




Implementation of School-Based Mental Health Program on Teachers' Ability To Handle Students' Emotional And Behavioral Problems: One Group Pretest-Posttest Design

Wardiyah Daulay¹ , Mahnum Lailan Nasution¹ , Jenny Marlindawani Purba¹ 

¹Faculty of Nursing, Universitas Sumatera Utara, Medan, Indonesia

 Corresponding author: wardiyah.daulay@usu.ac.id

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ABSTRACT

The increasing prevalence of emotional and behavioral problems among teenagers necessitates effective, early intervention. The World Health Organization recommends schools as key sites for mental health promotion. However, the sustainability of these programs is often a significant challenge. Empowering teachers to handle students' emotional and behavioral issues is a critical strategy to improve program sustainability. This study aimed to evaluate the impact of a school-based mental health program on teachers' abilities to manage students' emotional and behavioral problems. This study utilized a one-group pretest-posttest design. A total of 60 teachers from SMP Negeri 1 Tanjung Morawa participated as the sample. Teachers' abilities were measured using a questionnaire before (pretest) and after (posttest) the implementation of the school-based mental health program. Data were analyzed using a dependent t-test to compare the mean scores. A significant improvement in teachers' abilities was observed after the program. The mean ability score increased from 50.13 at pretest to 75.20 at posttest, representing a mean difference of 25.07 (a 50.01% increase). This increase was statistically significant ($p < 0.001$, with an alpha of 0.05). The school-based mental health program was effective and had a substantial influence on improving teachers' abilities to handle students' emotional and behavioral problems. These findings support teacher empowerment as a viable strategy for implementing and sustaining mental health programs in school setting.

Keyword: Teacher, Student emotional problems, Behavioral problems



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1. Introduction

Mental health problems are a significant global challenge that can affect anyone, including adolescents. Previous research highlights the severity of this issue, indicating that approximately one in five teenagers worldwide suffer from mental health problems. These problems, such as depression, anxiety, and conduct disorder, are linked to high-risk behaviors and negative long-term outcomes, including school dropout, substance exposure, violence, and the negative impact of internet use. Locally, research from the RSCM mental clinic also points to emotional and behavioral problems as the largest category among adolescent patients (Fajariyah et al., 2018).

The urgency of this issue is clearly reflected in the local context of this study. An initial survey conducted at SMP Negeri 1 Tanjung Morawa, involving 1067 students, revealed concerning prevalence rates.

Specifically, 26 students were found to experience behavioral disorders and 11 had emotional disorders, with dozens more identified in the borderline category (at risk). This figure emphasizes the critical need for prompt and comprehensive preventive efforts to ensure that these issues do not escalate. Given the magnitude of the problems adolescents will face in the future, promotive and preventive approaches are crucial for mental health services (Widyasari & Yuniardi, 2019).

To address these mental health challenges, schools are widely recognized as a source of hope (Weist et al., 2015). The World Health Organization recommends making schools a primary means of promoting mental health for children and adolescents. The advantages of using schools include their institutional focus on human resource quality, the high proportion of school-aged children reached, and the ease of reaching adolescents who spend most of their time in one place. Mental health interventions for this age group are highly beneficial in preventing the emergence of more severe issues.

Schools are formal educational establishments responsible for systematically implementing guidance, instruction, and training programs to assist students in unlocking their potential across ethical-spiritual, cognitive, affective, and social aspects. A conducive climate in schools requires strong cooperation among all personnel, including principals, subject teachers, and guidance teachers. Given their role and responsibility in adolescent development, schools must aim to establish a favorable environment that facilitates students in accomplishing their developmental tasks (Patalay et al., 2020).

Within this school environment, the role of teachers is paramount. Their function extends beyond simply transferring knowledge; professional teachers also instill values, build character, and determine the direction of a student's personality development (Halladay et al., 2020). The success of any mental health promotion program is therefore assessed not only by its immediate effectiveness but also by its level of sustainability. While studies confirm the effectiveness of school-based health promotion, long-term sustainability is often difficult to achieve, primarily because health promotion efforts frequently rely on external practitioners providing certain interventions without adequately involving teachers.

Therefore, involving teachers in handling mental health problems, especially emotional and behavioral issues, is a crucial strategy for building sustainable school-based support (O'Reilly et al., 2018). However, this leads to the central research gap: currently, not all teachers can adequately handle these problems because mental health literacy is not a universally possessed competence. This capacity issue is exacerbated by the limited number of guidance and counseling teachers available in each school, hindering their ability to handle issues optimally. Thus, there is an urgent need to build capacity among the general teaching staff to detect and handle basic emotional and behavioral problems.

To address this significant capacity gap and to support government programs, the school-based mental health program was deemed the most fitting intervention for implementation. The program flow—starting from identification and assessment—is designed to enable teachers to easily determine students' health status and administer suitable interventions. Accordingly, the objective of this study was to evaluate the effectiveness of the school-based mental health program in increasing the capacity and ability of teachers to handle students' emotional and behavioral problems.

2. Methods

2.1 Study Design and Setting

This study employed a one-group pretest-posttest design to measure the immediate effect of the intervention by comparing ability scores before and after the program within the same group. This design was chosen for its simplicity and applicability for small-scale interventions. The research was conducted at SMP Negeri 1 Tanjung Morawa, a State Junior High School located in Deli Serdang District. This location was selected based on previous screening research, which indicated a high prevalence of students at risk of or experiencing significant emotional and behavioral disorders.

2.2 Sample and Sampling Procedure

The target population for this capacity-building study was defined as all 60 teachers at SMP Negeri 1 Tanjung Morawa. The sampling method utilized was total sampling, where the entire population of 60 teachers was included as the sample. This approach was justified due to the small, manageable size of the entire target population necessary to build a comprehensive school-wide support system.

2.3 Data Collection Instrument

Teacher ability was measured using a validated questionnaire developed for this program. The instrument was specifically designed to assess teachers' competencies in handling students' emotional and behavioral problems. Prior to implementation, the research questionnaire was assessed for accuracy, consistency, reliability, and validity. The questionnaire measured the following five key abilities: (1) Ability to differentiate adolescent physical, psychological, emotional, and social development; (2) Ability to recognize adolescent emotional and behavioral problems; (3) Ability to detect and assess aspects of adolescent emotions; (4) Ability to detect and assess aspects of adolescent behavior; and (5) Ability to stimulate adolescent development through therapeutic group therapy.

2.4 Intervention Program

The intervention was the School-Based Mental Health Program (PKJ-BS) training, which was administered to all participating teachers. The primary goal of the intervention was to increase teacher capacity to manage student emotional and behavioral issues. The training utilized various methods, including lectures, discussions, demonstrations, and direct practice with students. The core content included training teachers to be able to stimulate various developmental aspects (physical, cognitive, language, moral/spiritual, social, and developing student interests) and the technique of implementing therapeutic group therapy with students.

2.5 Data Collection Procedure

Data gathering commenced after obtaining administrative approval, including ethical clearance from the Ethics Committee of the University of North Sumatra. The procedure consisted of three main phases:

1. Pretest: Teachers completed the ability questionnaire to measure their baseline competence in handling student problems before the intervention.
2. Intervention: All teachers received the PKJ-BS training as described above.
3. Posttest: Teachers completed the same questionnaire again after the intervention to determine the change in their abilities compared to the pretest results.

2.6 Ethical Considerations

Prior to participation, researchers provided a detailed explanation of the research objectives, process, and benefits to the prospective respondents. Only teachers who willingly agreed to participate were asked to sign an informed consent form as a research respondent. Ethical approval for this research was granted by the Health Research Ethics Committee of the Faculty of Nursing, University of North Sumatra (No. 2926/IX/SP/2023).

2.7 Data Analysis

Univariate analysis was performed to describe the demographic and ability characteristics of the respondents. Categorical data were presented using frequency and proportion tables, while numerical data were analyzed using mean, standard deviation (SD), minimum, and maximum values. Bivariate analysis to compare the mean scores before and after the intervention was conducted using the dependent t-test. Statistical significance was set at an alpha level of 0.05.

3. Results

3.1 Participant Characteristics

The study participants comprised all 60 teachers and school principals from SMP Negeri 1 Tanjung Morawa. The majority of respondents were female (71.7%) and the dominant age group was between 51 and 60 years old (41.7%). In terms of qualifications, most teachers held a Bachelor's degree (88.3%), with 63.3% having civil servant status. The primary role was that of a Subject Teacher (83.3%). Regarding mental health literacy, most teachers reported obtaining information about adolescent mental health from Electronic Media (76.7%). Complete demographic data are presented in Table 1, structured according to professional standards.

Table 1 Demographic Characteristics of Teachers at SMP Negeri 1 Tanjung Morawa (n=60)

Characteristics	Category	Frequency(n)	Percentage (%)
Gender	Male	17	28.3
	Female	43	71.7
Age Group (Years)	21-30	14	23.3
	31-40	8	13.3
	41-50	10	16.7
	51-60	25	41.7
	≥ 60	3	5.0
Level of Education	Bachelor (S1)	53	88.3
	Master (S2)	7	11.7
Type of Employment	Civil Servant (PNS)	38	63.3
	Contract Employee	4	6.7
	Honorary Staff	18	30.0
Type of Educator	Head Master	1	1.7
	Subject Teacher	50	83.3
	Guidance Counselling Teacher	8	13.3
	Information Technology Teacher	1	1.7
Primary Information Source	Electronic Media	46	76.7
Mental Health	Print Media	2	3.3
	Peer	12	20.0

3.2 Teacher's Ability Before and After the PKJ-BS Program

Descriptive analysis of the pre- and post-test scores for each ability component revealed varying baseline competencies and substantial improvements across all domains. At pre-test, the ability to detect and assess aspects of adolescent behavior showed the lowest mean score (27), indicating the greatest gap in knowledge, while the ability to stimulate adolescent development through therapeutic group therapy had the highest mean score (80).

Following the intervention, all five ability domains showed marked increases. The largest improvement was seen in the ability to detect and assess aspects of adolescent emotions (an increase from 30 to 80), followed closely by the ability to detect and assess aspects of adolescent behavior (an increase from 27 to 78). This suggests the training was highly effective in addressing the initial knowledge deficits. Detailed descriptive statistics for each domain are shown in Table 2.

Table 2 Teachers' Ability to Handle Emotional and Behavioral Problems: Pre-test vs. post-test Mean Scores (n=60)

Ability Domain (Score Range 0-100)	Pre-Test Mean Score	Post-Test Mean Score	Difference (Post-Pre)
Differentiate adolescent development	57	69	12
Recognize emotional and behavioral problems	62	75	13
Detect and assess aspects of adolescent emotions	30	80	50
Detect and assess aspects of adolescent behavior	27	78	51
Stimulate adolescent development through therapeutic group therapy	80	81	1

3.3 The Influence of the School-Based Mental Health Program (PKJ-BS)

The primary analysis using the dependent t-test was conducted to determine the overall effectiveness of the PKJ-BS program. The results demonstrate a highly significant increase in the teachers' total ability scores after the intervention. The overall mean ability score significantly increased from 50.13 at pre-test (SD = 10.296) to 75.20 at post-test (SD = 9.511). The mean difference in scores between post-treatment and pre-treatment was 25.07. The paired t-test confirmed this difference was statistically significant, p-value of <0.001, indicating a very substantial and clinically meaningful difference in teacher ability following the program. The 95% Confidence Interval (CI) for the mean difference was calculated as 22.40 to 27.74, which further confirms the robustness and precision of the intervention's positive impact.

Table 3 Paired T-Test Analysis of Teacher Ability Before and After the PKJ-BS Program (n=60)

Teacher Abilities	Mean	SD	Mean Difference	95% Confidence Interval (CI)	t	p value
Pre-treatment	50.13	10.296	25.07	[47.47, 52.79]	37.715	0.001
Post-treatment	75.20	9.511		[72.74, 77.66]	61.242	

4. Discussion

The most significant finding of this study is the substantial increase in teachers' overall ability to handle adolescent emotional and behavioral problems after participating in the School-Based Mental Health Program (PKJ-BS). The mean difference of 25.07 in total ability scores, coupled with a highly significant p-value (<0.001), confirms the program's strong effectiveness in enhancing teacher capacity.

Analyzing the specific ability domains reveals that the program was particularly successful in addressing initial knowledge deficits. The largest improvements were seen in the ability to detect and assess aspects of adolescent emotions and behavior, which saw a dramatic change from the lowest pre-test scores (27 and 30, respectively) to high post-test scores (78 and 80). This finding suggests that the core training components related to early detection and instrument utilization effectively filled a critical gap in teacher competence.

Conversely, the ability to stimulate adolescent development through therapeutic group therapy showed only a marginal increase, from 80 to 81. This outcome is likely attributed to the high baseline score (80) already possessed by the teachers. Demographic data showing that the majority of teachers are in the 51–60 age range suggests they have considerable length of service and teaching experience, which typically fosters strong general pedagogical skills and the ability to carry out stimulating educational activities, minimizing the potential impact of this specific training component.

Teaching experience is widely recognized as a determinant of instructional quality and knowledge (Rusyadiana, 2021). The relatively long tenure of the teachers at SMP Negeri 1 Tanjung Morawa indicates they already possess substantial work experience necessary to overcome various challenges in fulfilling their duties, aligning with the concept of a professional teacher who demands high responsibility (Rusyadiana, 2021).

Furthermore, teacher competence is influenced by their access to information regarding adolescent mental health. The demographic data indicated that 76.7% of teachers obtained information primarily from electronic media, highlighting their capability and willingness to utilize information technology as a resource (Restiyani, 2015). This digital literacy likely facilitated their engagement with and assimilation of the knowledge presented during the PKJ-BS training.

The significant overall difference (mean difference of 25.07; $p < 0.001$) indicates that the School-Based Mental Health Program exerts a substantial positive influence on teacher capacity. This result aligns with previous research which reported a significant increase in student mental health intervention outcomes post-implementation in schools (Sasmita, 2018). The core of this success is the strategic empowerment of teachers to improve school health initiatives.

Strengthening these school health initiatives requires the active involvement of the school principal, teachers, and collaboration with community health centers. Empowering teachers is essential for implementing psychosocial interventions that enhance the well-being of schoolchildren. By focusing on capacity building, the school effectively fulfills its role and obligation for the psychosocial development of students, ensuring a conducive school atmosphere (Daulay et al., 2021).

The importance of the school atmosphere cannot be overstated, as adolescents spend significant time in this environment, making it the closest setting where problems related to immaturity, future pressure, and academic workload may arise (Yunere et al., 2021). The physical, social, and academic aspects of the school environment directly influence the intellectual, emotional, and spiritual intelligence of all school members (Yosep & Sutini, 2016).

This study's findings are further supported by international evidence. A study conducted in Romania (Colomeischi et al., 2022) concluded that school mental health programs are promising, showing improvements in students' social and emotional skills and reductions in internalizing and externalizing behavior. The success of such programs often depends on the active involvement of policy makers to support teacher training and curriculum integration (Colomeischi et al., 2022).

Moreover, these interventions demonstrate benefits for both students and teachers (Vesely et al., 2018). For teachers, mental health programs enhance their proficiency in managing classroom mental health issues, providing tools to handle stress and emotional demands. Programs focusing on emotional intelligence, in

particular, have proven effective in building psychological strength and capacity among teachers (Vesely et al., 2018).

Other research emphasizes that school-based mental health programs can improve teachers' ability to support student mental health by seamlessly integrating services into routine teaching activities (Lai et al., 2022) and improving their ability to identify and support students with concerns (Shahraki-Sanavi et al., 2020). The effectiveness of training programs in improving teachers' mental health literacy regarding anxiety and depression is well-established (Imran et al., 2023).

The significance of teachers in the early handling of children's mental health problems is paramount. Teachers are positioned to collaborate with health workers to monitor behavior, facilitate social competence, and identify obstacles to adaptive skill use (Abhirami & Gupta, 2023). Furthermore, schools can promote mental health through mental health education, aiming to increase self-esteem, self-control, and strengthen children's ability to cope with difficult conditions (Stuart, 2013).

The efforts implemented in this study align with the school's role as a structured educational establishment. However, the development of students' emotional and behavioral potential has often been sub-optimally addressed due to high teacher demands and a lack of specialized guidance and counseling personnel (Imran et al., 2022). This highlights the need for a practical program like PKJ-BS.

The PKJ-BS program is highly appropriate because its flow, starting from identification and assessment, facilitates teachers in determining the health status of students. The training enables teachers to utilize methods, such as therapeutic group therapy, to foster student development across physical, cognitive, moral, spiritual, social, and interest domains (Daulay et al., 2021). Therapeutic group therapy, a form of group counseling, allows students to share, support, devise solutions, and manage stress (Nurillawaty Rahayu et al., 2019). The positive outcomes of this therapeutic model in school settings—enhancing motoric, intellectual, linguistic, emotional, and psychosocial development—further underscore the appropriateness of this specific intervention component.

5. Conclusion

The School-Based Mental Health Program was highly effective in significantly increasing teachers' abilities to handle students' emotional and behavioral problems, with the overall mean ability score rising from 50.13 to 75.20 ($p < 0.001$). These results strongly support the implementation of teacher capacity-building programs as a sustainable strategy for integrating mental health support into the school setting. Future studies should employ a randomized controlled trial design to confirm the long-term impact of this increased teacher ability on actual student mental health outcomes.

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Conflict of Interest

The authors have no conflict of interest to declare. This research has been approved by the Health Research Ethics Committee of the Faculty of Nursing, University of North Sumatera with number 2926/IX/SP/2023.

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