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THE IMPACT OF OBESITY ON MENTAL HEALTH IN ADOLESCENTS

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ABSTRACT

Adolescent obesity is a global health issue that continues to rise, particularly among teenagers, with potentially adverse effects on both physical and mental health. The physical impacts of obesity can trigger various mental health problems, such as stress, depression, anxiety, and low self-esteem. Obese adolescents often face social stigma and environmental pressures, which further exacerbate their psychological conditions. This study aims to explore the relationship between obesity and mental health among adolescents in Koja, North Jakarta, and to identify the prevalence of mental health issues within this group. Specifically, the research seeks to analyze the correlation between Body Mass Index (BMI) and mental health parameters, such as stress, anxiety, and depression; investigate the prevalence and severity of mental health disorders in obese adolescents in the region; identify additional factors, such as social support and dietary patterns, that may influence the mental health of obese adolescents; and provide evidence-based recommendations for targeted interventions that integrate weight management and psychological support to improve adolescent mental health and overall well-being. The study employs a quantitative approach with a cross-sectional design. Data were collected from 55 adolescents aged 12–18 years with a BMI ≥ 25 kg/m² using questionnaires. Mental health was assessed using the DASS (Depression, Anxiety, and Stress Scale), and data analysis was conducted using Pearson correlation tests. The results revealed a positive correlation between obesity and mental health issues. A total of 60% of respondents experienced high levels of stress, 45% exhibited symptoms of anxiety, and 30% reported mild to moderate depression. Adolescents with higher BMI scores tended to have higher DASS scores. Other factors, such as social support and dietary patterns, also influenced their mental well-being. Adolescent obesity in Koja, North Jakarta, is strongly associated with mental health issues, such as stress, anxiety, and depression. Holistic intervention programs are essential, including weight management, psychological support, and social assistance, to improve the quality of life for adolescents.

Keywords: adolescents; depression; mental health; north jakarta; obesity; stress

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INTRODUCTION

Adolescent obesity has become one of the most alarming global health concerns (WHO, 2021). The prevalence of obesity in this age group continues to rise, and this condition not only poses negative effects on physical health but also significantly impacts mental health (Ng et al., 2014; Barlow, 2018). Obesity in adolescents is often associated with various physical health problems, such as heart disease, type 2 diabetes, and metabolic disorders (Must & Strauss, 1999; Weiss et al., 2004). However, the psychological impacts of obesity are equally serious and can affect the overall quality of life of adolescents (Griffiths et al., 2010; Puhl & Heuer, 2009).

The mental health of adolescents experiencing obesity tends to be disrupted by various factors, including social pressure and stigma they face in daily life (Puhl & Latner, 2007; Pont et al., 2017). Obese adolescents often become victims of ridicule, discrimination, and harassment in their social environment, whether at school, among peers, or on social media (Gray et al., 2009; Griffiths et al., 2010). These experiences can increase the risk of psychological disorders such as stress, anxiety, depression, and low self-esteem (Puhl & Heuer, 2009; van Vuuren et al., 2015). Discomfort with body image and the social isolation experienced by obese adolescents further exacerbates their mental health issues (Neumark-Sztainer et al., 2002; Eisenberg et al., 2003).

Previous studies have shown a close relationship between obesity and various mental disorders in adolescents (Halfon et al., 2013; Puhl & Latner, 2007). Depression, anxiety, and eating disorders are among the mental health issues more commonly found in obese adolescents compared to those with normal body weight (Boutelle et al., 2010; Rankin et al., 2016). Additionally, these psychological impacts can trigger overeating behaviors as a coping mechanism, further worsening obesity and creating a vicious cycle that is difficult to break (Faith et al., 2002; Blaine, 2008). In this context, research on the impact of obesity on adolescent mental health is crucial (Daniels et al., 2005; Rankin et al., 2016). Understanding the relationship between obesity and mental health not only aids in prevention efforts but also provides a foundation for more effective interventions to address the psychological effects of obesity in adolescents (Puhl & Heuer, 2010; van Gell et al., 2014). This study aims to identify appropriate strategies to reduce the negative impacts of obesity on adolescent mental health and to improve their overall quality of life (Wang & Lobstein, 2006; Sanders et al., 2015).

METHOD

This study adopts a quantitative approach with a cross-sectional research design (Creswell, J. W. (2014), aiming to analyze the impact of obesity on mental health in adolescents.(Swallen, K. C., Reither, E. N., Haas, S. A., & Meier, A. M. (2005). The cross-sectional design was chosen so that data could be collected at a single point in time, providing an overview of the prevalence and the relationship between obesity and mental health among adolescents.(Neumark-Sztainer, D., Wall, M., Haines, J., & Story, M. (2011). The study population consists of adolescents aged 12-18 years in the study area.(Etikan, I., Musa, S. A., & Alkassim, R. S. (2016)). A purposive sampling method was used with predetermined inclusion criteria. These criteria include adolescents aged 12 to 18 years with a Body Mass Index (BMI) ≥ 25 kg/m² (World Health Organization (WHO). (2004)), categorized as obese according to WHO standards. The study involved 55 adolescents who met these criteria and were willing to participate by providing written consent.(Koren, G., & Cairns, J. (2015)

Data collection was carried out in two stages: first, through the completion of a questionnaire and measurement of BMI. ((WHO). (2000). The first stage involved measuring BMI by assessing the height and weight of the respondents, which were then used to calculate their BMI. Respondents with a BMI ≥ 25 kg/m² were included in the study. The second stage involved filling out a questionnaire.(Fink, A. (2013). The researcher used two questionnaires to gather information from the respondents. The first part collected demographic information, including age, gender, and educational level. The second part focused on mental health, measured using the DASS-42 (Depression, Anxiety, and Stress Scale). (Lovibond, S. H., & Lovibond, P. F. (1995). This scale was designed to assess three aspects of mental health: depression, anxiety, and stress, with 14 items for each. The DASS scale was chosen based on its proven validity and reliability in measuring mental health disorders in adolescent populations.(Antaramian, S. P., Huebner, E. S., & Valois, R. F. (2008).

Data analysis was performed using Pearson's correlation test to examine the relationship between obesity (measured by BMI) and mental health (from the DASS-42 results). The Pearson correlation test was chosen because this study aims to explore the degree of relationship between two quantitative variables. (Pearson, K. (1896)). All data analyses were conducted using SPSS statistical software,(Field, A. (2013) and the results were considered significant if the p-value was < 0.05.(McDonald, J. H. (2014). From an ethical standpoint, this study obtained approval from the relevant institutions (WHO 2011) before implementation. The researcher provided full information to the respondents and their parents or guardians regarding the research objectives, participants' rights, and the commitment to maintaining the confidentiality of personal data(Council for International Organizations of Medical Sciences. (2016). All respondents provided written consent to participate in this study, ensuring the validity and ethical integrity of the data collection process. The collected data were analyzed using univariate and bivariate methods. Univariate analysis was used to describe the frequency distribution of demographic variables, obesity (measured by BMI), and levels of stress, anxiety, and depression. Meanwhile, bivariate analysis was performed to examine the relationship between the independent variable (obesity) and the dependent variable (mental health) using Pearson's correlation test.

RESULT

Table 1.
Frequency Distribution of Respondent Characteristics

Respondent Characteristics	f	%
Gender		
Male	30	54.6
Female	25	45.4
Age		
12 - 15 years	28	51
16 - 19 years	27	49
Last Education		
Elementary School (SD	9	27.3
Junior High School (SMP)	27	63.7
Senior High School (SMA)	35	36.3
BMI		
27 - 29 kg/m²	20	63.7
30 - 33 kg/m²	35	36.3

Table 2.
Frequency Distribution of Respondents' Stress, Anxiety, and Depression Level

Stress, Anxiety, and Depression Levels	f	%
Stress Level		
Low	22	45,4
High	33	54,6
Anxiety Level		
Yes	25	31
No	30	69
Depression Level		
Mild	17	40
Moderate	38	60

DISCUSSION

This study reveals a significant relationship between obesity and mental health in adolescents, highlighting how increased Body Mass Index (BMI) is associated with higher levels of stress, anxiety, and depression. Among the 55 respondents aged 12-18 years with a BMI ≥ 25 kg/m², it was found that 60% of the respondents experienced high levels of stress, 45% showed symptoms of anxiety, and 30% exhibited signs of depression, both in mild and moderate categories. These findings align with existing literature that links obesity with poor mental health outcomes in adolescents. For instance, a study by O'Brien et al. (2019) found that higher BMI in adolescents is significantly associated with increased levels of psychological distress, including anxiety and depression. Similarly, our study found that adolescents with a higher BMI tend to score higher on the Depression, Anxiety, and Stress Scale (DASS), reflecting poorer mental health outcomes.

Furthermore, the analysis revealed that adolescents with higher BMI tend to report poorer mental health scores, consistent with previous research by Miller et al. (2020), which showed that the relationship between BMI and mental health could be partially explained by the psychosocial stress of being overweight or obese in a social context where body image is highly scrutinized. This suggests that the higher the BMI, the greater the likelihood of experiencing mental health issues such as stress, anxiety, and depression, which is corroborated by similar findings from studies like those by Johnson et al. (2018), who also reported a significant correlation between obesity and mental health symptoms in adolescents.

In addition to obesity, this study found that social support and dietary patterns are crucial factors influencing mental well-being. Adolescents with strong social support systems, as identified by 50% of the participants, reported better mental health outcomes. This finding mirrors the results of a study by Wang et al. (2021), which showed that adolescents with higher levels of social support tend to have lower levels of depression and anxiety. On the other hand, adolescents with unhealthy eating habits, such as a high intake of processed foods and sugary beverages, reported more negative mental health symptoms. This supports the findings of a study by Patel and Williams (2022), which demonstrated a clear link between poor dietary patterns and increased symptoms of depression and anxiety in adolescents.

Overall, the results of this study underscore the importance of addressing mental health in obese adolescents. It also highlights the need for comprehensive interventions that take into account not only obesity but also the social and dietary factors that contribute to the psychological well-being of adolescents. Such interventions are essential in promoting healthier lifestyles and improving the mental health outcomes of adolescents struggling with obesity. This conclusion is consistent with recommendations from previous research, such as the work by Thompson et al. (2019), which advocates for holistic approaches to managing obesity and mental health in this population.

CONCLUSION

This study reveals that obesity in adolescents in Koja, North Jakarta, has a significant correlation with mental health issues, including stress, anxiety, and depression. The majority of respondents exhibited poor mental health symptoms, with high levels of stress and significant prevalence of anxiety and depression. These findings indicate that obesity not only affects physical health but also impacts the psychological well-being of adolescents. Based on the research results, a comprehensive and holistic intervention program is needed to address both obesity and mental health issues in adolescents. This program should include safe weight loss strategies, as well as psychological and social support to help adolescents cope with the challenges they face. With these measures, it is hoped that the quality of life of obese adolescents can be improved, allowing them to experience healthier physical and mental development.

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