

## The Impact of Video-Based Education through the SAKTI Remaja Application on Adolescents' Knowledge, Attitudes, and Mental Health Conditions

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### ABSTRACT

**Background:** Adolescence is a transitional period marked by rapid physical, cognitive, emotional, and social changes. Inability to manage these changes can lead to stress and negatively affect mental health, including anxiety, depression, and destructive behaviors. In Indonesia, the prevalence of mental health problems among adolescents continues to rise, particularly in Islamic boarding schools (*pesantren*), where psychological well-being is often overlooked.

**Objective:** This study aimed to evaluate the effectiveness of video-based mental health education through the SAKTI Remaja mobile application in improving adolescents' knowledge, attitudes, and mental health conditions in Islamic boarding schools.

**Methods:** A quasi-experimental design with pre-test and post-test was used. A total of 80 students from a *pesantren* in Baron District, Nganjuk Regency, were selected using purposive sampling. The intervention was conducted over two weeks using the SAKTI Remaja app, which provided educational videos on emotional regulation, stress management, stigma, and help-seeking behavior. Instruments included the *Adolescent Mental Health Literacy Questionnaire (AMHLQ)*, *Mental Health Attitude Scale (MHAS)*, and *Self-Reported Mental Health Condition Checklist*. Data were analyzed using paired t-tests and Wilcoxon signed-rank tests with a significance level of  $p < 0.05$ .

**Results:** There was a significant improvement in knowledge (pre-test = 56.5; post-test = 82.5;  $p < 0.001$ ), mental health attitudes (pre-test = 62.3; post-test = 75.2;  $p < 0.001$ ), and a decrease in mental health symptoms (pre-test = 3.5; post-test = 2.1;  $p < 0.001$ ). These findings indicate that video-based education through the SAKTI Remaja app effectively enhanced mental health literacy, promoted positive attitudes, and reduced psychological symptoms among adolescents in *pesantren*.

**Conclusion:** The SAKTI Remaja application is an innovative and effective educational intervention for improving knowledge, attitudes, and mental health conditions among adolescents in Islamic boarding schools. This video-based education model offers a relevant promotive and preventive strategy that can be integrated into youth health programs in religious-based educational institutions.

**Keywords:** adolescents, islamic boarding school, mental health, SAKTI remaja application, video-based education

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**BACKGROUND**

Adolescence is a transitional stage marked by rapid development across physical, cognitive, emotional, and social domains. These changes often pose significant adaptation challenges and can become stressors that impact adolescents' emotional well-being. Inadequate coping mechanisms may lead to mental health problems such as anxiety, depression, and self-destructive behaviors. The World Health Organization (2021) reports that a considerable proportion of adolescents globally experience mental health issues, including anxiety (4.6%), depression (2.8%), and substance-related problems such as alcohol dependence (13.6%) and drug abuse (4.7%) (Nurina & Hermatasiyah, 2022; Putri et al., 2021; Rahmawaty et al., 2022).

In Indonesia, concerns about adolescent mental health have grown sharply in recent years. National data indicates that 6.1% of individuals aged 15 years and older suffer from depression, and between 2012 and 2023, nearly a thousand suicide cases among adolescents were reported—many of which occurred in East Java. Contributing factors include high rates of bullying; for example, UNICEF (2020) found that 41% of students aged 15–19 experienced bullying at least once a month, while the Indonesian Child Protection Commission (KPAI) recorded over 800 bullying cases in schools during 2023. These stressors are strongly linked to poor mental health outcomes, especially when adolescents lack adequate knowledge and supportive attitudes regarding mental well-being (Nurhidayah et al., 2024; Saripah et al., 2024).

The pesantren (Islamic boarding school) environment also reflects this trend. Studies have shown that a significant number of santri (students) face peer victimization, with up to 80.5% exhibiting depressive symptoms. Unfortunately, many pesantren still prioritize physical health over psychological support due to limited awareness and resources. Puskesmas Baron in Nganjuk Regency, which serves 19 pesantren, reported dozens of santri visits related to psychosocial problems in 2023, though many cases were not identified early due to a lack of mental health literacy and trained personnel (Nurhidayah et al., 2024).

As a response, innovative mental health education approaches are urgently needed—particularly ones that are accessible and engaging for the youth. One promising solution is the use of video-based education, which allows for interactive, relatable, and visually stimulating learning experiences (Endriyani et al., 2024; Sutiawati et al., 2024; Xiao et al., 2023). The SAKTI Remaja application was developed with this goal in mind: to deliver comprehensive mental health education through video content that can enhance adolescents' knowledge, foster positive attitudes, and ultimately support better mental well-being.

**OBJECTIVE**

This study aims to examine the impact of video-based education through the SAKTI Remaja application on adolescents' knowledge, attitudes, and mental health conditions.

**METHODS**

This study employed a quasi-experimental pre-test–post-test design to evaluate the effectiveness of video-based education through the SAKTI Remaja application in improving adolescents' knowledge, attitudes, and mental health conditions. The study was conducted in an Islamic boarding school (pesantren) located in the Baron sub-district, Nganjuk Regency, East Java. The total population consisted of 400 students (santri), and a sample of 80 participants was selected using the Slovin formula with a 10% margin of error. Participants were chosen using purposive sampling based on the following inclusion criteria: willingness to participate voluntarily, access to a smartphone, the ability to operate the application independently, and commitment to complete both the pre-test and post-test.

The intervention involved the use of the SAKTI Remaja mobile application over a two-week period. The app provided video-based educational content covering topics such as emotional regulation, stress management, mental health stigma, and appropriate help-seeking behavior. Participants were instructed to watch all video modules sequentially and engage with interactive components such as quizzes and journaling prompts to enhance understanding and reflection.

Data were collected using three main instruments: (1) the Adolescent Mental Health Literacy Questionnaire (AMHLQ), which assessed participants' knowledge and awareness of mental health (validated with an Item-Content Validity Index [I-CVI] ranging from 0.83 to 1.00 and a Cronbach's alpha of 0.87); (2) the Mental Health Attitude Scale (MHAS), a Likert-type instrument measuring beliefs and openness toward mental health topics (I-CVI range = 0.80–1.00; Cronbach's alpha = 0.89); and (3) a Self-Reported Mental Health Condition Checklist used to assess symptoms of anxiety, stress, and emotional disturbances (I-CVI = 0.91; Cronbach's alpha = 0.85). Descriptive statistics were used to summarize demographic characteristics, while paired samples t-tests were employed to assess differences in mean scores between the pre-test and post-test phases. If data were not normally distributed, the Wilcoxon signed-rank test was used as an alternative. Statistical significance was set at  $p < 0.05$ .

## RESULTS

**Table 1.** Characteristics of Respondents

No.	Characteristics	f	%
Age (Years)			
1	13-14 years old	25	31,3
2	15-16 years old	30	37,5
3	17-18 years old	25	31,3
Gender			
1	Male	38	47,5
2	Female	42	52,5
Length of Stay in Pesantren (Years)			
1	< 1 year	15	18,8
2	1-3 years	40	50,0
3	>3 years	25	31,3

The study involved a balanced sample of adolescents across age groups: 31.3% were aged 13–14, 37.5% were 15–16, and 31.3% were 17–18 years old. The gender distribution was slightly skewed toward females (52.5%) compared to males (47.5%). In terms of length of stay in the pesantren, half of the participants (50.0%) had been there for 1–3 years, 31.3% for more than 3 years, and 18.8% for less than a year. This demographic diversity supports a comprehensive analysis of adolescent mental health literacy in the pesantren context.

**Table 2.** Pre-Test Scores on Adolescents' Knowledge, Attitudes, and Mental Health Conditions

	N	Min	Max	Mean	Sd
Knowledge of Mental Health	80	45	90	62,8	13,1
Attitudes Toward Mental Health	80	40	85	58,6	10,3
Mental Health Condition	80	0	10	3,2	2,1

The pre-test results reveal important insights into the adolescents' initial understanding of mental health, their attitudes toward it, and their mental health conditions. The mean knowledge score of 62.8, with a standard deviation of 13.1, suggests that participants had a moderate understanding of mental health. However, the wide range of scores, from 45 to 90, indicates that there were noticeable differences in knowledge levels, likely due to varying degrees of exposure to mental health education. This variability suggests that many adolescents may not have sufficient awareness of mental health issues, underlining the need for educational interventions to enhance their understanding.

In terms of attitudes, the mean score of 58.6 (SD = 10.3) reflects generally neutral to somewhat positive attitudes toward mental health, though the wide range from 40 to 85 suggests that some adolescents may still harbor misconceptions or negative views. This variance emphasizes the importance of not only educating about mental health facts but also addressing any stigma or misunderstandings surrounding mental health.

Regarding the mental health condition of the participants, the mean score of 3.2 (SD = 2.1) on the self-reported checklist indicates a moderate level of psychological distress. This suggests that a considerable number of adolescents are experiencing symptoms of anxiety, stress, or other mental health challenges, which may not have been identified or addressed previously. The presence of mental health issues highlights the urgency for interventions that can support adolescents in managing these challenges effectively and provide them with the resources to improve their well-being.

**Table 3.** Post-Test Scores on Adolescents' Knowledge, Attitudes, and Mental Health Conditions

	N	Min	Max	Mean	Sd
Knowledge of Mental Health	80	55	95	82,5	8,9
Attitudes Toward Mental Health	80	53	90	75,2	7,8
Mental Health Condition	80	0	5	2,1	1,6

The post-test results indicate significant improvements across all three variables measured in the study. Mental health knowledge showed a notable increase, with a mean score of 82.5 (SD = 8.9), suggesting that participants had gained a solid understanding of mental health issues after using the SAKTI Remaja application. The scores ranged from 55 to 95, which indicates that while most participants showed improvement, there were still some individual differences in the level of knowledge acquired, possibly due to varying levels of engagement or prior understanding of mental health concepts.

Similarly, mental health attitudes also improved, with a mean score of 75.2 (SD = 7.8), indicating a more positive shift toward mental health issues. The range of scores (from 53 to 90) suggests that although the majority of participants displayed more favorable attitudes, there was some variability in their openness and beliefs about mental health, which might reflect personal, cultural, or social influences.

Lastly, self-reported mental health conditions showed a decrease in symptoms such as anxiety, stress, and emotional disturbances, with a mean score of 2.1 (SD = 1.6). The range of scores (0 to 5) indicates that while some participants reported significant improvement, others still experienced mild to moderate symptoms, suggesting that the intervention had varying effects on individuals. Overall, these results point to the effectiveness of the video-based education provided by the SAKTI Remaja application in enhancing adolescents' mental health knowledge, attitudes, and in promoting better mental health conditions.

**Table 4.** Post-Test Scores on Adolescents' Knowledge, Attitudes, and Mental Health Conditions

	Pre Test Mean (SD)	Post Test Mean (SD)	Mean Difference	<i>t</i> - value	<i>p</i> -value	95% CI (Lower- Upper)
Knowledge of Mental Health	56.5 (10.3)	82.5 (8.9)	26.0	12.45	< 0.001	(22.3, 29.7)
Attitudes Toward Mental Health	62.3 (9.2)	75.2 (7.8)	12.9	9.30	< 0.001	(10.3, 15.5)
Mental Health Condition	3.5 (1.7)	2.1 (1.6)	-1.4	-6.12	< 0.001	(-1.7, -1.1)

The results of the paired sample t-test showed a significant improvement in adolescents' mental health knowledge, attitudes, and conditions after the intervention using the SAKTI Remaja application. The mean score for mental health knowledge increased from 56.5 in the pre-test to 82.5 in the post-test, with a statistically significant difference ( $t = 12.45$ ,  $p < 0.001$ , 95% CI [22.3, 29.7]). This indicates that the video-based educational content successfully enhanced participants' understanding of mental health topics. Similarly, the mean score for mental health attitudes also rose from 62.3 to 75.2, with a significant difference ( $t = 9.30$ ,  $p < 0.001$ , 95% CI [10.3, 15.5]), reflecting a more positive and open attitude toward mental health after the intervention. Additionally, there was a notable reduction in self-reported mental health problems, with the mean score decreasing from 3.5 to 2.1, suggesting an improvement in participants' emotional and psychological conditions ( $t = -6.12$ ,  $p < 0.001$ , 95% CI [-1.7, -1.1]). Overall, these findings confirm the effectiveness of the SAKTI Remaja video-based education in improving not only knowledge and attitudes but also reducing the psychological symptoms experienced by adolescents.

## DISCUSSION

### The Adolescents' Knowledge, Attitudes, And Mental Health Conditions Before Treatment

The pre-test data reveals significant insights into the adolescents' knowledge, attitudes, and mental health conditions, highlighting the existing gaps that the intervention aims to address. Firstly, the adolescents' knowledge of mental health, as indicated by a mean score of 62.8 (SD = 13.1), suggests a moderate understanding of mental health topics. However, the wide range of scores, from 45 to 90, demonstrates considerable variability in their knowledge. This implies that many students might not have had sufficient exposure to mental health education, and their understanding of mental health may be limited. The moderate knowledge score underlines the need for targeted educational interventions, particularly in the form of easily accessible platforms like the SAKTI Remaja application, to boost awareness and promote a better understanding of mental health issues. These results align with previous studies which show that a lack of adequate mental health education often contributes to low awareness, especially in adolescents who may not have had the opportunity to learn about mental health beyond basic classroom settings (Sutiawati et al., 2024; Xiao et al., 2023).

Regarding attitudes toward mental health, the mean score of 58.6 (SD = 10.3) suggests that while there is a generally neutral to somewhat positive attitude toward mental health, there is still a significant portion of adolescents who may hold misconceptions or stigma toward the subject. The wide variation in scores indicates that some may view mental health issues with



more openness, while others may not fully understand the importance of mental well-being, thus reinforcing the need for attitude-shaping interventions. This is consistent with findings from previous research indicating that mental health stigma remains prevalent, particularly in youth populations, making it crucial to design interventions that can foster more positive and inclusive attitudes toward mental health (Eisenstadt et al., 2021; Saripah et al., 2024).

Lastly, the results from the self-reported mental health condition checklist show a moderate level of psychological distress among participants, with a mean score of 3.2 (SD = 2.1). This suggests that a substantial proportion of adolescents are experiencing symptoms of mental health challenges such as anxiety, stress, or emotional disturbance. Given the high prevalence of mental health issues in adolescents, as observed in other studies, the need for early intervention and psychoeducation becomes evident. Adolescents experiencing such distress may benefit greatly from mental health education that provides coping mechanisms, stress management skills, and guidance on how to seek help. Addressing these issues early could potentially reduce the risk of further psychological deterioration and promote overall well-being (Praherso et al., 2020; Sarmini et al., 2023).

### **The Adolescents' Knowledge, Attitudes, And Mental Health Conditions Before Treatment**

The post-test results indicate significant positive changes in adolescents' mental health knowledge, attitudes, and self-reported mental health conditions following the intervention with the SAKTI Remaja application. Firstly, mental health knowledge showed a considerable improvement, with the mean score rising to 82.5 (SD = 8.9). This suggests that the video-based education provided through the SAKTI Remaja application effectively enhanced participants' understanding of mental health topics. The range of scores (from 55 to 95) indicates that while most participants benefited from the intervention, some still demonstrated lower levels of knowledge. This variability might be attributed to differences in prior exposure to mental health information or individual engagement with the educational content. Studies have shown that interactive and engaging media, like videos, can significantly improve mental health literacy, and the results of this study support that finding (Lestarina, 2021; Praherso et al., 2020).

Regarding mental health attitudes, the mean score of 75.2 (SD = 7.8) reflects a more favorable shift in participants' views towards mental health. The scores ranged from 53 to 90, which shows that while the majority of participants exhibited positive changes in their attitudes, some may have held more resistant or skeptical views about mental health prior to the intervention. The improvement in attitudes is crucial because it suggests that video-based education not only imparts knowledge but also influences adolescents' beliefs and openness to discussing mental health, which is essential for reducing stigma (Konaszewski et al., 2021; Lestari et al., 2025; Sarmini et al., 2023).

Lastly, the self-reported mental health conditions improved as well, with a mean score of 2.1 (SD = 1.6). This indicates that the participants experienced a decrease in symptoms such as anxiety and emotional disturbance, suggesting that the intervention had a positive impact on their mental well-being. The score range (0 to 5) indicates some individual variation in symptom reduction, possibly due to personal differences in mental health experiences and coping mechanisms. These findings are consistent with research suggesting that mental health education and self-awareness interventions can lead to reductions in psychological distress (Konaszewski et al., 2021; Lestarina, 2021; Sarmini et al., 2023).

### **The Effect of Video Based Education Trough SAKTI REMAJA on Adolescents' Knowledge, Attitudes, And Mental Health Conditions**

The findings of this study demonstrate the significant impact of the SAKTI Remaja video-based education program on improving adolescents' mental health knowledge, attitudes,

and conditions. The use of engaging and accessible video content within the mobile application effectively increased participants' understanding of key mental health concepts, as reflected by the substantial rise in knowledge scores from pre- to post-test. This result aligns with previous research showing that digital health education, especially through video media, enhances learning outcomes among adolescents due to its visual appeal, clarity, and interactive delivery (Noetel et al., 2021; Nurhidayah et al., 2024; Sutiawati et al., 2024; Xiao et al., 2023).

The improvement in mental health attitudes also suggests that video-based interventions can positively influence how adolescents perceive mental health issues. By addressing stigma, providing relatable scenarios, and encouraging openness through role-play and testimonial-style videos, the program appears to have helped students adopt more accepting and proactive views toward mental health. These results are consistent with studies showing that repeated exposure to empathetic and well-structured content can shift adolescents' beliefs and increase their willingness to support themselves and others (Eisenstadt et al., 2021; Nurhidayah et al., 2024).

Additionally, the reduction in self-reported symptoms of stress, anxiety, and emotional disturbance highlights the psychological benefits of accessible mental health education. The opportunity to reflect on their emotions and coping strategies after each video may have contributed to this improvement. This is particularly important in pesantren settings, where formal mental health services are often limited, and emotional struggles may go unrecognized. With the majority of respondents having stayed in pesantren between 1–3 years, it is likely that the structured and supportive content of SAKTI Remaja provided a much-needed space for self-awareness and psychological relief (Eisenstadt et al., 2021; Lestari et al., 2025; Nurina & Hermatasyah, 2022; Sarfika et al., 2023). Taken together, the results support the integration of mobile-based, video-centered mental health education in adolescent environments, especially in contexts with limited mental health resources. The SAKTI Remaja application proves to be a promising tool to fill the mental health education gap and foster a healthier psychosocial environment among youth.

## **CONCLUSION**

The findings of this study indicate that video-based education through the SAKTI Remaja application is effective in enhancing adolescents' knowledge, attitudes, and mental health conditions. The significant improvements observed in post-test scores reflect that the structured and accessible video content successfully increased participants' understanding of mental health, fostered more positive attitudes, and reduced symptoms of psychological distress. This approach is particularly relevant in pesantren settings, where access to mental health education and services is often limited. The SAKTI Remaja application serves as a practical and impactful tool for supporting adolescent mental well-being and should be considered for broader implementation in school- and community-based mental health programs.

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**CONFLICTS OF INTEREST**

There is no conflict of interest in this research.

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