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The Effectiveness of Cognitive-Behavioral Group Therapy on Quality of Life and Subjective Well-Being in Individuals with Major Depressive Disorder

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ABSTRACT

The present study was conducted to determine the effectiveness of cognitive-behavioral group therapy on quality of life and subjective well-being in individuals diagnosed with major depressive disorder. This was a quasi-experimental study employing a pretest-posttest design with a two-month follow-up and a control group. The statistical population consisted of individuals with major depressive disorder who attended counseling centers, psychological service clinics, and mental health centers in Tehran in 2026. Following initial screening, eligible participants completed the World Health Organization Quality of Life Questionnaire (WHOQOL) and the Keyes and Magyar-Moe Subjective Well-Being Questionnaire. Subsequently, 30 participants were selected through purposive sampling and randomly assigned to either the experimental group (n = 15) or the control group (n = 15). The experimental group received cognitive-behavioral group therapy based on the cognitive therapy model for depression developed by Beck, Rush, Shaw, and Emery across eight 90-minute sessions, whereas the control group received no intervention during this period. Data were analyzed using the independent-samples t-test, Fisher's exact test, and two-way repeated-measures analysis of variance (ANOVA) in SPSS version 26. The results indicated that the experimental and control groups did not differ significantly in terms of demographic characteristics. Furthermore, the findings of the two-way repeated-measures ANOVA demonstrated that the interaction effect of group and time was significant for both quality of life and subjective well-being. Comparison of mean scores showed that quality of life and subjective well-being increased from the pretest to the posttest phase in the experimental group, and these improvements remained largely stable at the two-month follow-up. In contrast, no substantial changes were observed in the control group. Based on the findings, cognitive-behavioral group therapy can enhance quality of life and subjective well-being among individuals with major depressive disorder. Therefore, the implementation of this intervention in counseling centers, psychological clinics, and mental health settings may be beneficial for modifying negative thoughts, reducing behavioral withdrawal, increasing engagement in pleasurable and meaningful activities, strengthening social interactions, and improving life satisfaction and psychological well-being among individuals with depression.

Keywords: Cognitive-behavioral group therapy, quality of life, subjective well-being, major depressive disorder.

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Introduction

Major depressive disorder (MDD) is one of the most prevalent and debilitating mental disorders worldwide and represents a substantial public health concern due to its high prevalence, recurrent nature,

and profound impact on individual functioning. The disorder is characterized by persistent depressed mood, diminished interest or pleasure in activities, cognitive disturbances, feelings of worthlessness, impaired concentration, sleep and appetite disturbances, and reduced psychosocial functioning. Beyond the emotional burden imposed on affected individuals, major depressive disorder contributes significantly to disability, healthcare utilization, occupational impairment, interpersonal difficulties, and decreased productivity. Contemporary evidence indicates that depression affects multiple dimensions of life and is associated with substantial impairments in physical, psychological, social, and occupational domains, making it one of the leading causes of disability worldwide (1). In recent years, growing attention has been directed toward understanding not only the symptomatic manifestations of depression but also its broader effects on quality of life and subjective well-being, which are increasingly recognized as essential indicators of treatment outcomes and recovery (2).

The concept of quality of life has emerged as a fundamental construct in mental health research because it reflects individuals' perceptions of their position in life within the context of their culture, value systems, goals, expectations, and concerns. Quality of life encompasses physical health, psychological functioning, social relationships, and environmental satisfaction and therefore provides a multidimensional assessment of overall functioning and well-being. Researchers have increasingly argued that symptom reduction alone cannot adequately capture recovery from mental disorders and that improvements in quality of life should be considered a central treatment objective. Individuals suffering from major depressive disorder frequently report substantial impairments in quality of life across multiple domains, including reduced physical vitality, impaired social functioning, diminished satisfaction with interpersonal relationships, and lower overall life satisfaction. Empirical evidence has consistently demonstrated that depressive symptoms are strongly associated with lower quality of life and functional impairment, highlighting the need for interventions that address both symptomatology and broader aspects of psychosocial functioning (3, 4). Network analytic studies have further suggested that depressive symptoms, functional impairment, and quality of life are closely interconnected, indicating that successful treatment should target mechanisms capable of improving overall functioning rather than merely alleviating depressive symptoms (4).

Alongside quality of life, subjective well-being has become a central construct within positive psychology and mental health research. Subjective well-being refers to individuals' evaluations and experiences of their own lives and encompasses emotional, psychological, and social dimensions of functioning. According to Keyes and Magyar-Moe, subjective well-being extends beyond the absence of psychological distress and reflects the presence of positive emotions, psychological growth, purpose in life, social integration, and overall life satisfaction (5). This perspective has contributed significantly to the understanding of mental health as a multidimensional construct that includes both the reduction of psychopathology and the enhancement of positive psychological functioning. Research has consistently shown that individuals with depression exhibit lower levels of emotional well-being, psychological well-being, and social well-being compared with healthy populations. Furthermore, deficits in subjective well-being are often associated with poorer treatment outcomes, increased vulnerability to relapse, and reduced psychosocial adjustment. Studies conducted in various populations have demonstrated the importance of fostering subjective well-being as a protective factor that promotes resilience, adaptive coping, and long-term psychological health (5, 6).

Recent investigations have increasingly emphasized the relationship between depression and subjective well-being. Evidence indicates that patients with major depressive disorder often experience substantial impairments in emotional satisfaction, social connectedness, self-acceptance, and perceived meaning in life. Moreover, various demographic and contextual factors appear to influence well-being outcomes among individuals with depression. For example, recent findings suggest that living arrangements and related psychosocial conditions can significantly affect psychological well-being among patients with major depressive disorder, highlighting the complex interaction between environmental and individual factors in shaping mental health outcomes (7). Similarly, comprehensive reviews of contemporary mental health challenges have underscored that enhancing well-being should be considered an essential goal of psychological intervention because psychological flourishing and positive functioning contribute substantially to recovery and long-term adjustment (2). Consequently, interventions capable of simultaneously reducing depressive symptoms and enhancing subjective well-being have attracted considerable attention within contemporary clinical psychology.

Among the available psychological interventions for depression, cognitive-behavioral therapy (CBT) is one of the most extensively studied and empirically supported approaches. Developed originally by Beck and colleagues, cognitive therapy for depression is based on the premise that maladaptive cognitive processes, including negative automatic thoughts, dysfunctional beliefs, and cognitive distortions, play a central role in the development and maintenance of depressive symptoms (8). According to this model, individuals with depression tend to interpret experiences through negative cognitive schemas that contribute to persistent feelings of hopelessness, helplessness, and worthlessness. Cognitive-behavioral interventions seek to identify and modify these maladaptive patterns while simultaneously promoting adaptive behaviors and coping strategies. Over several decades, a substantial body of evidence has demonstrated the effectiveness of CBT in reducing depressive symptoms, improving emotional regulation, and enhancing psychosocial functioning among individuals with depression (9, 10). Advances in CBT techniques and technologies have further expanded its applicability across diverse clinical populations and treatment settings, reinforcing its position as a leading evidence-based treatment for depression (10).

An important advantage of cognitive-behavioral therapy is that its benefits extend beyond symptom reduction. Meta-analytic evidence indicates that psychological treatments for depression, particularly CBT, can produce meaningful improvements in quality of life by addressing maladaptive cognitive patterns, increasing behavioral activation, and strengthening coping resources (11, 12). These findings are particularly important because quality of life often remains impaired even after depressive symptoms have improved. By targeting dysfunctional cognitions and avoidance behaviors, CBT may facilitate greater engagement in meaningful activities, improved interpersonal functioning, and enhanced satisfaction with life. Consequently, quality of life has become an increasingly important outcome measure in studies evaluating the effectiveness of CBT and related interventions for depression (11, 12).

The group format of cognitive-behavioral therapy offers additional therapeutic advantages that may be especially relevant for individuals with major depressive disorder. Group-based interventions provide opportunities for social support, normalization of experiences, observational learning, interpersonal feedback, and increased motivation for behavioral change. These factors may be particularly beneficial for individuals with depression who frequently experience social withdrawal, loneliness, and diminished

interpersonal engagement. Research has demonstrated that cognitive-behavioral group therapy can effectively improve depressive symptoms while simultaneously enhancing self-esteem, optimism, and overall psychological functioning among individuals with major depressive disorder (13). Furthermore, comparative investigations examining group-based interventions have shown that group CBT contributes significantly to flourishing, happiness, and life satisfaction, suggesting that its benefits extend to positive dimensions of mental health beyond symptom alleviation (14). Such findings support the growing view that psychological interventions should be evaluated not only in terms of symptom reduction but also in relation to their capacity to promote positive psychological functioning and well-being.

Despite the substantial evidence supporting cognitive-behavioral therapy for depression, several gaps remain in the literature. First, much of the existing research has focused primarily on symptom reduction rather than broader indicators of psychological functioning such as quality of life and subjective well-being. Second, although studies have documented the effectiveness of CBT in improving positive psychological outcomes, relatively fewer investigations have examined the simultaneous effects of cognitive-behavioral group therapy on both quality of life and subjective well-being among individuals diagnosed with major depressive disorder. Third, given cultural, social, and contextual variations in mental health experiences, there is a continued need to evaluate evidence-based interventions in diverse populations and clinical settings. Understanding whether cognitive-behavioral group therapy can produce sustained improvements in quality of life and subjective well-being may contribute valuable evidence for clinicians, mental health centers, and policymakers seeking effective interventions for depression.

Therefore, the present study aimed to determine the effectiveness of cognitive-behavioral group therapy on quality of life and subjective well-being among individuals with major depressive disorder.

Methods and Materials

Study Design and Participants

The present study was an applied research project employing a quasi-experimental design with pre-test, post-test, and two-month follow-up assessments and a control group. The target population consisted of all individuals diagnosed with major depressive disorder who attended counseling centers, psychological service clinics, and mental health centers in Tehran during 2026. After obtaining the necessary permissions and coordinating with selected mental health facilities, individuals who had received a diagnosis of major depressive disorder or exhibited clinically significant depressive symptoms and had been referred by a psychologist or psychiatrist were assessed for eligibility. Eligible participants completed the World Health Organization Quality of Life Questionnaire and the Keyes and Magyar-Moe Subjective Well-Being Scale. The mean scores obtained from the initial screening sample were 62.40 for quality of life and 118.30 for subjective well-being. Therefore, individuals who scored below the sample mean on both measures were considered eligible for participation in the intervention phase. Following the screening process, 30 participants were selected using purposive sampling and randomly assigned through a lottery procedure to either the experimental group (n = 15) or the control group (n = 15). Sample size was determined based on the quasi-experimental nature of the study, a 95% confidence level, a moderate effect size, and a statistical power of 0.83. Although the minimum required sample size was estimated at 12 participants per group, 15 participants were recruited for each group to compensate for potential attrition during the intervention.

Inclusion criteria consisted of a diagnosis of major depressive disorder confirmed by a psychologist or psychiatrist, residence in Tehran, adulthood, scores below the screening sample mean on both quality of life and subjective well-being measures, willingness to participate through informed consent, ability to attend group therapy sessions regularly, sufficient literacy to complete questionnaires, absence of concurrent participation in similar psychological interventions, and no history of severe psychiatric disorders such as psychotic disorders, active bipolar disorder, or severe substance dependence. Exclusion criteria included absence from more than two therapy sessions, withdrawal from the study, participation in other psychological intervention programs during the study period, incomplete questionnaire responses, emergence of acute psychological or physical conditions during the research process, substantial changes in medication without informing the therapist, and failure to comply with therapeutic assignments.

Data Collection

The World Health Organization Quality of Life Questionnaire (WHOQOL-BREF; World Health Organization, 1989) was used to assess participants' perceived quality of life. This instrument consists of 26 items designed to evaluate overall quality of life and general well-being across four domains, including physical health, psychological health, social relationships, and environmental health. Physical health is measured through seven items, psychological health through six items, social relationships through three items, and environmental health through eight items, while two additional items assess overall quality of life and general health perceptions. Several items are reverse scored. Responses are recorded on a five-point Likert scale ranging from very poor to very good. Total scores range from 24 to 120, with higher scores indicating better quality of life and lower scores reflecting poorer quality of life. The developers of the scale reported Cronbach's alpha coefficients ranging from 0.73 to 0.89 across international validation studies. Evidence from Iranian samples has also demonstrated satisfactory psychometric properties, with test–retest reliability coefficients of 0.77 for physical health, 0.77 for psychological health, 0.75 for social relationships, and 0.84 for environmental health. Concurrent validity has been supported through significant correlations with measures of general health.

Subjective well-being was assessed using the Keyes and Magyar-Moe Subjective Well-Being Scale (Keyes & Magyar-Moe, 2003), a 45-item instrument designed to measure emotional, psychological, and social well-being. The first 12 items evaluate emotional well-being, the subsequent 18 items assess psychological well-being, and the final 15 items measure social well-being. The scale provides a comprehensive assessment of positive functioning and psychological flourishing. The internal consistency coefficients reported by the developers were 0.91 for positive affect and 0.78 for negative affect within the emotional well-being dimension. The psychological and social well-being subscales demonstrated moderate to high reliability coefficients ranging from 0.40 to 0.70, while the combined reliability of the two scales exceeded 0.80. Confirmatory factor analysis has supported the three-factor structure of the instrument. Evidence from Iranian validation studies has indicated a test–retest reliability coefficient of 0.86, with reliability coefficients of 0.75, 0.76, 0.64, and 0.76 for the total scale, emotional well-being, psychological well-being, and social well-being dimensions, respectively. Cronbach's alpha coefficients have been reported as 0.80, 0.86, 0.80, and 0.64, indicating acceptable internal consistency.

Intervention

After participant selection and random assignment to the experimental and control groups, both groups completed the pre-test assessment using the quality of life and subjective well-being measures. The experimental group then participated in an eight-session cognitive-behavioral group therapy program conducted once weekly, with each session lasting approximately 90 minutes. The intervention was developed based on Beck, Rush, Shaw, and Emery's (1979) cognitive therapy model for depression and focused on identifying and modifying negative automatic thoughts, challenging cognitive distortions, restructuring dysfunctional beliefs, promoting behavioral activation, increasing engagement in pleasurable and meaningful activities, reducing rumination, enhancing problem-solving skills, and strengthening social functioning. The initial sessions emphasized psychoeducation regarding depression and the cognitive-behavioral model, followed by training in recognizing negative automatic thoughts and cognitive distortions. Subsequent sessions focused on behavioral activation strategies, modification of dysfunctional core beliefs and self-critical thinking patterns, reduction of rumination through structured problem-solving techniques, and enhancement of social support and positive interpersonal interactions. The final session was devoted to reviewing acquired skills, identifying relapse risk factors, and developing individualized maintenance plans. During the intervention period, the control group received no psychological treatment and participated only in the assessment phases. Post-test assessments were conducted immediately after completion of the intervention, and follow-up assessments were administered two months later to evaluate the maintenance of treatment effects.

Data Analysis

Data were analyzed using IBM SPSS Statistics version 26. Descriptive statistics, including means, standard deviations, frequencies, and percentages, were calculated to summarize participant characteristics and study variables. Independent-samples t-tests and Fisher's exact tests were employed to examine baseline equivalence between the experimental and control groups with respect to demographic variables. Prior to conducting the primary analyses, the assumptions of normality, homogeneity of variance, and sphericity were evaluated using the Kolmogorov–Smirnov test, Levene's test, and Mauchly's test of sphericity, respectively. To investigate the effectiveness of cognitive-behavioral group therapy on quality of life and subjective well-being across the three measurement occasions, a two-way repeated-measures analysis of variance (ANOVA) was performed. Statistical significance was established at $p < .05$ for all analyses.

Findings and Results

The mean age of participants in the experimental and control groups was 34.80 ± 5.42 and 35.26 ± 5.18 years, respectively. An independent-samples t-test indicated no significant difference between the two groups in terms of age ($p > .05$). Furthermore, Fisher's exact test revealed no statistically significant differences between the experimental and control groups regarding gender, marital status, educational level, or employment status ($p > .05$). Specifically, the experimental group consisted of 40.0% men and 60.0% women, whereas the control group included 33.3% men and 66.7% women. Regarding marital status, 46.7% of participants in the experimental group and 40.0% in the control group were single. The distribution of

educational attainment was also comparable across groups. These findings indicate that the experimental and control groups were homogeneous with respect to demographic characteristics prior to the intervention.

Table 1. Descriptive Statistics for Quality of Life and Subjective Well-Being Across Measurement Occasions

Variable	Group	Pre-test Mean ± SD	Post-test Mean ± SD	Follow-up Mean ± SD	Minimum	Maximum
Quality of Life	Experimental	58.46 ± 7.28	82.13 ± 8.64	80.66 ± 8.31	47	94
Quality of Life	Control	59.20 ± 7.11	60.06 ± 7.35	59.73 ± 7.48	48	91
Subjective Well-Being	Experimental	108.73 ± 12.42	151.40 ± 13.96	148.86 ± 13.28	92	170
Subjective Well-Being	Control	109.86 ± 12.31	111.20 ± 12.54	110.46 ± 12.72	94	168

As presented in Table 1, the descriptive statistics demonstrate a clear improvement in both outcome variables among participants in the experimental group. The mean quality of life score increased from 58.46 at pre-test to 82.13 at post-test and remained relatively stable at 80.66 during the two-month follow-up assessment. Similarly, the mean subjective well-being score increased substantially from 108.73 at pre-test to 151.40 at post-test and remained high at follow-up (148.86). In contrast, participants in the control group showed only negligible fluctuations across the three measurement occasions for both variables. The descriptive pattern of results suggests that cognitive-behavioral group therapy was associated with meaningful improvements in quality of life and subjective well-being among individuals with major depressive disorder, and that these improvements were largely maintained over time.

Prior to conducting the primary analyses, the assumptions of repeated-measures analysis of variance were examined. Results of the Kolmogorov–Smirnov test indicated that the distributions of quality of life and subjective well-being scores at pre-test, post-test, and follow-up did not significantly deviate from normality ($p > .05$). Levene's test further demonstrated that the assumption of homogeneity of variance was satisfied for all study variables across groups ($p > .05$). In addition, Mauchly's test of sphericity was non-significant for both quality of life and subjective well-being ($p > .05$), indicating that the sphericity assumption was met. Therefore, the repeated-measures ANOVA results were interpreted using the assumption of sphericity.

Table 2. Results of Two-Way Repeated-Measures ANOVA for Quality of Life and Subjective Well-Being

Variable	Source of Variation	SS	df	MS	F	p	Partial η^2
Quality of Life	Group	2984.62	1	2984.62	18.46	< .001	.397
	Time	3862.48	2	1931.24	37.82	< .001	.575
	Group × Time	3426.16	2	1713.08	33.64	< .001	.546
Subjective Well-Being	Group	6248.74	1	6248.74	20.18	< .001	.419
	Time	9486.52	2	4743.26	42.96	< .001	.606
	Group × Time	8124.38	2	4062.19	38.74	< .001	.581

The results of the two-way repeated-measures ANOVA are presented in Table 2. For quality of life, significant main effects were found for group, $F(1, 28) = 18.46$, $p < .001$, $\eta^2 = .397$, and time, $F(2, 56) = 37.82$, $p < .001$, $\eta^2 = .575$. More importantly, the Group × Time interaction effect was statistically significant, $F(2, 56) = 33.64$, $p < .001$, $\eta^2 = .546$, indicating that the pattern of change across the three assessment points differed significantly between the experimental and control groups. Examination of the descriptive means revealed that participants who received cognitive-behavioral group therapy experienced substantial

improvements in quality of life, whereas participants in the control group exhibited minimal change. Regarding subjective well-being, significant main effects were also observed for group, $F(1, 28) = 20.18$, $p < .001$, $\eta^2 = .419$, and time, $F(2, 56) = 42.96$, $p < .001$, $\eta^2 = .606$. Furthermore, the Group × Time interaction effect was significant, $F(2, 56) = 38.74$, $p < .001$, $\eta^2 = .581$, demonstrating that changes in subjective well-being over time differed significantly between the two groups. The experimental group showed marked increases in subjective well-being from pre-test to post-test, and these gains were largely maintained at follow-up, whereas the control group remained relatively unchanged. The effect sizes associated with the interaction effects were large for both quality of life and subjective well-being, indicating that cognitive-behavioral group therapy exerted a substantial impact on both outcomes. Overall, the findings support the study hypothesis and demonstrate that cognitive-behavioral group therapy significantly improved quality of life and subjective well-being among individuals with major depressive disorder, with treatment effects remaining relatively stable two months after the completion of the intervention.

Discussion and Conclusion

The present study aimed to investigate the effectiveness of cognitive-behavioral group therapy on quality of life and subjective well-being among individuals with major depressive disorder. The findings demonstrated that participants who received cognitive-behavioral group therapy experienced significant improvements in both quality of life and subjective well-being compared with those in the control group. Furthermore, the observed gains were largely maintained at the two-month follow-up assessment, indicating the relative stability of treatment effects over time. The significant Group × Time interaction effects obtained for both outcome variables suggest that the positive changes observed in the experimental group were attributable to the intervention rather than the passage of time or repeated measurement. These findings support the study hypothesis and provide further evidence regarding the usefulness of cognitive-behavioral group therapy as an effective intervention for improving broader indicators of psychological functioning among individuals with major depressive disorder.

One of the principal findings of the study was the significant increase in quality of life among participants who received cognitive-behavioral group therapy. This finding is consistent with previous theoretical and empirical literature suggesting that depression exerts a pervasive negative impact on multiple domains of life, including physical functioning, psychological adjustment, interpersonal relationships, and environmental satisfaction (1, 4). Individuals with major depressive disorder often experience persistent feelings of hopelessness, diminished motivation, reduced activity levels, social withdrawal, and cognitive distortions that interfere with their ability to engage effectively in daily activities. As a result, their perceived quality of life frequently deteriorates across several life domains. The findings of the present study indicate that cognitive-behavioral group therapy can effectively address these difficulties and contribute to meaningful improvements in overall life functioning.

The observed improvement in quality of life can be interpreted within the theoretical framework proposed by Beck and colleagues. According to cognitive theory, depression is maintained through dysfunctional cognitive schemas and negative automatic thoughts that shape individuals' interpretations of themselves, the world, and the future (8). Cognitive-behavioral therapy helps individuals identify these maladaptive cognitive patterns, evaluate their accuracy, and replace them with more balanced and realistic

interpretations. As depressive cognitions become less dominant, individuals may begin to perceive themselves as more capable, their environment as more manageable, and their future as more hopeful. Such cognitive shifts can facilitate greater engagement in meaningful activities, improved interpersonal relationships, and enhanced satisfaction with life circumstances, ultimately lea ding to higher levels of perceived quality of life. The behavioral activation component of CBT further contributes to this process by encouraging participation in pleasurable and goal-directed activities that have often been abandoned due to depressive symptoms (9).

The findings concerning quality of life are consistent with previous meta-analytic investigations examining the broader outcomes of psychotherapy for depression. For example, research has shown that psychological interventions, particularly cognitive-behavioral therapy, are associated with significant improvements in quality of life beyond reductions in depressive symptom severity (11). Similarly, a meta-analysis conducted by Hofmann and colleagues concluded that treatments for depression produce meaningful gains in quality of life, supporting the notion that recovery involves more than symptom remission and includes improvements in overall functioning and life satisfaction (12). The present findings extend this body of evidence by demonstrating that group-based cognitive-behavioral therapy can effectively enhance quality of life among individuals diagnosed with major depressive disorder and that these improvements may remain relatively stable following the completion of treatment.

Another important finding of the study was the significant increase in subjective well-being among participants in the experimental group. Subjective well-being represents a multidimensional construct encompassing emotional, psychological, and social well-being and reflects positive functioning rather than merely the absence of psychopathology (5). Individuals with depression often experience profound deficits in all three dimensions. Emotionally, they report low positive affect and diminished life satisfaction; psychologically, they experience reduced self-acceptance, personal growth, and purpose in life; and socially, they frequently struggle with feelings of isolation and reduced social integration. The significant improvements observed in the present study suggest that cognitive-behavioral group therapy can positively influence these dimensions of well-being and promote a more comprehensive form of psychological recovery.

Several mechanisms may explain the beneficial effects of cognitive-behavioral group therapy on subjective well-being. First, the cognitive restructuring process helps participants challenge persistent negative beliefs about themselves and their future, thereby fostering greater optimism, hope, and self-efficacy. As dysfunctional beliefs become less influential, individuals may experience increased positive emotions and greater satisfaction with life. Second, behavioral activation encourages engagement in re warding experiences, which increases opportunities for positive reinforcement and emotional fulfillment. Third, the group format itself may contribute significantly to enhanced well-being by providing social support, opportunities for interpersonal learning, validation of experiences, and a sense of belonging. These interpersonal experiences are particularly important because social isolation and perceived disconnection are common features of major depressive disorder and are strongly associated with lower well-being (7). By strengthening social connectedness and fostering supportive interactions, group CBT may enhance both psychological and social dimensions of subjective well-being.

The present findings align with the conceptualization of mental health proposed by Keyes and Magyar-Moe, who emphasized that true mental health involves not only the reduction of distress but also the

presence of positive psychological functioning (5). From this perspective, interventions should aim to promote flourishing, resilience, and life satisfaction in addition to symptom reduction. The increase in subjective well-being observed in the current study suggests that cognitive-behavioral group therapy may facilitate movement toward more positive levels of functioning and psychological health. This interpretation is further supported by evidence indicating that subjective well-being serves as a protective factor against future psychological difficulties and contributes to long-term adjustment and resilience (6).

The results are also consistent with previous studies examining the impact of cognitive-behavioral interventions on positive psychological outcomes. Moloud and colleagues reported that cognitive-behavioral group therapy for individuals with major depressive disorder resulted in significant improvements in self-esteem and optimism, both of which are closely related to subjective well-being (13). Likewise, Furchtlehner and colleagues found that group cognitive-behavioral therapy produced significant gains in flourishing, happiness, and life satisfaction, supporting the effectiveness of group-based CBT in promoting positive aspects of mental health (14). The consistency between these findings and the results of the present study strengthens confidence in the ability of cognitive-behavioral group therapy to influence not only negative symptoms but also positive dimensions of psychological functioning.

The maintenance of treatment gains at the two-month follow-up assessment represents another noteworthy finding. Although some decline was observed in the post-treatment scores, both quality of life and subjective well-being remained substantially higher than baseline levels. This relative stability may be attributed to the acquisition of enduring cognitive and behavioral skills during therapy. Unlike interventions that focus primarily on symptom relief, cognitive-behavioral therapy teaches participants practical strategies for identifying maladaptive thoughts, managing emotional distress, solving problems, and maintaining engagement in meaningful activities (10). These skills can continue to be applied after formal treatment has ended, enabling individuals to sustain improvements and manage future challenges more effectively. Contemporary reviews of CBT have emphasized the importance of skill acquisition and self-management as mechanisms underlying the long-term effectiveness of the approach (9, 10).

The findings of the present study should also be considered within the broader context of contemporary mental health research. Increasingly, scholars have argued that effective mental health interventions must address both psychopathology and positive functioning. Comprehensive reviews have highlighted that promoting well-being, resilience, and flourishing is essential for improving overall mental health outcomes and enhancing long-term recovery (2). The current results support this perspective by demonstrating that cognitive-behavioral group therapy can simultaneously improve quality of life and subjective well-being among individuals with major depressive disorder. Such outcomes are particularly valuable because they reflect improvements in daily functioning, interpersonal relationships, life satisfaction, and psychological flourishing, all of which contribute to sustainable recovery and enhanced quality of life.

Overall, the findings indicate that cognitive-behavioral group therapy is an effective intervention for improving quality of life and subjective well-being among individuals with major depressive disorder. Through the modification of dysfunctional cognitions, reduction of behavioral avoidance, enhancement of coping skills, promotion of meaningful activities, and strengthening of social support, the intervention appears to facilitate both symptom reduction and positive psychological growth. The consistency of the results with previous theoretical frameworks, empirical studies, and meta-analytic evidence further supports

the utility of cognitive-behavioral group therapy as a valuable treatment approach for individuals experiencing major depressive disorder (8, 11, 12).

Several limitations should be considered when interpreting the findings of this study. First, the sample size was relatively small, which may limit the generalizability of the findings to broader populations of individuals with major depressive disorder. Second, participants were recruited from counseling centers and mental health clinics within a single metropolitan area, which may reduce the representativeness of the sample. Third, the study relied exclusively on self-report questionnaires, which may be influenced by social desirability bias, response tendencies, and participants' subjective interpretations. Fourth, the follow-up period was limited to two months, preventing conclusions regarding the long-term durability of treatment effects. Finally, potentially influential variables such as medication adherence, family support, socioeconomic status, and severity of depressive symptoms were not controlled comprehensively and may have affected the outcomes.

Future studies are encouraged to replicate the present findings using larger and more diverse samples drawn from different geographical and cultural settings. Researchers may also investigate the effectiveness of cognitive-behavioral group therapy across different age groups, levels of depression severity, and clinical populations with comorbid psychological disorders. Longer follow-up periods are recommended to evaluate the long-term maintenance of treatment gains. In addition, future investigations could compare cognitive-behavioral group therapy with other evidence-based interventions, such as mindfulness-based therapies, acceptance and commitment therapy, or positive psychology interventions. Examining potential mediators and moderators of treatment effectiveness, including cognitive flexibility, social support, resilience, and emotion regulation, may also contribute to a more comprehensive understanding of the mechanisms responsible for therapeutic change.

Mental health professionals may consider incorporating cognitive-behavioral group therapy into routine clinical services for individuals with major depressive disorder. Counseling centers, psychological clinics, and community mental health organizations can utilize group-based CBT programs as cost-effective interventions capable of serving larger numbers of clients while promoting meaningful psychological improvements. Training programs for psychologists and counselors should emphasize the development of competencies related to group CBT implementation. Additionally, healthcare administrators may support the integration of structured cognitive-behavioral group interventions into mental health services to enhance patients' quality of life, strengthen subjective well-being, improve social functioning, and facilitate long-term recovery. The inclusion of relapse-prevention components and follow-up support services may further strengthen the effectiveness and sustainability of treatment outcomes.

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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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