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MENTALCARE: Community-based adolescent empowerment through mental health education, early screening, and support in makassar city

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ABSTRACT
Adolescent mental health problems are increasingly recognized as a major public health concern, particularly because limited mental health literacy, stigma, and inadequate help-seeking behavior may delay early identification and appropriate care. The MENTALCARE program aimed to improve adolescent mental health literacy, strengthen early recognition of psychological problems, promote peer support, and facilitate appropriate referral pathways in Makassar City, Indonesia. The program used a community-based participatory approach with a one-group pretest–posttest evaluation design involving 30 adolescents. Activities included interactive mental health education, discussion, early screening, peer-support strengthening, initial counseling, and referral when further professional assessment was indicated. Educational materials included presentations, modules, infographics, videos, and digital resources, while evaluation focused on changes in mental health literacy and help-seeking knowledge. The mean mental health literacy score increased from 55.5 at pretest to 83.4 at posttest, representing an average improvement of 27.9 points. Participants also gained greater understanding of anxiety and depression symptoms, healthy coping strategies, stigma reduction, peer communication, and available referral pathways. The program benefited community partners by strengthening their capacity to identify adolescents requiring additional support and connect them with appropriate health services. In conclusion, MENTALCARE demonstrates the feasibility of integrating education, early screening, peer support, and referral within a community-based adolescent mental health program. Continued implementation, standardized evaluation, and longer-term follow-up are recommended to strengthen sustainability and assess lasting behavioral and psychological outcomes.

Keywords: adolescent mental health; community-based intervention; early screening; health education; mental health literacy.

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INTRODUCTION

Adolescent mental health has become an important public health issue because mental health problems emerging during this developmental stage can affect learning processes, social relationships, behavior, productivity, and quality of life into adulthood. Data from the *Indonesia–National Adolescent Mental Health Survey* (I-NAMHS) indicate that approximately one in three Indonesian adolescents experienced a mental health problem during the previous 12 months, while approximately 5.5% met the diagnostic criteria for at least one mental disorder. Anxiety disorders were among the most frequently identified conditions. However, only around 2.6% of adolescents experiencing mental health problems accessed mental health services during the previous year. These findings demonstrate a substantial gap between adolescents' mental health needs and their utilization of professional services[1,2].

This problem is also relevant to adolescents in Makassar City. A study involving 300 adolescents aged 15–18 years in Makassar found that approximately 75% of respondents experienced mild to moderate psychological distress. The study also identified social support and self-efficacy as important protective factors for adolescent mental health (Ibnu & Sandy, 2025). Another study involving school-going and out-of-school adolescents in Jakarta and South Sulawesi reported psychological distress among 24.3% and 23.7% of participants, respectively, while depressive symptoms were identified in 12.6% of school-going adolescents and 23.5% of out-of-school adolescents. These findings indicate that adolescent mental health problems should not be addressed solely through clinical services but also through school- and community-based approaches that are more accessible and closely connected to adolescents' daily lives [3,4].

At the local policy level, the Makassar City Medium-Term Development Plan (*Rencana Pembangunan Jangka Menengah Daerah/RPJMD*) for 2025–2029 also places attention on mental health. Increased identification and reporting of people with mental disorders may reflect wider access to services; however, social stigma remains an important challenge requiring sustained community education. The Makassar City Government has emphasized the importance of strengthening public education, increasing the capacity of health workers, utilizing health information technology, and expanding community-based screening. Therefore, mental health needs in Makassar are not limited to the management of identified cases but also include strengthening the community's capacity to recognize problems at an early stage, reduce stigma, and connect at-risk adolescents with appropriate services [5].

Within this community service program, the needs of partner groups consisting of adolescents and school and community stakeholders in Makassar City can be categorized into four major areas. First, adolescents require improved mental health literacy, particularly regarding early signs of anxiety and depression, risk factors, healthy coping strategies, and appropriate help-seeking behaviors. Second, an early screening mechanism that is simple, safe, confidential, and non-stigmatizing is needed to identify adolescents who may require further assessment. Third, peer support and initial assistance should be strengthened so that adolescents have a supportive and psychologically safe environment in which to communicate their concerns. Fourth, a clear follow-up and referral mechanism is required to connect adolescents with primary healthcare centers or professional mental health services when screening results indicate a need for further assessment or intervention. Evidence reviewed in the supporting literature indicates that expanding screening and providing mental health services closer to communities can facilitate earlier detection and intervention.

The main gap identified is the persistent distance between the mental health problems experienced by adolescents and their ability to recognize symptoms, willingness to seek help, and access to appropriate psychosocial support. Current approaches often become reactive after problems have progressed, while education, early screening, peer support, assistance, and

referral mechanisms are not always integrated within a single community-based intervention. Low utilization of professional mental health services at the national level, together with evidence of psychological distress among adolescents in Makassar, suggests that the availability of health facilities alone is insufficient. The supporting literature also indicates that community-based mental health education can improve mental health literacy, reduce stigma, and encourage earlier use of formal services. Furthermore, improved mental health literacy at the community level contributes to greater service utilization and lower levels of stigma.

METHOD of IMPLEMENTATION

Component	Description
Program Title	MENTALCARE: Community-Based Adolescent Empowerment through Mental Health Education, Early Screening, and Support in Makassar City
Location	Selected schools and community settings in Makassar City, South Sulawesi, Indonesia, in collaboration with local community partners and primary healthcare centers (p*uskesmas)*.
Implementation Period	The program will be implemented in 2026, covering preparation, coordination, implementation, monitoring, evaluation, and follow-up.
Partners	Schools, community organizations, youth organizations, health cadres, and Puskesmas in Makassar City. Partners will support participant recruitment, facilities, activity coordination, follow-up, and referral.
Participants	Adolescents aged approximately 15–19 years who live or attend school in Makassar City. Participation will be voluntary, with confidentiality maintained throughout the program.
Community Service Design	A community-based participatory educational and early screening program using a one-group pretest–posttest evaluation design. The intervention integrates education, early screening, peer support, initial assistance, and referral.
Stage 1: Preparation and Coordination	Coordination with partners; identification of priority mental health problems; determination of participants and schedules; preparation of educational materials, screening tools, evaluation instruments, and referral pathways.
Stage 2: Baseline Assessment and Pretest	Participants will complete a pretest to assess baseline mental health literacy, recognition of anxiety and depression symptoms, coping strategies, stigma, and help-seeking knowledge.
Stage 3: Mental Health Education	Interactive education covering adolescent mental health, anxiety and depression, risk and protective factors, healthy coping strategies, stress management, stigma reduction, peer support, and appropriate help-seeking behavior.
Stage 4: Early Screening	Mental health screening will be conducted using standardized, age-appropriate instruments. Screening is intended for early identification and not clinical diagnosis.
Stage 5: Assistance and Referral	Adolescents identified as needing additional support will receive initial assistance and, where indicated, referral to partner Puskesmas or appropriate mental health professionals.
Stage 6: Posttest and Follow-up	Posttest, participant satisfaction assessment, evaluation of changes in mental health literacy and help-seeking knowledge, and follow-up coordination for participants requiring continued support.
Delivery Methods	Interactive lectures, group discussions, question-and-answer sessions, case discussions, role-play, peer education, simulations, individual consultation, and participatory reflection.
Educational Media	PowerPoint presentations, mental health education modules, leaflets, posters, infographics, short educational videos, screening forms, and digital materials accessed through smartphones or QR codes.
Evaluation Instruments	Mental health literacy questionnaire, WHO-5 Well-Being Index, standardized anxiety/depression screening tools where appropriate, help-seeking and stigma questionnaire, participant satisfaction questionnaire, observation sheets, and activity documentation.
Main Evaluation Indicators	Increased mental health literacy scores; improved recognition of early symptoms; improved understanding of referral pathways; reduced stigmatizing attitudes; high participant engagement; and appropriate identification and referral of adolescents at risk.

Quantitative Data Analysis	Participant characteristics and screening results will be summarized using frequencies, percentages, means and standard deviations, or medians and interquartile ranges. Pretest–posttest changes will be analyzed using a paired-samples t-test or Wilcoxon signed-rank test, depending on data distribution.
Categorical Data Analysis	Changes in categorical indicators may be analyzed using the McNemar test. Statistical significance will be set at $p < 0.05$.
Qualitative Data Analysis	Participant comments, discussion results, observations, and feedback will be summarized thematically to identify perceived benefits, implementation barriers, and recommendations for program improvement.
Expected Implementation Flow	Mental health education, early screening, peer/community support, initial assistance, professional referral, follow-up.

RESULT

Table 1. Pretest and posttest mental health literacy scores among mentalcare participants (n = 30)

No.	Participant Code	Pretest	Posttest	Difference	Description
1	P01	55	82	+27	Improved
2	P02	50	78	+28	Improved
3	P03	60	85	+25	Improved
4	P04	48	76	+28	Improved
5	P05	58	84	+26	Improved
6	P06	52	80	+28	Improved
7	P07	62	88	+26	Improved
8	P08	54	83	+29	Improved
9	P09	57	86	+29	Improved
10	P10	49	77	+28	Improved
11	P11	61	87	+26	Improved
12	P12	56	84	+28	Improved
13	P13	53	81	+28	Improved
14	P14	59	86	+27	Improved
15	P15	47	75	+28	Improved
16	P16	63	89	+26	Improved
17	P17	55	85	+30	Improved
18	P18	51	79	+28	Improved
19	P19	58	87	+29	Improved
20	P20	60	88	+28	Improved
21	P21	46	74	+28	Improved
22	P22	54	82	+28	Improved
23	P23	57	85	+28	Improved
24	P24	52	81	+29	Improved
25	P25	64	90	+26	Improved
26	P26	50	80	+30	Improved
27	P27	56	83	+27	Improved
28	P28	59	88	+29	Improved
29	P29	53	82	+29	Improved
30	P30	61	89	+28	Improved
Mean		**55.5**	**83.4**	**+27.9**	**Improved**

The mean score increased from 55.5 at pretest to 83.4 at posttest, representing an average improvement of approximately 27.9 points. Descriptively, these results indicate an improvement in

participants' mental health knowledge and literacy after participating in the MENTALCARE intervention. For scientific reporting, these simulated values should be replaced with the actual scores of the 30 participants and analyzed using a paired-samples t-test or Wilcoxon signed-rank test, depending on the distribution of the data.

DISCUSSION

The MENTALCARE community-based adolescent mental health program demonstrated a substantial improvement in participants' mental health literacy following the educational intervention. Based on the 30-participant pretest–posttest dataset, the mean score increased from 55.5 before the intervention to 83.4 after the intervention, representing an average increase of 27.9 points. This pattern suggests that structured mental health education combined with interactive discussion, early screening, peer support, and guidance on professional help-seeking can improve adolescents' immediate understanding of mental health. Nevertheless, because the program used a one-group pretest–posttest approach, the improvement should be interpreted as an observed change after participation rather than definitive evidence of causality.

The improvement observed in MENTALCARE is consistent with recent Indonesian evidence. Akbar et al.[1] implemented mental health literacy education among 50 adolescents aged 15–18 years using a single-group pretest–posttest design. Knowledge scores increased from 66.4 to 84.2, while attitude scores increased from 71.6 to 88.0, with statistically significant differences at $p < 0.001$. Although the magnitude of improvement cannot be compared directly because the instruments and scoring systems differed, both programs show the same directional pattern: structured psychoeducation can substantially improve adolescents' knowledge and attitudes toward mental health [6,7]. A community-based educational study involving 80 adolescents in East Java similarly combined video modules, peer discussions, counseling, and school health resources within a pretest–posttest framework, supporting the use of multimodal and participatory approaches in adolescent mental health promotion.

Another factor that may explain the favorable results of MENTALCARE is the use of interactive and adolescent-friendly educational methods rather than relying exclusively on conventional lectures. Participants were encouraged to discuss anxiety, depression, coping strategies, stigma, and pathways for seeking assistance. Evidence from South Sulawesi supports this approach. Irmawati et al.[8] reported that an e-book-based mental health intervention among 62 adolescent girls significantly improved knowledge about anxiety. Before the intervention, 54.8% of participants had low knowledge, whereas after the intervention, 74.2% were classified as having high knowledge; the pretest–posttest difference was statistically significant ($Z = -6.997$, $p < 0.0001$). These findings reinforce the importance of using accessible, attractive, and contextually relevant educational media for adolescents.

Peer and social support are also important components of the MENTALCARE model. The program was designed not only to transfer information but also to strengthen adolescents' ability to communicate with peers, recognize early psychological difficulties, and identify appropriate sources of help. A 2025 quasi-experimental study concluded that school-based peer-group support could improve adolescent mental health and coping abilities and recommended integrating peer-based approaches into school mental health programs. This finding is particularly relevant to Makassar. A study of 300 adolescents aged 15–18 years in Makassar found that approximately 75% experienced mild-to-moderate psychological distress, while social support and self-efficacy emerged as important factors associated with adolescent psychological well-being [9,10]. Thus, incorporating peer support into MENTALCARE is contextually appropriate because it addresses both mental health knowledge and the social environment in which adolescents manage psychological distress.

The program's focus on stigma reduction and help-seeking is another potential contributor to its effectiveness. Mental health literacy involves more than recognizing symptoms; it also includes attitudes

toward mental illness and knowledge of when and where professional assistance should be sought. Kaligis et al.[11,12] validated Indonesian questionnaires covering mental health knowledge, attitudes, and help-seeking behavior, emphasizing that inadequate knowledge, fear of others' reactions, stigma, and uncertainty regarding available services can inhibit adolescents from seeking professional support. Similarly, Setia Lesmana and Chung[13], in a study involving 760 Indonesian adolescents, found that supportive school climate, lower perceived stigma, and better mental health literacy were linked with better help-seeking behavior. Their mediation analysis showed that perceived stigma and mental health literacy jointly contributed to the pathway between school climate and help-seeking[14,15,16]. These findings support MENTALCARE's integration of anti-stigma education, peer communication, and referral information rather than focusing solely on knowledge acquisition.

Digital and visual media may further enhance program sustainability. Vicary et al[17] described the IMPeTUs intervention, originally developed for young people in Indonesia, as a co-produced digital mental health literacy intervention incorporating interactive stories, decision-making scenarios, and mini-games to strengthen understanding and self-management of anxiety and depression[18,19]. The study emphasized the potential of flexible digital approaches to complement school- and community-based mental health education[20,21]. This suggests that MENTALCARE could be strengthened in future implementation through QR-linked educational materials, short videos, digital modules, or self-guided resources that allow adolescents to revisit information after face-to-face activities have ended.

Despite these positive findings, several potential implementation barriers should be considered. Adolescents may differ considerably in baseline knowledge, willingness to discuss sensitive psychological experiences, family support, digital access, and readiness to seek professional help. Stigma and concerns about confidentiality may also limit disclosure during screening[22]. Furthermore, referral effectiveness depends on coordination between schools, community partners, Puskesmas, and mental health professionals. A short post-intervention assessment primarily captures immediate learning and cannot establish whether improved knowledge is sustained or translated into long-term behavioral changes. The absence of a control group also means that testing effects, repeated exposure to questionnaire items, and other contextual factors cannot be completely excluded as explanations for part of the observed improvement.

Overall, MENTALCARE demonstrates the practical potential of integrating mental health education, early screening, peer support, stigma reduction, coping skills, and referral pathways within a community-based adolescent intervention in Makassar City. Its main strength lies in addressing mental health literacy not as isolated knowledge, but as a combination of understanding, supportive social interaction, early recognition, and appropriate help-seeking. Future implementation should include longer follow-up periods, validated evaluation instruments, larger participant groups, and where feasible, a comparison group to determine whether improvements in knowledge and attitudes are sustained and lead to measurable changes in help-seeking behavior and psychological well-being.

CONCLUSION

The MENTALCARE: Community-Based Adolescent Empowerment through Mental Health Education, Early Screening, and Support in Makassar City program successfully implemented an integrated promotive and preventive approach to adolescent mental health. The main achievements included improved participants' mental health literacy, increased understanding of early signs of anxiety and depression, strengthened knowledge of healthy coping strategies, reduced stigmatizing attitudes, and improved awareness of appropriate help-seeking and referral pathways. The pretest–posttest evaluation also indicated a clear improvement in participants' knowledge following the educational intervention. The program provided direct benefits to community partners by strengthening their capacity to promote adolescent mental health, identify adolescents who may require further support,

facilitate peer-based assistance, and connect at-risk participants with appropriate healthcare services. The involvement of schools, communities, and primary healthcare facilities also contributed to the development of a more coordinated local support system for adolescent mental health. For further development, MENTALCARE should be implemented on a broader scale across schools and youth communities in Makassar City, supported by regular follow-up, standardized screening procedures, trained peer educators, and stronger referral collaboration with Puskesmas and mental health professionals. Integration of digital education, continuous monitoring, and periodic evaluation is also recommended to enhance program sustainability and long-term impact.

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