DOI: 10.35990/mk.v9-ISGH.p36-46

Medika Kartika : Jurnal Kedokteran dan Kesehatan

RESEARCH ARTICLE

EFFECT OF COGNITIVE BEHAVIOURAL THERAPY ON SELF-ESTEEM AMONG MIDWIFERY STUDENTS

(EFEKTIVITAS COGNITIVE BEHAVIOURAL THERAPY (CBT) DALAM MENINGKATKAN SELF-ESTEEM MAHASISWA KEBIDANAN)

Sri Yuniarti, Inmas Andi Sermoati, Dini Marlina

Midwifery Program, Faculty of Science, Technology, and Health, Universitas Jenderal Achmad Yani, Cimahi, West Java, Indonesia

Corresponding email: inmasandisermoati@gmail.com

ABSTRACT

Self-esteem is a key psychological factor influencing mental well-being and professional readiness among midwifery students who face substantial academic and clinical demands. Low self-esteem may negatively affect learning motivation, self-confidence, and future quality of care. This study aimed to examine the effectiveness of Cognitive Behavioural Therapy (CBT) in improving self-esteem among midwifery students at Universitas Jenderal Achmad Yani. A quasi-experimental study with a one-group pretest–posttest design was conducted. The sample consisted of 24 first-year midwifery students with low to borderline self-esteem scores based on the Rosenberg Self-Esteem Scale (RSES), selected using purposive sampling. The CBT intervention was delivered in four sessions over a four-week period. Data were analyzed using the Wilcoxon Signed Rank Test. The results demonstrated a statistically significant improvement in self-esteem scores following the intervention, with mean scores increasing from 23.92 at pre-test to 34.00 at post-test ($p < 0.001$). All participants showed improved self-esteem scores with no observed decrease. These findings indicate that CBT is effective in enhancing self-esteem among midwifery students and may serve as a promotive intervention to support mental health and professional preparedness in higher education settings.

Keywords: cognitive behavioural therapy, mental health, midwifery students, self-esteem

ABSTRAK

Self-esteem merupakan komponen penting dalam kesejahteraan psikologis dan kesiapan profesional mahasiswa kebidanan yang menghadapi tekanan akademik dan praktik klinik. Rendahnya self-esteem dapat berdampak pada motivasi belajar, kepercayaan diri, dan kualitas pelayanan di masa depan. Penelitian ini bertujuan untuk menganalisis efektivitas Cognitive Behavioural Therapy (CBT) dalam meningkatkan self-esteem mahasiswa kebidanan Universitas Jenderal Achmad Yani. Penelitian ini menggunakan desain kuasi-eksperimen dengan pendekatan one-group pretest–posttest. Sampel terdiri dari 24 mahasiswa kebidanan angkatan 2024 yang memiliki skor self-esteem rendah hingga borderline berdasarkan Rosenberg Self-Esteem Scale (RSES), yang dipilih menggunakan teknik purposive sampling. Intervensi CBT diberikan dalam empat sesi selama empat minggu. Analisis data dilakukan

menggunakan uji Wilcoxon Signed Rank Test. Hasil penelitian menunjukkan adanya peningkatan skor self-esteem yang signifikan setelah intervensi CBT, dengan rata-rata skor meningkat dari 23,92 pada pre-test menjadi 34,00 pada post-test (p < 0,001). Seluruh peserta mengalami peningkatan skor self-esteem tanpa adanya penurunan. Temuan ini menunjukkan bahwa CBT efektif dalam meningkatkan self-esteem mahasiswa kebidanan dan berpotensi menjadi intervensi promotif untuk mendukung kesehatan mental serta kesiapan profesional mahasiswa kebidanan di lingkungan pendidikan tinggi.

Kata kunci: cognitive behavioural therapy, kesehatan mental, mahasiswa kebidanan, self-esteem

INTRODUCTION

Self-esteem is a fundamental psychological construct that reflects an individual's overall evaluation of self-worth and personal value. In the context of higher education, self-esteem plays a critical role in shaping students' academic motivation, emotional regulation, interpersonal relationships, and long-term professional development.[1] Students with healthy self-esteem tend to demonstrate greater resilience, adaptive coping strategies, and confidence when facing academic and social challenges, whereas low self-esteem has been consistently associated with psychological distress, anxiety, depressive symptoms, and reduced academic engagement.[2]

University students enrolled in health professional education programs, including midwifery, are particularly vulnerable to fluctuations in self-esteem due to the demanding nature of their training. Midwifery education requires students to integrate theoretical knowledge with intensive clinical practice, ethical decision-making, and emotionally sensitive interactions with women and families. These academic and clinical pressures, when combined with performance evaluations and high professional expectations, may contribute to heightened stress levels and diminished self-esteem, especially during the early years of study.[3] Recent evidence suggests that low self-esteem among healthcare students is not merely an individual psychological issue but a factor that may influence professional readiness and quality of care. Students with persistently low self-esteem are more likely to experience academic burnout, fear of clinical errors, and impaired communication skills, which may negatively affect patient-centered care in the future.[4] In midwifery practice, where confidence, empathy, and emotional stability are essential competencies, addressing self-esteem during the educational phase is therefore a strategic

component of professional development. Despite the growing international evidence supporting CBT for improving self-esteem among university students, research focusing specifically on midwifery students remains limited, particularly in low- and middle-income countries, including Indonesia. Existing studies in Indonesia have largely focused on general student populations or on stress and anxiety outcomes, with limited emphasis on self-esteem as a distinct psychological construct and professional competency indicator.[5] This gap highlights the need for context-specific research that examines the applicability and effectiveness of CBT interventions within midwifery education programs.

Therefore, this study aimed to evaluate the effectiveness of Cognitive Behavioural Therapy (CBT) in improving self-esteem among undergraduate midwifery students at Universitas Jenderal Achmad Yani. It was hypothesized that participation in a structured CBT intervention would result in a statistically significant increase in self-esteem scores compared to baseline measurements. The findings of this study are expected to contribute empirical evidence to support the integration of structured, evidence-based mental health interventions into midwifery education, thereby enhancing students' psychological well-being and readiness for professional practice.

MATERIALS AND METHODS

Study Design

This study employed a quasi-experimental design using a one-group pretest–posttest approach to evaluate the effectiveness of Cognitive Behavioural Therapy (CBT) in improving self-esteem among undergraduate midwifery students. The quasi-experimental design was selected due to practical and ethical considerations within the academic setting, where random allocation to a no-treatment control group may limit access to psychological support for students identified as having low self-esteem.[6]

The one-group pretest–posttest model allows for within-subject comparison by measuring self-esteem levels before and after the intervention, thereby assessing changes attributable to the CBT program.[7] Although this design does not provide the same level of causal inference as a randomized controlled trial, it is widely applied in educational and behavioral intervention research when preliminary effectiveness evaluation is required.[8]

Participants and Setting

The study was conducted at the Midwifery Undergraduate Program, Universitas Jenderal Achmad Yani, Indonesia, in 2025. The study population

consisted of first-year midwifery students enrolled in the 2024 academic cohort. Participants were selected using purposive sampling based on the following inclusion criteria: willingness to participate in all CBT sessions, not currently undergoing other psychological therapy, and having low to borderline self-esteem scores based on the Rosenberg Self-Esteem Scale (RSES). Of 106 students who completed the pretest screening, 24 students met the criteria and were included in the study. The sample size was considered adequate for detecting within-group differences in behavioral intervention studies with moderate effect sizes.[9]

Intervention Procedure

The CBT intervention was delivered in four sessions over four consecutive weeks, with each session lasting approximately 90–120 minutes.

The CBT protocol was adapted from standard cognitive restructuring frameworks emphasizing identification of automatic negative thoughts, cognitive distortions, and development of alternative adaptive beliefs.[10] The intervention components included:

Session 1: Psychoeducation on self-esteem and cognitive model

Session 2: Identification of negative automatic thoughts and cognitive distortions

Session 3: Cognitive restructuring and behavioral activation strategies

Session 4: Self-care planning, relapse prevention, and reflection

The intervention was conducted in a group format by trained facilitators. The CBT sessions focused on goal setting, identification and restructuring of maladaptive thoughts, stress management and relaxation techniques, self-care planning, and evaluation and termination. Pretest measurement was conducted prior to the first session, and posttest measurement was administered after completion of the final session.

Instrument

Self-esteem was measured using the Rosenberg Self-Esteem Scale (RSES), a widely used 10-item self-report instrument designed to assess global self-worth (Rosenberg, 1965). Each item is rated on a 4-point Likert scale ranging from strongly disagree to strongly agree.[11]

The Indonesian version of the RSES has demonstrated acceptable reliability and construct validity in university student populations.[12] In the present study, internal consistency reliability was assessed using Cronbach's alpha coefficient. Higher total scores indicate higher levels of self-esteem. Score categorization was used to identify participants with low and borderline self-esteem during screening.

Statistical Analysis

Data were analyzed using statistical software. Descriptive statistics were used to summarize participant characteristics and self-esteem scores. Normality testing was performed using the Shapiro–Wilk test, which is recommended for small sample sizes ($n < 50$).[13] As the pretest data were not normally distributed, the non-parametric Wilcoxon Signed Rank Test was used to compare pretest and posttest scores.

Statistical significance was set at $p < 0.05$. Effect size (r) was calculated to determine the magnitude of intervention impact.

Ethical Consideration

This study was conducted in accordance with ethical principles for health research involving human subjects. Ethical approval was obtained from the Health Research Ethics Committee (Komisi Etik Penelitian Kesehatan) of the Faculty of Health Sciences, Universitas Jenderal Achmad Yani, with approval number 060/KEPK/FITKes-Unjani/X/2025.

Written informed consent was obtained from all participants prior to data collection. Participants were informed about the study objectives, procedures, potential benefits, and their right to withdraw at any time without academic consequences. Confidentiality and anonymity of participant data were strictly maintained throughout the study.

RESULTS AND DISCUSSION

RESULTS

Participant Characteristics

A total of 24 first-year midwifery students who met the inclusion criteria completed the Cognitive Behavioural Therapy (CBT) intervention. All participants were female, reflecting the gender distribution within the midwifery program. The mean age of participants was 18.9 years (SD = 0.72), ranging from 18 to 20 years.

At baseline screening using the Rosenberg Self-Esteem Scale (RSES), all participants were categorized as having low to borderline self-esteem. No participants were classified as having high self-esteem prior to the intervention.

Baseline and Post-Intervention Self-Esteem Scores

Descriptive statistics indicated a substantial increase in self-esteem scores following the four-session CBT intervention. The mean pretest score was 23.92 (SD = 1.64), indicating low to borderline self-esteem. After completion of the intervention, the mean posttest score increased to 34.00 (SD = 2.45), reflecting a shift toward a higher level of self-esteem.A detailed comparison of self-esteem scores before and after the intervention is presented in Table 1.

Table 1 Comparison of self-esteem scores before and after CBT Intervention

Measurement	Mean	Standard Deviation
Pretest	23.92	1.64
Posttest	34.00	2.45

As shown in Table 1, there was a marked increase in mean self-esteem scores following the CBT intervention. This improvement suggests a positive shift in participants' self-evaluation after receiving structured psychological support.

Normality testing using the Shapiro–Wilk test indicated that pretest data were not normally distributed. Therefore, the Wilcoxon Signed Rank Test was used to examine differences between pretest and posttest scores. The analysis demonstrated a statistically significant improvement in self-esteem following the intervention ($Z = -4.298$, $p < 0.001$), with all participants showing increased scores.

Figure 1 illustrates the increase in mean self-esteem scores from pretest to posttest, visually reinforcing the statistical findings and demonstrating the magnitude of improvement following the CBT intervention.

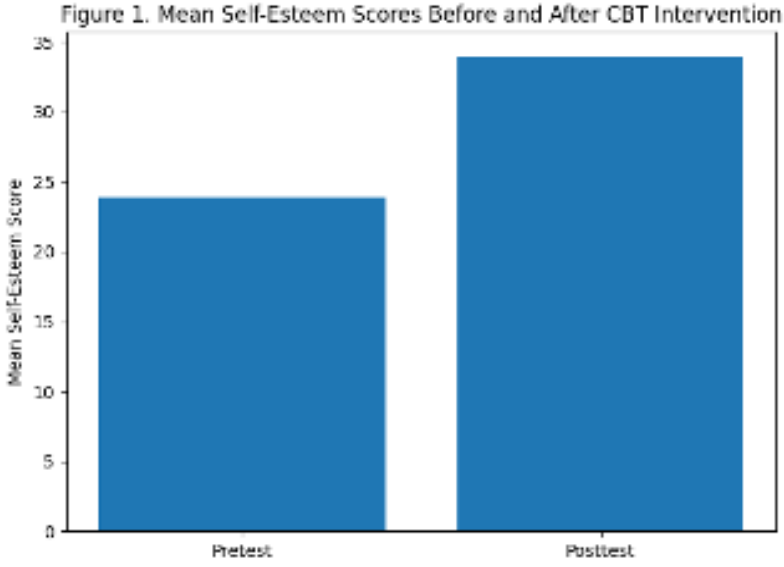

Figure 1 Mean self-esteem scores from pretest to posttest.

DISCUSSION

The present study demonstrated a statistically significant improvement in self-esteem scores among midwifery students following a structured four-session Cognitive Behavioural Therapy (CBT) intervention. The mean self-esteem score increased substantially from pretest to posttest, and all participants showed improvement without any observed decline. These findings indicate that CBT is an effective psychological intervention for enhancing self-esteem in midwifery students during the early phase of professional education.

Self-esteem is a core component of psychological well-being and professional identity formation in healthcare students. According to contemporary developmental research, self-esteem is not a static trait but a dynamic construct that can be influenced by environmental stressors, academic experiences, and targeted psychological interventions. The transition to university life, particularly within health-related disciplines, is often accompanied by increased academic demands, performance anxiety, and social adjustment challenges, which may negatively affect students' self-evaluation.[14] The significant improvement observed in this study suggests that structured cognitive interventions can buffer these stress-related effects.

Resilience is another relevant construct associated with self-esteem improvement. Recent research among university students indicates that resilience mediates the relationship between stress and mental well-being, and that higher self-esteem predicts greater resilience capacity.[15] Cognitive restructuring techniques embedded in CBT promote adaptive appraisal of stressors, reduce rumination, and enhance emotional flexibility. Although resilience was not directly measured in this study, the substantial improvement in self-esteem suggests potential secondary benefits in resilience development.

The findings also have implications for burnout prevention. Burnout among health profession students has been increasingly reported in recent years, characterized by emotional exhaustion, depersonalization, and reduced academic engagement.[16] Low self-esteem may intensify vulnerability to burnout by reinforcing fear of failure and self-criticism. Early implementation of CBT-based interventions may serve as a preventive strategy, strengthening psychological resources before students enter more demanding clinical phases.

The effectiveness of CBT in improving self-esteem observed in this study aligns with recent empirical findings. A systematic review and meta-analysis by Kolubinski et al. (2023) reported that CBT-based interventions significantly increased self-esteem across diverse populations, with moderate to large effect sizes.[17] Similarly, Berg et al. (2022) demonstrated that internet-based CBT significantly improved self-esteem among adolescents and young adults, with sustained benefits observed in follow-up assessments.[18] These findings support the theoretical foundation of CBT, which emphasizes cognitive restructuring as a mechanism for modifying negative core beliefs and maladaptive self-schemas.

From a cognitive perspective, individuals with low self-esteem tend to engage in automatic negative thoughts, cognitive distortions (e.g., overgeneralization, catastrophizing), and harsh self-criticism. The CBT sessions implemented in this study focused on identifying such maladaptive cognitive patterns and replacing them with more realistic and adaptive self-evaluations. According to Beck and Haigh (2022), modifying dysfunctional core beliefs leads to improved emotional regulation and behavioral outcomes.[19] The uniform increase in self-

esteem scores among participants in this study indicates that cognitive restructuring techniques were successfully internalized.

In the context of midwifery education, self-esteem has practical implications beyond psychological well-being. Midwifery students are required to perform clinical procedures, communicate effectively with patients, and make critical decisions in emotionally sensitive situations. Low self-esteem may manifest as reduced clinical confidence, avoidance behaviors, and fear of making mistakes, potentially affecting learning outcomes and patient interaction quality. Research among healthcare students indicates that higher self-esteem is associated with improved stress management, academic persistence, and professional readiness.[20] Therefore, improving self-esteem during the educational phase may contribute to better professional competence in future practice.

Another noteworthy aspect of this study is the use of group-based CBT. Group interventions offer additional therapeutic factors, including peer modeling, social reinforcement, normalization of emotional experiences, and collective problem-solving. Kolubinski et al. (2023) highlight that group CBT formats may enhance intervention effectiveness through shared cognitive reframing processes and mutual support. Within the academic setting, group-based CBT is also more feasible and cost-effective compared to individual therapy, making it a practical approach for integration into student support programs.[17]

Although the findings are promising, several limitations must be acknowledged. First, the use of a one-group pretest–posttest design limits causal inference. Without a control group, it is not possible to completely rule out alternative explanations such as maturation effects or external influences. Future studies should consider randomized controlled trial designs to strengthen internal validity. Second, the relatively small sample size may limit generalizability to broader midwifery student populations. Multi-center studies involving different institutions would provide stronger external validity. Third, this study assessed outcomes immediately after the intervention, and long-term follow-up was not conducted. Previous research suggests that maintenance of self-esteem gains depends on continued cognitive practice and reinforcement.[18] Longitudinal evaluation is therefore recommended.

Despite these limitations, this study provides preliminary empirical evidence supporting the integration of CBT-based mental health promotion strategies within midwifery education. The early academic phase represents a critical window for psychological support interventions. Embedding structured CBT programs into student development curricula or academic counseling services may enhance emotional resilience, self-confidence, and professional identity formation.

From an educational policy perspective, incorporating mental health promotion strategies aligns with global efforts to strengthen the psychological well-being of healthcare students. Addressing self-esteem

proactively may not only reduce psychological distress but also improve learning engagement, clinical performance, and ultimately quality of care provided to women and families in future midwifery practice.

In the context of midwifery education, improved self-esteem is particularly relevant, as students are required to demonstrate clinical competence, decision-making ability, and emotional regulation when interacting with patients and families. Recent studies have reported that higher self-esteem among healthcare students is associated with better stress management, improved academic performance, and greater readiness for clinical practice.[12]

CONCLUSION

This study concludes that Cognitive Behavioural Therapy (CBT) is effective in significantly improving self-esteem among midwifery students. The observed increase in self-esteem scores after the intervention indicates that structured CBT-based programs can enhance students' psychological well-being and adaptive self-evaluation during the early stages of professional education. These findings support the integration of evidence-based mental health interventions into midwifery education to strengthen emotional resilience and academic readiness. It is recommended that future studies employ controlled experimental designs, larger sample sizes, and longitudinal follow-up to further evaluate the sustainability and broader impact of CBT interventions on mental health outcomes among midwifery students.

CONFLICT OF INTEREST

The authors declare that there is no conflict of interest related to the publication of this article.

ACKNOWLEDGEMENT

The authors would like to express their sincere gratitude to the Faculty of Health Sciences, Universitas Jenderal Achmad Yani, for providing institutional support and research facilities. Appreciation is also extended to the Health Research Ethics Committee for ethical review and approval, as well as to all midwifery students who voluntarily participated in this study. The authors also thank all facilitators and academic staff who contributed to the implementation of the Cognitive Behavioural Therapy intervention and supported the data collection process.

BIBLIOGRAPHY

1. Orth U, Robins RW. Development of self-esteem Development of Self-Esteem Across the Lifespan. New York; 2019. Report.
2. Yin Y, Smith PK. Power and cognitive functioning. Curr Opin Psychol. 2020;33:95–9.

doi:https://doi.org/10.1016/j.copsyc.2019.07.020

3. Ribeiro ÍJS, Pereira R, Freire I V., de Oliveira BG, Casotti CA, Boery EN. Stress and Quality of Life Among University Students: A Systematic Literature Review. Health Professions Education. 2018 Jun;4(2):70–7. doi:10.1016/j.hpe.2017.03.002
4. du Toit AT, Thomson R, Page A. A systematic review and meta-analysis of longitudinal studies of the antecedents and consequences of wellbeing among university students. International Journal of Wellbeing. 2022 May 31;12(2):163–206. doi:10.5502/ijw.v12i2.1897
5. Hofmann SG, Gómez AF. Mindfulness-Based Interventions for Anxiety and Depression. Psychiatric Clinics of North America. 2017;40(4):739–49. doi:https://doi.org/10.1016/j.psc.2017.08.008
6. Huyler D, McGill C. Research Design: Qualitative, Quantitative, and Mixed Methods Approaches, by John Creswell and J. David Creswell. Thousand Oaks, CA: Sage Publication, Inc. 275 pages, $67.00 (Paperback). New Horizons in Adult Education and Human Resource Development. 2019 Jul 1;31:75–7. doi:10.1002/nha3.20258
7. Harris AD, McGregor JC, Perencevich EN, Furuno JP, Zhu J, Peterson DE, et al. The Use and Interpretation of Quasi-Experimental Studies in Medical Informatics. Journal of the American Medical Informatics Association. 2006 Jan 1;13(1):16–23. doi:10.1197/jamia.M1749
8. Hariton E, Locascio JJ. Randomised controlled trials – the gold standard for effectiveness research. BJOG. 2018 Dec 19;125(13):1716–1716. doi:10.1111/1471-0528.15199
9. Lakens D. Sample Size Justification. Ravenzwaaij D van, editor. Collabra Psychol. 2022 Mar 22;8(1):33267. doi:10.1525/collabra.33267
10. Weeland J, Chhangur RR, van der Giessen D, Matthys W, de Castro BO, Overbeek G. Corrigendum to "Intervention Effectiveness of The Incredible Years: New Insights Into Sociodemographic and Intervention-Based Moderators" [Behavior Therapy 48 (2017) 1–18]. Behav Ther. 2018;49(2):308–9. doi:https://doi.org/10.1016/j.beth.2017.09.007
11. Chan DW, Chan L kwan, Sun X. Developing a Brief Version of Ryff's Scale to Assess the Psychological Well-Being of Adolescents in Hong Kong. European Journal of Psychological Assessment. 2017 Apr

7;35(3):414–22. doi:10.1027/1015-5759/a000403

12. Azwar S. Dasar-Dasar Psikometrika (Edisi II). Yogyakarta: Pustaka Pelajar; 2021. 112–115 p.
13. Mishra P, Pandey CM, Singh U, Gupta A, Sahu C, Keshri A. Descriptive Statistics and Normality Tests for Statistical Data. Ann Card Anaesth [Internet]. 2019;22(1). Available from: https://journals.lww.com/aoca/fulltext/2019/22010/descriptive_statistics_and_normality_tests_for.11.aspx
14. Purnamasari H, Kurniawati F, Rifameutia T. Systematic Review: A Study of College Adjustment Among First-Year Undergraduates. Buletin Psikologi. 2022 Dec 23;30(2):259. doi:10.22146/buletinpsikologi.71892
15. Cui Z, Lin Z, Ren J, Cao Y, Tian X. Exploring self-esteem and personality traits as predictors of mental wellbeing among Chinese university students: the mediating and moderating role of resilience. Front Psychol [Internet]. 2024;Volume 15-2024. Available from: https://www.frontiersin.org/journals/psychology/articles/10.3389/fpsyg.2024.1308863
16. Rotenstein LS, Torre M, Ramos MA, Rosales RC, Guille C, Sen S, et al. Prevalence of Burnout Among Physicians. JAMA. 2018 Sep 18;320(11):1131. doi:10.1001/jama.2018.12777
17. Kolubinski DC, Frings D, Nikčević A V., Lawrence JA, Spada MM. A systematic review and meta-analysis of CBT interventions based on the Fennell model of low self-esteem. Psychiatry Res. 2018 Sep;267:296–305. doi:10.1016/j.psychres.2018.06.025
18. Berg M, Lindegaard T, Flygare A, Sjöbrink J, Hagvall L, Palmebäck S, et al. Internet-based CBT for adolescents with low self-esteem: a pilot randomized controlled trial. Cogn Behav Ther. 2022 Sep 3;51(5):388–407. doi:10.1080/16506073.2022.2060856
19. Hofmann Stefan G, Hayes Steven C. The Future of Intervention Science: Process-Based Therapy. Clinical Psychological Science. 2019 Jan 1;7(1):37–50. doi:10.1177/2167702618772296
20. Martínez-Martí ML, Ruch W. Character strengths predict resilience over and above positive affect, self-efficacy, optimism, social support, self-esteem, and life satisfaction. J Posit Psychol. 2017 Mar 4;12(2):110–9. doi:10.1080/17439760.2016.1163403