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Research

Leaflet-Based Health Education and Its Effect on Adolescent Mental Health Empowerment

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ABSTRACT

Adolescent mental health is a growing public health concern, particularly in school environments where students experience significant academic and social pressures. Limited mental health literacy among adolescents may increase vulnerability to stress, anxiety, and emotional problems, which can adversely affect learning achievement and psychological well-being. This study presents a community-based empowerment approach by utilizing leaflet media as an educational intervention to improve mental health literacy among adolescents. The objective of this study was to analyze the mental health situation of adolescents and to evaluate the effectiveness of leaflet-based mental health education as a community empowerment strategy at SMP Negeri 1 Tapalang. A quasi-experimental method with a one-group pre-test and post-test design was applied. The participants consisted of 30 junior high school students. The intervention involved structured mental health education delivered through leaflet media. Data were collected using a validated knowledge questionnaire and analyzed using statistical software, including the Shapiro–Wilk test for normality and the paired sample t-test for comparison. The findings revealed a significant improvement in students' mental health knowledge following the intervention. The mean pre-test score increased from 56.40 to 78.90 in the post-test, with a statistically significant result ($p < 0.05$). These results indicate that leaflet-based education is an effective and practical medium for enhancing adolescent mental health literacy and supporting community empowerment initiatives within the school setting.

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1. Introduction

Mental health is an integral component of overall health and plays a crucial role in determining an individual's quality of life, particularly during adolescence. Adolescence is a complex transitional period characterized by significant biological, psychological, and social changes. These changes require high levels of adaptation, making adolescents more vulnerable to mental health problems such as stress, anxiety, depression, and emotional disorders. If not properly addressed, mental health problems during adolescence may lead to long-term consequences, including poor academic performance, impaired social relationships, risky behaviors, and disrupted personality development into adulthood (Afendy et al., 2024).

Globally, adolescent mental health disorders represent one of the leading causes of disease burden and disability. The World Health Organization (WHO) reports that approximately one in seven adolescents worldwide experiences a mental health disorder, with depression and anxiety being the most common conditions. In Indonesia, national health data indicate an increasing prevalence of mental health problems among adolescents, particularly following the COVID-19 pandemic. National surveys reveal that adolescents face considerable psychological pressure stemming from academic demands, social relationships, and excessive exposure to digital media. Despite this growing burden, access to adolescent-friendly mental health services remains limited, especially in school and community settings.

Low levels of mental health literacy are recognized as a key factor contributing to the persistence of mental health problems among adolescents. Mental health literacy refers to the ability to recognize mental health problems, understand risk and protective factors, and seek appropriate help. Previous studies in Indonesia have demonstrated that many adolescents lack adequate knowledge of mental health and tend to hold negative perceptions toward individuals with mental disorders (Anggara & Lismayanti, 2024). This situation is further exacerbated by persistent social stigma, which discourages adolescents from openly discussing psychological problems or seeking professional support.

Previous research has emphasized the importance of school-based interventions in improving adolescent mental health literacy. Schools are considered strategic settings for implementing promotive and preventive mental health programs, as they provide direct access to adolescents in their daily environments. Several studies have shown that school-based mental health education can enhance students' knowledge, foster positive attitudes, and improve coping skills (Kusumawati et al., 2025). However, most existing studies have focused on lecture-based methods or digital media, while the use of simple printed media such as leaflets has received limited attention, particularly within the framework of community empowerment.

Leaflet media offer several advantages as health promotion tools, including practicality, cost-effectiveness, clarity of information, and the ability to be reread by students at any time. Leaflets can deliver essential information in a concise and visually engaging format, making them suitable for adolescents as visual learners. Although some studies have reported the effectiveness of leaflets in improving health-related knowledge among adolescents, empirical evidence regarding their

effectiveness in enhancing mental health literacy and empowering school communities remains scarce (Indriani, 2025). This limitation highlights a research gap that warrants further investigation.

Based on preliminary observations at SMP Negeri 1 Tapalang, no structured or sustainable mental health education program has been implemented. Many students demonstrate limited understanding of basic mental health concepts and strategies for maintaining psychological well-being. Therefore, this study introduces a novel approach by integrating leaflet-based mental health education with a school community empowerment framework. The objectives of this study are to analyze the mental health situation of adolescents and to evaluate the effectiveness of leaflet-based mental health education in improving students' mental health literacy. The hypothesis of this study is that leaflet-based mental health education significantly increases adolescents' mental health knowledge in the school setting.

2. Method

This study employed a quantitative research design using a quasi-experimental approach with a one-group pre-test and post-test design. This design was selected to evaluate the effectiveness of leaflet-based mental health education in improving adolescents' mental health literacy. The quasi-experimental approach allows the assessment of changes in participants' knowledge before and after the intervention without the use of a control group, making it suitable for school-based research settings.

The study was conducted at SMP Negeri 1 Tapalang, Mamuju Regency, West Sulawesi Province, Indonesia. The research was carried out during the second semester of the 2024/2025 academic year. The selection of the research site was based on preliminary observations indicating the absence of a structured mental health education program and the need to enhance mental health literacy among students.

The study population consisted of all students at SMP Negeri 1 Tapalang. A total of 30 students were selected as research participants using purposive sampling. Inclusion criteria included students who were willing to participate in the entire research process, attended the intervention session, and obtained parental or guardian consent. Purposive sampling was applied to ensure that the selected participants met the study objectives and to accommodate time and resource limitations.

The research intervention consisted of mental health education delivered through leaflet media. The leaflet was developed by the researchers based on relevant literature and included materials on the definition of mental health, risk factors for mental disorders, signs of stress in adolescents, and strategies for maintaining mental well-being. The educational session was conducted in a structured manner through brief explanations and discussions, accompanied by the distribution of leaflets that students could reread independently.

Data were collected using a mental health knowledge questionnaire that had undergone validity and reliability testing. The questionnaire was administered before the intervention (pre-test) and after the intervention (post-test). Prior to data collection, participants were informed about the study objectives and procedures, and written informed consent was obtained. For participants under 18 years of age, consent was also obtained from parents or guardians.

Data analysis was performed using the Statistical Package for the Social Sciences (SPSS). The analysis began with a normality test using the Shapiro–Wilk test to assess data distribution (Ghasemi & Zahediasl, 2021). Subsequently, a paired sample t-test was conducted to determine differences in mean mental health knowledge scores before and after the intervention. The results were presented in tables and descriptive narratives. This study was conducted in accordance with ethical research principles, including voluntary participation, confidentiality of respondents' data, and respect for participants' rights.

3. Results & Discussion

The results of this study demonstrate changes in students' mental health knowledge before and after the leaflet-based educational intervention and provide an integrated interpretation of these findings within relevant theoretical and empirical contexts.

The pre-test results indicated that students' mental health knowledge levels were generally low to moderate. The mean pre-test score was 56.40 with a standard deviation of 8.72, suggesting limited understanding of basic mental health concepts, risk factors for mental disorders, and stress management strategies among students. This finding reflects the ongoing challenge of low mental health literacy among adolescents in school settings.

Following the intervention, a substantial improvement in students' mental health knowledge was observed. The mean post-test score increased to 78.90 with a standard deviation of 7.15, indicating that the leaflet-based education effectively enhanced students' understanding. The concise and visually structured content of the leaflet allowed students to absorb and revisit the information, supporting effective knowledge acquisition.

The Shapiro–Wilk test confirmed that the data were normally distributed ($p > 0.05$), allowing for parametric analysis. The paired sample t-test revealed a statistically significant difference between pre-test and post-test scores ($p = 0.000$; $p < 0.05$), confirming the effectiveness of the intervention.

Table 1. *Comparison of Students' Mental Health Knowledge Scores Before and After Intervention*

Research Variable	Mean	Standard Deviation (SD)	p-value
Pre-test	56.40	8.72	
Post-test	78.90	7.15	<0.001

Note: Paired sample t-test; $p < 0.05$ indicates a statistically significant difference.

The significant improvement in knowledge supports previous studies reporting that printed educational materials such as leaflets are effective tools for improving adolescent mental health literacy (Putri Utama et al., 2025). From a health promotion perspective, knowledge enhancement represents a critical initial step toward behavioral change, as described in the Health Belief Model.

From a public health perspective, increasing mental health literacy is an important promotive and preventive step in reducing the risk of mental disorders in adolescents (Patel et al., 2018; WHO, 2021). While from a community empowerment standpoint, increased student knowledge serves as

an early indicator of empowerment success. School-based mental health education fosters awareness, encourages peer support, and strengthens students' capacity to manage their own mental well-being. A school-based approach has been proven to strengthen the role of educational institutions in advocating for adolescent mental health (Viner et al., 2020; Kusumawati et al., 2025). Furthermore, the findings provide empirical support for mental health advocacy in schools, offering evidence that can inform the development of more structured and sustainable mental health programs (Yani, 2025). These findings strengthen the evidence that school-based interventions contribute positively to youth mental health promotion efforts (Barry et al., 2019; WHO, 2023).

Despite these positive outcomes, limitations include the absence of a control group, a relatively small sample size, and a focus solely on knowledge outcomes. Future research should employ controlled experimental designs, larger samples, and broader outcome measures to further strengthen evidence on school-based mental health empowerment strategies.

4. Conclusion

This study demonstrates that mental health education using leaflet media significantly improves the level of knowledge among students at SMP Negeri 1 Tapalang. The findings effectively address the main research objective, namely to examine the effectiveness of leaflets as a community empowerment tool in enhancing adolescent mental health literacy. The increase in knowledge scores following the intervention indicates that simple, accessible, and contextually appropriate printed media can serve as an effective educational tool in school settings. These results highlight the importance of school-based empowerment approaches in promotive and preventive mental health efforts, particularly for adolescents who are vulnerable to academic and social stressors. The contribution of this study to public health lies in strengthening empirical evidence that low-cost, easily replicable educational interventions can enhance mental health literacy and support mental health advocacy initiatives within community-based school environments.

Based on these findings, it is recommended that schools integrate mental health education into sustainable school health programs, both through classroom learning and extracurricular activities. Regional health and education authorities are encouraged to utilize the results of this study as a foundation for developing mental health–friendly school policies, including the provision of simple yet effective health promotion media. Furthermore, capacity building for teachers and school health personnel in delivering mental health education should be prioritized. For future researchers, it is recommended to employ study designs that include control groups, expand sample sizes, and incorporate attitude and behavior variables to provide a more comprehensive evaluation of intervention outcomes. Further studies may also explore the use of more diverse and digital-based educational media to enhance the sustainability and impact of adolescent mental health empowerment programs.

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