (Kementerian Kesehatan RI, 2018).

Many factors affect a person's nutritional status, including food intake, physical activity, body image, and gender (Ruslie & Darmadi, 2012). In addition, a person's emotional state also affects a person nutritional status (Rahayu, 2020). In adolescents, several factors affect nutritional status, such as breakfast and snack eating habits, knowledge, and body image (Andika & Kridawati, 2016).

4. Conclusion

In this study, the majority of respondents have no symptoms of depression, and other respondents have symptoms of depression. The majority of respondents in this study have good nutritional status, and the other respondents have poor nutrition, less nutrition, overweight, and obese.

References

- Abdullah, Dewi, A. P., Muharramah, A., & Pratiwi, A. R. (2022). Gambaran Status GizidanAsupan Gizi Remaja Santri Pondok Pesantren Shuffah Hizbullah dan Madrasah Al-FatahLampung. *Jurnal Gizi Aisyah*, 5(1).
- Alderman, E. M., & Breuner, C. C. (2019). Unique Needs of the Adolescent. *Pediatrics*, 144(6). <https://doi.org/10.1542/peds.2019-3150>
- Andika, F., & Kridawati, A. (2016). Analisis Faktor-Faktor yang Berhubungan dengan Status Gizi IMT Murid SMP Negeri 5 Kota Banda Aceh. *Journal of Healthcare Technology and Medicine*, 2(1), 76–89.
- Das, J. K., Salam, R. A., Thornburg, K. L., Prentice, A. M., Campisi, S., Lassi, Z. S., Koletzko, B., & Bhutta, Z. A. (2017). Nutrition in adolescents: physiology, metabolism, and nutritional needs. In *Annals of the New York Academy of Sciences* (Vol. 1393, Issue 1, pp. 21–33). Blackwell Publishing Inc. <https://doi.org/10.1111/nyas.13330>
- Dirgayunita, A. (2016). Depresi: Ciri, Penyebab dan Penangannya. *Journal An-Nafs: Kajian Penelitian Psikologi*, 1(1). <https://doi.org/10.33367/psi.v1i1.235>
- Febrianti, D., & Husniawati, N. (2021). Hubungan Tingkat Depresi dan Faktor Resiko Ide Bunuh Diri pada Remaja SMPN. *Jurnal Ilmiah Kesehatan*, 13(1), 85–94. <https://doi.org/10.37012/jik.v13i1.422>
- Fiorilli, C., Capitello, T. G., Barni, D., Buonomo, I., & Gentile, S. (2019). Predicting adolescent depression: The interrelated roles of self-esteem and interpersonal stressors. *Frontiers in Psychology*, 10(MAR). <https://doi.org/10.3389/fpsyg.2019.00565>
- Goyal, S., Srivastava, K., & Bansal, V. (2009). Study of prevalence of depression in adolescent students of a public school. *Industrial Psychiatry Journal*, 18(1), 43. <https://doi.org/10.4103/0972-6748.57859>
- Indrayani, Y. A., & Wahyudi, T. (2019). *Situasi Kesehatan Jiwa di Indonesia* (W. Widiyanti (ed.)). Pusat Data dan Informasi Kemenkes RI.
- Kang, C., Zheng, Y., Yang, L., Wang, X., Zhao, N., Guan, T. F., Qiu, S., Shi, J., & Hu, J. (2021). Prevalence, risk factors and clinical correlates of suicidal ideation in adolescent patients with depression in a large sample of Chinese. *Journal of Affective Disorders*, 290. <https://doi.org/10.1016/j.jad.2021.04.073>
- Kementerian Kesehatan RI. (2018). Riskendas 2018. *Laporan Nasional Riskesnas 2018*, 44(8), 181–222. <http://www.yankes.kemkes.go.id/assets/downloads/PMK No. 57 Tahun 2013 tentang PTRM.pdf>
- Kris-Etherton, P. M., Petersen, K. S., Hibbeln, J. R., Hurley, D., Kolick, V., Peoples, S., Rodriguez, N., & Woodward-Lopez, G. (2021). Nutrition and behavioral health disorders: depression and anxiety. In *Nutrition reviews* (Vol. 79, Issue 3, pp. 247–260). NLM (Medline). <https://doi.org/10.1093/nutrit/nuaa025>
- Lynch, S. J., Sunderland, M., Newton, N. C., & Chapman, C. (2021). A systematic review of transdiagnostic

- risk and protective factors for general and specific psychopathology in young people. *Clinical Psychology Review*, 87, 102036. <https://doi.org/10.1016/j.cpr.2021.102036>
- Par'i, H., Wiyono, S., & Priyo, T. (2017). *Penilaian Status Gizi*. Pusat Pendidikan Sumber Daya Manusia Kesehatan; Badan Pengembangan dan Pemberdayaan Sumber Daya Manusia Kesehatan.
- Penninx, B. W., Milaneschi, Y., Lamers, F., & Vogelzangs, N. (2013). *Understanding the somatic consequences of depression: biological mechanisms and the role of depression symptom profile*. <http://www.biomedcentral.com/1741-7015/11/129>
- Rahayu, T. B. (2020). ANALISIS FAKTOR-FAKTOR YANG MEMPENGARUHI STATUS GIZI REMAJA PUTRI. *Jurnal Vokasi Kesehatan*, 6(1). <https://doi.org/10.30602/jvk.v6i1.158>
- Rice, F., Riglin, L., Lomax, T., Souter, E., Potter, R., Smith, D. J., Thapar, A. K., & Thapar, A. (2019). Adolescent and adult differences in major depression symptom profiles. *Journal of Affective Disorders*, 243, 175–181. <https://doi.org/10.1016/j.jad.2018.09.015>
- Ruslie, R. H., & Darmadi, D. (2012). ANALISIS REGRESI LOGISTIK UNTUK FAKTOR-FAKTOR YANG MEMPENGARUHI STATUS GIZI REMAJA. *Majalah Kedokteran Andalas*, 36(1). <https://doi.org/10.22338/mka.v36.i1.p62-72.2012>
- WHO. (2017). *Depression and Other Common Mental Disorders: Global Health Estimates*. World Health Organization. <https://apps.who.int/iris/bitstream/handle/10665/254610/WHO-MSD-MER-2017.2-eng.pdf>
- WHO. (2021, November 17). *Adolescent mental health*. <https://www.who.int/news-room/fact-sheets/detail/adolescent-mental-health>