






# Effectiveness of Community-Based Mental Health Education in Enhancing Adolescents' Knowledge of Depression Prevention: A Pre-Experimental Pretest-Posttest Study

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## ARTICLE INFO

### Article history:

Received Nov 01, 2025

Revised Mart 20, 2026

Accepted Apr 11, 2026

### Keywords:

Adolescents;  
Depression;  
Prevention;  
Education;  
Mental health

## ABSTRACT

Adolescent depression has become a significant public health concern, particularly in communities with limited access to mental health services. This study aimed to evaluate the effectiveness of community-based mental health education in improving adolescents' knowledge of depression prevention. A pre-experimental one-group pretest-posttest design was conducted among 60 adolescents aged 13–18 years in the working area of Puskesmas Cidempet, Indramayu, Indonesia. Participants received a structured 60-minute educational intervention covering depression awareness, risk factors, coping strategies, and help-seeking behavior. Knowledge was assessed using a validated 20-item questionnaire before and immediately after the intervention. Data were analyzed using paired-sample t-tests. The findings demonstrated a significant increase in mean knowledge scores from  $11.82 \pm 2.31$  before the intervention to  $16.45 \pm 1.89$  after the intervention ( $p < 0.001$ ). The proportion of participants with high knowledge increased from 20.0% to 85.0%, while no participants remained in the low-knowledge category after education. The greatest improvements were observed in coping strategies and awareness of mental health support services. These results indicate that community-based mental health education is an effective, practical, and low-cost approach to enhancing adolescents' knowledge of depression prevention, particularly in resource-limited settings.

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## INTRODUCTION

Mental health problems among adolescents have become a major global public health concern, with depression identified as one of the leading contributors to the global burden of disease. Recent estimates indicate that approximately 10–20% of adolescents worldwide experience mental health conditions, with depression being among the most prevalent disorders ([Castaldelli-Maia et al., 2025](#); [Lu et al., 2024](#)). The increasing trend of depressive symptoms in adolescents has been associated with

various factors, including academic pressure, social media exposure, family dynamics, and limited access to mental health services, particularly in community and rural settings (Knopf, 2025). In the past, mental health issues among adolescents were often underrecognized and stigmatized, resulting in minimal preventive interventions. However, current evidence shows a growing awareness of adolescent mental health, although gaps in knowledge and preventive behaviors remain significant. This shift highlights the urgency of implementing early preventive strategies, especially in communities where access to formal mental health services is limited (Evans Jr., 2026).

Educational interventions have been widely recognized as an effective strategy to improve mental health literacy, which includes knowledge, attitudes, and skills related to the prevention and management of mental health problems. Theoretically, mental health education is grounded in health promotion and behavioral change theories, such as the Health Belief Model and Social Cognitive Theory, which emphasize the role of knowledge in shaping attitudes and preventive behaviors (Amado-Rodríguez et al., 2022; Sampaio et al., 2022). Increasing adolescents' knowledge of depression prevention is essential, as adequate understanding can facilitate early recognition of symptoms, reduce stigma, and promote help-seeking behavior. Empirical studies have demonstrated that structured mental health education programs can significantly improve knowledge and awareness among adolescents, particularly when delivered in community-based settings that are culturally relevant and accessible (Afendy et al., 2024; Kloek et al., 2025; Ruswadi et al., 2025). From a broader perspective, improving adolescent mental health knowledge is not only crucial for individual well-being but also for addressing wider social issues, including school dropout, substance abuse, and long-term productivity. Furthermore, enhancing mental health literacy aligns with global commitments such as the Sustainable Development Goals (SDGs), particularly Goal 3, which emphasizes ensuring healthy lives and promoting well-being for all ages (Asplund et al., 2025; Ciobîcă, 2025; Prasad, 2025).

Despite the growing recognition of mental health education as a preventive strategy, evidence regarding its effectiveness in community-based adolescent populations, particularly in rural contexts, remains limited. Many existing studies focus on school-based interventions, leaving a gap in understanding how community-driven educational programs can contribute to depression prevention. Therefore, it is essential to investigate whether mental health education can effectively enhance adolescents' knowledge in such settings. One potential solution is the implementation of structured, community-based educational interventions that are tailored to adolescents' needs and local contexts. These interventions are expected to improve knowledge and ultimately support early prevention efforts. Based on this rationale, the present study aims to evaluate the effectiveness of community-based mental health education in enhancing adolescents' knowledge of depression prevention using a pre-experimental pretest-posttest design.

## RESEARCH METHOD

### Study Design

This study used a pre-experimental one-group pretest-posttest design to evaluate the effectiveness of a community-based mental health education program in improving adolescents' knowledge of depression prevention. This design allows for a direct comparison of knowledge scores before and after the intervention within the same group, making it suitable for community-based research with limited resources.

### Setting and Participants

The study was conducted from October to December 2024 in the working area of Puskesmas Cidempet, Indramayu, West Java, Indonesia. A total of 60 adolescents aged 13–18 years were selected using purposive sampling. Participants were included if they were willing to participate, able to understand Indonesian, and actively involved in community youth groups such as Posyandu

Remaja or Karang Taruna. Adolescents with neurological disorders, cognitive impairments, or those who had recently received mental health education or counseling were excluded.

### Intervention

The intervention consisted of a single 60-minute mental health education session delivered by trained health educators. The session covered four main topics: understanding depression, risk and protective factors, coping strategies, and help-seeking behavior. The materials were adapted from WHO guidelines and delivered using interactive methods such as presentations, videos, and group discussions. Participants also received a summary pamphlet and information on available mental health services.

### Instrument

Data were collected using a 20-item multiple-choice questionnaire adapted from the WHO Adolescent Mental Health Literacy Toolkit. The questionnaire assessed knowledge on symptoms, risk factors, coping strategies, and help-seeking behavior related to depression. Each correct answer was scored as 1, with a total score ranging from 0 to 20. The instrument showed good reliability (Cronbach's alpha = 0.82) and had been validated by experts.

### Data Collection

Data were collected in two stages: before (pretest) and immediately after (posttest) the intervention. Participants completed the questionnaire in a supervised setting to ensure understanding and accuracy. Confidentiality was maintained by using anonymous codes.

### Data Analysis

Data were analyzed using IBM SPSS version 28. Descriptive statistics were used to summarize participant characteristics and knowledge scores. A paired-sample t-test was conducted to compare pretest and posttest scores. A p-value < 0.05 was considered statistically significant.

## RESULTS AND DISCUSSIONS

Table 1 presents the demographic profile of the participants. Most were early adolescents and predominantly female, and the majority attended junior high school. This distribution supports the strategic focus on early adolescence as a critical period for strengthening mental health literacy.

**Table 1.** Respondent demographic characteristics (n = 60)

Variable	Category	Frequency (f)	Percentage (%)
Age (years)	13-15	32	53.3
	16-18	28	46.7
Education Level	Male	24	40.0
	Female	36	60.0
Education Level	Junior High School	33	55.0
	Senior High School	27	45.0

Table 2 demonstrates a substantial improvement in knowledge categories following the intervention. Before the session, only a minority of adolescents had high knowledge, whereas after the intervention, the vast majority fell into the high category. This shift indicates a strong positive effect of the educational program.

**Table 2.** Distribution of knowledge categories before and after education (n = 60)

Knowledge Category	Pretest f (%)	Posttest f (%)
Low ( $\leq 10$ )	14 (23.3%)	0 (0.0%)
Moderate (11-15)	34 (56.7%)	9 (15.0%)
High ( $\geq 16$ )	12 (20.0%)	51 (85.0%)

Table 3 demonstrates a significant increase in average knowledge scores after the intervention, with statistical analysis confirming the effectiveness of the mental health education program ( $t = 14.672$ ,  $p < 0.001$ ).

**Table 3.** Mean knowledge scores before and after intervention ( $n = 60$ )

Variable	Mean $\pm$ SD (Pretest)	Mean $\pm$ SD (Posttest)	t-value	p-value
Knowledge Score	11.82 $\pm$ 2.31	16.45 $\pm$ 1.89	14.672	<0.001*

\* $p < 0.05$  (Statistically significant)

Table 4 offers a detailed breakdown of participants' responses to each knowledge item before and after the intervention. The most significant gains were observed in questions related to coping strategies (Items 11–14) and accessing help (Items 15–18), which initially scored lower but showed significant improvement after the intervention. For example, only 30% identified journaling as a coping strategy before the session, increasing to 83.3% afterward.

**Table 4.** Per-Item knowledge response comparison ( $n = 60$ )

Knowledge Item Topic	Correct Pretest n (%)	Correct Posttest n (%)
Definition of depression	34 (56.7)	60 (100.0)
Common symptoms	28 (46.7)	57 (95.0)
Physical signs of depression	25 (41.7)	55 (91.7)
Emotional indicators	36 (60.0)	59 (98.3)
Misconception: "Depression is just sadness"	30 (50.0)	56 (93.3)
Risk factors: family conflict	40 (66.7)	58 (96.7)
Peer pressure as a risk factor	32 (53.3)	56 (93.3)
Internet/social media influence	26 (43.3)	54 (90.0)
Protective factor: social support	29 (48.3)	57 (95.0)
Positive family communication	31 (51.7)	55 (91.7)
Coping strategy: journaling	18 (30.0)	50 (83.3)
Stress relief: breathing techniques	15 (25.0)	47 (78.3)
Role of physical activity	27 (45.0)	53 (88.3)
Time management	22 (36.7)	49 (81.7)
Recognizing when to seek help	33 (55.0)	59 (98.3)
School counsellor role	21 (35.0)	50 (83.3)
Available community resources	24 (40.0)	54 (90.0)
Confidentiality in seeking help	26 (43.3)	55 (91.7)
Importance of early intervention	29 (48.3)	56 (93.3)
Peer support groups	23 (38.3)	53 (88.3)

## DISCUSSION

This study demonstrates that community-based mental health education has a significant positive effect on adolescents' knowledge of depression prevention. The increase in mean scores and the shift in knowledge categories – from a considerable proportion of low knowledge before the intervention to a majority in the high category after – indicate that even a single, structured session can effectively improve mental health literacy. These findings are consistent with previous studies showing that short, interactive educational interventions can rapidly enhance adolescents' understanding of mental health issues. The improvement was particularly evident in coping strategies and help-seeking behaviors, suggesting that practical and relatable content plays a key role in facilitating learning.

The effectiveness of this intervention can be explained by its interactive and context-based approach. Adolescents often have limited access to accurate mental health information due to stigma and lack of integration in school curricula. By delivering culturally relevant, engaging, and easy-to-understand materials, this program helped bridge that knowledge gap. The findings also support

health behavior theories, which emphasize that knowledge is a key driver of attitude and behavior change. In addition, the use of discussions, visual media, and real-life examples likely enhanced participants' engagement and retention of information. These results highlight the importance of designing educational interventions that are tailored to adolescents' developmental needs and social context.

Despite its promising results, this study has several limitations. The use of a pre-experimental design without a control group limits the ability to establish causal relationships, and the short-term assessment does not capture whether knowledge gains are sustained over time. Therefore, future studies should consider using more rigorous designs and longer follow-up periods. Nevertheless, this study provides important practical implications. Community-based mental health education can be implemented as a cost-effective and scalable strategy, particularly in resource-limited settings. Integrating such programs into existing youth activities, such as school programs or community groups, and strengthening collaboration between health and education sectors may enhance the sustainability and impact of adolescent mental health promotion efforts.

## CONCLUSION

This study shows that a single, well-structured community-based mental health education session, informed by social learning theory, can effectively improve adolescents' knowledge of depression prevention. The intervention proved to be practical and culturally suitable for local implementation, including in settings such as Posyandu Remaja and schools. The results suggest that short, low-cost educational programs can serve as a feasible and scalable approach to promoting adolescent mental health, especially in resource-limited environments, while also emphasizing the important role of nurses and community health workers in delivering such initiatives. However, further research using stronger experimental designs and longer follow-up periods is needed to assess the long-term retention of knowledge and its impact on adolescents' behaviour.

## ACKNOWLEDGEMENTS

The authors declare that there is no conflict of interest related to the research, authorship, and publication of this manuscript. There are no financial arrangements or affiliations with any organization or company that could be perceived as influencing the content of this article.

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