

Implementation of MENTARI (Mental Health Remaja Indonesia) Application Innovation Assessment for Early Detection of Adolescent Mental Health at SMPN 1 Purwadadi

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ABSTRACT

Background. Indonesia is one of the developing countries with a significant number of mental health patients. The prevalence of emotional disorders with symptoms of depression and anxiety among the population continues to increase, leading to a rising tendency for self-harm and suicide. Suicide cases in Indonesia can reach up to 10,000 or equivalent to one suicide case every hour.

Purpose. The aim of this community service is to provide early detection for adolescents by introducing an application named MENTARI (Indonesian Adolescent Mental Health) Assessment.

Method. The implementation is carried out by guiding students to download the MENTARI Assessment application available on the Playstore. Users will directly know their results whether they are normal, borderline, or below the threshold (abnormal).

Results. Based on the results of the implementation of the MENTARI application innovation, it can be concluded that the majority of the emotional category is below the threshold, the majority of the behavior category is below the threshold, the majority of the hyperactivity category has normal results, the peer category has normal results, and the prosocial category also has normal results. For the difficulty level in grade 7, there is a difficulty level of 62.5%, grade 8 has a difficulty level of 8.02%, and for grade 9, the difficulty level is 6.41%.

Conclusion. Adolescence is a period filled with changes and challenges, both physically, emotionally, and socially. Challenges such as puberty, changes in social roles, and adaptation to the environment can lead to pressure and stress. If unable to cope with these challenges, adolescents are at risk of experiencing emotional problems and significant stress in their lives. Therefore, early detection through applications like MENTARI is crucial to provide appropriate interventions and support adolescents in facing these challenges.

KEYWORDS

Adolescents, Early Detection, Mental Health, Psychosocial

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INTRODUCTION

Indonesia is one of the developing countries with a significant number of mental health patients. Various biological, psychological, and social factors, combined with the diversity of the population, contribute to the increasing number of mental health disorders. Data from the Basic Health Research (Riskesdas) 2018 indicates that the prevalence of emotional disorders with symptoms of depression and anxiety among the population aged 15 and above is approximately 6.1% of the total population of 11 million people in Indonesia. Emotional Mental Disorders (GME) in the population aged ≥ 15 years are experienced by 9.8% of the population, which is more than 19 million people in Indonesia (Riskesdas, 2018). Adolescents have a depression rate of 6.2%. Severe depression tends to lead to self-harm or suicide (Videbeck & Videbeck, 2013). About 80-90% of suicide cases result from depression and anxiety. Suicide cases in Indonesia can reach 10,000, equivalent to one suicide case every hour (Ministry of Health, 2022). According to suicidologists, 4.2% of students in Indonesia have considered suicide. Among university students, 6.9% have suicidal intentions, while another 3% have attempted suicide. Depression in adolescents can be caused by various factors such as academic pressure, bullying, family factors, and economic issues (Parnawi, 2021).

If mental health is disturbed, mental disorders or mental illnesses arise (Verhagen et al., 2022). Mental disorders can alter how someone handles stress, interacts with others, makes choices, and trigger the desire to self-harm (Umayah et al., 2018). The importance of mental health for adolescents lies in the fact that mental disorders manifest in behavior changes, mood swings, difficulty concentrating, weight loss, self-harm, various health problems, and intense feelings (WHO, 2022).

Adolescents are individuals who are always seeking their identity. An adolescent is no longer a young child but not yet considered an adult. On one hand, an adolescent wants freedom and independence, free from parental influence, but on the other hand, they still need the help, support, and protection of their parents (Shatkin, 2019). Parents often do not recognize or understand the changes that occur, failing to realize that their child has grown into an adolescent and is no longer a child who always needs assistance. Parents become confused dealing with the emotional and behavioral instability of adolescents, leading to conflicts between them (Videbeck & Videbeck, 2013). If conflicts between parents and adolescents persist, they can lead to various negative consequences for both the adolescent and the relationship between them and their parents (Kalindjian et al., 2022).

Moreover, there are many factors and conditions that can cause stress during adolescence (Rahmat et al., 2020). Adolescents face various changes happening within themselves and developmental milestones that need to be achieved according to their age (Fitri & Adelya, 2017). These challenges potentially lead to behavioral issues and significant stress in adolescents' lives if they cannot cope with these challenges (Fusar-Poli et al., 2016).

Despite societal stigma, the courage to be open with others and seek treatment is the right step forward. In this digital era, there are many platforms that provide online consultation services, but assessments to facilitate early detection are still rare, especially for adolescents. Early detection is crucial for early intervention since adolescents spend most of their time in school, making them more accessible to healthcare professionals. To facilitate this early detection, we will introduce an application accessible anytime by students (adolescents) to identify emotional issues, hyperactivity, behavior, peer relationships, and prosocial behaviors. From this screening, students will be categorized into three groups: normal, borderline, and abnormal. If the result is normal, students only need to access the educational section of the app. For borderline results, students need to access the interventions provided in the app, and if the result is abnormal, students should be referred to specialists. Mental health screenings are conducted to identify individuals with mental health issues

and provide preventive services and/or other follow-up services earlier. Even individuals with good mental health can be maintained by promoting mental health. Therefore, this innovation supports the SDGs' goals towards a healthy and prosperous life, quality education, innovative industry and infrastructure, and partnerships to achieve these goals.

RESEARCH METHODOLOGY

The community service activity was conducted on Thursday, March 21, 2024, at 09:00 AM WIB at SMP N 1 Purwadadi, Karangpaningal Village, Purwadadi District, Ciamis Regency. The community service activity went smoothly. The event was attended by 187 students along with the school principal, school committee, teachers including guidance and counseling teachers, and one mental health program officer. The service was conducted by one chairman and two members from the Nursing Department, Faculty of Health Sciences, Universitas Galuh, and two nursing students from the Faculty of Health Sciences, Universitas Galuh. The activity was carried out in the following stages:

1. Obtaining permits for community service activities from the Ciamis Health Office, Purwadadi District Office, Purwadadi Community Health Center (Puskesmas), and SMP N 1 Purwadadi.
2. Coordinating with the health professionals from Purwadadi Community Health Center (Puskesmas) and school authorities to jointly provide understanding so that this application can be used effectively by adolescents, especially students of SMP N 1 Purwadadi in Purwadadi District.
3. Students are expected to fill out the assessment first to understand their mental health.
4. After completing the assessment, students can access the education menu, educational videos, and interventions.
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6. After completing the assessment, students can access the education menu, educational videos, and interventions.



Figure 1. Steps for Creating the MENTARI Assessment Application

We conducted a socialization about the importance of mental health and early detection of mental health issues, using leaflets that include instructions to download the MENTARI Assessment application from the Playstore. The MENTARI application is designed to facilitate early detection of mental health issues in adolescents. It can be accessed anytime by students (adolescents) to identify emotional issues, hyperactivity, behavior, peer relationships, and prosocial behaviors. From this screening, students will be categorized into three groups: normal, borderline, and abnormal. If the result is normal, students only need to access the educational section of the app. For borderline results, students need to access the interventions provided in the app, and if the result is abnormal, students should be referred to specialists. Mental health screenings are conducted to identify individuals with mental health issues and provide preventive services and/or other follow-up services earlier. Even individuals with good mental health can be maintained by promoting mental health. Therefore, this innovation supports the SDGs' goals towards a healthy and prosperous life, quality education, innovative industry and infrastructure, and partnerships to achieve these goals.

RESULT AND DISCUSSION

A. Results

1. Emotional Category

The emotional category of respondents in this community service is presented in the form of a frequency distribution table for each respondent characteristic:

Table 1. Frequency Distribution of Emotional Respondents (N=187)

Emotional Category	Count	Percentage
Normal	48	25.66%
Borderline	17	9.09%
Abnormal (below treshold)	122	65.24%

From Table 1, it is found that the majority of the students' results fall below the threshold, accounting for 65.24%, while 25.66% are normal, and 9.09% are borderline. The majority of the emotional category is below the threshold.

2. Behavioral Category

The behavioral category of respondents in this community service is presented in the form of a frequency distribution table for each respondent characteristic:

Table 2. Frequency Distribution of Behavioral Respondents (N=187)

Behavioral Category	Count	Percentage
Normal	63	33.68%
Borderline	34	18.18%
Abnormal (below treshold)	90	48.13%

From Table 2, it is found that the majority of the students' results fall below the threshold, accounting for 48.13%, while 33.68% are normal, and 18.18% are borderline. The majority of the behavioral category is below the threshold.

3. Hyperactivity Category

The hyperactivity category of respondents in this community service is presented in the form of a frequency distribution table for each respondent characteristic:

Table 3. Frequency Distribution of Hyperactivity Respondents (N=187)

Hyperactivity Category	Count	Percentage
Normal	140	74.68%
Borderline	23	11.29%
Abnormal (below treshold)	24	12.84%

From Table 3, it is found that the majority of the students' results for the hyperactivity category are normal, accounting for 74.86%, while 11.29% are borderline, and 12.84% are below the threshold. The majority of the hyperactivity category results are normal.

4. Peer Category

The peer category of respondents in this community service is presented in the form of a frequency distribution table for each respondent characteristic:

Table 4. Frequency Distribution of Peer Respondents (N=187)

Peer Category	Count	Percentage
Normal	67	35.82%
Borderline	33	17.64%
Abnormal (below threshold)	87	45.52%

From Table 4, it is found that the majority of the students' results for the peer category are below the normal threshold, accounting for 46.52%. The normal results are 35.82%, and borderline results are 17.64%. The majority of the peer category results are below the normal threshold.

5. Prosocial Category

The prosocial category of respondents in this community service is presented in the form of a frequency distribution table for each respondent characteristic:

Table 5. Frequency Distribution of Prosocial Respondents (N=187)

Prosocial Category	Count	Percentage
Normal	160	85.56%
Borderline	15	8.02%
Abnormal (below threshold)	12	6.41%

From Table 5, it is found that the majority of the students' results for the prosocial category are normal, accounting for 85.56%. The borderline results are 8.02%, and the abnormal (below threshold) results are 6.41%. The majority of the prosocial category results are within the normal range.

6. Total Difficulties

The total difficulties results from all respondents in this community service are presented in the form of a frequency distribution table for each respondent characteristic:

Table 6. Frequency Distribution of Total Difficulties of Respondents (N=187)

Total Difficulties	Count	Percentage
7 th Grade	35	62.5%
8 th Grade	31	8.02%
9 th Grade	20	6.41%

From Table 6, it is found that for 7th-grade students, the total difficulties are 62.5%, for 8th-grade students the total difficulties are 8.02%, and for 9th-grade students, the total difficulties are 6.41%.

B. Discussion

From the results table, it's evident that the majority of adolescents face issues in emotional, behavioral, and peer categories. This is because adolescence is a critical period in a person's developmental cycle as they transition into adulthood. Biological, psychological, and social changes occur during this time (Estuningtyas, 2018). These changes can trigger conflicts between adolescents and themselves or their surroundings (Kalindjian et al., 2022). If these conflicts aren't resolved effectively, they can negatively impact adolescent development, including emotional and mental health issues. Adolescents are the nation's future and need attention in terms of their mental and emotional development (Sciences et al., 2019).

Emotional and mental health problems in children living with biological parents are related to internalization issues. Estuningtyas (2018) states that emotional and mental health issues in children and adolescents are divided into two categories: internalization and externalization. Signs of internalized emotional and mental health issues include temperament, confusion, excessive worry, pessimistic thoughts, withdrawal behavior, and difficulty forming peer relationships (isolated, rejected, bullied) (Gray et al., 2020). Internalized issues often occur in children whose parents have rigid schedules and rules at home. Additionally, when both parents work, they may feel tired and burdened by economic responsibilities, which can be a basis for internalization issues. On the other hand, externalized emotional and mental health issues are characterized by difficult temperaments, problem-solving difficulties, attention disorders, hyperactivity, oppositional behaviors (disliking being corrected/given positive feedback, refusing to follow rules), and often manifesting as aggressive behavior.

Poor emotional and mental development in adolescents can manifest as preferring solitude, feeling anxious or worried about anything, frequently feeling unhappy, stressed, or crying, difficulty concentrating on tasks, frequent feelings of fear and being easily scared, and having poor focus and attention. Research by Wahyuningrum et al. (2023) found that adolescents living in orphanages tend to be unstable and easily changeable. This is due to several unmet developmental factors, including parenting.

The developmental task that adolescents need to achieve in late adolescence is accepting their physical condition and using their body effectively, establishing mature relationships with peers

(Rahmy & Muslimahayati, 2021). Social interactions with peers that happen deeply can amplify the influence of peer groups on adolescents (Susanti et al., 2018). This happens because adolescents spend more time with peer groups than with families (Sciences et al., 2019). Peer groups have specific rules that every member must follow, leading to a desire to be accepted, which can be termed peer conformity. This desire to meet group expectations regarding what's deemed right in various situations aims to avoid social chaos and a wish to be accepted by the group environment (Hickie et al., 2019).

Adolescents gain recognition when they can conform to group rules. Thus, when an adolescent's behavior differs from the group, one risk is being ostracized by that group. This can lead adolescents to engage in bullying behaviors. Another influencing factor on bullying tendencies, according to Thompson (Fitri & Adelya, 2017), is an individual's ability to manage emotions effectively, thereby having better resilience when facing problems.

CONCLUSION

Based on the results from implementing the MENTARI application innovation, it can be concluded that the majority of emotional categories are below the threshold, the majority of behavioral categories are below the threshold, the majority have normal hyperactivity results, the peer category is normal, the prosocial category is normal, and for the difficulty level in 7th grade, the difficulty level is 62.5%, 8th grade has a difficulty level of 8.02%, and for 9th grade, the difficulty level is 6.41%. Many factors and conditions can cause stress during adolescence. Adolescents face various changes happening within themselves and developmental targets they need to achieve based on their age. On the other hand, they also face challenges related to puberty, changes in social roles, and their environment in an effort to achieve independence. These challenges undoubtedly have the potential to cause emotional problems and trigger significant stress in adolescents' lives if they are unable to cope with these challenging conditions.

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AUTHORS' CONTRIBUTION

Look this example below:

Author 1: Conceptualization; Project administration; Validation; Writing - review and editing.

Author 2: Conceptualization; Data curation; In-vestigation.

Author 3: Data curation; Investigation.

Author 4: Formal analysis; Methodology; Writing - original draft.

Author 5: Supervision; Validation.

Author 6: Other contribution; Resources; Visuali-zation; Writing - original draft.

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