



The Effect of Mental Health Education on Teenagers' Capacity for Early Detection of Mental Health

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ARTICLE INFO

Article history:

Received 29th August 2024

Revised 10th December 2024

Accepted 26th December 2024

Available online

<https://talenta.usu.ac.id/IJNS>

E-ISSN: 2685-7162

How to cite: Safira, A & Daulay, W. (2024). The Effect of Mental Health Education on Teenagers' Capacity for Early Detection of Mental Health. *Caring: Indonesian Journal of Nursing Science*, 6(2). 112-118.



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<https://doi.org/10.32734/ijns.v6i2.18009>

ABSTRACT

Adolescence represents a critical developmental stage during which individuals are highly vulnerable to mental health challenges. Early detection of mental health issues enables adolescents to identify and mitigate potential mental disorders at an initial stage. Mental health education plays a pivotal role in equipping teenagers with the knowledge and skills necessary for early detection. This study aims to evaluate the impact of mental health education on adolescents' knowledge and capacity to engage in early detection of mental health issues, with a focus on students at SMK Swasta Abdi Nusantara. The research adopts a pre-experimental approach using a one-group pretest-posttest design. The study sample comprises 70 respondents, selected through a total sampling technique. Data were analyzed using the Wilcoxon Signed Rank Test, yielding a p-value of $0.000 < 0.05$. The findings indicate a significant effect of mental health education on adolescents' knowledge and ability to conduct early detection of mental health issues. These results underscore the importance of mental health education programs in schools. Community health workers, particularly mental health nurses, are encouraged to optimize mental health initiatives by integrating education programs into school settings, thereby contributing to the prevention of mental disorders among adolescents.

Keywords: Health Education, Teenagers' Capacity, Early Detection, Mental Health

1. Introduction

Mental Health refers to an individual's ability to adapt, interact with their surroundings, and maintain resilience against mental disorders (Fakhriyani et al., 2021). Despite its significance, mental health is often neglected and excluded from governmental health priority scale. This neglect has led to millions of individuals worldwide, particularly adolescents, experiencing mental health issues. The World Health Organization (WHO) reported in 2019 that approximately 970 million people globally suffer from mental disorders, with adolescents being disproportionately affected. Specifically, anxiety disorders impact 301 million individuals, major depressive disorders affect 280 million, and dysthymia and bipolar disorder collectively occur in 40 million adults (Stephens et al., 2023). Additionally, Zaini et al. (2023) highlighted that over 300 million people equivalent to 4.4% of the global population experience mental health challenges, framing this as a significant global issue. Emotional and mental disorders represent a substantial portion of the mental health problems faced by adolescents, including those in North Sumatra.

Mental health issues in adolescents can hinder their developmental progress. Adolescents are required to adapt to various developmental changes, and failure to do so may result in mental health problems manifesting within the school environment. These issues include drug and narcotic abuse, excessive use of gadgets, peer pressure, a lack of motivation to attend school, identity confusion, struggles with sexuality, and exposure to

violence (Kemenkes RI, 2020). Such challenges may stem from internal factors, strained relationships with parents, or adverse social interactions within or outside the school environment. Although mental health issues may not directly lead to mortality, their impacts are profound, adversely affecting the well-being and development of individuals. Consequently, it is imperative to prioritize the mental health of adolescents. Equipping young people with knowledge and skills to navigate developmental challenges is a crucial preventive measure (Ekayamti et al., 2023).

Early detection of mental health issues is a proactive approach to identifying signs of emotional and psychological conditions that deviate from societal norms and expectations (Syakarofath, 2021). The primary goal of early detection in adolescents is to enhance their awareness and ability to recognize changes in their psychological state, encompassing both mental and emotional well-being, thereby preventing the onset of mental health disorders. This process can be facilitated by trained mental health cadres and healthcare professionals operating in health centers and hospitals. This study focuses on early mental health detection in adolescents, emphasizing the universal right to mental health information. Adolescents, in particular, need access to knowledge and tools to understand and manage their psychological well-being effectively. Data gathered by researchers from BK teachers at Abdi Nusantara Private Vocational School (2024) highlighted numerous cases among students, such as frequent thefts in dormitories, heightened irritability, difficulty managing emotions, high stress levels, concentration issues, and behavioral problems, including juvenile delinquency like smoking and school dropouts (Adz-Dzaky, 2001).

According to the school principal, Abdi Nusantara Private Vocational School had not conducted health counseling sessions focusing on the early detection of mental health issues. This claim was corroborated through initial interviews with students, where 8 out of 10 respondents admitted to being unfamiliar with the concept of early mental health detection. The findings revealed a significant lack of knowledge and skills among adolescents to engage in proactive mental health monitoring. This knowledge gap stems from insufficient access to relevant information on the subject. To address this issue, mental health education emerges as a critical intervention. Providing education on early mental health detection can substantially improve adolescents' mental well-being by equipping them with the knowledge and skills to recognize and address psychological challenges promptly. Mental health education seeks to foster awareness, enhance abilities, and cultivate a willingness to adopt healthy lifestyle practices, particularly among adolescents (Andini et al., 2020).

Implementing appropriate methods for providing mental health education, particularly regarding the concept of early detection, is crucial. Demonstration and counseling techniques, combined with the use of suitable informational media, can significantly enhance researchers' success in conveying vital information to respondents. This initiative focuses on vocational schools, as these institutions cater to teenagers who are considered capable of performing early detection of their own mental health status. The educational approach will include mental health instruction and role-playing activities designed to simplify the process of assessing mental health. The self-evaluation method introduced in this research is innovative, as previous studies predominantly relied on health workers for mental health detection. Given the importance of equipping teenagers with the knowledge and skills to identify potential mental health concerns early, providing targeted mental health education serves as a preventive measure against mental disorders. Therefore, this study aims to investigate the impact of mental health education on teenagers' knowledge and their ability to perform early detection of mental health issues at Abdi Nusantara Private Vocational School.

2. Methods

This study employed a pre-experimental design utilizing a one-group pretest-posttest method. The population consisted of all students from Abdi Nusantara Private Vocational School, with sampling conducted through a non-probability sampling approach, specifically a total sampling technique involving 70 students. Data collection occurred in three stages. The first stage is Initial data was collected prior to the intervention by administering a knowledge and ability questionnaire designed to assess mental health awareness. The second stage is the intervention involved delivering mental health education using lecture and role-play methods. The third stage is Following the intervention, the same knowledge and ability questionnaire was administered to assess the impact of the education on the students' mental health awareness and abilities (Notoadmodjo, 2010).

The knowledge questionnaire comprised 10 items, with scores ranging from 0 to 100. Higher scores indicated a greater level of mental health knowledge among the students. Additionally, an ability checklist questionnaire, adapted from the SDQ question items for adolescents aged 11–17 years, was used. This questionnaire included five items grouped into categories addressing emotional problems, behavioral issues, hyperactivity, peer relationships, and prosocial behavior. A student was considered capable if they accurately categorized mental health conditions and incapable if they did so incorrectly, with scores also ranging from 0

to 100. Higher scores reflected higher abilities in early detection of mental health issues. The instruments used were validated with a Content Validity Index (CVI) value of 1. Reliability testing revealed a Cronbach's alpha coefficient of 0.951 for the knowledge questionnaire and 0.648 for the ability checklist. Data collection followed a structured procedure, beginning with obtaining ethical clearance. Permissions were secured from the Dean of the Faculty of Nursing at the University of North Sumatra and the Principal of Abdi Nusantara Private Vocational School before initiating the study.

3. Results

The demographic characteristics of the respondents in this study include age, class, gender, religion, and parent's last education. These demographic details are presented in Table 1.

Table 1 Demographic Data of Respondents

Characteristics	f	%
Age		
15 years	15	21,4
16 years	50	71,4
17 years	5	7,1
Class		
X	38	54,3
XI	32	45,7
Gender		
Man	44	62,9
Woman	26	37,1
Religion		
Islam	35	50,0
Kristen	33	47,1
Katolik	2	2,9
Parent's Education		
Middle school	37	52,9
High school	20	28,6
Bachelor degree	13	18,6

The study, conducted on 70 adolescents from Abdi Nusantara Private Vocational School, revealed that the majority of respondents were 16 years old, accounting for 50 participants (71.4%). The youngest respondent was 15 years old, while the oldest was 17 years old. A total of 38 students (54.3%) were in Grade 10. Regarding gender, 42 respondents (62.9%) were male. Most participants identified as Muslim (35 individuals, 50.0%). Additionally, the largest proportion of respondents' parents (37 participants, 52.9%) had attained a high school level of education.

Table 2 Distribution Of Average Scores For The Provision Of Mental Health Education On Adolescent Knowledge Before And After Carrying Out Early Detection Of Mental Health (n=70)

Teenagers' Knowledge of Early Detection of Mental Health	Min	Max	Mean	SD
Pre-test	3	10	6,97	1,340
Post-test	5	10	9,01	1,123

As shown in Table 2, the mean pretest knowledge score of the respondents was 6.97, while the mean posttest knowledge score increased to 9.01, indicating a substantial improvement in the respondents' knowledge. The standard deviation for the pretest was 1.340, compared to 1.123 for the posttest. The minimum pretest knowledge score was 3, with a maximum score of 10. In contrast, post-test scores ranged from a minimum of 5 to a maximum of 10.

Table 3 Distribution of Average Values of Mental Health Education Provision on Adolescents' Abilities Before And After Carrying Out Early Detection of Mental Health (n=70)

The Ability of Adolescents to Carry Out Early Detection of Mental Health	Min	Max	Mean	SD
Pre-test	0	8	3,63	1,608
Post-test	2	10	8,20	1,838

Table 3 illustrates the average pretest ability score as 3.63, which increased to an average of 8.20 in the posttest, reflecting a notable improvement in respondents' abilities. The standard deviation for the pretest was 1.608, while the posttest exhibited a slightly higher standard deviation of 1.838. The minimum ability score for the pretest was 0, with a maximum score of 8, while the posttest scores ranged from a minimum of 2 to a maximum of 10.

Table 4 Results of Data Analysis on The Influence of Mental Health Education on *Pretest-Posttest* Knowledge and Pretest-Posttest Ability to Carry Out Early Detection of Mental Health.

	<i>Pretest</i> N	Mean	N	<i>Posttest</i> Mean Rank	Z	P-value
Knowledge	70	26,38	70	33,96	- 6,343	0,000
Ability	70	.00	70	35,00	-7,305	0,000

The Wilcoxon Signed Rank Test analysis yielded a Z-value of -6.343 with a p-value of <0.05, leading to the rejection of H_0 and the acceptance of H_a . This result demonstrates a statistically significant improvement in adolescents' knowledge regarding early detection of mental health issues after receiving mental health education through lectures and roleplay methods. Similarly, the posttest ability scores exhibited a Z-value of -7.305 and a p-value of <0.05, indicating a significant difference between pretest and posttest scores. These findings suggest a meaningful enhancement in the respondents' ability to conduct early mental health detection following the educational intervention. In summary, the pretest and posttest results confirm a significant improvement in both the knowledge and abilities of adolescents in early mental health detection after participating in mental health education sessions. This indicates that providing mental health education positively influences the knowledge and abilities of adolescents at Abdi Nusantara Private Vocational School in performing early mental health detection.

4. Discussion

The analysis of 70 adolescents at SMK Swasta Abdi Nusantara revealed that mental health education significantly influenced their knowledge levels regarding early detection of mental health issues. Prior to the intervention, the mean knowledge score was 6.97, with a minimum score of 3 and a maximum score of 10. After the intervention, the mean score increased to 9.01, with a minimum score of 5 and a maximum score of 10. These findings demonstrate a notable improvement in knowledge following the provision of mental health education. The increase in average knowledge scores was further validated through statistical analysis using the Wilcoxon Signed Rank Test. The results showed a Z-value of -6.437 and a p-value of 0.000, which is less than the significance threshold of 0.05. This confirms a highly statistically significant difference between *pre-test* and *post-test* scores. These findings indicate that mental health education effectively enhanced the adolescents' ability to understand and perform early detection of mental health issues.

The purpose of health education is to improve the knowledge and skills of adolescents. In this context, mental health education was a crucial factor in enabling adolescents to comprehend the concept of early detection and to carry it out effectively. By providing the necessary information, adolescents became better equipped to recognize and address mental health concerns. This aligns with the findings of Lubis & Daulay (2022), who concluded that counseling activities focusing on depression and early detection methods were highly effective in increasing students' knowledge. Consequently, the integration of counseling as a medium for delivering information proved to be a successful approach for improving adolescent awareness and understanding of mental health issues.

The majority of respondents at Abdi Nusantara Private Vocational School are, on average, 16 years old, indicating that age influences the level of a person's mindset and maturity. Most respondents are in grade XI, comprising 38 individuals (54.3% of the sample). This finding suggests that these teenagers are in mid-to-late adolescence. It can be hypothesized that as individuals mature, their capacity for critical thinking and information processing improves, enabling them to make more informed decisions and identify optimal solutions to problems.

According to the Law of the Republic of Indonesia No. 18 of 2014, mental health is defined as a condition in which an individual is aware of their own knowledge and abilities, capable of managing stress, able to work productively, and can contribute meaningfully to their community (BPK RI, 2014). The study conducted at Abdi Nusantara Private Vocational School focused on assessing the mental health status of adolescents. The research involved administering a *pre-test* questionnaire to participants, followed by an intervention that provided health education through lectures and role-playing activities (Destiyani et al., 2022). This approach aimed to enhance participants' understanding of mental health and their ability to assess their own mental well-

being. Following the health education intervention, a *post-test* questionnaire was administered to evaluate changes in the participants' knowledge and abilities. The analysis compared pre- and post-intervention data to determine the efficacy of the mental health education program. The study assessed the impact of the educational methods on improving adolescents' knowledge, understanding, and ability to manage their mental health effectively.

The results of the study revealed that the impact of mental health education on adolescents' abilities prior to early detection of mental health issues had a mean score of 3.63, with a minimum score of 0 and a maximum score of 8. In contrast, the abilities of adolescents following early detection of mental health issues had a significantly higher mean score of 8.20, with a minimum score of 2 and a maximum score of 10. These findings indicate that adolescents' abilities before receiving mental health education through lecture and role-play methods were initially limited. However, the study demonstrated a marked improvement in their abilities following the intervention, with many adolescents falling within the "able" category.

The importance of mental health education in enhancing adolescents' abilities is evident. As noted in prior research Astaria et al. (2022), mental health education plays a critical role given the prevalence of mental health issues that often emerge during adolescence. Providing mental health education in vocational schools represents a viable solution to addressing these challenges. The observed improvement in adolescents' ability to conduct early detection of mental health issues can be attributed to the effectiveness of the educational strategies employed by the researchers. The use of the lecture method proved to be an effective and well-received approach among adolescents. The method facilitated the delivery of supportive and accessible mental health education, enabling adolescents to comprehend and apply the information effectively. Furthermore, the inclusion of role-play methods allowed for an interactive and collaborative learning environment. This combination ensured that adolescents could not only grasp the material but also work cohesively in applying their knowledge during early detection activities.

Early detection of mental health issues is a critical activity among adolescents, enabling them to assess their own mental health conditions as well as those of their peers (Nasriati, 2013). This process involves identifying early symptoms and recognizing underlying causal factors of mental disorders (Costello, 2016). The primary aim of early detection is to enhance adolescents' knowledge and understanding of mental health, thereby reducing the likelihood of developing mental health problems. Mental health, broadly defined, encompasses a state of physical, emotional, and social well-being, making it a fundamental aspect of adolescent development. Failure to address mental health issues can have significant negative implications, including an increased risk of mental health disorders (Osborn et al., 2022).

Adolescents' ability to conduct early mental health detection plays a pivotal role in mitigating the onset of unwanted mental health conditions. Adolescence, a transitional phase between childhood and adulthood, is marked by increased vulnerability to mental health challenges due to heightened risk-taking behaviors and rapid social changes. To counteract these risks, equipping adolescents with the skills and knowledge to perform early mental health detection is paramount.

The importance of early detection in adolescents is crucial for prevention and timely intervention. Studies estimate that approximately 20% of children and adolescents experience mental health disorders, with many psychiatric conditions manifesting during adolescence (Paruk & Karim, 2016). Key risk factors include genetic vulnerability, neurobiological factors, and psychosocial stressors (Paruk & Karim, 2016). Effective early detection seeks to identify these risk factors and provide support while avoiding misdiagnosis of normal developmental processes (Malchair et al., 2014). Prevention is particularly important during critical developmental periods when mental disorders can interfere with crucial acquisitions (Falissard, 2016). Emergency departments often serve as entry points for adolescents who later develop mental health disorders, with nearly half of these individuals seeking emergency care prior to accessing specialized mental health services (Solmi et al., 2020). Early detection in these settings can facilitate timely intervention. Treatment typically combines psychotropic medications with psychosocial therapies, underscoring the need for comprehensive management strategies (Paruk & Karim, 2016). Moreover, integrating early detection initiatives into healthcare systems is vital for effective prevention and treatment of adolescent mental health issues.

5. Conclusion

Based on the results and discussion, the study revealed a notable difference in the mean pretest scores of adolescents' knowledge regarding early detection of mental health, with a mean value of 6.97. A significant improvement was observed in the post-test scores, where the mean value increased to 9.01. Similarly, the mean pretest score for adolescents' ability to perform early detection of mental health was 3.63, which significantly increased to 8.20 in the posttest. The findings indicate a statistically significant difference in knowledge and

ability before and after the implementation of mental health education. This is supported by the Wilcoxon test results, which yielded a p-value of 0.000 ($p < 0.05$), leading to the acceptance of the H_a . In conclusion, the study confirms that mental health education significantly enhances adolescents' knowledge and abilities related to early detection of mental health issues. This effect was observed in the context of the intervention conducted at Abdi Nusantara Private Vocational School.

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