

Enhancing Adolescent Mental Health: A Quasi-Experimental Study on the Impact of Combined Cognitive behavioral Therapy and Group Therapy

Estin Yulastuti^{1*}, Nurul Istiqomah², Yuli Widyastuti³

^{1,2,3} Department of Nursing, Faculty of Health Science, Universitas Muhammadiyah PKU Surakarta

*Corresponding author: estin.yuli@gmail.com

ABSTRACT

Background: Adolescent mental health problems remain a major public health concern. Although Cognitive Behavioral Therapy (CBT) and group therapy have individually demonstrated effectiveness, evidence regarding their combined use among adolescents remains limited.

Purpose: This study aimed to evaluate the effectiveness of combined CBT and group therapy in improving adolescent mental health.

Methods: This quasi-experimental pre-test–post-test control group study with a 1:1 allocation ratio was conducted among 40 adolescents in Surakarta, Indonesia, from February to March 2024. Participants were recruited using a cluster-based sampling approach followed by total sampling of eligible students. The intervention group received CBT followed by group therapy over three consecutive sessions, whereas the control group received a delayed intervention after study completion. Mental health was assessed using the Strengths and Difficulties Questionnaire (SDQ). Data were analyzed using the Wilcoxon Signed-Rank Test and Mann–Whitney U Test, with effect sizes (r) calculated to determine the magnitude of the intervention effect

Results: The intervention group demonstrated a significant improvement in SDQ scores following the intervention ($Z = -3.18$, $p = 0.001$; $r = 0.71$), whereas no significant change was observed in the control group ($Z = -0.38$, $p = 0.705$; $r = 0.08$). Post-intervention comparison showed significantly better mental health outcomes in the intervention group than in the control group ($Z = -3.58$, $p < 0.001$; $r = 0.57$), indicating a large intervention effect.

Conclusion: The combination of CBT and group therapy significantly improved adolescents' mental health and demonstrated clinically meaningful benefits. This integrated intervention may be considered an effective early mental health strategy for adolescents and has potential for implementation in nursing practice, school mental health programs, and community mental health services when delivered by appropriately trained professionals.

Keywords: Adolescent, Cognitive Behavioral Therapy, Group Therapy, Mental Health

Received May 10, 2026; Revised June 12, 2026; Accepted July 3, 2026

DOI: <https://doi.org/10.30994/jnp.v9i4.1021>



The Journal of Nursing Practice, its website, and the articles published there in are licensed under a Creative Commons Attribution-ShareAlike 4.0 International License.

BACKGROUND

Adolescent mental health is a growing global public health concern because adolescence is a critical period of psychological, emotional, and sociocultural development, during which individuals become vulnerable to anxiety, depression, and stress (Santre, 2022; Agarwal et al., 2020). Globally, approximately 10–20% of children and adolescents experience recognizable mental health problems (Mabrouk et al., 2022; Zhou et al., 2020). Indonesia faces similar challenges, with the prevalence of mental and emotional disorders reaching 9.8% in 2018, while depression remains one of the leading contributors to disease burden among adolescents (Ministry of Health RI, 2018). These findings highlight the urgent need for accessible and effective interventions to improve adolescent mental health.

Untreated mental health problems during adolescence may adversely affect academic achievement, social functioning, psychological well-being, and increase the risk of substance abuse and self-harm (Karukivi et al., 2021; Bas, 2021; Balamurugan et al., 2024). Therefore, early interventions are essential to prevent these long-term consequences. Among available approaches, CBT and group therapy have been recognized as accessible, effective, and scalable interventions that can be implemented within community and school mental health programs (Santre, 2022; Sutrimo & Kusumawardani, 2021).

Cognitive behavioral therapy is a commonly used therapy in which primary focus is to find and treat negative thought patterns that aid in producing emotional distress (Ara, 2020; Ara & Deeba, 2024). CBT is a very active, structured, and practical form of therapy that is goal orientated in nature. It is based on the interrelation of feelings, actions, and cognitions. Hence when an individual changes particular self-defeating behaviors and thoughts, they will improve their emotional health (Xu, 2024). CBT serves as one of the most important forms of therapy for both anxiety and depression, but it has also proven to work for other health conditions such as obsessive compulsive disorder, post-traumatic, and eating disorders. Due to, flexibility and ease in implementation made CBT one of the favored methods for treatment of a number of psychological problems for children and adolescents (Williams, 2021). It is often delivered in individual or group settings where the methods involved are specific to each person. Also CBT set the standard for the psychotherapy due to its efficacy makes it the most sought after therapy (Côté-Allard et al., 2022).

Group therapy is another at a broad range of therapeutic techniques, This one caters to a small cluster of people who suffer from the same mental health issue. It fosters a sense of belonging and alleviates feelings of loneliness which may be especially helpful for teenagers dealing with mental health problems (Chidi et al., 2024). The group therapy sessions are conducted by a qualified therapist who supervises exchanges and provides a safe environment in which thoughts and emotions can be shared. This unique environment helps the young people to acquire social skills, engage in self-expression and learn how to cope from their peers (Villabø et al., 2018). Group therapy works well for various psychological problems such as anxiety, depression, social phobia, and drug abuse. Group psychotherapy may be specifically useful for adolescents who are reluctant to undergo personal therapy for fear of being misunderstood by their families or communities (Bangun, 2022). Adolescents are given an opportunity to try out new behaviors and share with peers and therapists who in return help to review them which helps in self-realization and the growth process (Sequeira et al., 2022).

The combination of CBT with group therapy is a step in the right direction towards addressing the mental health issues concerning adolescents. While group therapy provides a supportive social environment, CBT focuses on tackling individual self-help and self-management skills (Anjanappa et al., 2020). With such integrated approaches, the chances of successfully addressing the mental health needs of adolescents within the appropriate

frameworks are likely to increase. In addition, adolescents suffering from life's stressful situations have been found to benefit from group-based CBT interventions. This strategy is likely to address adolescent mental health issues more effectively, which has been tried and tested using online, school or community based programmed as means of reaching out (Sequeira et al., 2022; Saw et al., 2020).

Although both CBT and group therapy have demonstrated effectiveness in improving adolescent mental health, they address different aspects of psychological functioning. Recent systematic reviews and meta-analyses have shown that school-based CBT effectively reduces symptoms of depression and anxiety among adolescents (Grande et al., 2022; Q. Zhang et al., 2023; X. Zhang et al., 2025), whereas group-based interventions reduce psychological distress, enhance self-confidence, and foster peer support (Hamdani et al., 2024; Listiyandini et al., 2025; Yu et al., 2025). Moreover, group interventions are considered cost-effective, scalable, and particularly suitable for school settings with limited mental health resources (Hamdani et al., 2024). Therefore, integrating CBT with group therapy may provide a more comprehensive intervention by combining structured cognitive and behavioral skill development with supportive peer interactions (Anjanappa et al., 2020; Sequeira et al., 2022). Such an approach has the potential to enhance adolescents' emotional well-being while improving the feasibility of adolescent mental health interventions across educational and community settings (Sequeira et al., 2022).

Despite this growing body of evidence, research evaluating the combined use of CBT and group therapy in school settings remains limited, particularly in low- and middle-income countries such as Indonesia. Furthermore, few quasi-experimental studies have examined whether integrating structured cognitive restructuring with peer-support mechanisms produces greater improvements in adolescents' overall mental health. Therefore, this study aimed to address this research gap.

OBJECTIVE

With concern over the high prevalence of mental health problems among adolescents and the potential benefits of CBT and group therapy, this study sought to assess the effectiveness of these interventions in improving adolescent mental health. The results were anticipated to aid in the formulation of precise intervention strategies aimed at improving adolescent mental health within schools, communities, and mental health services.

METHODS

This study employed a quasi-experimental pre-post-test control group design with a 1:1 allocation ratio and was conducted in a senior high school in Surakarta from February to March 2024. The study employed a cluster-based sampling approach. Two intact classes from the same grade level were selected as natural clusters through consultation between the research team and the school counsellor based on school approval, scheduling feasibility, and the suitability of intervention implementation. All eligible students within the selected classes were subsequently recruited using total sampling, resulting in a final sample of 40 adolescents ($n = 20$ in the intervention group and $n = 20$ in the control group). Participants were eligible if they were aged 10–19 years, able to read, write, and communicate verbally, and had obtained consent from both their parents and the school. Participants were excluded if they had a medically confirmed psychiatric diagnosis or were unable to complete the full intervention schedule.

Participants were assigned to the intervention and control groups according to their pre-existing class allocation; therefore, no formal randomization or blinding procedures were implemented. To minimize selection bias, both classes belonged to the same grade level,

followed the same curriculum, and underwent identical recruitment and assessment procedures. Baseline demographic characteristics and pre-intervention scores were compared between groups to assess baseline equivalence before the intervention.

The intervention was conducted in groups, with each group consisting of 10 participants. The intervention group received CBT delivered across two face-to-face meetings by a trained nurse researcher. Each meeting lasted approximately 60 minutes. The first meeting covered CBT Sessions 1 and 2, focusing on identifying negative automatic thoughts and maladaptive behaviors associated with unpleasant life experiences, followed by cognitive restructuring and behavioral modification exercises. The second meeting covered CBT Sessions 3 and 4, emphasizing the utilization of family and social support systems, as well as the evaluation and reinforcement of adaptive cognitive and behavioral changes to promote sustained psychological well-being. The intervention was followed by one group therapy session lasting approximately 60 minutes, which focused on emotional sharing, peer support, problem-solving, and reflection. The intervention was delivered over three consecutive meetings, with each session conducted in sequence to reinforce skill acquisition, maintain participant engagement, and ensure continuity of the therapeutic process.

Mental health was measured at pre-test and post-test using the Strengths and Difficulties Questionnaire (SDQ), developed by Goodman et al. in 1997. The Indonesian version of the SDQ used in this study was previously validated by Oktaviana and Wimbarwati, demonstrating acceptable construct validity ($KMO = 0.776$) and internal consistency (Cronbach's $\alpha = 0.773$) (Oktaviana & Wimbarwati, 2014). The control group received the intervention only after the study completion via a delayed-intervention approach, ensuring ethical considerations were met. Because both groups attended the same school, intervention sessions were scheduled separately to minimize the possibility of contamination between groups. Ethical approval was granted by the Health Research and Ethics Committee of ITS PKU Muhammadiyah Surakarta with number 177/LPPM/ITS.PKU/VIII/2022, and the study was registered at the Indonesia Clinical Research Registry (INA-B8A2583).

Data analysis involved using Wilcoxon Signed-Rank Test to assess changes within each group from pre-test to post-test, and Mann-Whitney U Test was utilized to compare the differences in SDQ scores between the intervention and control groups following the intervention. Effect size (r) was also calculated to quantify the magnitude of the intervention effect. No adverse events were observed or reported during the study period.

RESULTS

The demographic characteristics of the respondents, including age, gender, and family income, are presented below.

Table 1. Distribution of Demographic Characteristics of Adolescents by Age (N=40)

Characteristic	Groups	n	Mean	SD	Min-Max	95% CI
Age	Intervention	20	15.60	0.50	15-16	15.36, 15.84
	Control	20	15.50	0.61	15-17	15.22, 15.78

Table 1 shows the age characteristics of the participants in both groups. The intervention group ($n = 20$) had a mean age of 15.60 years ($SD = 0.50$), with ages ranging from 15 to 16 years and a 95% Confidence Interval (CI) between 15.36 and 15.84. Similarly, the control group ($n = 20$) had a mean age of 15.50 years ($SD = 0.61$), with a minimum-maximum age range of 15 to 17 years and a 95% CI between 15.22 and 15.78. These data indicate that the participants in both groups had relatively homogenous age characteristics.

Table 2. Distribution of Demographic Characteristics of Adolescents Based on Gender and Family Income (N=40)

Characteristics	Categories	Intervention Group		Control Group		Total	
		n	%	n	%	n	%
Gender	Male	10	50	7	35	17	42.5
	Female	10	50	13	65	23	57.5
Family Income	<City Minimum Wage	1	5	1	5	2	5.0
	=City Minimum Wage	3	15	6	30	9	22.5
	>City Minimum Wage	16	80	13	65	29	72.5

Table 2 presents the demographic characteristics of the 40 participants, consisting of 20 adolescents in the intervention group and 20 in the control group. Overall, female participants were more prevalent than males (57.5% vs. 42.5%). In the intervention group, the gender distribution was equal (50% male and 50% female), whereas the control group included more females (65%) than males (35%). Regarding family income, the majority of participants had a family income above the city minimum wage (72.5%), followed by those with an income equal to the city minimum wage (22.5%) and below the city minimum wage (5.0%), with a similar distribution observed across both groups.

Baseline SDQ scores did not differ significantly between the intervention and control groups (Mann–Whitney U = 200.0, Z = 0.000, p = 1.000), indicating comparable mental health status prior to the intervention.

Table 3. Changes in Adolescent Mental Health Before and After Intervention (N=40)

Groups	n	Median Pre (IQR)	Median Post (IQR)	Z	p-value	Effect Size (r)
Intervention	20	23.50 (19.25-26.00)	27.00 (24.00-29.00)	-3.18	0.001	0.71 (Large)
Control	20	22.00 (21.25-24.75)	22.50 (21.00-24.75)	-0.38	0.705	0.08 (Negligible)

Table 3 shows that the Wilcoxon Signed-Rank Test revealed a significant improvement in the intervention group following the treatment (Z = -3.18, p = 0.001), with the median score rising from 23.50 to 27.00. This change represents a large effect (r = 0.71). In contrast, no significant difference was observed in the control group (Z = -0.38, p = 0.705; Median Pre = 22.00 vs. Median Post = 22.50), yielding a negligible effect size (r = 0.08). These findings indicate that the intervention was highly effective, whereas the control group experienced no meaningful change.

Table 4. Differences in Adolescent Mental Health After Intervention in the Intervention and Control Groups (N=40)

Groups	n	Mean Rank	Z	p-value	Effect Size (r)
Intervention	20	27.08	-3.58	<0.001	0.57 (Large)
Control	20	13.93			

Table 4 shows the results of the Mann-Whitney U test comparing the post-intervention scores between the two groups. The analysis revealed a statistically significant difference between the intervention group and the control group ($Z = -3.58$, $p < 0.001$). The intervention group achieved a substantially higher mean rank (27.08) than the control group (13.93). Furthermore, the calculated effect size demonstrates that the treatment had a large effect ($r = 0.57$) on the outcomes. These findings strongly indicate that the intervention was highly effective in improving the scores compared to the control condition.

DISCUSSION

The present study demonstrated that the combination of CBT and group therapy significantly improved adolescents' mental health compared with the control group. The intervention group demonstrated significantly higher post-intervention SDQ scores than at baseline ($Z = -3.18$, $p = .001$), with a large effect size ($r = .71$), whereas no significant improvement was observed in the control group ($Z = -0.38$, $p = .705$; $r = .08$). Furthermore, post-intervention comparisons revealed significantly better mental health outcomes in the intervention group than in the control group ($Z = -3.58$, $p < .001$), with a large between-group effect size ($r = .57$). These findings indicate that the combined intervention produced not only statistically significant but also practically meaningful improvements in adolescent mental health.

Beyond statistical significance, the large effect sizes observed in this study suggest that the intervention may have meaningful clinical value. Improvements in overall SDQ scores indicate better emotional regulation, social functioning, and behavioral adjustment, which may reduce the risk of persistent psychological difficulties during adolescence and improve functioning in school and family environments (Dandala & Hodambia, 2021). From a clinical perspective, these improvements may reduce the likelihood of progression from mild emotional and behavioural problems to more severe mental health disorders requiring specialist care.

Participants in both groups were generally comparable in terms of age, gender distribution, and family income. Both groups were recruited from the same grade level, reducing potential confounding related to developmental stage. Therefore, the observed improvements are more likely attributable to the intervention rather than baseline demographic differences.

The effectiveness of the combined intervention may be explained by the complementary mechanisms of CBT and group therapy. CBT primarily modifies maladaptive cognitive patterns through structured cognitive restructuring, enabling adolescents to identify, challenge, and replace negative automatic thoughts with more adaptive thinking patterns (Ma & Liu, 2024). In contrast, group therapy facilitates interpersonal learning through emotional sharing, peer modelling, social support, and collaborative problem-solving (Pearl & Norton, 2021; Perkins et al., 2021). Integrating these approaches may generate synergistic effects because cognitive changes achieved through CBT are reinforced through repeated interpersonal experiences during group therapy. Likewise, the supportive peer environment encourages adolescents to apply newly acquired cognitive and behavioural skills in real-life situations, thereby strengthening emotional regulation, resilience, treatment engagement, and sustainable behavioural change. This integration may have strengthened skill acquisition, treatment engagement, and behavioural change beyond what might be achieved by either intervention alone (Ma & Liu, 2024; Pearl & Norton, 2021; Perkins et al., 2021). High participant engagement and acceptability have also been identified as important factors contributing to successful psychological interventions among adolescents (Clemans et al., 2021).

The improvements observed in this study are also consistent with the multidimensional domains assessed by the SDQ. CBT is particularly effective in reducing emotional symptoms by helping adolescents recognize distorted thinking patterns and develop healthier coping strategies for anxiety and depressive symptoms (Ma & Liu, 2024). Meanwhile, group therapy provides opportunities for adolescents to improve peer relationships, practice communication skills, receive emotional validation, and strengthen prosocial behaviors through interaction with others (Daniel et al., 2024; Ihara et al., 2023; Lang et al., 2025; Ruesch et al., 2017). The supportive group environment also reinforces adaptive behaviors and emotional self-regulation, which may contribute to improvements across several SDQ domains, including conduct problems and peer relationships (Kukla et al., 2017; Kunorubwe, 2023; Strand et al., 2023). Because the SDQ assesses multiple dimensions of adolescent mental health, including emotional symptoms, conduct problems, hyperactivity, peer relationships, and prosocial behavior, the observed improvement suggests that the intervention benefited adolescents across several aspects of psychological functioning rather than reducing symptoms alone. The relatively large effect sizes observed in the present study may reflect the complementary nature of the combined intervention. Delivering CBT together with group therapy may have enhanced both cognitive and interpersonal processes, thereby producing greater overall improvements in mental health than would be expected from a single therapeutic approach (Ma & Liu, 2024; Ihara et al., 2023).

The present findings are consistent with previous studies demonstrating that CBT effectively improves adolescent emotional well-being by modifying maladaptive thoughts and behaviors, while group-based interventions enhance social connectedness and psychological resilience (Ma & Liu, 2024; Perkins et al., 2021). Similar improvements have also been reported in school-based mental health programs, where structured psychological interventions provide accessible and acceptable support for adolescents experiencing mild to moderate psychological difficulties (Gang & Jais, 2024). The large effect sizes observed in the present study further suggest that integrating CBT with group therapy may provide clinically meaningful benefits within school settings, particularly where peer interaction represents an important component of adolescent development. Taken together, these findings extend the current evidence by demonstrating that integrating CBT with group therapy can produce substantial improvements in adolescents' mental health within an Indonesian context, where evidence regarding combined psychological interventions remains limited.

Although the present findings are consistent with many previous studies, not all research has reported equally strong intervention effects. A meta-analysis found that although group cognitive behavioral therapy significantly reduced depressive symptoms among adolescents, the overall effect sizes were relatively small, and treatment effects tended to diminish with longer follow-up periods, suggesting that intervention duration and follow-up timing may influence treatment outcomes (Keles & Idsoe, 2018). Similarly, the effectiveness of group-based interventions may vary according to therapeutic processes, particularly group cohesion, leadership, and the number of treatment sessions, all of which have been shown to moderate treatment outcomes (Burlingame et al., 2018; Redburn & Hayes, 2024). These inconsistencies may also reflect differences in study design, intervention intensity, participant characteristics, and implementation fidelity across studies (Collyer et al., 2020). In the present study, the structured integration of CBT with group therapy, combined with high participant engagement throughout the intervention, may have contributed to the relatively large effect sizes observed.

These findings have important implications for nursing practice, school mental health programs, and community mental health services. For nursing practice, psychiatric and

community mental health nurses who have received appropriate training in CBT and therapeutic group facilitation may incorporate these structured interventions into early mental health care for adolescents experiencing mild to moderate emotional and behavioral difficulties. Adequate training and clinical supervision are essential to maintain intervention fidelity, therapeutic effectiveness, and participant safety. Within school settings, delivering CBT together with structured group therapy may provide an accessible, acceptable, and cost-effective early intervention strategy. Because schools maintain regular contact with adolescents, psychological interventions can be implemented before symptoms progress into more severe mental health conditions. Furthermore, collaboration between schools, community health centres, and mental health services may facilitate early identification, timely referral, and continuity of psychological care. Integrating evidence-based psychological interventions across these settings may improve adolescents' emotional well-being while reducing barriers to accessing mental health services.

Several limitations should be acknowledged. First, the quasi-experimental design without random assignment limits the ability to establish causal relationships and may introduce selection bias despite comparable baseline characteristics. Second, participants were recruited from a single school using cluster-based sampling, limiting the generalizability of the findings to other adolescent populations. Although the cluster-based sampling approach increased the feasibility of intervention delivery within the school setting, it may also have introduced cluster-specific characteristics that could not be completely controlled. Third, the relatively small sample size and absence of long-term follow-up prevented evaluation of sustained intervention effects. In addition, mental health outcomes were assessed using a self-reported questionnaire, which may be subject to reporting bias and social desirability bias. Future studies should employ randomized controlled designs with larger and more diverse adolescent populations, include longer follow-up periods, and compare CBT alone, group therapy alone, and the combined intervention to determine whether the integrated approach provides additive therapeutic benefits.

CONCLUSION

This study demonstrated that the combination of CBT and group therapy significantly improved adolescents' mental health compared with the control group. The intervention produced statistically significant improvements accompanied by large effect sizes, indicating that the combined approach has meaningful clinical value in enhancing adolescents' emotional and behavioural functioning.

The complementary mechanisms of CBT and group therapy may contribute to these positive outcomes by simultaneously strengthening cognitive restructuring, emotional regulation, peer support, and adaptive coping skills. These findings support the integration of evidence-based psychological interventions into nursing practice, school mental health programs, and community mental health services to promote early intervention for adolescents experiencing emotional and behavioural difficulties.

Nevertheless, because this study employed a quasi-experimental design with a relatively small sample from a single school, further randomized controlled studies involving larger and more diverse adolescent populations with longer follow-up periods are needed to confirm the effectiveness and long-term sustainability of the combined intervention.

ACKNOWLEDGMENT

The authors would like to express their sincere gratitude to the leadership of ITS PKU Muhammadiyah Surakarta for the administrative and institutional support provided throughout this study. Special appreciation is extended to the participating schools, teachers, and students

for their valuable cooperation and engagement during the research process. This study was supported by an Internal Grant from ITS PKU Muhammadiyah Surakarta. The funding body had no role in the study design, data collection, analysis, interpretation of data, or writing of the manuscript.

CONFLICTS OF INTEREST

The authors declare no conflict of interest.

REFERENCES

- Agarwal, S., Srivastava, R., Jindal, M., & Rastogi, P. (2020). Study of adolescent stage and its impacts on adolescents. *European Journal of Molecular and Clinical Medicine*, 7(6), 1369–1375.
https://ejmcm.com/pdf_3680_8b703531d48c7f0cf5d1cd2a097225de.html%0Ahttp://ovidsp.ovid.com/ovidweb.cgi?T=JS&PAGE=reference&D=emed21&NEWS=N&AN=2010507799.
- Anjanappa, S., Govindan, R., & Munivenkatappa, M. (2020). Anger management in adolescents: A systematic review. *Indian Journal of Psychiatric Nursing*, 17(1), 51.
https://doi.org/10.4103/iopn.iopn_37_19.
- Ara, J. (2020). The Efficacy of Cognitive Behavioral Intervention to Reduce Symptoms of Anxiety Disorder with an Adult in Bangladesh: A Clinical Case study. *Psychology and Behavioral Science International Journal*, 15(5), 1–7.
<https://doi.org/10.19080/pbsij.2020.10.555923>.
- Ara, J., & Deeba, F. (2024). Preliminary adaptation of cognitive behavioral therapy for major depression in the Bangladeshi context: a pilot study. *BMC Psychiatry*, 24(1).
<https://doi.org/10.1186/s12888-024-06145-9>.
- Balamurugan, G., Sevak, S., Gurung, K., & Vijayarani, M. (2024). Mental Health Issues Among School Children and Adolescents in India: A Systematic Review. *Cureus*, 16(5), e61035. <https://doi.org/10.7759/cureus.61035>.
- Bangun, S. R. (2022). The Effectiveness of Group Psychotherapy on Reducing Anxiety and Depression Symptoms in Adolescents. *Jurnal Psikiatri Surabaya*, 11(2), 119–127.
<https://doi.org/10.20473/jps.v11i2.35989>.
- Burlingame, G. M., McClendon, D. T., & Yang, C. (2018). Cohesion in group therapy: A meta-analysis. *Psychotherapy (Chicago, Ill.)*, 55(4), 384–398.
<https://doi.org/10.1037/pst0000173>.
- Chidi, R., Adeniyi, A. O., Okolo, C. A., Babawarun, O., & Arowoogun, J. O. (2024). Psychological resilience in healthcare workers: A review of strategies and intervention. *World Journal of Biology Pharmacy and Health Sciences*, 17(2), 387–395.
<https://doi.org/10.30574/wjbphs.2024.17.2.0088>.
- Clemans, T. A., White, K. L., Fuessel-Herrmann, D., Bryan, C. J., & Resick, P. A. (2021). Correction to: Acceptability, Feasibility, and Preliminary Effectiveness of Group Cognitive Processing Therapy with Female Adolescent Survivors of Commercial Sexual Exploitation in Cambodia (Journal of Child & Adolescent Trauma, (2021), 14, 4, (571-583), . *Journal of Child and Adolescent Trauma*, 14(4), 585–586.
<https://doi.org/10.1007/s40653-021-00412-7>.
- Collyer, H., Eisler, I., & Woolgar, M. (2020). Systematic literature review and meta - analysis of the relationship between adherence , competence and outcome in psychotherapy for children and adolescents. *European Child & Adolescent Psychiatry*, 29(4), 417–431.
<https://doi.org/10.1007/s00787-018-1265-2>.
- Côté-Allard, U., Pham, M. H., Schultz, A. K., Nordgreen, T., & Torresen, J. (2022). Adherence

- Forecasting for Guided Internet-Delivered Cognitive Behavioral Therapy: A Minimally Data-Sensitive Approach. *IEEE Journal of Biomedical and Health Informatics*, 27(6), 2771–2781.
- Dandala, S., & Hodambia, M. (2021). Adolescent Mental Health: Impacts on Individuals and Societal Perspectives. *Journal Wetenskap Health*, 2(1), 50–56. <https://doi.org/10.48173/jwh.v2i1.72>.
- Daniel, N. A., Liu, X., Thomas, E. T., Eraneva-Dibb, E., Ahmad, A. M., & Heneghan, C. (2024). Brief CBT-based psychological interventions to improve mental health outcomes in refugee populations: a systematic review and meta-analysis. *European Journal of Psychotraumatology*, 15(1), 1–26. <https://doi.org/10.1080/20008066.2024.2389702>.
- Gang, L., & Jais, S. M. (2024). Unraveling School Adolescent Depression: Insights into Cognitive Behavioral Therapy. *Paedagogi: Jurnal Kajian Ilmu Pendidikan (e-Journal)*, 10(1), 72. <https://doi.org/10.24114/paedagogi.v10i1.58001>.
- Grande, A. J., Hoffmann, M. S., Evans-Lacko, S., Ziebold, C., de Miranda, C. T., Mcdaid, D., Tomasi, C., & Ribeiro, W. S. (2022). Efficacy of school-based interventions for mental health problems in children and adolescents in low and middle-income countries: A systematic review and meta-analysis. *Frontiers in Psychiatry*, 13, 1012257. <https://doi.org/10.3389/fpsy.2022.1012257>.
- Hamdani, S. U., Huma, Z., Malik, A., Tamizuddin-Nizami, A., Javed, H., Minhas, F. A., Jordans, M. J. D., Sijbrandij, M., Suleman, N., Baneen, U., Bryant, R. A., van Ommeren, M., Rahman, A., & Wang, D. (2024). Effectiveness of a group psychological intervention to reduce psychosocial distress in adolescents in Pakistan: a single-blind, cluster randomised controlled trial. *The Lancet Child & Adolescent Health*, 8(8), 559–570. [https://doi.org/10.1016/S2352-4642\(24\)00101-9](https://doi.org/10.1016/S2352-4642(24)00101-9).
- Ihara, Y., Kurosawa, T., Matsumoto, T., & Takizawa, R. (2023). The effectiveness of preventive group cognitive-behavioral interventions on enhancing work performance-related factors and mental health of workers: a systematic review. *Current Psychology*, 42(4), 2797–2810. <https://doi.org/10.1007/s12144-021-01562-5>.
- Karukivi, J., Herrala, O., Säteri, E., Tornivuori, A., Salanterä, S., Aromaa, M., Kronström, K., & Karukivi, M. (2021). The Effectiveness of Individual Mental Health Interventions for Depressive, Anxiety and Conduct Disorder Symptoms in School Environment for Adolescents Aged 12–18—A Systematic Review. *Frontiers in Psychiatry*, 12(December), 1–10. <https://doi.org/10.3389/fpsy.2021.779933>.
- Keles, S., & Idsoe, T. (2018). Review article A meta-analysis of group Cognitive Behavioral Therapy (CBT) interventions for adolescents with depression. *Journal of Adolescence*, 67, 129–139. <https://doi.org/10.1016/j.adolescence.2018.05.011>.
- Kukla, M., Strasburger, A. M., Salyers, M. P., Rattray, N. A., & Lysaker, P. H. (2017). Subjective Experiences of the Benefits and Key Elements of a Cognitive Behavioral Intervention Focused on Community Work Outcomes in Persons with Mental Illness. *Journal of Nervous and Mental Disease*, 205(1), 66–73. <https://doi.org/10.1097/NMD.0000000000000601>
- Kunorubwe, T. (2023). Cultural adaptations of group CBT for depressed clients from diverse backgrounds: A systematic review. *The Cognitive Behaviour Therapist*, 16, e35. <https://doi.org/10.1017/S1754470X23000302>.
- Lang, B., Williams, K., Wiblishauser, M., & Adcock, S. (2025). Getting Better, Together: An Integrated, Online Group Psychotherapy Programme for Mental and Physical Health. *Counselling and Psychotherapy Research*, 25(1), e12883.

- <https://doi.org/10.1002/capr.12883>.
- Listiyandini, R. A., Andriani, A., Afsari, N., Marfu'atun, E., Hafizah, N., Sholeh, A., Nirbayaningtyas, R. B., Moulds, M. L., Mahoney, A. E. J., & Newby, J. M. (2025). A culturally adapted internet-delivered mindfulness intervention with counsellor guidance for reducing distress among Indonesian university students: A randomised waitlist-controlled trial. *Behaviour Research and Therapy*, 193, 104827. <https://doi.org/https://doi.org/10.1016/j.brat.2025.104827>.
- Ma, Y., & Liu, Z. (2024). Emotion regulation and well-being as factors contributing to lessening burnout among Chinese EFL teachers. *Acta Psychologica*, 245(March), 104219. <https://doi.org/10.1016/j.actpsy.2024.104219>.
- Mabrouk, A., Mbithi, G., Chongwo, E., Too, E., Sarki, A., Namuguzi, M., Atukwatse, J., Ssewanyana, D., & Abubakar, A. (2022). Mental health interventions for adolescents in sub-Saharan Africa: A scoping review. *Frontiers in Psychiatry*, 13, 01–13. <https://doi.org/10.3389/fpsy.2022.937723>.
- Ministry of Health RI. (2018). *Laporan Riset Kesehatan Dasar Tahun 2018*. Jakarta.
- Oktaviana, M., & Wimbarti, S. (2014). Validasi Klinik Strengths and Difficulties Questionnaire (SDQ) sebagai Instrumen Skrining Gangguan Tingkah Laku. *Jurnal Psikologi*, 41(1), 101. <https://doi.org/10.22146/jpsi.6961>.
- Pearl, S., & Norton, P. J. (2021). Transdiagnostic Cognitive Behavioural Therapy for Individuals with Anxiety Disorders: An Open Trial. *Behaviour Change*, 38(2), 73–83. <https://doi.org/10.1017/bec.2020.17>.
- Perkins, A. M., Bowers, G., Cassidy, J., Meiser-Stedman, R., & Pass, L. (2021). An enhanced psychological mindset intervention to promote adolescent wellbeing within educational settings: A feasibility randomized controlled trial. *Journal of Clinical Psychology*, 77(4), 946–967. <https://doi.org/10.1002/jclp.23104>.
- Redburn, J., & Hayes, B. (2024). Facilitators and barriers to “ Positive Outcomes ” from cognitive - behavioral therapy , according to young people : A thematic synthesis. *Journal of Clinical Psychology*, 80, 968–1002. <https://doi.org/10.1002/jclp.23653>.
- Ruesch, M., Helmes, A., & Bengel, J. (2017). Cognitive behavioral group therapy for patients with physical diseases and comorbid depressive or adjustment disorders on a waiting list for individual therapy: Results from a randomized controlled trial. *BMC Psychiatry*, 17(1), 1–13. <https://doi.org/10.1186/s12888-017-1494-9>.
- Santre, S. (2022). Mental Health Promotion in Adolescents. *Journal of Indian Association for Child and Adolescent Mental Health*, 18(2), 122–127. <https://doi.org/10.1177/09731342221120709>.
- Saw, J. A., Tam, C. L., Thanzami, V., & Bonn, G. (2020). Contextualized School-Based Cognitive Behavioral Therapy (CBT) Intervention for Malaysian Secondary School Students. *Frontiers in Psychiatry*, 11(December), 1–17. <https://doi.org/10.3389/fpsy.2020.565896>.
- Sequeira, M., Singh, S., Fernandes, L., Gaikwad, L., Gupta, D., Chibanda, D., & Nadkarni, A. (2022). Adolescent Health Series: The status of adolescent mental health research, practice and policy in sub-Saharan Africa: A narrative review. *Tropical Medicine and International Health*, 27(9), 758–766. <https://doi.org/10.1111/tmi.13802>.
- Strand, E. R., Veium, L. T., Engvik, L. S. S., & Nordahl, H. (2023). Generic Group Metacognitive Therapy for Patients with Major Depressive Disorder and Related Problems: a Preliminary Evaluation in Specialized Mental Health Care. *International Journal of Cognitive Therapy*, 16(4), 497–509. <https://doi.org/10.1007/s41811-023-00175-z>.

- Villabø, M. A., Narayanan, M., Compton, S. N., Kendall, P. C., & Neumer, S.-P. (2018). Cognitive-behavioral therapy for youth anxiety: An effectiveness evaluation in community practice. *Journal of Consulting and Clinical Psychology*, 86(9), 751–764. <https://doi.org/10.1037/ccp0000326>.
- Williams, N. L. (2021). Cognitive Behavioral Therapy in Treating Veterans with PTSD: Efficiency and Multiculturalism. *Journal of Mental Health and Social Behaviour*, 3(1), 1–4. <https://doi.org/10.33790/jmhsb1100129>.
- Xu, W. (2024). Efficacy of Cognitive Behavioral Therapy in Managing Anxiety Disorders among Adolescents: An In-Depth Analysis of Individual, Group, and Digital Approaches. *Journal of Education, Humanities and Social Sciences*, 26, 1093–1100. <https://doi.org/10.54097/6pyw9v48>.
- Yu, X., Chen, Z., Wang, B., Zheng, K., Liang, Y., Guo, J., Li, S., & Yu, L. (2025). A randomized controlled trial of group psychological intervention combined with medication for treating adolescent depression. *Frontiers in Psychology*, Volume 16-2025. <https://doi.org/10.3389/fpsyg.2025.1657172>.
- Zhang, Q., Wang, J., & Neitzel, A. (2023). School-based Mental Health Interventions Targeting Depression or Anxiety: A Meta-analysis of Rigorous Randomized Controlled Trials for School-aged Children and Adolescents. *Journal of Youth and Adolescence*, 52(1), 195–217. <https://doi.org/10.1007/s10964-022-01684-4>.
- Zhang, X., Liang, Z., & Kim, Y. (2025). Effectiveness of School-Based Cognitive Behavioral Therapy in Alleviating Anxiety and Depression Among High-Risk Child and Young People: A Bayesian Meta-Analysis with Meta-Regression. *Cognitive Therapy and Research*. <https://doi.org/10.1007/s10608-025-10679-x>.
- Zhou, W., Ouyang, F., Nergui, O.-E., Bangura, J. B., Acheampong, K., Massey, I. Y., & Xiao, S. (2020). Child and Adolescent Mental Health Policy in Low- and Middle-Income Countries: Challenges and Lessons for Policy Development and Implementation. *Frontiers in Psychiatry*, 11(March), 1–8. <https://doi.org/10.3389/fpsyg.2020.00150>.