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The Importance of Education in Preventing Mental Disorders Among Adolescents: A Study at SMA Muhammadiyah 4 Yogyakarta

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Abstract. *Adolescent mental health is an important issue in the world. In Indonesia, the prevalence of mental disorders in adolescents is still high, but awareness of prevention and treatment is relatively low. This research aims to analyze the influence of knowledge on behavior to prevent mental disorders in students at SMA Muhammadiyah 4 Yogyakarta. The research uses quantitative methods with a pre-test and post-test design without a control group (one group pre-test post-test design). Education is provided in the form of counseling, followed by measuring the level of knowledge and behavior before and after the intervention. Data analysis was carried out using the Wilcoxon test with SPSS software. The results showed a significant increase in post-test scores compared to pre-test (significant value = 0.011). Effective education increases students' awareness and preventive behavior towards mental disorders. Therefore, mental health education programs need to be implemented on an ongoing basis to create a mentally and emotionally healthy generation.*

Keywords: *mental health, education, prevention, adolescent*

Abstrak. Kesehatan mental remaja merupakan salah satu isu penting di dunia. Di Indonesia, prevalensi gangguan mental pada remaja masih tinggi, namun kesadaran akan pencegahan dan penanganannya relatif rendah. Penelitian ini bertujuan menganalisis pengaruh pengetahuan terhadap perilaku pencegahan gangguan mental pada siswa SMA Muhammadiyah 4 Yogyakarta. Penelitian menggunakan metode kuantitatif dengan desain pre-test dan post-test tanpa kelompok kontrol (*one group pre-test post-test design*). Edukasi diberikan dalam bentuk penyuluhan, diikuti pengukuran tingkat pengetahuan dan perilaku sebelum dan sesudah intervensi. Analisis data dilakukan menggunakan uji Wilcoxon dengan software SPSS. Hasil penelitian menunjukkan peningkatan signifikan pada skor post-test dibandingkan pre-test (nilai signifikan = 0,011). Edukasi efektif meningkatkan kesadaran dan perilaku preventif siswa terhadap gangguan mental. Oleh karena itu, program edukasi kesehatan mental perlu diimplementasikan secara berkelanjutan untuk menciptakan generasi yang sehat secara mental dan emosional.

Kata kunci: kesehatan mental, edukasi, pencegahan, remaja

1. INTRODUCTION

Mental health has become a critical global health issue. According to an Ipsos Global survey (2023), 44% of respondents from 31 countries considered mental health the most concerning health issue, followed by cancer and stress.

Adolescence is a critical developmental phase where various social, emotional, and academic challenges can trigger mental health disorders. A report from WHO (2022) states that approximately 10–20% of adolescents experience mental disorders impacting their well-being. In Indonesia, awareness regarding adolescent mental health remains low, making education a vital preventive measure.

Although research highlights the importance of adolescent mental health, there is a significant gap in Indonesia's context, particularly in school-based educational approaches. The prevalence of mental disorders among Indonesian adolescents is underreported comprehensively, and most interventions emphasize clinical approaches rather than

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prevention. Moreover, awareness about the importance of mental health among Indonesian adolescents remains low, as outlined in WHO's report (2022).

This study introduces a novel approach by integrating school-based education strategies to improve knowledge and preventive behaviors regarding mental disorders. It contributes to the academic literature by exploring the effectiveness of mental health education within formal educational settings, particularly among students at SMA Muhammadiyah 4 Yogyakarta, a context that has not been extensively discussed locally.

Thus, this study aims to provide a deeper understanding of the importance of education-based interventions for adolescent mental health while serving as a foundation for policy-making at the school and community levels.

2. THEORITICAL FRAMEWORK

This study is based on Bandura's social learning theory (1986), which posits that learning is more effective through observation, modeling, and social interaction. The mental health education in this study employs an interactive approach, such as group discussions, aligning with the concept that social environments can reinforce positive behavioral formation in individuals.

Additionally, Erikson's psychosocial development theory (1950) indicates that adolescence is a stage of identity crisis versus role confusion. Educational support during this phase helps adolescents manage emotional pressures and build mental health awareness, enabling them to face developmental challenges.

Bronfenbrenner's social systems theory (1979) further explains that adolescent mental health is influenced by multiple environmental layers, including family, school, and community. School-based mental health education programs create interventions at the microsystem level, directly impacting adolescent well-being.

A review of prior research by Zhao et al. (2023) found that technology-based interventions, such as mental health applications, enhance adolescent engagement and awareness in mental health education. Technology-based approaches complement traditional counseling.

Research by Park and Kim (2022) revealed that community-based mental health education improves adolescents' sense of social connection, reducing stress and enhancing well-being. This emphasizes the importance of social engagement in supporting mental health programs.

Nguyen et al. (2021) suggested that diverse learning methods, such as simulations or educational games, are more effective in reaching students with varying comprehension levels. This approach highlights the need for innovation in delivering mental health education in schools.

Suryaputri et al. (2022) indicated that depression symptoms among Indonesian adolescents are relatively high, yet interventions predominantly focus on clinical approaches rather than prevention. This underscores the urgency of research on adolescent mental health education.

This study addresses gaps in the literature concerning school-based education approaches to enhance awareness and preventive behaviors toward mental disorders. Most previous studies focus on clinical or technology-based interventions, while direct educational approaches in schools remain underexplored in Indonesia. Thus, this study contributes new insights by analyzing the impact of mental health education on the knowledge and behavior of high school students, particularly at SMA Muhammadiyah 4 Yogyakarta.

The study aims to analyze the effect of education on improving knowledge and preventive behaviors regarding mental disorders and provides data-driven recommendations for developing school-based mental health programs to prevent mental disorders among students at SMA Muhammadiyah 4 Yogyakarta.

With a quantitative approach, this study aims to provide recommendations for developing school-based mental health programs.

3. METHODS

This research employs a pre-experimental design with a one-group pre-test post-test design. The respondents were 41 students of SMA Muhammadiyah 4 Yogyakarta, selected through accidental sampling. Research instruments included a knowledge scale questionnaire (15 items) and a mental disorder prevention behavior scale (20 items).

The knowledge scale was compiled from two sources. Items 1–5 were adapted from “Soal Pretest Jiwa” uploaded by Dewinurintan on January 10, 2019, and items 6–15 from “Pretest Posttest Kesehatan Jiwa (Setia Kawan)” uploaded by Daniel Setiawan Nathan on May 25, 2019.

The prevention behavior scale was derived from a mental health questionnaire comprising 20 items. The questionnaire was adapted from Riskesdas, containing mental health questions within F01-F20. Mental health status was measured using the Self-

Reporting Questionnaire (SRQ), assessing individual emotional status with "yes" or "no" responses. A score of ≥6 "yes" responses indicated a mental disorder, while ≤6 "yes" responses indicated no disorder. The SRQ mental health questionnaire was uploaded by Syafiraaini on September 25, 2020.

The research process involved: (1) a pre-test to measure students' initial knowledge and behavior, (2) an intervention through mental health counseling using presentations and interactive discussions, and (3) a post-test to evaluate changes after the intervention.

Data analysis employed the Wilcoxon test to examine significant differences between pre-test and post-test scores, analyzed using SPSS software version 16.0.

4. RESULTS AND DISCUSSION

To understand the impact of mental health education on knowledge and preventive behaviors, data were collected through pre-test and post-test approaches. Statistical analysis was performed to identify significant changes after the educational intervention. The findings are presented below, followed by a discussion interpreting the results.

Results

a. Pre-Test and Post-Test Results

Scores ranged from a minimum of 33 to a maximum of 62, while post-test scores ranged from a minimum of 44 to a maximum of 63.

b. Descriptive Statistics Analysis

Table 1. Descriptive statistic analysis

Number of Students	Minimum Score	Maximum Score	Average Score	Standard Deviation
Pre-test	33	62	48.73	7.457
Post-test	42	63	51.20	6.329

Forty-one students completed both pre-test and post-test assessments. The pre-test results showed a maximum score of 62, a minimum score of 33, and an average score of 48.73. Post-test results indicated a maximum score of 63, a minimum score of 42, and an average score of 51.20.

c. Normality Test Results

Table 2. Normality test results

Test	Kolmogorov-Smirnov	Shapiro-Wilk
Pre-Test	Statistic: 0.138	Significance: 0.049
Post-Test	Statistic: 0.172	Significance: 0.004

The normality test results showed that pre-test and post-test scores were not normally distributed, as the significance values (sig) were <0.05. Therefore, non-parametric testing using the Wilcoxon test was applied to analyze score improvements.

d. Wilcoxon Test Results

Table 3. Wilcoxon test results

Number of Students	Average Rank Score	Total Ranking Score
Pre-test to Post-test		
Decreased Scores (11 students)	12.59	138.50
Increased Scores (22 students)	19.20	422.50
Unchanged Scores (8 students)	–	–

Wilcoxon test results revealed that 11 students showed decreased scores, with an average rank score of 12.59, while 22 students demonstrated increased scores, with an average rank score of 19.20. Eight students' scores remained unchanged. The Wilcoxon test concluded that pre-test and post-test scores significantly differed before and after intervention.

e. Hypothesis Testing Results

Table 4. Hypothesis testing result

Test	Z-value	Significance
Wilcoxon Signed Ranks Test	Z: -2.542	Significance: 0.011

The hypothesis was accepted as the significance value (0.011) was <0.05, indicating a significant impact of the educational intervention on knowledge and behavior.

Discussion

Based on the descriptive statistical analysis, 41 students participated in both the pre-test and post-test. The pre-test results revealed a maximum score of 62, a minimum score of 33, and an average score of 48.73. In comparison, the post-test results showed a maximum score of 63, a minimum score of 42, and an average score of 51.20.

Following the descriptive statistical analysis, a Normality Test was conducted. The results indicated that both pre-test and post-test scores were not normally distributed, as their significance values (sig) were < 0.05. The significance value for the pre-test was 0.049, while the post-test was 0.004. Consequently, a non-parametric Wilcoxon Test was employed to assess the improvement between the pre-test and post-test results.

The findings from the Wilcoxon Test suggest a significant difference between the pre-test and post-test scores, indicating an impact of the intervention. The post-test scores demonstrate that the educational program played a critical role in enhancing knowledge and preventive behaviors regarding mental health issues. This aligns with Bandura's Social Learning Theory (1986), which emphasizes that learning through observation and social interaction is more effective in shaping behavior.

Regarding the hypothesis, the significance value (0.011) was < 0.05, leading to the acceptance of the hypothesis. Therefore, knowledge emerges as a fundamental need for students to support promotive and preventive efforts. High school students, aged approximately 16–18 years (productive age), are particularly vulnerable to mental health issues.

Recent studies support this finding. For example, Zhao et al. (2023) demonstrated that technology-based interventions, such as mental health applications, can enhance student engagement in educational programs. This method could complement traditional educational approaches. Similarly, Park and Kim (2022) found that community-based approaches to mental health education increased students' sense of social connectedness, significantly reducing stress and anxiety levels.

However, the study also revealed that some students' scores remained stagnant. This may be attributed to factors such as a lack of interest in the material or psychological barriers affecting their comprehension. Nguyen et al. (2021) suggest that a more personalized approach and the incorporation of diverse learning methods, such as simulations or educational games, could help address varying levels of understanding among students.

In conclusion, this study underscores the importance of developing mental health programs in schools. Leveraging innovative approaches can ensure broader and more effective outcomes in promoting mental health awareness and preventive behaviors among students.

5. CONCLUSION AND RECOMMENDATIONS

This study demonstrates that mental health education significantly enhances knowledge and preventive behaviors among adolescents. Education serves as an effective preventive measure in fostering a school environment that supports students' mental health.

Recommendations for schools include: (1) conducting regular mental health counseling at least once per semester as part of educational programs, (2) using posters, videos, and social media to promote mental health awareness, (3) conducting periodic

surveys to monitor and evaluate the effectiveness of mental health programs, and (4) developing technology-based applications to support mental health education.

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