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The Effectiveness of Cognitive Behavioral Therapy on Self-Efficacy and Emotion Regulation in Divorced Women

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ABSTRACT

The present study aimed to investigate the effectiveness of cognitive behavioral therapy (CBT) on self-efficacy and emotion regulation among divorced women receiving services from the Welfare Organization in Rasht, Iran. In terms of purpose, this was an applied study, and methodologically, it employed a quasi-experimental pretest–posttest design with a control group. The statistical population consisted of all divorced women receiving services from the Welfare Organization in Rasht. From this population, 30 participants were selected using simple random sampling and were randomly assigned to an experimental group and a control group, with 15 participants in each group. The data collection instruments included the General Self-Efficacy Scale developed by Sherer et al. (1982) and the Cognitive Emotion Regulation Questionnaire developed by Garnefski et al. (2001). Initially, both groups completed the research instruments as a pretest. Subsequently, the experimental group received an eight-session cognitive behavioral therapy intervention based on Beck's protocol, whereas the control group was placed on a waiting list. At the end of the intervention period, both groups completed the research instruments again as a posttest. Data were analyzed using multivariate analysis of covariance (MANCOVA) in SPSS version 22. The findings indicated that cognitive behavioral therapy had a significant effect on increasing self-efficacy and improving emotion regulation among divorced women in Rasht. The results demonstrated that cognitive behavioral therapy contributed to enhancing the psychological adjustment of divorced women by modifying dysfunctional cognitive patterns, strengthening self-efficacy beliefs, and improving emotion regulation strategies. Accordingly, cognitive behavioral therapy is recommended as an effective intervention for divorced women in counseling and psychotherapy centers.

Keywords: cognitive behavioral therapy, self-efficacy, emotion regulation, divorced women

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Introduction

Divorce is a major life transition that can profoundly affect psychological functioning, interpersonal relationships, social identity, economic security, and perceived control over life circumstances. Although the dissolution of an unsatisfactory or conflictual marriage may, in some cases, reduce chronic interpersonal stress, separation itself often requires individuals to reorganize multiple dimensions of their lives, including family roles, financial responsibilities, living arrangements, social relationships, and expectations about the future. These simultaneous demands can make the post-divorce period psychologically challenging, particularly when individuals have limited social, emotional, or economic resources. From a public mental

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health perspective, major disruptions in intimate and family relationships are important because psychological well-being is shaped not only by individual characteristics but also by social conditions, interpersonal stressors, access to support, and opportunities to adapt effectively to life changes (1). In Iran, divorce has also become an increasingly important family and social issue, and national demographic statistics demonstrate the continuing significance of marital dissolution within contemporary patterns of family formation and change (2). Earlier investigations of divorce in Iranian families have similarly indicated that marital conflict and dissolution emerge through complex interactions among interpersonal, psychological, socioeconomic, and family-related factors, suggesting that the consequences of divorce should be understood within a multidimensional psychosocial framework (3).

For many women, divorce is accompanied by a period of psychological vulnerability in which previous assumptions about self, family, emotional security, and future life may be disrupted. Women may experience grief associated with the loss of the marital relationship, uncertainty about future relationships, changes in social support, financial strain, concerns about children, loneliness, perceived social judgment, and a diminished sense of personal competence. The emotional consequences of marital separation are therefore not restricted to sadness or temporary distress but may involve persistent cognitive and affective processes that influence adaptation over time. Research on emotional recovery following marital separation has emphasized that individuals differ substantially in how they respond to the end of an intimate relationship and that adaptive self-related processes may facilitate recovery from separation-related distress (4). More recent intervention research has likewise shown that divorced women may experience substantial emotional distress and that structured cognitive-behavioral interventions can promote more adaptive psychological responses to divorce (5). These findings underscore the importance of identifying modifiable psychological factors that may influence post-divorce adjustment.

Among the variables likely to play a central role in such adjustment is self-efficacy. Self-efficacy refers broadly to individuals' beliefs regarding their capacity to organize and execute the actions required to manage situations, overcome difficulties, and achieve desired outcomes. In the context of divorce, self-efficacy may influence whether women perceive themselves as capable of coping with new responsibilities, solving problems independently, managing emotional distress, establishing new social roles, and pursuing personal goals after marital dissolution. A strong sense of self-efficacy may facilitate active coping, persistence, problem solving, and engagement with challenging circumstances, whereas low self-efficacy may contribute to avoidance, passivity, helplessness, and reduced confidence in one's ability to influence important outcomes. Contemporary psychological research continues to highlight the importance of cognitive and emotional components underlying individuals' capacity to represent their own needs, make decisions, and act effectively in demanding contexts (6). Although such processes have been examined in populations beyond divorced women, they support the broader proposition that beliefs about personal capability are closely connected with adaptive functioning.

Divorce may threaten self-efficacy because it can be interpreted as evidence of personal failure, loss of control, or inability to maintain an important life relationship. Repeated self-critical thoughts, negative social comparisons, perceived rejection, and uncertainty regarding future relationships may further weaken confidence in one's competence. Evidence from family and relationship research indicates that experiences associated with parental conflict and divorce can be linked with subsequent beliefs about one's efficacy in

intimate relationships, illustrating how relational disruption may shape perceived competence in later interpersonal functioning (7). Among women approaching divorce, self-efficacy has also been identified as an important outcome that can be strengthened through psychological interventions. For example, mindfulness-based cognitive behavioral therapy and reality therapy have been shown to influence both self-efficacy and emotion regulation among women on the verge of divorce, indicating that these constructs may respond to structured psychotherapeutic intervention (8). Thus, strengthening self-efficacy may represent an important therapeutic objective for women attempting to reconstruct their lives following marital dissolution.

Emotion regulation constitutes another critical psychological process in post-divorce adjustment. Emotion regulation refers to the processes through which individuals influence which emotions they experience, when they experience them, and how those emotions are interpreted, expressed, or modified. Contemporary models conceptualize emotion regulation as a multidimensional process involving cognitive, attentional, behavioral, and physiological mechanisms that can either facilitate or interfere with adaptive functioning (9). Following divorce, women may encounter recurrent emotional triggers related to memories of the marital relationship, communication with former spouses, legal or financial issues, parenting concerns, social reactions, loneliness, or uncertainty about future intimate relationships. The ability to manage these emotional experiences effectively may therefore be particularly important for psychological recovery. When regulation strategies are adaptive, individuals may be better able to tolerate distress, reinterpret difficult experiences, maintain goal-directed behavior, and prevent negative emotions from dominating daily functioning. In contrast, maladaptive regulation strategies may prolong emotional distress and interfere with adjustment.

Cognitive emotion regulation is especially relevant in this context because the meaning attributed to divorce and its consequences can shape emotional responses. Strategies such as positive reappraisal, putting events into perspective, refocusing on planning, and directing attention toward constructive goals may facilitate adjustment, whereas rumination, catastrophizing, excessive self-blame, and persistent blaming of others may intensify negative affect and prolong distress. Studies among divorced women have repeatedly identified emotion regulation as an important intervention target. Dialectical behavior therapy, for example, has been shown to improve emotion regulation among divorced women, supporting the proposition that emotional responses following marital dissolution are modifiable through psychological intervention (10). A strength-based intervention has likewise been reported to improve emotion regulation and self-control in divorced women, further demonstrating that these capacities can be strengthened through systematic therapeutic procedures (11). Beyond divorced populations, mindfulness-based interventions have also been associated with improvements in emotion regulation and cognitive self-awareness, reinforcing the broader importance of training adaptive regulatory processes in psychologically vulnerable groups (12).

Self-efficacy and emotion regulation are theoretically interconnected. Individuals who perceive themselves as capable of dealing effectively with difficult situations may be more likely to engage in deliberate, adaptive emotion regulation rather than becoming overwhelmed by emotional responses. Conversely, successful management of intense emotions may increase perceived competence and reinforce beliefs that one can handle stressful circumstances. In divorced women, this reciprocal relationship may be particularly meaningful because the post-divorce period frequently requires both emotional adaptation and

active management of practical life challenges. Difficult emotions can undermine confidence, motivation, and persistence, while low self-efficacy can increase avoidance and reduce willingness to employ adaptive coping strategies. Accordingly, interventions capable of simultaneously addressing dysfunctional cognitions, emotional responses, and coping behaviors may be especially appropriate for this population.

Cognitive behavioral therapy (CBT) provides a strong theoretical and clinical framework for addressing both self-efficacy and emotion regulation. CBT is based on the assumption that emotional distress and maladaptive behavior are influenced substantially by patterns of interpretation, automatic thoughts, intermediate beliefs, and more enduring cognitive schemas. Individuals may experience greater distress when they interpret events through rigid, inaccurate, catastrophic, or self-defeating beliefs, whereas identifying and modifying these patterns can produce changes in emotional and behavioral functioning. Contemporary CBT emphasizes collaborative case conceptualization, identification of automatic thoughts, evaluation and modification of maladaptive beliefs, behavioral experiments, problem solving, skills training, and relapse prevention (13). Through these mechanisms, CBT may help divorced women reconsider negative beliefs such as “I am incapable of managing life alone,” “my divorce proves that I am a failure,” or “I cannot control my emotions,” replacing them with more balanced and functional appraisals.

The evidence base for CBT is extensive. Reviews of meta-analytic findings have shown that CBT is effective across a wide range of psychological disorders and emotional problems, providing strong empirical support for its use as a structured and evidence-based therapeutic approach (14). More recent developments in cognitive and behavioral therapies have expanded attention from protocol-specific interventions toward core psychological processes that cut across diagnostic categories, including cognitive flexibility, emotional avoidance, attentional processes, self-regulation, and behavioral adaptation (15). This process-oriented perspective is particularly relevant to divorced women who may not necessarily meet diagnostic criteria for a specific mental disorder but may nevertheless experience clinically meaningful difficulties involving negative cognitions, emotion dysregulation, avoidance, diminished self-confidence, and ineffective coping.

A growing body of research directly supports the application of CBT to psychological difficulties associated with divorce. Cognitive-behavioral group therapy has been reported to improve emotion regulation among divorced women, suggesting that structured cognitive restructuring and behavioral skills can enhance adaptive management of emotional experiences (16). Related research has found that cognitive-behavioral group therapy can positively affect emotion regulation, metacognitive beliefs, and rumination in divorced women, highlighting the importance of changing repetitive and dysfunctional cognitive processes that may maintain post-divorce distress (17). Similarly, CBT has been found to improve emotion regulation while reducing anxiety in divorced women, further demonstrating its relevance to both affective and cognitive aspects of post-divorce adjustment (18). These findings suggest that CBT may be particularly suitable for women whose emotional difficulties are maintained by negative interpretations, rumination, avoidance, and maladaptive coping.

Additional studies have broadened evidence regarding the effects of CBT in divorced populations. Pourghbal et al. reported that CBT improved emotion regulation and quality of life among divorced women, indicating that changes in cognitive-emotional functioning may be accompanied by broader improvements in perceived well-being and daily functioning (19). CBT has also been associated with reductions in psychological distress among divorced women, further supporting its potential to facilitate adaptation

following marital dissolution (20). A CBT-based psychoeducational program has similarly been used to promote emotional and social adjustment following divorce, demonstrating the applicability of cognitive-behavioral principles not only to symptom reduction but also to broader post-divorce adaptation (21). Together, these studies suggest that CBT may influence several domains relevant to successful adjustment, including emotional regulation, cognitive functioning, psychological distress, quality of life, and social adaptation.

The usefulness of cognitive-behavioral principles is also evident in research involving individuals experiencing severe marital conflict before divorce occurs. Enhanced cognitive-behavioral couple therapy has been shown to affect emotional regulation and marital burnout among couples on the verge of divorce, illustrating the capacity of cognitive-behavioral strategies to modify emotion-related processes in highly distressed intimate relationships (22). Among women on the verge of divorce, mindfulness-based CBT has likewise demonstrated beneficial effects on both emotion regulation and self-efficacy (8). These findings are important because they suggest that the mechanisms targeted by CBT remain relevant across different stages of marital dissolution, from severe pre-divorce conflict to adjustment after the relationship has ended.

Research involving children and adolescents affected by divorce also provides indirect evidence regarding the importance of cognitive emotion regulation. CBT has been used to reduce rumination and improve cognitive emotion regulation among adolescents from divorced families, supporting the proposition that the psychological consequences of divorce may be mediated partly through modifiable cognitive-regulatory processes (23). Although adolescents from divorced families differ developmentally and socially from divorced adult women, the findings reinforce the broader theoretical view that divorce-related stress interacts with patterns of cognition and emotion regulation. Such evidence further supports interventions designed to help individuals reinterpret stressful experiences, reduce repetitive negative thinking, and develop more adaptive emotional responses.

The flexibility of cognitive-behavioral interventions across clinical contexts also strengthens their relevance for emotion dysregulation. Recent work using imagery-based cognitive therapy has shown that cognitive interventions can be adapted to address emotional dysregulation and mood instability even in complex affective conditions (24). Although bipolar disorder differs substantially from post-divorce adjustment, this line of research illustrates how cognitive methods can directly target unstable or poorly regulated emotional states. From a transdiagnostic perspective, such findings are consistent with the idea that modifying cognitive appraisals and strengthening regulatory skills can influence emotional functioning across diverse forms of psychological distress.

Despite accumulating evidence regarding the usefulness of CBT in divorced women, important issues remain. First, many studies have focused primarily on symptom-oriented outcomes such as anxiety, distress, rumination, or quality of life, whereas positive psychological resources such as self-efficacy have received comparatively less attention. Second, emotion regulation and self-efficacy are often examined separately, despite their likely interaction in determining whether individuals can manage emotionally difficult situations and sustain adaptive behavior. Third, findings from interventions other than standard CBT, including strength-based approaches, dialectical behavior therapy, mindfulness-based interventions, and acceptance and commitment therapy, indicate that multiple therapeutic approaches can improve post-divorce psychological functioning (10, 11, 25). This diversity of effective approaches makes it particularly

important to clarify whether a structured Beck-based CBT protocol can simultaneously strengthen self-efficacy and improve emotion regulation.

Comparative intervention findings also suggest that cognitive and behavioral mechanisms may be especially relevant to these outcomes. Cognitive-behavioral therapy and acceptance and commitment therapy have both been found to improve self-control and resilience among divorced women, demonstrating that interventions targeting cognition, behavior, acceptance, and psychological flexibility may enhance adaptive capacities after divorce (25). The emerging process-based perspective on psychological intervention further suggests that treatment effectiveness may depend on identifying and changing core processes such as avoidance, maladaptive cognitions, self-regulation deficits, and ineffective coping rather than focusing exclusively on diagnostic categories (15). In this respect, CBT may be particularly appropriate because it integrates cognitive restructuring with behavioral practice, problem solving, emotional skills, and relapse-prevention strategies.

There is also a practical need for evidence derived from women receiving social welfare services. Divorced women who are supported by welfare organizations may face multiple and intersecting stressors, including financial limitations, restricted social resources, family responsibilities, and reduced access to sustained psychological care. Interventions implemented in such settings should therefore be structured, time-limited, teachable, and applicable to everyday problems. CBT has these characteristics and can provide participants with concrete strategies for identifying dysfunctional thoughts, evaluating beliefs, regulating emotional reactions, solving problems, managing difficult situations, setting achievable goals, and strengthening confidence through successful behavioral experiences. These mechanisms correspond closely to the psychological challenges associated with both diminished self-efficacy and maladaptive emotion regulation. Moreover, evidence that CBT improves psychological distress, emotional regulation, adjustment, and quality of life among divorced women provides a sound empirical basis for evaluating its effects within a welfare-service context (5, 18-20).

Taken together, previous literature indicates that divorce can place substantial demands on women's psychological adaptation and that self-efficacy and emotion regulation represent two important, potentially modifiable resources for managing these demands. Existing research supports the effectiveness of cognitive-behavioral and related interventions for reducing maladaptive cognitive processes, improving emotional regulation, strengthening coping capacities, and promoting psychological adjustment in individuals affected by divorce (17, 21). At the same time, the simultaneous examination of self-efficacy and emotion regulation can provide a more comprehensive understanding of whether CBT not only reduces distress but also strengthens the personal capacities required for longer-term adaptation. Accordingly, evaluating a structured Beck-based CBT intervention among divorced women receiving welfare services may contribute useful evidence for counselors, psychotherapists, and mental health professionals seeking brief and theoretically grounded interventions for this population.

Therefore, the present study aimed to investigate the effectiveness of cognitive behavioral therapy on self-efficacy and emotion regulation among divorced women receiving services from the Welfare Organization in Rasht.

Methods and Materials

Study Design and Participants

The present study was applied in purpose and employed a quasi-experimental pretest–posttest design with an experimental group and a control group. The statistical population consisted of all divorced women receiving services from the Welfare Organization in Rasht, Iran. Because information maintained by the Welfare Organization was confidential, the exact number of divorced women covered by the organization was not made available to the researchers; therefore, the size of the target population was considered unknown. After obtaining the required institutional permissions and coordinating with the Welfare Organization, potentially eligible individuals were contacted and invited to participate in the study and complete the screening questionnaires. Following the application of the inclusion and exclusion criteria and screening using the standardized research instruments, 150 women were identified as eligible for participation. Considering the quasi-experimental nature of the study and evidence from comparable intervention studies, the minimum required sample size was estimated at 15 participants per group, assuming a statistical power of 0.80, a significance level of 0.05, and a medium effect size (Cohen, 1988). To compensate for an anticipated attrition rate of approximately 20%, the initial sample was increased to 36 participants. Subsequently, 36 eligible women were selected using simple random sampling and randomly assigned to either the experimental group or the control group, with 18 participants initially allocated to each group. Following participant attrition during the course of the study, complete data from 30 participants, including 15 women in the experimental group and 15 women in the control group, were included in the final statistical analyses. Both groups completed the study measures at the pretest and posttest stages. The experimental group received the cognitive behavioral therapy intervention, whereas the control group received no educational or psychotherapeutic intervention during the study period and remained on a waiting list. The inclusion criteria were being legally divorced, having at least a lower-secondary level of education, being between 20 and 50 years of age, having experienced the divorce at least six months before enrollment, and having no severe physical illness or severe mood or emotional disorder. The exclusion criteria included unwillingness to continue participating in the sessions, failure to attend the intervention sessions, absence from more than two sessions, incomplete responses to the questionnaires, failure to provide written informed consent, and insufficient cooperation with the therapist or intervention procedures.

Data Collection Tools

General Self-Efficacy Scale. Self-efficacy was assessed using the General Self-Efficacy Scale developed by Sherer et al. (1982). The scale consists of 17 items designed to assess individuals' generalized beliefs regarding their ability to initiate and successfully perform behaviors required to cope effectively with challenging situations. The instrument evaluates three major aspects of self-efficacy, including behavioral initiation, persistence of effort, and perseverance in the face of obstacles and difficulties. Items are rated on a five-point Likert-type scale, and the total score ranges from 17 to 85. Higher total scores indicate stronger perceived general self-efficacy and greater confidence in one's ability to initiate goal-directed behavior, sustain effort, and overcome difficulties. The Persian version of the General Self-Efficacy Scale has been used

in previous Iranian studies, and its psychometric properties, including validity and reliability, have been reported as satisfactory.

Cognitive Emotion Regulation Questionnaire. Cognitive emotion regulation was assessed using the Cognitive Emotion Regulation Questionnaire developed by Garnefski et al. (2001). This self-report instrument consists of 36 items and evaluates nine cognitive strategies that individuals may use to regulate their emotional responses following stressful or adverse experiences. These strategies comprise self-blame, acceptance, rumination, positive refocusing, refocus on planning, positive reappraisal, putting into perspective, catastrophizing, and other-blame. Each strategy is represented by four items, and responses are scored on a five-point Likert-type scale. Higher scores on each subscale indicate a greater tendency to use the corresponding cognitive emotion regulation strategy. The questionnaire provides a multidimensional assessment of both relatively adaptive and maladaptive cognitive responses to emotionally significant events and therefore allows the examination of changes in participants' patterns of emotion regulation following psychological intervention. The validity and reliability of the Persian version of the questionnaire have also been confirmed in previous Iranian research.

Interventions

Participants assigned to the experimental group received eight 60-minute sessions of cognitive behavioral therapy based on Beck's cognitive model. The intervention was structured to modify dysfunctional cognitive patterns, strengthen adaptive coping skills, improve emotion regulation, and enhance participants' perceived self-efficacy in managing post-divorce psychological and interpersonal challenges. The first session focused on establishing therapeutic rapport, introducing participants to the principles and rationale of cognitive behavioral therapy, explaining the relationship among cognition, emotion, and behavior, identifying major individual difficulties, setting therapeutic goals, and assigning relevant homework. The second session focused on identifying automatic thoughts and dysfunctional beliefs and increasing awareness of the reciprocal relationships among thoughts, emotional responses, and behavioral reactions, followed by homework designed to facilitate self-monitoring. The third session introduced cognitive restructuring techniques, including the identification and evaluation of cognitive distortions, Socratic questioning, examination of evidence for and against dysfunctional thoughts, and development of more balanced and adaptive alternative cognitions. The fourth session addressed recognition and regulation of emotions, acceptance of emotional experiences, identification of emotional triggers, and practice of relaxation techniques for reducing emotional arousal. The fifth session emphasized systematic problem-solving skills, strengthening participants' sense of personal control, and increasing self-efficacy through identifying manageable problems, generating alternative solutions, and implementing adaptive behavioral responses. The sixth session focused on managing impulsive emotional and behavioral reactions and using gradual exposure to difficult or emotionally distressing situations in order to reduce avoidance and increase coping capacity. The seventh session was devoted to strengthening self-efficacy by identifying personal strengths, reviewing previous successful experiences, increasing awareness of individual competencies, and teaching realistic and attainable goal-setting strategies. The eighth and final session included a comprehensive review and consolidation of the cognitive, emotional, and behavioral skills acquired throughout treatment, discussion of strategies for maintaining therapeutic gains, relapse-prevention

planning, identification of potential future high-risk situations, and development of an individualized plan for continued application of the learned skills after completion of the intervention. Homework assignments were provided throughout the intervention to facilitate the application and generalization of therapeutic techniques outside the treatment sessions.

Data Analysis

Data obtained from the pretest and posttest assessments were analyzed using IBM SPSS Statistics version 22. Descriptive statistics were initially used to summarize the participants' scores on self-efficacy and cognitive emotion regulation in the experimental and control groups. To evaluate the effectiveness of cognitive behavioral therapy while statistically controlling for baseline differences between the groups, multivariate analysis of covariance (MANCOVA) was employed. In this analysis, posttest scores for self-efficacy and emotion regulation were treated as the dependent variables, group membership as the independent variable, and the corresponding pretest scores as covariates. This analytical approach made it possible to determine whether the experimental and control groups differed significantly in the combined dependent variables after adjustment for their initial pre-intervention scores. Where appropriate, subsequent univariate analyses of covariance were used to examine the intervention effect on each outcome separately. The assumptions underlying covariance analysis were evaluated prior to conducting the inferential analyses, and statistical significance was assessed at the .05 level.

Findings and Results

Before examining the effectiveness of cognitive behavioral therapy on self-efficacy and emotion regulation, descriptive statistics were calculated for the study variables at the pretest and posttest stages in the experimental and control groups. Comparison of the pretest means indicated that the two groups had relatively similar baseline scores for both self-efficacy and emotion regulation. In contrast, substantial differences emerged between the groups at posttest, with the experimental group demonstrating considerably higher scores on both dependent variables. The means and standard deviations of self-efficacy and emotion regulation across the two assessment occasions are presented in Table 1.

Table 1. Descriptive Statistics for Self-Efficacy and Emotion Regulation in the Experimental and Control Groups (N = 30)

Variable	Experimental Group Pretest M (SD)	Experimental Group Posttest M (SD)	Control Group Pretest M (SD)	Control Group Posttest M (SD)
Self-efficacy	51.20 (4.83)	76.87 (5.93)	51.53 (7.37)	51.47 (7.03)
Emotion regulation	69.07 (13.99)	126.87 (19.40)	68.07 (12.16)	68.60 (10.93)

As shown in Table 1, the mean self-efficacy score in the experimental group increased from 51.20 (SD = 4.83) at pretest to 76.87 (SD = 5.93) at posttest, whereas the corresponding scores in the control group remained virtually unchanged, decreasing slightly from 51.53 (SD = 7.37) to 51.47 (SD = 7.03). A similar pattern was observed for emotion regulation. The experimental group's mean emotion regulation score increased substantially from 69.07 (SD = 13.99) at pretest to 126.87 (SD = 19.40) at posttest, while the control group's mean changed only slightly from 68.07 (SD = 12.16) to 68.60 (SD = 10.93). These descriptive

findings indicate that improvements in both self-efficacy and emotion regulation occurred primarily in the experimental group following the cognitive behavioral therapy intervention.

Prior to conducting the multivariate analysis of covariance, the relevant statistical assumptions were examined. Inspection of the scatterplot between the dependent variables indicated an approximately linear relationship between posttest self-efficacy and emotion regulation scores. Box's M test was nonsignificant, Box's M = 5.425, F(3, 141120) = 1.668, p = .171, indicating that the assumption of equality of variance–covariance matrices was satisfied. In addition, the correlation between posttest self-efficacy and emotion regulation was strong and statistically significant, r = .879, p < .001. Because this correlation remained below .90, it did not indicate problematic multicollinearity, and the use of MANCOVA was considered appropriate. The multivariate test further showed a statistically significant overall effect of group on the combined dependent variables, Wilks' Λ = .084, F(2, 23) = 125.94, p < .001, partial η^2 = .916. Thus, approximately 91.6% of the multivariate variance in the combined outcomes was associated with group membership, indicating a very large overall intervention effect. After controlling for pretest scores, the adjusted posttest means were also higher in the experimental group than in the control group for both self-efficacy (M_adj = 76.87, SE = 1.15 vs. M_adj = 51.31, SE = 1.15) and emotion regulation (M_adj = 126.80, SE = 3.81 vs. M_adj = 69.10, SE = 3.81).

Table 2. Results of Univariate Analyses of Covariance for Posttest Self-Efficacy and Emotion Regulation

Dependent Variable	SS	df	MS	F	p	Partial η^2
Self-efficacy	4882.059	1	4882.059	245.735	< .001	.911
Emotion regulation	24864.379	1	24864.379	114.537	< .001	.827

As presented in Table 2, after controlling for the corresponding pretest scores, a statistically significant between-group difference was found for posttest self-efficacy, F = 245.735, p < .001, partial η^2 = .911. This effect size indicates that approximately 91.1% of the variance in posttest self-efficacy, after adjustment for baseline scores, was attributable to group membership. A statistically significant effect was likewise found for posttest emotion regulation, F = 114.537, p < .001, partial η^2 = .827, indicating that approximately 82.7% of the adjusted variance in emotion regulation was associated with the intervention condition. Because two dependent variables were examined, a Bonferroni-adjusted significance level of .025 was applied; both effects remained statistically significant under this more conservative criterion. Taken together with the higher adjusted posttest means in the experimental group, these results demonstrate that cognitive behavioral therapy was effective in significantly increasing self-efficacy and improving emotion regulation among divorced women compared with the control condition.

Discussion and Conclusion

The present study investigated the effectiveness of cognitive behavioral therapy (CBT) on self-efficacy and emotion regulation among divorced women receiving services from the Welfare Organization in Rasht. The findings indicated that CBT produced significant improvements in both outcome variables compared with the control condition. After controlling for pretest scores, participants in the experimental group demonstrated substantially higher posttest self-efficacy and emotion regulation scores than those in the control group. The multivariate analysis showed a significant overall effect of group on the combined

dependent variables, with a large effect size. At the univariate level, CBT accounted for approximately 91% of the variance in posttest self-efficacy and approximately 83% of the variance in posttest emotion regulation. These findings indicate that the intervention had a strong effect on both participants' perceived ability to manage difficult situations and their capacity to regulate emotional responses. Overall, the results support the usefulness of a structured Beck-based CBT intervention for promoting psychological adaptation among divorced women.

The first major finding was that CBT significantly increased self-efficacy among divorced women. This result is consistent with the findings of Yahyavi Gargari et al., who reported that mindfulness-based cognitive behavioral therapy was effective in improving self-efficacy among women on the verge of divorce (8). Although the intervention in that study incorporated mindfulness components, its findings support the broader proposition that cognitive-behavioral approaches can strengthen women's perceptions of competence and control in the context of severe marital stress. The present finding is also indirectly consistent with research showing that relational conflict and divorce-related experiences can affect beliefs concerning one's competence in close relationships (7). When marital dissolution is interpreted as evidence of personal inadequacy or failure, generalized self-efficacy may decline; therefore, a therapeutic approach that systematically challenges maladaptive interpretations and promotes successful coping experiences may help restore confidence in one's ability to manage life demands.

From a cognitive-behavioral perspective, the improvement in self-efficacy can be explained by the modification of dysfunctional beliefs and automatic thoughts. Divorced women may develop cognitions such as “I cannot manage my life independently,” “I am incapable of solving my problems,” or “I will not be able to cope with future difficulties.” Such beliefs can reinforce avoidance, passivity, dependence, and a sense of helplessness. CBT explicitly targets these maladaptive cognitive patterns by helping individuals identify automatic thoughts, examine the evidence supporting them, generate more balanced interpretations, and test new beliefs through behavioral practice (13). In the present intervention, cognitive restructuring, problem-solving training, gradual confrontation with difficult situations, goal setting, and identification of personal strengths were likely to provide participants with repeated opportunities to experience mastery. These experiences may have strengthened participants' sense of personal effectiveness and contributed directly to their increased self-efficacy.

The improvement in self-efficacy may also be understood in terms of greater perceived control. Divorce often involves substantial changes in family structure, financial responsibilities, social roles, daily routines, and future expectations. Such changes may contribute to feelings of unpredictability and loss of control. When individuals repeatedly encounter circumstances that appear uncontrollable, their confidence in their ability to influence outcomes may diminish. By contrast, CBT emphasizes dividing complex problems into manageable components, developing realistic goals, generating alternative solutions, and evaluating the consequences of specific actions (13). These techniques can transform diffuse and overwhelming post-divorce problems into specific behavioral tasks. As participants learn that they can influence at least some aspects of their situation, their sense of control and personal agency may increase, thereby strengthening self-efficacy.

The present findings are also compatible with broader evidence demonstrating that psychological interventions can strengthen adaptive personal resources among divorced women. Cognitive-behavioral

therapy and acceptance and commitment therapy have both been shown to improve self-control and resilience in divorced women (25). Similarly, a strength-based intervention was effective in enhancing self-control and emotion regulation in this population (11). Although self-control, resilience, and self-efficacy are conceptually distinct, they all involve aspects of perceived capability, persistence, effective coping, and regulation under difficult conditions. Taken together, these findings suggest that divorced women can benefit from interventions that shift attention away from helplessness and perceived inadequacy and toward personal strengths, realistic problem solving, and effective coping behavior.

The second major finding was that CBT significantly improved emotion regulation. This result is strongly consistent with previous studies conducted among divorced women. Esfandiyari and Darabi found that cognitive-behavioral group therapy improved emotion regulation in divorced women (16). Similarly, Shoushtari et al. reported that cognitive-behavioral group therapy improved emotion regulation while also reducing dysfunctional metacognitive beliefs and rumination (17). Gorgij et al. likewise demonstrated that CBT was effective in improving emotion regulation and reducing anxiety among divorced women (18). In addition, Pourghbal et al. found that CBT significantly improved emotion regulation and quality of life in divorced women (19). The convergence of these findings with the present results provides considerable support for the effectiveness of CBT in modifying emotional processes following marital dissolution.

The emotion-regulation finding can be explained through the cognitive model of emotional responses. According to CBT, emotional reactions are strongly influenced by the meanings individuals assign to events rather than by events alone (13). Following divorce, emotionally charged situations may activate negative interpretations concerning rejection, loneliness, personal failure, social judgment, economic insecurity, or uncertainty about the future. For example, communication with a former spouse may be interpreted as threatening or humiliating, while temporary loneliness may be catastrophically interpreted as evidence of permanent isolation. Such interpretations can intensify sadness, anger, anxiety, shame, and hopelessness. Cognitive restructuring enables individuals to identify these interpretations, examine their accuracy, and replace extreme or rigid appraisals with more balanced alternatives. Consequently, emotional reactions may become less intense and more manageable.

The results can also be interpreted within contemporary models of emotion regulation. Emotion regulation involves a range of processes through which individuals influence the onset, intensity, duration, and expression of emotional states (9). Adaptive regulation requires not only reducing unpleasant emotions but also recognizing emotions, accepting their presence, interpreting them appropriately, and selecting constructive responses. The intervention used in the present study incorporated explicit training in recognizing emotions, accepting emotional experiences, using relaxation strategies, and managing impulsive reactions. These components may have increased participants' awareness of emotional triggers and provided alternative strategies for responding to distress. Instead of reacting automatically through rumination, catastrophizing, avoidance, or impulsive behavior, participants may have become more capable of pausing, evaluating their thoughts, and selecting more adaptive cognitive and behavioral responses.

The findings are also consistent with studies using therapeutic approaches other than conventional CBT. Iri reported that dialectical behavior therapy improved emotion regulation in divorced women (10), while Abdollahpour found that a strength-based intervention enhanced emotion regulation in this population (11). These findings suggest that emotion dysregulation among divorced women is responsive to psychological

intervention and that several therapeutic pathways can produce improvement. Nevertheless, CBT may be particularly useful because it directly links emotion regulation to cognitive appraisal, behavioral responses, and learned coping strategies. In the present study, participants were not only taught techniques for controlling emotional arousal but were also encouraged to examine the cognitions that generated or maintained emotional distress. This combined approach may explain the magnitude of the observed effect.

The findings are further compatible with broader developments in cognitive and behavioral therapies emphasizing transdiagnostic psychological processes. Hayes and Hofmann have argued that contemporary cognitive and behavioral interventions increasingly focus on processes such as cognitive flexibility, avoidance, attentional patterns, emotional regulation, and behavioral adaptation rather than exclusively targeting diagnostic categories (15). This perspective is highly relevant to divorced women because psychological difficulties after marital dissolution may not always constitute a formal psychiatric disorder. Instead, many women may experience combinations of rumination, negative self-evaluation, emotional reactivity, avoidance, reduced perceived control, and diminished confidence. A process-focused CBT intervention can address these mechanisms even when participants do not meet criteria for a specific clinical diagnosis.

The current finding regarding emotion regulation also aligns with evidence from populations experiencing other forms of psychological vulnerability. Cognitive interventions have been successfully adapted to address emotional dysregulation and mood instability in complex clinical conditions (24). Mindfulness-based interventions have similarly improved emotion regulation in vulnerable adolescents (12). Although these populations differ from divorced women, such evidence reinforces the broader view that emotional regulation processes are modifiable through structured psychological interventions. The present findings therefore add to a growing literature demonstrating that emotion regulation can be intentionally strengthened through cognitive, behavioral, and awareness-based therapeutic techniques.

Another explanation for the effectiveness of CBT concerns reduction of repetitive negative thinking. Divorce may trigger persistent rumination about the causes of marital failure, perceived injustice, lost opportunities, conflicts with a former spouse, or fears about future relationships. Such repetitive thinking may maintain emotional distress by repeatedly activating negative memories and interpretations. Previous research has shown that cognitive-behavioral group therapy can reduce rumination alongside improving emotion regulation in divorced women (17). CBT has also been shown to improve rumination and cognitive emotion regulation among adolescents from divorced families (23). Therefore, it is plausible that part of the improvement observed in the present study resulted from participants' increased ability to disengage from repetitive negative thought patterns and redirect attention toward problem solving, planning, and more balanced interpretations.

The simultaneous improvement in self-efficacy and emotion regulation is particularly important because these two variables may reinforce one another. A woman who believes that she is capable of managing post-divorce difficulties may approach emotionally demanding situations with greater confidence and less avoidance. Similarly, an individual who can regulate intense sadness, anger, anxiety, or shame may be better able to engage in effective problem solving and experience mastery, thereby reinforcing self-efficacy. CBT may therefore create a reciprocal cycle in which cognitive restructuring and successful behavioral coping improve self-efficacy, while better emotion regulation makes it easier to persist in adaptive behaviors. This

interpretation is supported by research showing simultaneous improvements in emotion regulation and self-efficacy among women experiencing serious marital difficulties following cognitive-behavioral intervention (8).

The findings may also reflect the social and emotional context of divorce. Emotional recovery following marital separation is influenced by how individuals relate to themselves during a period of loss and transition. Sbarra highlighted the importance of adaptive self-related processes in emotional recovery following marital separation (4). More recent evidence has shown that cognitive-behavioral intervention can increase self-compassion and reduce emotional distress among divorced women (5). Although self-compassion was not directly assessed in the present study, CBT techniques that challenge excessive self-blame and rigid negative self-judgments may indirectly foster a more balanced and less punitive view of the self. Reduced self-criticism may, in turn, facilitate both emotion regulation and perceived competence.

The current results are also consistent with studies demonstrating broader benefits of CBT for post-divorce psychological adaptation. Rasti and Mohammadi found that CBT reduced psychological distress among divorced women (20), while Uyar reported that a CBT-based psychoeducational program facilitated post-divorce emotional and social adjustment (21). Pourghbal et al. similarly documented improvements in quality of life alongside emotion regulation following CBT (19). These findings suggest that improvements in specific psychological processes such as self-efficacy and emotion regulation may translate into broader benefits for functioning. When women develop greater confidence in their ability to manage problems and greater capacity to regulate emotional responses, they may be better positioned to rebuild social relationships, assume new responsibilities, make independent decisions, and establish meaningful post-divorce goals.

The large effect sizes observed in the present study may also be related to the structured and multimodal nature of the intervention. The eight-session protocol included therapeutic rapport, psychoeducation, identification of automatic thoughts, cognitive restructuring, Socratic questioning, emotion-regulation training, relaxation, problem solving, strengthening perceived control, management of impulsive responses, gradual exposure to difficult situations, identification of strengths, goal setting, and relapse prevention. Thus, the intervention targeted both cognitive and behavioral mechanisms relevant to the two dependent variables. This is consistent with the broader evidence base demonstrating that CBT is effective across a wide range of psychological problems because it combines cognitive change strategies with behavioral practice and skills acquisition (14). The intervention may therefore have produced substantial change because participants received multiple complementary tools for managing post-divorce challenges.

The findings also have relevance to preventive mental health services. Divorce is not inherently a psychiatric condition, yet it can function as a major psychosocial stressor and may increase vulnerability to emotional difficulties when accompanied by limited resources or ineffective coping. The World Health Organization has emphasized the importance of accessible, community-based approaches to promoting mental health and addressing psychosocial determinants of psychological well-being (1). Given the continuing social significance of divorce in Iran (2), interventions that can be delivered within welfare, counseling, and community mental health settings may have considerable practical value. A brief and structured CBT program may be especially suitable because it can focus on specific skills and psychological mechanisms within a relatively limited number of sessions.

Finally, the present results extend previous Iranian research on psychological interventions for divorced women by demonstrating simultaneous improvements in two theoretically important constructs. Previous studies have established the effectiveness of CBT for emotion regulation, anxiety, rumination, psychological distress, and quality of life (16-20). Other studies have shown that cognitive-behavioral and related interventions can enhance self-control, resilience, self-compassion, and self-efficacy (5, 8, 25). The present study adds to this literature by suggesting that a Beck-based CBT intervention may simultaneously strengthen perceived personal competence and improve emotional regulation among divorced women receiving welfare services. These two outcomes are particularly important because they represent adaptive psychological capacities that may facilitate longer-term recovery rather than merely reflecting short-term symptom reduction.

Several limitations should be considered when interpreting the findings of this study. First, the sample was relatively small and consisted exclusively of divorced women receiving services from the Welfare Organization in Rasht; therefore, the findings may not be generalizable to divorced women from different socioeconomic backgrounds, geographic regions, age groups, or service settings. Second, the study relied on self-report questionnaires, which may be influenced by social desirability, response biases, participants' temporary emotional states, or differences in interpretation of questionnaire items. Third, although participants were randomly assigned to the experimental and control groups after selection, the study employed a quasi-experimental design and therefore cannot eliminate all possible influences of uncontrolled contextual variables. Fourth, the control group was a waiting-list group rather than an active comparison condition, making it difficult to determine the extent to which treatment effects resulted specifically from CBT techniques rather than nonspecific therapeutic factors such as attention, group participation, or contact with the therapist. Finally, the absence of a follow-up assessment prevented evaluation of whether the observed improvements in self-efficacy and emotion regulation were maintained over time.

Future studies should replicate the present research with larger and more diverse samples drawn from different cities, socioeconomic groups, and counseling or welfare settings to increase the external validity of the findings. Longitudinal designs with follow-up assessments at several intervals, such as three, six, and twelve months after treatment, would help determine the durability of therapeutic gains. Researchers are also encouraged to compare CBT with active interventions such as acceptance and commitment therapy, dialectical behavior therapy, mindfulness-based therapy, strength-based interventions, or supportive counseling to clarify the relative effectiveness and specific mechanisms of different approaches. Future studies could additionally examine mediating variables such as rumination, cognitive flexibility, self-compassion, perceived social support, resilience, or problem-solving ability in order to determine how CBT produces improvements in self-efficacy and emotion regulation. Incorporating clinician-rated measures, behavioral indicators, qualitative interviews, and physiological indices of emotional arousal may also provide a more comprehensive assessment of therapeutic change.

Counseling centers, welfare organizations, family service agencies, and community mental health clinics may consider incorporating structured CBT programs into psychological services for divorced women, particularly those experiencing low self-confidence, difficulty managing emotions, persistent negative thinking, or problems adapting to post-divorce responsibilities. Practitioners should emphasize practical and transferable skills, including identification of automatic thoughts, cognitive restructuring, emotional

awareness, relaxation, systematic problem solving, gradual confrontation with avoided situations, goal setting, and recognition of personal strengths. Where feasible, brief group-based CBT programs may offer an efficient way to deliver these skills while also reducing social isolation and providing opportunities for shared learning. Therapists should also tailor intervention content to the specific post-divorce challenges faced by each participant, including parenting demands, economic stress, social stigma, interpersonal boundaries, and rebuilding independent life roles, while incorporating relapse-prevention strategies that support continued use of therapeutic skills after treatment has ended.

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Authors' Contributions

All authors equally contributed to this study.

Declaration of Interest

The authors of this article declared no conflict of interest.

Ethical Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants.

Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

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