



The Effectiveness of Trauma-Focused Mentalization-Based Group Therapy on Psychological Distress and Cognitive Errors in Women with War Experience

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ABSTRACT

War-related experiences can create persistent psychological consequences for women, including elevated psychological distress and maladaptive cognitive processing. The present study examined the effectiveness of trauma-focused mentalization-based group therapy in reducing psychological distress and cognitive errors among women with war experience. This applied quasi-experimental study used a pre-test-post-test design with a control group and a follow-up phase. The sample consisted of 40 eligible women with war experience in Tabriz who were selected through purposive sampling and randomly assigned to an experimental group and a control group, with 20 participants in each group. The experimental group received trauma-focused mentalization-based group therapy in ten weekly 90-minute sessions, whereas the control group received no intervention. Psychological distress was measured using the Kessler Psychological Distress Scale, and cognitive errors were measured using the Cognitive Errors Questionnaire. Data were analyzed using multivariate analysis of covariance, univariate analysis of covariance, and paired-sample t-tests. Psychological distress in the experimental group decreased from 32.85 +/- 5.21 at pre-test to 21.40 +/- 4.86 at post-test and remained stable at follow-up (22.10 +/- 4.71). Cognitive errors decreased from 131.60 +/- 18.35 at pre-test to 94.25 +/- 15.80 at post-test and remained stable at follow-up (96.10 +/- 16.22). The multivariate effect of group was significant, Wilks Lambda = 0.43, $F(2, 35) = 23.49$, $p = .001$, partial eta squared = .57. Univariate analyses also showed significant group effects for psychological distress, $F(1, 36) = 48.72$, $p = .001$, partial eta squared = .58, and cognitive errors, $F(1, 36) = 44.56$, $p = .001$, partial eta squared = .55. Post-test-follow-up differences in the experimental group were not significant for psychological distress, $t = 1.31$, $p = .20$, or cognitive errors, $t = 1.15$, $p = .26$. Trauma-focused mentalization-based group therapy was effective in reducing psychological distress and cognitive errors among women with war experience, and the treatment effects were maintained at follow-up.

Keywords: trauma-focused mentalization-based therapy; group therapy; psychological distress; cognitive errors; women; war experience.

1. Introduction

War is among the most severe forms of collective adversity because it can expose civilians to direct threat, bereavement, displacement, economic insecurity, interruption of social support, and continuing fear. For women, these experiences may occur simultaneously with family responsibilities, social vulnerability, and limited access to structured psychological care. The psychological impact of war therefore cannot be reduced to a single traumatic event. It is often embedded in a broader pattern of loss, insecurity, and impaired interpersonal safety. Meta-analytic evidence indicates that mental disorders are highly prevalent in conflict-affected populations, and estimates of posttraumatic stress disorder and major depression among adult war survivors highlight the large psychological burden associated with exposure to war (1-3).

Psychological distress is a broad clinical construct that can include anxiety, depressed mood, tension, restlessness, sleep problems, reduced concentration, emotional exhaustion, and a subjective sense of being unable to cope. In the present study, psychological distress was measured with the Kessler Psychological Distress Scale, an instrument developed for screening non-specific psychological distress in population and clinical contexts (4). The interpretation of Kessler distress scores has also been discussed in population-based mental health research, supporting its relevance as a brief indicator of distress severity (5). In women who have experienced war, psychological distress may be intensified by ongoing threat perception and by the persistence of trauma-related meanings in daily life.

Cognitive errors are another clinically important outcome in trauma-exposed populations. They refer to biased and maladaptive patterns of interpretation, such as all-or-nothing thinking, overgeneralization, mental filtering, discounting positive evidence, jumping to conclusions, magnification, minimization, emotional reasoning, labeling, and personalization. Early work on cognitive errors showed that distorted patterns of thinking can be identified in clinical groups and may contribute to emotional suffering (6). Later developments in cognitive assessment have emphasized the need to measure cognitive distortions as a distinct psychological construct (7). Cognitive errors have also been linked to depressive processes and maladaptive emotional styles (8).

The relevance of cognitive errors to trauma is theoretically consistent with cognitive models of posttraumatic stress. Ehlers and Clark (2000) proposed that persistent posttraumatic stress is maintained when individuals process trauma in ways that produce a continuing sense of current threat (9). Such threat may be generated by excessively negative appraisals of the trauma, the self, other people, or the future. In women with war experience, cognitive errors may therefore operate as a mechanism through which external threat becomes internalized into persistent distress. For example, ambiguous interpersonal behavior may be interpreted as rejection or danger, and normal trauma reactions may be viewed as evidence of permanent personal weakness. These patterns can amplify distress and reduce the ability to use social support.

Mentalization refers to the capacity to understand one's own behavior and the behavior of others in terms of underlying mental states, including feelings, beliefs, intentions, fears, and desires. Contemporary mentalization theory considers mentalizing a transdiagnostic psychological capacity relevant to several forms of psychopathology (10). Clinical work on mentalization-based treatment has shown that strengthening reflective functioning can improve affect regulation and interpersonal functioning, particularly in conditions marked by emotional instability and relational insecurity (11-13).

A trauma-focused mentalization-based group approach is clinically appropriate when the therapeutic aim is not only to reduce symptoms but also to rebuild the capacity to reflect on internal experiences safely. In trauma, strong affect may narrow attention, increase certainty about threat, and reduce the ability to distinguish between present reality and trauma-related interpretations. Mentalization-based work attempts to slow this process by helping the person ask reflective questions: What am I feeling? What thought is attached to this feeling? Is my interpretation certain, or is it one possible meaning? What might another person be thinking? This reflective stance may reduce cognitive rigidity and psychological distress.

The group format is also clinically relevant. Humanitarian and conflict-affected settings require interventions that are structured, acceptable, and feasible for communities facing ongoing psychosocial pressure. Evidence from psychological interventions in humanitarian

and conflict-affected populations supports the value of structured psychosocial care, although the strength of evidence depends on the quality of design and comparison conditions (14-16). Brief behavioral interventions have also reduced distress among women exposed to traumatic adversity (17), and trauma-focused treatments have been examined in displaced and refugee populations (18).

The present study was designed to examine whether trauma-focused mentalization-based group therapy reduces psychological distress and cognitive errors among women with war experience. The study also examined whether the effects observed at post-test were maintained at follow-up. The main hypothesis was that women receiving the intervention would show lower psychological distress and fewer cognitive errors at post-test compared with women in the control group after controlling for pre-test scores. A second expectation was that post-test gains in the experimental group would remain stable at follow-up.

2. Methods and Materials

2.1. Study Design

The present research was an applied quasi-experimental study with a pre-test-post-test design, a control group, and a follow-up phase. The experimental group received trauma-focused mentalization-based group therapy, whereas the control group did not receive any intervention during the study period. The dependent variables were psychological distress and cognitive errors. Pre-test scores were statistically controlled in the main analyses so that post-test group differences could be examined more precisely.

2.2. Participants and Sampling

The statistical population consisted of women with war experience in Tabriz in 1404. The final sample included 40 eligible women. Participants were selected through purposive sampling and then randomly assigned to two groups: an experimental group and a control group. Each group consisted of 20 participants. The mean age of participants in the experimental group was 34.65 years with a standard deviation of 6.28. The mean age of participants in the control group was 35.10 years with a standard deviation of 5.94.

2.3. Eligibility Criteria

The study included women who had direct or indirect experience of war-related consequences, insecurity, loss, displacement, threat, or psychosocial pressure. Participants were required to be within the adult age range defined in the study protocol, to be able to read and write, to show at least a moderate level of psychological distress, and to provide informed consent for participation in the group sessions. Participants were excluded if they missed more than two therapy sessions, experienced a severe psychological crisis during the study, presented severe psychotic symptoms, had active substance dependence, had serious suicidal or self-harm risk, changed psychiatric medication without treatment stability, or voluntarily withdrew from the study.

2.4. Intervention

The experimental group received trauma-focused mentalization-based group therapy in ten weekly sessions. Each session lasted 90 minutes. The intervention was designed as a brief group protocol adapted from trauma-focused mentalization-based principles and was organized around psychological safety, psychoeducation about trauma, mentalization of self and others, recognition of cognitive errors, mentalizing-based reconstruction of cognitive errors, safe processing of trauma-related meanings, grief work, acceptance of loss, meaning reconstruction, consolidation of skills, and relapse prevention.

2.5. Therapeutic Principles

A central principle of the intervention was that participants were not required to disclose detailed traumatic experiences. The therapeutic focus was placed on the meaning of experiences, the identification of thoughts and emotions, the recognition of cognitive errors, and the development of a reflective stance toward the self and others. The group setting emphasized confidentiality, mutual respect, voluntary sharing, the right to silence, emotional regulation, and psychological safety. When distress increased during a session, the therapeutic process prioritized stabilization and safe return to the present moment.

2.6. Intervention Structure

The first sessions focused on creating group safety, introducing mentalization, and providing psychoeducation about trauma and normal post-traumatic reactions. Middle sessions focused on mentalizing the self, mentalizing others, distinguishing real danger from trauma-related threat perception, identifying cognitive errors, and using

mentalizing questions to revise rigid interpretations. Later sessions focused on safe trauma-related meaning-making, grief, acceptance of loss, reconstruction of meaning, self-care planning, support mapping, and relapse prevention. The post-test was administered at the end of the intervention, and participants were informed about the follow-up phase.

The complete session-by-session intervention protocol is presented in Table 1.

Table 1

Protocol of Trauma-Focused Mentalization-Based Group Therapy

Session	Therapeutic focus	Session content	Main techniques and exercises	Between-session task	Theoretical basis
1	Establishing psychological safety, group familiarity, and treatment rationale	Participants became familiar with the therapist and one another. The aims of the intervention, group rules, confidentiality, mutual respect, the right to remain silent, and the right to withdraw from discussion were explained. Mentalization was introduced in simple language as the ability to understand thoughts, feelings, intentions, and interpretations in oneself and others.	Guided discussion; group contract; exercise “What is going on in my mind now?”; distinction between thought, feeling, and reality.	Record situations in which strong fear, anger, worry, or other intense emotions were experienced.	Initial stabilization, group trust, and beginning mentalization.
2	Psychoeducation about trauma and psychological consequences of war	Common reactions after traumatic experience were explained, including hypervigilance, anxiety, insomnia, avoidance, irritability, intrusive memories, and insecurity. Participants were helped to understand their symptoms as understandable reactions to traumatic conditions rather than as personal weakness.	Psychoeducation; symptom mapping; identification of triggers; brief breathing exercise for returning to the present moment.	Record triggers that increased anxiety, distress, or feelings of threat.	Trauma psychoeducation and reduction of shame related to symptoms.
3	Strengthening mentalization of the self	Participants learned to observe and name internal mental states during intense emotional experiences instead of reacting immediately. The session focused on identifying thoughts, feelings, needs, fears, and meanings attributed to threatening situations.	Stop-and-look-at-the-mind exercise; emotion labeling; examining the relationship between thoughts and feelings; group discussion of everyday experiences.	Describe one upsetting situation using three prompts: what happened, what did I think, and what did I feel?	Self-mentalization and increased reflective capacity before reaction.
4	Strengthening mentalization of others and reducing certainty in interpretations	Participants examined how war, threat, and insecurity may lead them to interpret others’ behavior as hostile, neglectful, or threatening. The emphasis was that one’s interpretation of another person’s mind is not certain reality and that multiple possible meanings can be considered.	Exercise “several possibilities for one behavior”; role-play; mentalizing questions; reviewing immediate interpretations of others.	Record one interpersonal situation and write at least two alternative interpretations of the other person’s behavior.	Mentalization of others and reduction of certainty about intentions.
5	Examining the impact of trauma on trust, relationships, and safety	Participants explored how war can weaken trust in the self, others, and the world. The therapist helped them distinguish real danger, reminders of past danger, and trauma-related mental interpretations.	Drawing a circle of safety; identifying relatively safe people and situations; exercise distinguishing “now” from “then”; group discussion of injured trust.	Identify three relatively safe situations and three reliable sources of support.	Trauma, disruption of trust, and collapse of mentalization under threat.

6	Identifying cognitive errors related to trauma and psychological distress	Common cognitive errors were introduced, including all-or-nothing thinking, overgeneralization, mental filtering, discounting the positive, jumping to conclusions, magnification and minimization, emotional reasoning, should-statements, labeling, and personalization. Their links with war experience, threat perception, distress, and negative interpretations of self and others were discussed.	Psychoeducation about cognitive errors; identifying errors in everyday examples; group work on maladaptive thoughts; converting certainty into possibility.	Identify and name cognitive errors in one distressing situation.	Connection between cognitive distortion, psychological distress, and reduced mentalization.
7	Mentalizing-based reconstruction of cognitive errors	Participants learned to reconsider cognitive errors through mentalizing questions, such as: What evidence do I have? Is there another possibility? Has my emotion made this thought seem certain? If a friend had this thought, what would I say?	Mentalizing questioning; gentle cognitive reconstruction; transforming certainty into curiosity; working on real examples without pressure to disclose traumatic details.	Select one distressing thought and write a more balanced mentalizing response.	Increasing mental flexibility and reducing certainty in trauma-related interpretations.
8	Safe processing of traumatic experiences within the group	Participants could speak, voluntarily and without pressure, about the psychological meaning of traumatic experiences. The focus was not on event details but on mental states, emotions, interpretations, shame, fear, anger, loss, and the meaning attached to experience.	Limited and safe narration; group reflection; collective mentalization; emotion regulation during discussion; therapist pause when distress became excessive.	Write how they felt after the session and what helped them become calmer.	Processing trauma through collective mentalization and shared group experience.
9	Grief, acceptance of loss, and reconstruction of meaning	Participants discussed losses caused by war, such as loss of safety, home, relationships, opportunities, health, calmness, or loved ones. The session focused on accepting grief-related emotions, reducing self-blame, and moving from being stuck in the past toward meaning reconstruction and the future.	Unfinished-letter exercise; group discussion about loss; identifying remaining values; exercise "What is still important to me?"	Set one small achievable goal for the next week related to self-care or gradual return to life.	The third phase of trauma-focused MBT: grief, acceptance of loss, and movement toward the future.
10	Summary, consolidation of learning, and prevention of relapse	The final session reviewed acquired skills. Each member developed a personal plan for continuing mentalization, managing psychological distress, identifying cognitive errors, and seeking support. The post-test was administered at the end of the session and the follow-up phase was explained.	Group review; self-care planning; identifying warning signs; designing a support map; receiving group feedback about the treatment process.	Continue using a brief record form for thought, feeling, cognitive error, and mentalizing response until follow-up.	Consolidation of gains, relapse prevention, and follow-up of the intervention.

Note. The protocol was delivered in ten weekly 90-minute group sessions. Participants were not required to disclose detailed traumatic experiences; the focus remained on psychological safety, reflective functioning, cognitive errors, and mentalizing responses.

2.7. Measures

Psychological distress was measured with the Kessler Psychological Distress Scale. Higher scores indicate greater distress. The Kessler scale is widely used as a brief measure of non-specific psychological distress (4). Cognitive errors were measured with the Cognitive Errors Questionnaire. The questionnaire assesses common cognitive distortions, including all-or-nothing thinking, overgeneralization, mental filtering, discounting positive aspects, jumping to conclusions, magnification and minimization, emotional

reasoning, should-statements, labeling, and personalization. These dimensions correspond to patterns of distorted thinking discussed in the broader cognitive literature (6, 7).

2.8. Statistical Analysis

Data were entered into SPSS version 26. Before the main analyses, the data were examined for entry errors, missing values, outliers, and descriptive indices. Statistical assumptions were also assessed. Normality was examined using the Shapiro-Wilk test, homogeneity of variances using Levene's test, homogeneity of covariance matrices using

Box's test, and homogeneity of regression slopes using the relevant interaction tests. The reported significance levels for these assumption tests were greater than .05, supporting the use of multivariate and univariate covariance analyses. Multivariate analysis of covariance was used to test the overall group effect on the combined dependent variables while controlling pre-test scores. Univariate analyses of covariance were then used to test group effects separately for psychological distress and cognitive errors. Paired-sample t-tests were used to compare post-test and follow-up scores in the experimental group.

Table 2

Means and Standard Deviations of Psychological Distress and Cognitive Errors at Pre-test, Post-test, and Follow-up

Variable	Group	Pre-test M +/- SD	Post-test M +/- SD	Follow-up M +/- SD
Psychological distress	Experimental	32.85 +/- 5.21	21.40 +/- 4.86	22.10 +/- 4.71
Psychological distress	Control	33.20 +/- 5.43	32.45 +/- 5.27	32.10 +/- 5.04
Cognitive errors	Experimental	131.60 +/- 18.35	94.25 +/- 15.80	96.10 +/- 16.22
Cognitive errors	Control	129.90 +/- 17.64	127.80 +/- 18.10	128.25 +/- 17.92

Note. M = mean; SD = standard deviation.

As shown in Table 2, the mean score of psychological distress in the experimental group decreased from 32.85 at pre-test to 21.40 at post-test. The follow-up mean was 22.10, indicating that the reduction in psychological distress was largely maintained. In contrast, the control group changed only slightly, from 33.20 at pre-test to 32.45 at post-test and 32.10 at follow-up.

The same general pattern was observed for cognitive errors. In the experimental group, the mean score decreased from 131.60 at pre-test to 94.25 at post-test and remained

3. Findings and Results

The intervention protocol is presented in Table 1. The quantitative results are then presented in four stages: descriptive statistics, multivariate analysis of covariance, univariate analyses of covariance, and follow-up comparisons.

Table 2 presents the means and standard deviations for psychological distress and cognitive errors in the experimental and control groups across the three measurement stages. The pattern of scores shows a clear reduction in both outcomes in the experimental group, whereas the control group showed only minimal change.

close to that level at follow-up, with a mean of 96.10. In the control group, cognitive errors changed only slightly, from 129.90 at pre-test to 127.80 at post-test and 128.25 at follow-up.

A multivariate analysis of covariance was conducted to examine the overall effect of group on the combined dependent variables after controlling for pre-test scores of psychological distress and cognitive errors. The results are shown in Table 3.

Table 3

Multivariate Analysis of Covariance for the Group Effect on the Combined Dependent Variables

Multivariate test	Value	F	Hypothesis df	Error df	p / partial eta squared
Pillai's Trace	0.57	23.49	2	35	p = .001; η^2 = .57
Wilks' Lambda	0.43	23.49	2	35	p = .001; η^2 = .57
Hotelling's Trace	1.34	23.49	2	35	p = .001; η^2 = .57
Roy's Largest Root	1.34	23.49	2	35	p = .001; η^2 = .57

Note. η^2 = partial eta squared.

The multivariate analysis showed a statistically significant group effect on the combined dependent variables. Wilks' Lambda was 0.43, $F(2, 35) = 23.49$, $p = .001$, with partial eta squared = .57. Therefore, after

controlling for pre-test scores, the experimental and control groups differed significantly in the combined set of psychological distress and cognitive errors. The partial eta squared value indicates a large multivariate effect.

After the significant multivariate result, univariate analyses of covariance were conducted for each dependent variable separately. Table 4 presents the ANCOVA results

for psychological distress and cognitive errors at post-test after controlling for the corresponding pre-test scores.

Table 4

Univariate Analysis of Covariance for Psychological Distress and Cognitive Errors at Post-test

Dependent variable	Source	SS	df	MS	F	p	η^2
Psychological distress	Pre-test	486.32	1	486.32	21.04	.001	.37
Psychological distress	Group	1125.34	1	1125.34	48.72	.001	.58
Psychological distress	Error	831.60	36	23.10	-	-	-
Cognitive errors	Pre-test	4275.60	1	4275.60	19.32	.001	.35
Cognitive errors	Group	9862.18	1	9862.18	44.56	.001	.55
Cognitive errors	Error	7967.52	36	221.32	-	-	-

Note. SS = sum of squares; MS = mean square; η^2 = partial eta squared.

For psychological distress, the group effect was statistically significant after controlling for pre-test scores, $F(1, 36) = 48.72$, $p = .001$, partial eta squared = .58. This indicates that trauma-focused mentalization-based group therapy significantly reduced psychological distress in the experimental group compared with the control group. The pre-test covariate was also significant, $F(1, 36) = 21.04$, $p = .001$, partial eta squared = .37, showing that baseline distress was related to post-test distress.

For cognitive errors, the group effect was also statistically significant after controlling for pre-test scores, $F(1, 36) =$

44.56, $p = .001$, partial eta squared = .55. This result indicates that the intervention significantly reduced cognitive errors in the experimental group compared with the control group. The pre-test covariate was significant as well, $F(1, 36) = 19.32$, $p = .001$, partial eta squared = .35.

To evaluate the stability of the intervention effects, post-test and follow-up scores in the experimental group were compared using paired-sample t-tests. The results are presented in Table 5.

Table 5

Comparison of Post-test and Follow-up Scores in the Experimental Group

Variable	Stage	Mean	SD	t	p
Psychological distress	Post-test	21.40	4.86	1.31	.20
Psychological distress	Follow-up	22.10	4.71	-	-
Cognitive errors	Post-test	94.25	15.80	1.15	.26
Cognitive errors	Follow-up	96.10	16.22	-	-

Note. The t and p values refer to paired-sample comparisons between post-test and follow-up scores in the experimental group.

The difference between post-test and follow-up scores was not statistically significant for psychological distress, $t = 1.31$, $p = .20$. Similarly, the post-test-follow-up difference for cognitive errors was not statistically significant, $t = 1.15$, $p = .26$. These findings indicate that the reductions observed after the intervention were maintained during the follow-up phase.

4. Discussion

The present study examined the effectiveness of trauma-focused mentalization-based group therapy on psychological

distress and cognitive errors in women with war experience. The findings showed that the intervention produced significant reductions in both outcomes compared with the control group. The descriptive pattern, the multivariate test, the univariate tests, and the follow-up comparisons all supported the same interpretation: participants who received the intervention improved substantially from pre-test to post-test, and these improvements were maintained at follow-up.

The first major finding was the reduction of psychological distress in the experimental group. Psychological distress decreased from 32.85 at pre-test to

21.40 at post-test, whereas the control group remained almost unchanged. The ANCOVA result confirmed that the post-test group difference remained significant after controlling for pre-test scores. This finding is consistent with the view that structured psychological interventions can reduce distress in populations exposed to adversity and conflict-related stressors (14, 15). It also fits the wider evidence that psychological difficulties are common in conflict-affected populations and require targeted care rather than passive observation (2, 3).

The clinical meaning of this reduction can be understood through the mechanisms targeted by the intervention. Psychological distress after war-related experiences may be maintained by hypervigilance, persistent threat perception, intrusive meanings, avoidance, shame, and difficulty regulating strong affect. Trauma-focused mentalization-based group therapy does not simply ask participants to challenge thoughts in an abstract way. It attempts to create a reflective space in which participants can observe mental states, distinguish thoughts from facts, and consider alternative meanings without being overwhelmed by trauma-related affect. This reflective stance is central to mentalization-based theory (10).

The second major finding was the significant reduction in cognitive errors. The experimental group showed a decrease from 131.60 at pre-test to 94.25 at post-test, while the control group showed only minor change. This result is important because cognitive errors are not merely secondary symptoms; they may contribute to the maintenance of emotional distress. Cognitive models of trauma emphasize that persistent threat is maintained when traumatic experiences are processed through negative appraisals of the self, others, and the future (9). When women with war experience interpret internal distress as weakness or interpret ambiguous social cues as threat, cognitive errors may intensify distress and interfere with recovery.

The intervention protocol directly addressed these processes. In the middle sessions, participants learned to identify cognitive errors and to examine them through mentalizing questions. They practiced asking whether an interpretation was certain, whether other meanings were possible, and whether emotion had turned a thought into an apparent fact. This approach is compatible with the cognitive literature showing that distorted thinking can be measured

and may be related to psychological symptoms (6-8). However, the present intervention differs from purely cognitive correction because it emphasizes curiosity about mental states rather than direct disputation alone.

The strong multivariate effect suggests that the intervention influenced the combined psychological profile of participants rather than producing a narrow effect on only one variable. Wilks' Lambda was 0.43, $F(2, 35) = 23.49$, $p = .001$, with partial eta squared = .57. The separate ANCOVA results also showed large effects for psychological distress and cognitive errors. These findings indicate that the treatment may have affected both emotional suffering and maladaptive cognition. This dual effect is theoretically coherent because mentalizing is expected to influence both affect regulation and interpretive flexibility (10, 13).

The follow-up results add to the practical relevance of the study. Post-test and follow-up differences were not significant for either psychological distress or cognitive errors. The experimental group showed only a small increase in distress and cognitive error scores from post-test to follow-up, and these changes were not statistically significant. This suggests that the participants retained the core gains achieved during therapy. The final session of the protocol emphasized relapse prevention, self-care planning, identification of warning signs, support mapping, and continued use of a brief record of thoughts, emotions, cognitive errors, and mentalizing responses. These elements may have helped participants continue applying therapeutic skills after the formal sessions ended.

The group format may have been an important contributor to the observed effects. War-related experiences often damage interpersonal trust and increase isolation. A structured group can provide a setting in which participants feel seen and heard while maintaining boundaries and safety. Group members can observe that other people also experience fear, confusion, grief, and distorted interpretations after trauma. This may reduce shame and support more flexible meanings. Group-based and community-oriented psychological interventions have been used in humanitarian and trauma-exposed populations, although their effects depend on intervention quality, cultural acceptability, and comparison conditions (14, 16, 18).

At the same time, the findings should be interpreted with appropriate caution. The control group received no active intervention. Therefore, the study demonstrates that the therapy was superior to no intervention, but it does not prove that all effects were specific to the mentalization-based components. Some improvement may have resulted from group support, therapist attention, expectation of benefit, structured weekly meetings, or the general experience of being supported. This is a common limitation in early intervention studies and should be addressed in future research by comparing trauma-focused mentalization-based group therapy with an active control intervention.

Another limitation is the modest sample size. The study included 40 participants, with 20 in each group. Although the results were statistically significant and the effect sizes were large, larger samples are needed to examine whether the findings remain stable across different groups of women with war experience. Larger studies could also test moderators such as severity of initial distress, degree of trauma exposure, social support, age, medication status, and previous treatment history. Such analyses were not part of the present study and should not be inferred from the current results.

The use of self-report instruments is another methodological limitation. Psychological distress and cognitive errors were assessed using questionnaires. Although these instruments are appropriate for the study aims, self-report data may be influenced by social desirability, response style, expectancy effects, or participants' desire to show improvement. Future studies could combine self-report scales with clinical interviews, observer-rated outcomes, behavioral measures of reflective functioning, or qualitative data from participants about perceived therapeutic change.

Despite these limitations, the present study contributes to the applied literature by examining a structured intervention for women with war experience and by focusing simultaneously on psychological distress and cognitive errors. The results suggest that trauma-focused mentalization-based group therapy may reduce emotional suffering and maladaptive cognitive patterns. The intervention appears especially relevant for trauma-exposed women whose distress is accompanied by rigid threat-based interpretations and difficulty reflecting on mental states.

From a clinical perspective, the findings support the use of safe, structured, reflective, and culturally adaptable group interventions for women affected by war. Therapists working with this population should avoid forcing detailed disclosure of traumatic memories and should instead prioritize psychological safety, stabilization, reflective questioning, emotional naming, and flexible interpretation. These principles are consistent with trauma-sensitive care and with the broader mentalization-based treatment framework (10-12).

Future research should replicate the study with larger samples, longer follow-up periods, and active control conditions. It would also be useful to examine whether reductions in cognitive errors mediate reductions in psychological distress. The present study showed parallel improvement in both outcomes, but it did not test mediation. Future research could also examine whether changes in mentalizing capacity explain the observed reductions. Such work would help clarify whether the mechanism of change is primarily cognitive, emotional, interpersonal, or reflective.

5. Conclusion

The present study found that trauma-focused mentalization-based group therapy significantly reduced psychological distress and cognitive errors among women with war experience. The experimental group showed substantial improvement from pre-test to post-test, while the control group showed minimal change. Multivariate and univariate analyses confirmed significant group effects after controlling for pre-test scores. The non-significant differences between post-test and follow-up in the experimental group indicated that the observed treatment gains were maintained.

These findings suggest that trauma-focused mentalization-based group therapy can be considered a promising intervention for women affected by war-related experiences. Its value lies in combining psychological safety, group support, trauma-sensitive reflection, recognition of cognitive errors, and the development of a more flexible understanding of self and others. Further research with stronger comparison conditions and longer follow-up is needed, but the current results support the clinical relevance of this intervention for reducing distress

and maladaptive cognitive processing in women with war experience.

Authors' Contributions

Authors equally contributed to this study.

Declaration

The authors declare that artificial intelligence tools were used only to assist with language editing, translation, and improvement of the manuscript's readability. All conceptualization, study design, data collection, data analysis, interpretation of findings, and final approval of the manuscript were performed by the authors. The authors take full responsibility for the accuracy, integrity, and originality of the content.

Transparency Statement

Data are available for research purposes upon reasonable request to the corresponding author.

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Declaration of Interest

The authors report no conflict of interest.

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Ethics Considerations

The study was conducted in accordance with ethical principles for human-participant research. Participants were informed about the purpose and structure of the group sessions, confidentiality, voluntary participation, the right to withdraw, and referral procedures if severe psychological risk emerged during the study. Written informed consent was obtained before participation.

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