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Strengthening Adolescent Mental Health Through School-Based Preventive Education and Coping Strategies at SMKN 1 Lembah Gumanti

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ABSTRACT

Adolescence is a critical developmental stage marked by physical, psychological, emotional, and social transitions that vulnerable to mental health challenges. Internal and external stressors such as academic pressure, peer relationships, and the school environment can heighten psychological distress. This community service, held on 28 May 2025 at SMKN 1 Lembah Gumanti, Solok, West Sumatra, was a collaboration between the Faculty of Nursing, Universitas Andalas, and the school community. The program aimed to enhance awareness and strengthen preventive strategies for adolescent mental health through school-based education. It consisted of three phases: (1) screening and problem assessment using the IDASS-Y, (2) educational sessions, and (3) stress management workshops. A total of 196 Grade XI students participated. Pre-test and post-test results demonstrated improvements in knowledge of adolescent mental health (Mean pre-test = 7.69, SD = 1.89; Mean post-test = 8.49, SD = 1.91). Students also reported increased awareness of internal (resilience, emotional regulation, mindfulness) and external (peer support, school environment) factors affecting mental well-being and confidence in stress management techniques. The program demonstrated the effectiveness of school-based interventions in promoting awareness, coping skills, and preventive behaviors among adolescents. Future initiatives may adopt peer-support models to sustain long-term impact.

Keywords: adolescents, mental health, school-based intervention, stress management, resilience

INTRODUCTION

Adolescence is one of the most important stages in human life. The World Health Organization (WHO) defines it as the period between ages 10 and 19 (WHO, 2025). During this stage, young people experience major transformations in their brain, body, and behaviour, which shape their growth and mark the transition from childhood to adulthood (Blakemore, 2019; CDC, 2024). These transformations extend beyond physical changes to include biological, cognitive, psychological, and social development, and can continue from the onset of puberty into the mid-20s (Bonnie & Backes, 2019; Gedda-Muñoz et al., 2023; Sisk & Gee, 2022). Because of this rapid growth and re-organisation, adolescence is a critical period in which many lifelong health habits and behaviours are formed, shaping well-being in adulthood and beyond (Blakemore, 2019; CDC, 2024).

At the same time, this stage of growth also brings major challenges. Psychologically, adolescents face the task of forming a personal identity and developing self-direction as they prepare for adulthood (Bonnie & Backes, 2019; Branje, 2022). The process of exploring and committing to an identity often involves uncertainty and emotional turmoil, which in turn increases vulnerability to stress (Branje, 2022). Biologically, hormonal changes during puberty, particularly the release of cortisol through the hypothalamus–pituitary gland–adrenal gland (HPA) axis—heighten sensitivity to stress. These changes, when disrupted, may lead to symptoms such as anxiety, depression, and other mental health problems (Bonnie & Backes, 2019). Socially, adolescents must also cope with expectations and peer pressure while learning to build relationships that strongly influence their long-term well-being (Avedissian & Alayan, 2021). These social demands can create challenges that further strain their ability to cope. Overall, the combination of psychological and biological factors (internal) together with social factors (external) places adolescents at significant risk of mental health difficulties, with consequences that may persist well into adulthood (CDC, 2024).

The global burden of adolescent mental health problems is significant. The World Health Organization (WHO) reports that nearly 14.3% of adolescents aged 10–19 experience mental health disorders, accounting for 13% of the total global disease burden in this age group (WHO, 2025). Among high school students aged 13–17, the prevalence of persistent sadness and hopelessness has risen from 26% to 37%. Within this same group, 16% reported making a suicide plan, while the rate of suicidal behaviour increased by 44% (Beck et al., 2021). Between 2007 and 2018, suicide rates among adolescents in high-income countries rose by 57%, and projections for 2020 estimated more than 6,600 deaths by suicide in this age group (Beck et al., 2021). Overall, around 20% of adolescents are affected by mental health conditions, which may present as emotional, developmental, behavioural, or psychological disorders (Scheiner et al., 2022). These statistics highlight the urgent need to recognize adolescent mental health as a critical public health priority.

In Indonesia, similar concerns have been documented. The 2018 Basic Health Research (Riskesdas, 2018) survey reported that 6.1% of Indonesians aged 15 years and older, around 11 million people, experienced emotional and mental health disorders, primarily symptoms of depression and anxiety (Riskesdas, 2018). Between 2013 and 2019, nearly 1 in 10 adolescents aged 13–17 was diagnosed with attention deficit or anxiety disorders, underscoring the burden of mental health problems in this age group. A study in Jakarta further illustrated the scope: about a quarter of adolescents (26%) reported emotional problems, one-fifth (22%) had behavioural problems, and smaller proportions showed hyperactivity (6%), peer difficulties (3%), and poor prosocial behaviour (3%) (Kemenkes RI, 2018). Taken together, these findings emphasize that adolescent mental health challenges in Indonesia are both prevalent and diverse, covering psychological problems such as emotional and behavioural difficulties, biological and cognitive concerns such as hyperactivity and attention deficits, and social challenges such as peer and relational problems. Since most of these challenges emerge during the school years, schools are a critical setting for early detection and intervention.

School is where adolescents spend most of their daily lives, around six hours a day, facing not only academic pressures but also complex social dynamics with peers and teachers (van Loon et al., 2020; Xu et al., 2020). As central institutions in adolescent development, schools continuously expose young people to new demands and expectations, making them especially vulnerable to stress and adjustment difficulties (Gedda-Muñoz et al., 2023). In this setting, psychological difficulties such as emotional and behavioural problems are of particular concern because they directly disrupt students' daily functioning and limit their future opportunities. Adolescents experiencing such challenges are more likely to struggle academically (e.g., failure, dropout), socially (e.g.,

peer relationship problems, difficulty adapting), and behaviourally (e.g., delinquency, substance use, violence, and other risk-taking activities such as smoking, alcohol consumption, truancy, and unsafe sexual practices) (Kemenkes RI, 2018). Studies suggest that 5–9% of adolescents fail to progress academically due to these psychological and behavioural difficulties. These realities highlight the urgent need to raise mental health awareness among students and support school-based programs that empower adolescents to understand and manage their mental health.

In Indonesia, adolescents continue their education through different pathways, including general high schools, technical schools, and vocational schools (Derzsi-Horváth et al., 2024). Each pathway exposes students to distinct academic and social demands that may influence their mental health. Vocational schools, for example, combine academic study with intensive practical training designed to prepare students for specific careers (Julianto et al., 2023). These requirements can create unique stressors, such as long practice hours, physically demanding tasks, and pressure to achieve technical competence. Some studies report that vocational students face higher levels of stress, delinquency, and bullying compared to general high school students (Julianto et al., 2023; Ouyang et al., 2021). However, other research suggests that vocational students may report lower stress, possibly due to lower parental expectations compared to those in general high schools (Derzsi-Horváth et al., 2024). This mixed evidence indicates that vocational schools, like other school types, present both challenges and opportunities for adolescent mental health promotion. Against this backdrop, SMKN 1 Lembah Gumanti was selected as the site for this program to explore how school-based education and stress management strategies can strengthen adolescent resilience.

This program aims to provide early detection and mental health education for adolescents at SMKN 1 Lembah Gumanti. By focusing on the physical, psychological, behavioral, and social aspects of adolescent development, the program seeks to increase awareness, foster resilience, and promote positive growth during a critical stage of life. This initiative highlights the importance of schools as platforms for mental health promotion and offers a practical model for integrating awareness and prevention efforts into the school setting.

METHOD

Community This community service was conducted on Wednesday, 28 May 2025 at SMKN 1 Lembah Gumanti, Alahan Panjang, Solok, West Sumatra. The program was organised by the Community Department of the Faculty of Nursing, Universitas Andalas, in collaboration with teachers, counsellors, and the school health unit. A total of 196 students participated and actively engaged throughout the sessions.

The program invited a mental health expert from the Faculty of Nursing, Universitas Andalas, to provide both theoretical insights and practical guidance on adolescent mental health. Interactive and participatory methods were applied, encouraging students to discuss, reflect, and critically analyse common mental health challenges. The intervention combined knowledge-building with skill-based practice, aiming to prevent mental health problems by strengthening awareness, resilience, and stress management capacities. The program was implemented in four phases:

Phase 1: Screening and Problem Assessment

An initial assessment was conducted to identify mental health challenges related to adolescent development, considering both internal and external factors. Coordination with the school principal ensured program support and participation. Screening tools were

prepared and administered using the IDASS-Y to screen students knowledge to detect their mental health (Sarfika et al., 2024; Wenny et al., 2023).

Phase 2: Educational Intervention

This phase began with a welcome speech from the school principal, followed by a pre-test to measure baseline knowledge of adolescent mental health. A mental health expert delivered interactive lectures, discussions, and simulations to increase awareness of adolescent development, mental health issues, and coping strategies.

Educational content included mental health awareness, stress management, emotional regulation, and peer support. Students analysed stressors such as academic pressure, peer conflict, bullying, and teacher-related challenges. Both external factors (peer support, social networks, supportive school environments) and internal factors (resilience, emotional regulation, mindfulness, and help-seeking) were emphasised.

Phase 3: Stress Management Training

Students were trained in practical stress management techniques including deep breathing exercises, progressive muscle relaxation, five-finger hypnosis, mindfulness practices, spiritual therapy, and other supportive approaches. These sessions were participatory and student-centred, allowing adolescents to directly practice coping strategies. A Q&A discussion and group reflection followed to reinforce learning and clarify understanding.

Phase 4: Evaluation

To assess program effectiveness, pre-test and post-test questionnaires were administered. Each consisted of 15 true-or-false items designed to evaluate knowledge of adolescent mental health and developmental issues. Comparisons between pre- and post-test results were used to measure knowledge improvement and program impact.

While the program focused on early detection, education, and stress management training, the strong engagement observed suggests the potential for future initiatives such as developing peer-support systems or appointing student mental health ambassadors to sustain awareness and prevention efforts in schools.

RESULTS AND DISCUSSION

1. Program screening and introduction

The program began with a mental health screening and an introductory session explaining the objectives, importance, and expected benefits of the activities. Figure 1 illustrates the screening and explanation process, which was conducted interactively to ensure students understood the basic concepts of mental health awareness and its importance. Following these initial activities, program evaluations were carried out to examine participant characteristics, knowledge improvement, and overall engagement.



Figure 1. Mental health screening and introduction at SMKN 1 Lembah Gumanti

2. Participant Characteristics

A total of 196 students from SMKN 1 Lembah Gumanti participated in the mental health education program. Table 1 presents the demographic characteristics of respondents, including gender, grade, and vocational major.

Table 1. Respondent characteristics

Variabel	Frequency	%
Gender		
Male	145	74
Female	51	26
Grade		
XI	196	100%
Major		
Office Management and Business Services	57	29,1
Culinary	46	23,5
Hospitality	41	20,9
Fashion Design	52	26,5

Gender Distribution

First, most participants were male (74%), while females accounted for 26%. Although this reflects the school's demographics rather than a wider trend, gender differences remain relevant for adolescent mental health. Previous studies show that female adolescents often report higher psychological distress linked to reproductive changes and identity-related stressors (Birrell et al., 2025; Campbell et al., 2021; Gedda-Muñoz et al., 2023). However, another study found that female received higher support from their peers which reduce their academic pressure and stress (Ouyang et al., 2021). Male students, however, may also face elevated risks, especially when school connectedness is low (Raniti et al., 2022). This male-dominant sample underscores the importance of designing school-based programs that are accessible and relevant for both genders.

Grade Level

Second, all respondents were Grade XI students, consistent with the program design. This group was selected strategically because students at this stage are in a transitional period: having adjusted to Grade X, they face increased academic and practical pressures in

preparation for Grade XII. This makes them vulnerable to stress, yet also an ideal target for interventions aimed at shaping resilience and positive coping skills (Wuthrich et al., 2020).

Study Programs (Majors)

Third, participants represented four vocational majors: Office Management and Business Services (29.1%), Fashion Design (26.5%), Culinary (23.5%), and Hospitality (20.9%). This distribution reflects the diversity of vocational pathways at SMKN 1 Lembah Gumanti. Each major has distinct academic and practical requirements, for example, Culinary and Hospitality involve longer practice hours and physical workloads, while Office Management and Fashion Design emphasize cognitive and creative skills. These differences provide useful context for interpreting students' experiences in the program.

These demographic findings show that the program reached a diverse group of vocational students, each facing different stressors and vulnerabilities. Such context is crucial for interpreting program outcomes and reinforces the relevance of targeting Grade XI students at a critical developmental stage.

3. Mental health and stress management workshop

The program continued with a workshop on adolescent mental health and stress management, combining knowledge-building sessions with practical training activities. Figure 2 shows students participating in the workshop at SMKN 1 Lembah Gumanti.



Figure 2. Students participating in the mental health and stress management workshop

The Self-Reporting Questionnaire (SRQ-29) was used to assess students' knowledge and awareness before and after the intervention. Results are shown in Tables 2 and 3.

Table 2. Students' knowledge before the workshop (pre-test)

Variabel	N	Mean	SD	Min-Max
Mental health issues on adolescent at SMKN 1 (pre-test)	196	7,69	1,89	3-12

Table 3. Students' knowledge after the workshop (post-test)

Variabel	N	Mean	SD	Min-Max
Mental health issues on adolescent at SMKN 1 (post-test)	196	8,49	1,91	3-12

Before the intervention, participants had relatively modest knowledge (Mean = 7.69; SD = 1.89). After the workshop, scores improved (Mean = 8.49; SD = 1.91). Although the increase was modest, it demonstrates that structured school-based education can foster measurable improvements in awareness. These findings are consistent with prior studies showing that even short interventions can enhance adolescents' preventive capacities (van

Loon et al., 2020; Xu et al., 2020). Sessions used participatory methods, including lectures, group discussions, Q&A, and simulation-based activities (Figure 3). This approach encouraged active engagement, reflection, and practice of strategies for managing mental health challenges. Key topics included the prevalence of mental health issues in schools, their developmental impact, and resilience-building strategies (Depkes, 2008; Sholiha, 2019).



Figure 3. Stress management training session with students

A major component of the workshop was hands-on practice of stress management techniques. Students learned and practiced deep breathing, progressive muscle relaxation, mindfulness, five-finger hypnosis, and spiritual therapy. These activities provided concrete coping strategies for regulating emotions and handling school-related stressors. By addressing both internal factors (resilience, emotional regulation, communication) and external factors (peer support, school climate), the program offered a holistic approach to adolescent well-being.

Students and caregivers responded positively, emphasizing the program's relevance and usefulness. Many reported that the training improved their understanding and motivated them to take preventive actions in daily school life. Some students expressed willingness to share what they learned with peers, teachers, and parents (Strom et al., 2022). This aligns with existing literature showing that school-based health education supports emotional, social, and cognitive well-being while reducing maladaptive behaviours (van Loon et al., 2020; Xu et al., 2020).

The workshop effectively combined knowledge-building with practical skill training. It resulted in measurable improvements in knowledge and strengthened students' confidence in managing stress. These outcomes highlight the potential of school-based programs to empower adolescents with both awareness and coping strategies, laying a foundation for the prevention of mental health problems. To enhance sustainability and long-term impact, future programs could integrate peer-support components, such as developing student mental health ambassadors within the school environment.

CONCLUSION

The This community service program demonstrated that mental health education combined with stress management training can enhance adolescents' knowledge, awareness, and coping skills in managing mental health challenges. Pre- and post-intervention results confirmed an improvement in students' understanding, while interactive sessions encouraged active engagement and practical application of strategies such as relaxation techniques, mindfulness, and emotional regulation. By addressing both internal factors (resilience, emotional regulation, mindfulness) and external factors (peer

support, supportive school environments, teacher-student relationships), the program provided a comprehensive and preventive approach to adolescent mental health promotion.

Looking ahead, strengthening partnerships between schools, health professionals, and academic institutions will be key to ensuring continuity and sustainability. Future initiatives may expand this model by introducing peer-support mechanisms, such as student Mental Health Ambassadors, to build a stronger support network within schools. Further research should also explore the long-term effects of such interventions, including their impact on stress reduction, resilience, and overall school climate.

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