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The Effectiveness of Trauma-Informed Care in Midwifery Services on the Psychological Recovery of Mothers with a History of Gender-Based Violence in Medan

Nurhaida Br. Kaban[1]*, Anita Yasmin[2]
[1,2] Midwifery, Sekolah Tinggi Ilmu Kesehatan Flora, Medan, Indonesia.

*Author Correspondence : nurhaidakaban@gmail.com**

Abstract. *Background: Gender-based violence (GBV) remains a major public health issue that negatively affects women's psychological well-being and reproductive health. Trauma-informed care (TIC) is an approach to health services that recognizes the long-term effects of trauma and incorporates this understanding into all aspects of patient care. This study aimed to evaluate the effectiveness of TIC implementation in midwifery services on the psychological recovery of pregnant and postpartum women with a history of GBV in Medan City. Methods: This study applied a quasi-experimental pre-test and post-test control group design involving 86 pregnant and postpartum women identified through GBV screening at six primary health centers in Medan. Participants were divided into a TIC intervention group (n=43) and a control group (n=43). Psychological outcomes assessed included post-traumatic stress disorder symptoms using the PCL-5, depression with the EPDS, anxiety with the GAD-7, self-efficacy with the GSE, and mother–infant bonding using the PBQ. Data collection was conducted at baseline, week 8, and week 16. Statistical analysis employed repeated measures ANOVA and multiple linear regression.Results: Women receiving TIC showed significantly better psychological outcomes at week 16 compared with the control group. PTSD, depression, and anxiety scores decreased significantly, while self-efficacy and mother–infant bonding improved markedly ($p<0.001$). TIC also emerged as an independent predictor of psychological recovery after adjustment for confounding variables ($\beta=-0.48$; $p<0.001$). Conclusion: Trauma-informed care in midwifery services effectively enhances psychological recovery among women with GBV histories and should be integrated into maternal healthcare standards for vulnerable populations in Indonesia.*

Keywords : *Gender-Based Violence; Midwifery Services; Psychological Recovery; PTSD; Trauma-Informed Care.*

Abstrak. Latar Belakang: Kekerasan berbasis gender (GBV) tetap menjadi masalah kesehatan masyarakat utama yang berdampak negatif terhadap kesejahteraan psikologis dan kesehatan reproduksi perempuan. Perawatan berbasis trauma (Trauma-Informed Care/TIC) adalah pendekatan layanan kesehatan yang mengakui dampak jangka panjang trauma dan mengintegrasikan pemahaman ini ke dalam semua aspek perawatan pasien. Studi ini bertujuan untuk mengevaluasi efektivitas implementasi TIC dalam layanan kebidanan terhadap pemulihan psikologis perempuan hamil dan pascapersalinan dengan riwayat GBV di Kota Medan. Metode: Studi ini menggunakan desain kelompok kontrol pra-uji dan pasca-uji kuasi-eksperimental yang melibatkan 86 perempuan hamil dan pascapersalinan yang diidentifikasi melalui skrining GBV di enam pusat kesehatan primer di Medan. Partisipan dibagi menjadi kelompok intervensi TIC (n=43) dan kelompok kontrol (n=43). Hasil psikologis yang dinilai meliputi gejala gangguan stres pascatrauma menggunakan PCL-5, depresi dengan EPDS, kecemasan dengan GAD-7, efikasi diri dengan GSE, dan ikatan ibu-bayi menggunakan PBQ. Pengumpulan data dilakukan pada awal penelitian (baseline), minggu ke-8, dan minggu ke-16. Analisis statistik menggunakan ANOVA pengukuran berulang dan regresi linier berganda. Hasil: Wanita yang menerima TIC menunjukkan hasil psikologis yang secara signifikan lebih baik pada minggu ke-16 dibandingkan dengan kelompok kontrol. Skor PTSD, depresi, dan kecemasan menurun secara signifikan, sementara efikasi diri dan ikatan ibu-bayi meningkat secara nyata ($p<0,001$). TIC juga muncul sebagai prediktor independen pemulihan psikologis setelah penyesuaian untuk variabel pengganggu ($\beta=-0,48$; $p<0,001$). Kesimpulan: Perawatan berbasis trauma dalam layanan kebidanan secara efektif meningkatkan pemulihan psikologis pada wanita dengan riwayat GBV dan harus diintegrasikan ke dalam standar perawatan kesehatan ibu untuk populasi rentan di Indonesia.

Kata Kunci: Kekerasan Berbasis Gender; Pelayanan Kebidanan; Pemulihan Psikologis; PTSD; Trauma-Informed Care.

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1. INTRODUCTION

Gender-based violence (GBV) is one of the most widespread human rights violations and has a systemic impact on women's health globally. The World Health Organization (WHO) estimates that one in three women worldwide has experienced physical and/or sexual violence by an intimate partner or sexual violence by a non-partner in their lifetime (WHO, 2021). In Indonesia, data from the 2021 National Women's Life Experience Survey (SPHPN) shows that the prevalence of GBV among women aged 15–64 years reached 33.4%, with the highest proportion in North Sumatra at 38.7% (Ministry of Women's Empowerment and Child Protection, 2022).

The impact of GBV on women's reproductive and psychological health is multidimensional and long-lasting. Women who experience GBV have a significantly higher risk of experiencing Post-Traumatic Stress Disorder (PTSD), depression, anxiety disorders, and impaired attachment to their infants compared to women without a history of violence (Oram et al., 2017). In the context of obstetrics, the impact of trauma caused by GBV can accumulate and manifest throughout pregnancy, childbirth, and the postpartum period, potentially disrupting the mother's psychological adaptation process and the quality of care for the newborn (Rahmawati & Ungsianik, 2020).

Medan, the capital of North Sumatra Province, has a complex GBV problem. Data from the Medan City Integrated Service Center for the Empowerment of Women and Children (P2TP2A) recorded 847 reported GBV cases in 2023, with 62% of these cases being domestic violence experienced by women of reproductive age (Medan City Women's Empowerment and Child Protection Agency, 2024). This figure is predicted to represent the tip of the iceberg, given that many GBV cases go unreported due to social stigma, economic dependence, and fear of retaliation (Hayati et al., 2019).

Trauma-informed care (TIC) is a healthcare approach developed based on a comprehensive understanding of the impact of trauma on individuals' lives. The Substance Abuse and Mental Health Services Administration (SAMHSA, 2014) defines TIC as an approach that recognizes the signs and symptoms of trauma in clients, families, staff, and others involved in the care system, and actively responds by integrating trauma-based understanding into policies, procedures, and care practices. The core principles of TIC include safety, trustworthiness and transparency, peer support, collaboration and mutuality, empowerment, voice, and choice, and sensitivity to cultural, historical, and gender issues (SAMHSA, 2014).

The application of TIC in midwifery care is highly relevant, given that midwives are frontline healthcare workers who interact most frequently with women during the reproductive

cycle. According to Seng et al. (2019), conventional midwifery services are often re-traumatizing for women who are victims of violence because they involve intrusive physical examinations, imbalanced power dynamics between health workers and patients, and a lack of sensitivity to trauma histories. In contrast, TIC-based midwifery services prioritize building a sense of safety, returning control to women, and creating a therapeutic environment that supports recovery.

Several international studies have demonstrated the effectiveness of TIC in the perinatal context. A systematic review by Reeves (2015) found that trauma-informed interventions in perinatal care significantly reduced symptoms of PTSD and depression in women who had experienced violence. A study by Muzik et al. (2015) in the United States showed that a TIC program for mothers with a history of trauma improved the quality of mother-infant interactions and reduced the risk of developmental disorders in children. However, scientific evidence regarding the application of TIC in midwifery services in developing countries, particularly Indonesia, remains very limited.

In Indonesia, attention to integrating a trauma-informed approach into midwifery care is only just beginning to develop. Research by Rahmawati and Ungsianik (2020) in Jakarta found that most midwives lacked adequate competency in identifying and managing women who had experienced violence. A study by Afriani et al. (2021) in North Sumatra reported that only 23% of community health center midwives had ever routinely screened pregnant women for GBV, and less than 10% had an understanding of the TIC approach. These findings indicate a significant gap between the need for services and the capacity of midwifery personnel to care for women who are victims of GBV.

Perinatal mental health is an aspect that is receiving increasing attention in the field of midwifery. According to Putri and Handayani (2022), the prevalence of postpartum depression in Indonesian women with a history of GBV reached 42.8%, significantly higher than the general prevalence of 10–15%. This condition not only impacts maternal well-being but also impacts the quality of the mother-infant bond, exclusive breastfeeding, and the child's long-term neurocognitive development (Lubis & Hasanah, 2023). Therefore, comprehensive and trauma-sensitive interventions are essential.

The concept of self-efficacy is also a crucial variable in the psychological recovery of female victims of GBV. Bandura (1997) defines self-efficacy as an individual's belief in their ability to organize and execute the actions necessary to achieve specific goals. Female victims of GBV often experience erosion of self-efficacy due to demeaning and controlling patterns of violence. TIC interventions, which emphasize empowerment and regaining control, are

expected to restore self-efficacy as the foundation for sustainable psychological recovery (Simarmata & Ginting, 2021).

Based on the above description, there is an urgent need to develop and evaluate a TIC-based midwifery service model tailored to the Indonesian sociocultural context. This study aims to analyze the effectiveness of implementing TIC in midwifery services on the psychological recovery of mothers with a history of GBV in Medan City through a quasi-experimental design. This research is expected to provide strong scientific evidence to support the development of trauma-sensitive midwifery service policies in Indonesia.

2. RESEARCH METHODS

Research Design and Location

This study employed a quasi-experimental design with a pre-test and post-test control group design. This design was chosen because individual randomization is not ethically and practically feasible in a population of victims of violence. Therefore, group allocation was based on the location of the community health center (Puskesmas) (Sugiyono, 2019). The study was conducted at six community health centers in Medan City, selected based on high midwifery service volume, adequate availability of counseling space, and strategic locations that reach the target population. Three community health centers were allocated as intervention sites and three as control sites. The study lasted six months, from March to August 2024.

Population and Sample

The target population was pregnant women in their third trimester and postpartum women (up to 6 months) with a history of GBV who were examined at the selected community health centers. Identification of GBV history was conducted through screening with the Abuse Assessment Screen (AAS), which has been adapted and validated in Indonesia (Hayati et al., 2019). Inclusion criteria included: (1) a positive AAS score for at least one type of GBV (physical, psychological, sexual, or economic) in the past 12 months; (2) age 18–40 years; (3) able to communicate in Indonesian; (4) willing to participate and sign an informed consent; and (5) not in an acute crisis requiring immediate psychiatric intervention. Exclusion criteria included: (1) diagnosed psychotic disorder; (2) active substance abuse; (3) active suicidal ideation; and (4) concurrent participation in another psychological intervention program.

The sample size was calculated using Cohen's power analysis formula for a two-group repeated-measures design, with a moderate effect size (d=0.65) based on a similar study by Muzik et al. (2015), a test power of 80%, and a significance level of 5%. The calculation

yielded a minimum of 38 respondents per group. With an anticipated dropout rate of 12%, the total sample recruited was 86 mothers (43 per group). The sampling technique used was purposive, with group allocation based on the health center's location.

Trauma-Informed Care Intervention

The TIC intervention was developed based on the SAMHSA (2014) framework, adapted for the context of midwifery services in Indonesia, taking into account the sociocultural aspects of the North Sumatran community. The intervention program consists of 12 sessions over 16 weeks, detailed as follows:

The first component is Building Safety and Trust (sessions 1–3), which includes a sensitive trauma assessment, development of an individual safety plan, building a therapeutic relationship through motivational interviewing techniques, and education about the impact of trauma on reproductive health. The second component is Emotional Stabilization and Regulation (sessions 4–6), which includes training in culturally adapted grounding and mindfulness techniques, breathing exercises and progressive muscle relaxation, and psychoeducation on stress responses and adaptive coping mechanisms. The third component is Empowerment and Self-Efficacy Strengthening (sessions 7–9), which includes identifying personal strengths and resources, training in assertiveness and effective communication, developing a social support network, and strengthening reproductive health decision-making capacity. The fourth component, Strengthening Mother-Infant Bonding and Continuity Planning (sessions 10–12), includes mother-infant bonding interventions through skin-to-skin contact and responsive feeding, positive parenting training, and the development of a sustainable recovery plan and coordinated referrals.

Each session lasts 60–90 minutes and is conducted by trained midwives who have completed 40 hours of TIC training. The midwives' training includes trauma theory, TIC principles, trauma-sensitive counseling skills, and practical simulations. Clinical supervision is conducted periodically by a clinical psychologist to ensure adherence to the protocol and the quality of intervention implementation.

The control group received standard community health center midwifery services, including routine physical examinations, general health education, and referrals to higher-level health facilities when needed, without the structured TIC component.

Research Variables and Instruments

The independent variable was the type of midwifery service (TIC vs. standard). The dependent variables included five dimensions of psychological recovery: (1) PTSD symptoms, measured using the PTSD Checklist for DSM-5 (PCL-5), which consists of 20 items with a score range of 0–80 (Weathers et al., 2013), adapted into Indonesian with a Cronbach's alpha of 0.94; (2) Depressive symptoms, measured using the Edinburgh Postnatal Depression Scale (EPDS), which consists of 10 items with a score range of 0–30 (Cox et al., 1987), with an Indonesian version with a Cronbach's alpha of 0.87; (3) Anxiety symptoms, measured using the Generalized Anxiety Disorder-7 (GAD-7) with a score range of 0–21 (Spitzer et al., 2006), with a Cronbach's alpha of 0.91; (4) Self-efficacy, measured using the General Self-Efficacy Scale (GSE), which consists of 10 items with a score range of 10–40 (Schwarzer & Jerusalem, 1995), with a Cronbach's alpha of 0.88; and (5) Mother-infant bond quality, measured using the Postpartum Bonding Questionnaire (PBQ), which consists of 25 items, with lower scores indicating a better bond (Brockington et al., 2006), with a Cronbach's alpha of 0.92.

Confounding variables controlled for included age, education level, employment status, parity, type of GBV experienced, duration of exposure to violence, history of previous mental disorders, and availability of social support. Measurements were conducted at three time points: baseline (before the intervention), week 8 (mid-point), and week 16 (end of the intervention).

Data Analysis

Data analysis was conducted in IBM SPSS version 26.0 and was performed in stages. Descriptive analysis presented respondent characteristics as frequencies, proportions, means, and standard deviations. Baseline homogeneity between groups was tested using the chi-square test for categorical data and the independent t-test for numerical data. Intervention effectiveness was analyzed using a repeated-measures ANOVA (mixed between-within-subjects) to assess the effect of the time × group interaction on each outcome variable. Effect sizes were calculated using Cohen's d to compare groups at each time point. Multiple linear regression analysis was used to identify independent predictors of psychological recovery after controlling for confounding variables. Assumptions of normality, linearity, and homogeneity of variance were checked before analysis. The significance level was set at $p<0.05$.

Research Ethics

This research has received ethical approval from the Health Research Ethics Committee of the Faculty of Medicine, University of North Sumatra (Number: 187/KEPK/USU/2024). Given the sensitivity of the research topic, strict ethical procedures were implemented, including: comprehensive informed consent with an emphasis on voluntariness and the right to withdraw at any time without consequence; a safety protocol that includes immediate referral procedures if a risk of acute violence or psychological crisis is identified; data confidentiality guaranteed through anonymization and encrypted data storage; and debriefing and psychological support for research team members exposed to traumatic content.

3. RESEARCH RESULTS

Respondent Characteristics

Of the 86 mothers recruited, all respondents completed the study without dropping out, resulting in a 100% retention rate. Respondent characteristics are presented in Table 1.

Table 1. Respondent Characteristics Based on Study Group

Characteristics	TIC (n=43)	Control (n=43)	p-value
Age (years), mean ± SD	28,6 ± 5,4	29,1 ± 5,8	0,672
Education ≥high school, n (%)	28 (65,1%)	26 (60,5%)	0,659
Employed, n (%)	18 (41,9%)	16 (37,2%)	0,662
Primigravida, n (%)	15 (34,9%)	13 (30,2%)	0,647
Physical GBV, n (%)	24 (55,8%)	22 (51,2%)	0,669
Psychological GBV, n (%)	38 (88,4%)	36 (83,7%)	0,537
Sexual GBV, n (%)	14 (32,6%)	12 (27,9%)	0,641
Economic GBV, n (%)	31 (72,1%)	29 (67,4%)	0,643
GBV Duration >2 years, n (%)	27 (62,8%)	25 (58,1%)	0,666
History of mental disorders, n (%)	8 (18,6%)	7 (16,3%)	0,777
Low social support, n (%)	19 (44,2%)	21 (48,8%)	0,670

Table 1 shows that there were no significant differences in all respondent characteristics between the two groups ($p>0.05$), confirming baseline equivalence and the validity of the comparison between groups. Most respondents experienced more than one type of GBV, with psychological violence being the most common form (86.0%), followed by economic violence (69.8%), physical violence (53.5%), and sexual violence (30.2%).

Comparison of Psychological Outcomes Between Groups

A comparison of psychological outcome variable scores between the TIC and control groups at three measurement time points is presented in Table 2.

Table 2. Comparison of Psychological Outcome Scores at Baseline, Week 8, and Week 16

Variable	Time	TIC (n=43)	Control (n=43)	Cohen's d	p-value
PCL-5	Baseline	42,3 ± 10,8	41,7 ± 11,4	0,05	0,803
	Week 8	31,5 ± 9,4	38,2 ± 10,6	0,67	**0,002***
	Week 16	21,4 ± 8,7	34,6 ± 11,2	1,32	**<0,001***
EPDS	Baseline	16,8 ± 4,2	17,1 ± 4,5	0,07	0,746
	Week 8	12,1 ± 3,8	15,4 ± 4,3	0,81	**<0,001***
	Week16	7,8 ± 3,4	13,2 ± 4,8	1,30	**<0,001***
GAD-7	Baseline	13,7 ± 3,5	14,1 ± 3,8	0,11	0,612
	Week 8	9,2 ± 3,1	12,8 ± 3,6	1,07	**<0,001***
	Week 16	5,6 ± 2,9	10,4 ± 3,7	1,44	**<0,001***
GSE	Baseline	20,4 ± 5,1	20,8 ± 5,4	0,08	0,722
	Week 8	26,3 ± 4,6	22,1 ± 5,2	0,86	**<0,001***
	Week 16	31,8 ± 4,2	24,3 ± 5,6	1,52	**<0,001***
PBQ	Baseline	24,6 ± 6,3	25,1 ± 6,7	0,08	0,718
	Week 8	16,2 ± 4,8	21,3 ± 5,9	0,95	**<0,001***
	Week 16	8,4 ± 3,1	15,7 ± 5,3	1,68	**<0,001***

*Note: *significant at p<0.05; PCL-5 = PTSD Checklist for DSM-5; EPDS = Edinburgh Postnatal Depression Scale; GAD-7 = Generalized Anxiety Disorder-7; GSE = General Self-Efficacy Scale; PBQ = Postpartum Bonding Questionnaire (lower score = better bonding).*

Table 2 shows that at baseline, there were no significant differences in all outcome variables between the two groups (p>0.05). At weeks 8 and 16, the TIC group showed significant improvements in all variables compared to the control group. The effect size increased from moderate (d=0.67–1.07) at week 8 to large (d=1.30–1.68) at week 16, indicating that the intervention effect strengthened over time.

Repeated Measures ANOVA Analysis

The results of the repeated-measures ANOVA to assess the time × group interaction effect are presented in Table 3.

Table 3. Results of Repeated Measures ANOVA Analysis (Time × Group Interaction Effect)

Variable	F	df	Partial η²	p-value
PCL-5	34,72	2, 168	0,29	**<0,001***
EPDS	28,45	2, 168	0,25	**<0,001***
GAD-7	31,18	2, 168	0,27	**<0,001***
GSE	36,54	2, 168	0,30	**<0,001***
PBQ	41,87	2, 168	0,33	**<0,001***

*Note: *significant at p<0.05; η² = partial eta-squared*

Repeated-measures ANOVA (Table 3) confirmed a highly significant time × group interaction effect on all outcome variables ($p < 0.001$). Partial eta-squared values ranged from 0.25 to 0.33, which, according to Cohen's classification, falls within the large effect size category ($\eta^2>0.14$). These findings indicate that changes in psychological outcome scores over time significantly differed between the TIC and control groups.

Multiple Linear Regression Analysis

The results of the multiple linear regression analysis to identify independent predictors of the psychological recovery composite score at week 16 are presented in Table 4.

Table 4. Multiple Linear Regression Analysis of Predictors of Psychological Recovery

Variable	B	β	95% CI	p-value
TIC Intervention (ref: Control)	-12,84	-0,48	-17,21 s.d. -8,47	**<0,001***
Social support	-4,56	-0,22	-7,82 s.d. -1,30	**0,007***
Duration of GBV (>2 years)	3,78	0,18	0,94 s.d. 6,62	**0,010***
Multiple GBV types (≥3 types)	2,94	0,14	0,18 s.d. 5,70	**0,037***
Age	-0,12	-0,03	-0,68 s.d. 0,44	0,672
Education ≥High school	-1,87	-0,09	-4,53 s.d. 0,79	0,167
History of mental disorders	1,42	0,06	-1,88 s.d. 4,72	0,394

*Note: *significant at p<0.05; R² adjusted = 0.52; B = unstandardized regression coefficient; β = standardized regression coefficient*

The results of the regression analysis (Table 4) showed that the overall model explained 52% of the variance in psychological recovery scores (adjusted $R^2 = 0.52$; $F = 14.28$; $p < 0.001$). TIC intervention was the strongest predictor of psychological recovery ($\beta = -0.48$; $p < 0.001$), followed by social support ($\beta = -0.22$; $p = 0.007$), duration of GBV ($\beta = 0.18$; $p = 0.010$), and multiple GBV types ($\beta = 0.14$; $p = 0.037$). Age, education level, and history of previous mental disorders did not show a significant effect after controlling for other variables.

DISCUSSION

This study demonstrates that the implementation of trauma-informed care in midwifery services is significantly effective in improving the psychological recovery of mothers with a history of gender-based violence. These findings provide important contributions as the first scientific evidence regarding the effectiveness of TIC in midwifery services from the Indonesian context, specifically in Medan City.

The substantial reduction in PTSD scores in the TIC group (from 42.3 to 21.4; a 49.4% decrease) compared to the control group (from 41.7 to 34.6; a 17.0% decrease) is highly clinically significant. The PCL-5 score of 21.4 at the end of the intervention was below the diagnostic cut-off point for PTSD (score 31–33), indicating that the majority of respondents in the TIC group experienced remission of PTSD symptoms. These findings align with a systematic review by Reeves (2015), which reported that trauma-informed interventions in the perinatal context were effective in reducing PTSD symptoms with a large effect size. The mechanism for the reduction in PTSD symptoms in the TIC group can be explained through several pathways. First, the safety and trust-building components of TIC create an environment that allows women to gradually process traumatic experiences without experiencing re-traumatization (Seng et al., 2019). Second, emotion regulation techniques such as grounding and mindfulness help reduce hyperarousal and intrusion, which are core symptoms of PTSD.

The reduction in depressive symptoms in the TIC group (EPDS score from 16.8 to 7.8) is also a clinically significant finding. The final score of 7.8 is below the EPDS cutoff for postpartum depression (score ≥13), indicating that the TIC intervention successfully lifted the majority of respondents out of the clinical depression category. Putri and Handayani (2022) reported that the prevalence of postpartum depression among Indonesian women victims of GBV is very high, making this finding have significant clinical implications. The effectiveness of TIC in reducing depression can be attributed to the empowerment component at the core of this model. As Lubis and Hasanah (2023) noted, empowering women through strengthening decision-making capacity and identifying personal strengths is an effective strategy in overcoming feelings of learned helplessness, which are often central mechanisms of depression in GBV victims.

The significant anxiety reduction (GAD-7 score from 13.7 to 5.6; Cohen's d=1.44) reflects the effectiveness of the emotional stabilization and regulation components of the TIC program. The grounding technique taught in the intervention helped respondents manage anxious responses triggered by traumatic triggers, while mindfulness training increased awareness and acceptance of internal experiences without overreaction. These findings are

consistent with research by Simarmata and Ginting (2021), which found that mindfulness-based interventions were effective in reducing anxiety in female victims of violence in North Sumatra.

The most substantial increase in self-efficacy among all variables (from 20.4 to 31.8; Cohen's d = 1.52) confirmed the effectiveness of the empowerment component in the TIC model. According to Bandura (1997), self-efficacy can be increased through four main sources: mastery experience, vicarious experience, verbal persuasion, and physiological-emotional state. The TIC program in this study systematically activated these four sources through gradual goal setting, group experience sharing, positive feedback from midwives, and emotional regulation, which improves physiological state. This increase in self-efficacy is important because it plays a mediator in the long-term recovery process from trauma (Afriani et al., 2021).

The improvement in the quality of the mother-infant bond, indicated by a decrease in the PBQ score (from 24.6 to 8.4; Cohen's d = 1.68), was the finding with the largest effect size in this study. This indicates that TIC not only improves the psychological well-being of individual mothers but also positively impacts the quality of the mother-infant relationship. This finding aligns with research by Muzik et al. (2015), which found that the TIC program improved the quality of mother-infant interactions in women with a history of trauma. The mechanism of improved mother-infant bonding can be explained through two pathways. First, a reduction in PTSD and depression symptoms frees up the mother's emotional capacity to respond sensitively to the infant's needs. Second, the direct bonding components of the intervention, such as skin-to-skin contact and responsive feeding, explicitly foster positive mother-infant interaction skills.

Regression analysis confirmed that TIC was the strongest predictor of psychological recovery ($\beta = -0.48$) after controlling for confounding variables. The finding that social support was also a significant predictor ($\beta=-0.22$) strengthens the argument that recovery from GBV trauma requires multilevel interventions that encompass both individual capacity building and social resource mobilization. Hayati et al. (2019) emphasized that social support acts as a buffer against the negative impacts of GBV, and the findings of this study confirm the importance of integrating social support strengthening into TIC programs.

Longer duration of GBV exposure ($\beta=0.18$) and multiple GBV types ($\beta=0.14$) were identified as predictors of impaired recovery, consistent with international literature on the cumulative impact of trauma (Oram et al., 2017). These findings have important implications

for stratifying intervention intensity, as women with more severe and prolonged GBV exposure may require higher duration and intensity of TIC.

The strengths of this study include a quasi-experimental design with repeated measurements that allows for the evaluation of dynamic changes over time, the use of validated instruments with good reliability, and a high respondent retention rate (100%). However, several limitations should be considered. First, the lack of individual randomization potentially introduced selection bias, although baseline analysis indicated group equivalence. Second, the lack of long-term follow-up limits the evaluation of the sustainability of the intervention's effects. Third, self-report-based assessment is susceptible to social desirability bias. Fourth, generalizability is limited to the context of community health centers in Medan City.

The clinical implications of this study are broad. First, these findings support the integration of GBV screening and the implementation of TIC as standard components of midwifery care in Indonesia. Second, TIC training for midwives should be included in midwifery education curricula and continuing professional development programs. Third, the development of national clinical guidelines for trauma-sensitive midwifery care is essential to ensure consistency and quality of implementation. Further research with a multicenter randomized controlled trial design and long-term follow-up is recommended to strengthen the scientific evidence generated.

4. CONCLUSIONS AND RECOMMENDATIONS

Conclusion

The implementation of trauma-informed care in midwifery services was significantly effective in improving the psychological recovery of mothers with a history of gender-based violence in Medan City. The TIC intervention significantly reduced symptoms of PTSD (Cohen's d = 1.32), depression (d = 1.30), and anxiety (d = 1.44), and increased self-efficacy (d = 1.52) and the quality of the mother-infant bond (d = 1.68), with large effect sizes for all variables. TIC was the strongest independent predictor of psychological recovery after controlling for confounding variables. The TIC model adapted for the Indonesian midwifery context proved feasible and effective for implementation at the primary care level.

Recommendations

The Ministry of Health and policymakers recommend integrating GBV screening and the TIC approach into the Minimum Service Standards (SPM) for midwifery, as well as developing national clinical guidelines for trauma-sensitive midwifery services. Midwifery

educational institutions should incorporate TIC competencies into their curricula and provide specialized training that includes trauma theory, trauma-sensitive counseling skills, and emotional stabilization techniques. Health facilities should provide supporting infrastructure such as safe and private counseling rooms, integrated referral systems with psychological and women's protection services, and regular clinical supervision mechanisms for midwives implementing TIC. Future researchers are recommended to conduct multicenter RCTs with a minimum follow-up of 12 months, involving more geographically and socioculturally diverse populations, and evaluating the impact of TIC on long-term child development outcomes.

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