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Investigating the Effectiveness of Emotion-Focused Therapy Protocol on Emotion Regulation

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Abstract

Introduction: Patients with autoimmune diseases often experience persistent physical and psychological difficulties due to chronic inflammatory conditions that impair immune function. These ongoing challenges can disrupt adaptive emotional regulation and increase psychological distress. Recognizing the emotional component in chronic illness management, this study examined the effectiveness of Emotion Focused Therapy (EFT) in improving cognitive emotion regulation among patients with autoimmune diseases.

Method: A quasi experimental pre-test, post-test, and follow up design was used with experimental and control groups. Thirty-two patients attending research clinics in Shiraz during late 2023 were selected using purposive sampling and randomly assigned to the two groups. The experimental group received ten 60-minute EFT sessions twice weekly, while the control group received no psychological intervention. Data were collected using the Cognitive Emotion Regulation Questionnaire (CERQ). Analyses were performed with SPSS 27, including descriptive statistics, ANCOVA with repeated measures, Bonferroni post hoc tests, and Mann–Whitney U tests (α = 0.05).

Results: A marginally significant difference was found between groups in self-blame at post-test (P = 0.020) and a significant difference at follow up (P < 0.05). Other blame differed significantly only at follow up (P < 0.001), showing a reduction in the experimental group (P = 0.015). Significant between group differences were observed for rumination (P < 0.001) and acceptance (P < 0.05) at both post-test and follow-up. Positive refocusing and catastrophizing showed no significant differences.

Conclusion: EFT appears to improve cognitive emotion regulation in patients with autoimmune disease by reducing maladaptive strategies such as self-blame and rumination and strengthening acceptance, thus supporting emotional well-being alongside standard medical treatment.

Keywords: Emotion-Focused, Emotion Regulation, Autoimmune Patients

Introduction

Autoimmune diseases are chronic disorders caused by a loss of immune self-tolerance, resulting in inflammation and tissue damage. Evidence suggests they develop through cumulative gene–environment interactions, where long-term environmental and lifestyle exposures promote immune dysregulation and chronic inflammation before clinical diseases such as MS and SLE appear [1]. In these conditions, the immune system mistakenly targets healthy tissues. Age-standardized data from the Global Burden of Disease 2021 study indicate that the overall prevalence of autoimmune diseases is approximately 5%, with women exhibiting a 3–4 times higher prevalence than men [2]. This pronounced sex disparity is supported by mechanistic studies highlighting the role of genetic, hormonal, and immunological differences [3]. Recent evidence shows a rising trend in autoimmune diseases, possibly linked to factors such as changes in diet, exposure to antibiotics, air

pollution, infections, stress, and climate change. The increase in this phenomenon not only causes more problems for individuals and society, but it also greatly raises the costs of healthcare in both public and private sectors [4]. Furthermore, research indicates that individuals with autoimmune disorders are increasingly facing psychological challenges, including depression [5]. Autoimmune disease can lead to an increased susceptibility to depression and other mental health issues due to various biological, psychological, and social factors. Individuals with autoimmune disease may face greater challenges with their mental health due to the emotional toll of their condition, as well as the social and psychological impacts it may have [6]. The first 5 to 10 years after diagnosis can be especially stressful, emotionally taxing, and disruptive due to physical changes and increased fatigue, putting autoimmune patients at a heightened risk for psychiatric conditions [7]. A study found that how individuals perceive their identity, the cyclical nature of the disease, and its consequences play a significant role in the fatigue and negative emotions experienced by those living with chronic autoimmune diseases [8]. Additionally, another study highlighted that common psychosomatic symptoms such as depression, anxiety, and stress can impact disease activity and overall well-being in individuals with autoimmune diseases [9].

Negative emotions such as anxiety and stress can exacerbate autoimmune diseases and contribute to additional psychological issues. Conversely, effective emotion regulation can enhance quality of life, reduce psychosomatic symptoms, and strengthen individual resilience in coping with the illness [6]. Psychological treatments and strategies for managing emotions are therefore crucial for improving the overall health of individuals with autoimmune diseases.

One effective approach is Emotion-Focused Therapy (EFT), a humanistic-experiential psychotherapy grounded in the biological theory of emotion and the concept of emotional schemas, which provides a theoretical framework for addressing maladaptive emotional responses in chronic illness [10] . EFT has been empirically validated for a range of psychological issues, including depression, complex trauma, and anxiety [11]. Its structured, stage-by-stage treatment plan increases its efficacy compared to other therapies and reduces the risk of relapse [12]. Clinical studies have demonstrated that EFT enhances adaptive emotion processing in patients with multiple sclerosis [13], and has been shown to improve emotion regulation, quality of life, and pain perception in patients with type 2 diabetes, suggesting its potential applicability to other chronic conditions such as autoimmune diseases [14]. Additionally, EFT promotes emotional expression in patients with multiple sclerosis, thereby supporting better psychological well-being and coping abilities. Notably, the study by Farsi et al., conducted in Iran, provides local evidence that EFT can enhance emotion regulation and expression in patients with chronic conditions [15].

Autoimmune diseases can lead to serious psychological and emotional issues for patients due to their long-lasting impact and broad effects on quality of life. Problems such as anxiety, depression, stress, and psychosomatic fatigue can worsen autoimmune diseases and complicate treatment. Therefore, it is crucial to focus on managing emotions and improving the mental well-being of patients, alongside addressing physical symptoms, to enhance their quality of life [9]. While some research has examined the benefits of emotion-focused therapy in chronic illnesses such as multiple sclerosis and cancer, studies specifically investigating its effectiveness in patients with autoimmune diseases remain limited. This study aimed to assess the effectiveness of an emotion-focused therapy protocol on emotion regulation in individuals with autoimmune diseases.

Method

The present study is both applied and quasi-experimental, consisting of an initial assessment, a follow-up assessment three months later, and two groups - one as a control group and the other as an experimental group. The statistical population of this study included people with autoimmune diseases who referred to research clinics in Shiraz in the fall and winter of 2023. A total of 32 participants (16 in the experimental group and 16 in the control group) were included in the statistical sample, which was selected through purposive sampling. After the pre-test, the participants were assigned to the experimental and control groups using a simple randomization method. For this purpose, sealed and opaque envelopes containing group labels were prepared and one envelope was randomly selected for each participant. The sample size was determined using G*Power software with a P value of 0.05, an effect size of 0.35, a power of 0.80, and two groups [16]. According to the calculation, the sample size was 32 people.

Participants were adults (≥20 years) with a specialist-confirmed autoimmune disease of at least one year's duration, an active medical record in the study clinics, and a minimum educational level of a high-school diploma. All participants provided informed consent and had a stable physical condition, based on objective medical indicators, allowing regular attendance at intervention sessions. Individuals with severe physical disability were excluded; in patients with multiple sclerosis, eligibility required an EDSS score below 6 to ensure functional capacity for participation. Exclusion criteria included any medical or physical condition that interfered with regular session attendance and absence from more than one in-person intervention session, which resulted in exclusion from the study.

Upon obtaining research permission from the Islamic Azad university of Shiraz, the researchers initially approached a treatment clinic specializing in autoimmune treatment. These clinics were chosen using an accessible method, with the researchers being introduced to them by their professors. Subsequently, the researchers explained the study's objectives and methodology to the clinic's management (a clinic based in Shiraz, whose name was kept confidential for privacy reasons), and after initial

approval, the researchers, in coordination with the clinic's admissions department, informed individuals referred to the clinic for autoimmune diseases. Additionally, the researchers notified other potential participants by displaying a notice of the study's participation in the clinic's reception area. Furthermore, with the clinic's assistance, information about the intervention sessions was promoted on the clinic's social media platforms and official website.

In the next phase, the researchers deliberately selected individuals who provided their information in response to the study's invitation to participate. After selecting 26 willing participants, the researcher conducted an initial telephone interview with them to explain the research objectives and ethical principles, as well as address any queries they had. Next, a screening process was carried out to reduce the number of participants by eliminating those who could not attend sessions for different reasons. Ultimately, the researchers selected 18 individuals to attend the in-person clinics, providing them with the necessary information for participating in the intervention sessions in writing. Following an initial interview to become acquainted with the participants' situations, a few individuals were excluded at this stage (2 people). Subsequently, the researchers obtained their consent through a questionnaire on participation in the research. A pre-test was then carried out on the participants using the research tools, with data collected from 32 individuals during the pre-test phase, including completion of the cognitive emotion regulation questionnaire. The participants were then randomly split into two groups - one experimental and one control to prepare for the interventions that were to follow. The control group consisted of individuals who had been referred to the same medical centers but had not been diagnosed with an autoimmune disease. These individuals were matched with the experimental group in terms of key demographic variables (age, sex, education level) and had no history of diagnosed severe physical or psychiatric illnesses. This group was selected to control the effect of background factors related to referral to medical centers and to reduce biases associated with nonclinical samples.

The group for emotion-focused therapy had 16 members and took part in ten 60-minute sessions that occurred twice a week in person. Meanwhile, the control group remained on the waiting list for treatment. The sessions took place in a suitable office at the clinic designated for training purposes. These emotion-focused sessions were based on Greenberg's training in 2004 [17] and have been previously utilized in a study conducted in Iran [18]. The treatment sessions for the emotion-focused group are outlined in Table 1. During the final intervention session, the experimental group completed research questionnaires (post-test phase) and then again three months later during the follow-up phase. The control group, including 16 individuals, went through identical measurement procedures. Figure 2 displays the depiction of CONSORT.

The research and completion of online questionnaires in the follow-up phase lasted six months due to challenges in client cooperation. All participants self-reported their emotion regulation levels. Before completing surveys and receiving interventions, participants had to agree to ethical guidelines by signing a consent form. Their participation in the research was voluntary, and they were free to leave the study at any point. The tests specifically did not contain any personal details to guarantee privacy. Due to the conditions of the research, a number of participants withdrew or intentionally or unintentionally answered incorrectly in the questionnaires. The frequency distribution of participants showed that out of a total of 27 people included in the final analysis, 12 people (44.4%) were in the experimental group and 15 people (55.6%) were in the control group.

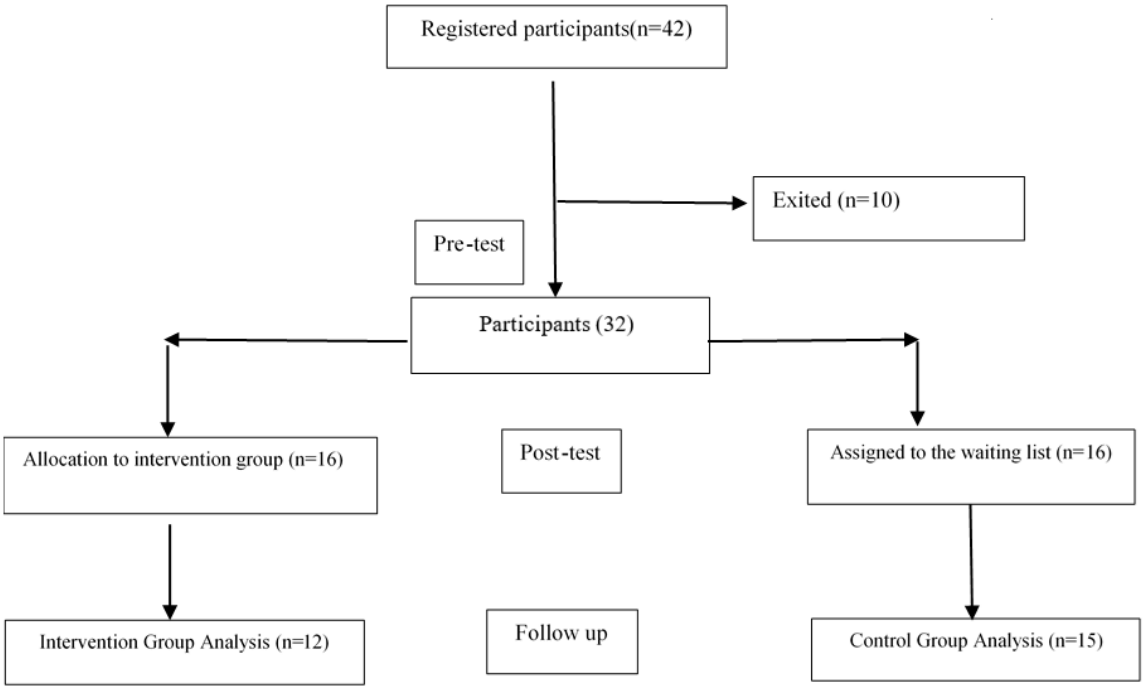

Figure 2. The flow diagram of the study.

The tools used in this study were as follows:

Cognitive Emotion Regulation Questionnaire (CERQ): The Cognitive Emotion Regulation Questionnaire (CERQ), developed by Garnefski in 2002, is a 36-item self-report instrument designed to assess cognitive emotion regulation strategies using a 5-point Likert scale ranging from *never* to *always* [19]. The questionnaire assesses seven cognitive strategies, including five maladaptive factors (self-blame, other-blame, rumination, catastrophizing, and acceptance) and two adaptive factors (positive refocusing/planning and positive reappraisal). [20]. Iranian validation studies confirmed the seven-factor structure, as additional sub factors showed insufficient factor loadings. The CERQ demonstrated satisfactory psychometric properties in Iranian samples, with Cronbach's alpha reported as 0.89 overall, subscale alphas ranging from 0.62 to 0.91, and test–retest reliability coefficients between 0.75 and 0.88 [21]. Also, the correlation of the subscales extracted from the CERQ with the total score of the DASS (between 0.31 and 0.51) indicated the convergent and divergent validity of the CERQ. Similarly, in this study, Cronbach's alpha was obtained for each component including self-blame (0.91), blame of others (0.73), rumination (0.79), catastrophizing (0.80), acceptance (0.65), positive refusal (0.66), and positive reappraisal (0.62) [22]. The researcher in this study obtained a Cronbach's alpha coefficient of 0.74 for this scale.

This research utilized descriptive statistics such as mean and standard deviation to analyze research hypotheses using the Mann‐Whitney U test and repeated measures analysis of covariance with a P-value of 0.05, conducted on SPSS version 27. The researchers evaluated the normal distribution with the Kolmogorov-Smirnov test and assessed the homogeneity of variances with the Levene test.

Levene's test confirmed that the assumption of homogeneity of variances was met. Because the within-subject factor included more than two time points, the assumption of sphericity was examined using Mauchly's test. Given that this test was significant ($p < 0.05$), indicating a violation of sphericity, the Greenhouse–Geisser correction was applied to adjust the degrees of freedom and ensure valid statistical inference.

Table 1. Summary of Emotion-Focused Sessions (Grinbeerg, 2004)

Sessions	Subjects
First	- Declaration of research goals - Evaluation of the session's organization - Instructing individuals on the principles of emotion-focused therapy. - A concise explanation of the emotion-focused approach - Discussion on the connection between therapy and emotional regulation - Build connections with customers and create a foundation of trust while stressing the importance of keeping information confidential - Addressing inquiries and concerns from participants
Second	- Exploring the problem of clients with emotional management issues - Examining their narrative and observing their emotional processing style by listening to their problems - Identifying the client's painful and prominent emotional experience.
Third	- Companionship - Observing and discovering emotional processing patterns of clients with self-confidence and emotional coaching through the stages of identification - Awareness, acceptance - Emotion tolerance and regulation
Fourth	- Understanding clients' deep emotions by representing their traumas related to autoimmune illness through experience - Helping clients with vulnerabilities and fragility
Fifth	-Identifying primary and secondary emotions of clients or tools by observing small cues
Sixth	-Use exploration and chair techniques to identify, represent, and regulate core emotions.
Seventh	-Identify and address barriers to accessing emotions in autoimmune patients.
Eighth	-Identifying images of loved ones and connecting them to the person's current illness problem
Ninth	-Identify and focus on the markers -Use expressive arts like bodywork, language work, movement, and self-soothing with the remaining images
Tenth	-Creating a new identity and applying it to future situations - Clarifying new significance - Finding new solutions for autoimmune diseases - Getting feedback from references on course topics - A post-test was given at the end of the assessment phase

Results

In order to examine the similarity of the experimental and control groups in terms of demographic variables, the frequency distribution of gender, age, marital status, and education level in the two groups was compared. The results showed that in terms of gender, the distribution of men and women in the two groups did not differ significantly (Mann-Whitney U = 78.00, Z = −0.36, P = 0.721), so that in the experimental group the ratio of men and women was equal (50%) and in the control group a relatively similar distribution was observed. Also, there was no significant difference between the two groups in terms of age

(U = 61.00, Z = −1.23, P = 0.219). Comparison of the groups in terms of marital status also showed that there was no significant difference between single and married individuals in the two groups (U = 83.00, Z = −0.06, P = 0.952). Finally, the results of the Mann-Whitney U test for education level indicated no significant difference between the experimental and control groups (U = 60.00, Z = −1.34, P = 0.179). Overall, the findings indicate that the two research groups were similar in terms of the demographic variables studied.

Furthermore, the researcher examined the mean and standard deviation of the research variables in Table 2 for both groups.

As shown in Table 2, the experimental and control groups did not differ in the mean scores of self-blame, other-blame, rumination, catastrophizing, positive refocusing, or acceptance at the pre-test stage. In contrast, during the post-test and follow-up phases, mean scores for self-blame, other-blame, rumination, and acceptance showed a clear reduction in the experimental group, whereas no meaningful changes were observed in the control group. Mean scores for catastrophizing and positive refocusing remained relatively stable across groups and measurement phases.

The analysis of covariance results in Table 4 indicated significant between-group differences in self-blame and other-blame, even after controlling for pre-test effects ($p < 0.001$). Significant time × group interaction effects were also observed for these variables ($p < 0.01$), suggesting differential changes over time between the experimental and control groups. Additionally, significant between-group differences were found in rumination and acceptance ($p < 0.001$), whereas no significant differences emerged for catastrophizing and positive refocusing. A significant interaction effect was observed for positive reappraisal (p=0.027), although the corresponding effect size was small.

Variable	TIME	Groups	M	SD	Min	Max	Skewness	Kurtosis	Shapiro-Wilk	P
Self-blame	Pre-test	Experimental Group	8.83	1.03	7	10	-0.21	-1.14	0.87	0.066
		Control	8.73	0.96	7	10	0.05	-1.05	0.86	0.030
	Post-test	Experimental Group	7.75	0.75	7	9	0.47	-0.86	0.80	0.011
		Control	8.93	1.03	7	10	-0.30	-1.30	0.83	0.010
	Follow up	Experimental Group	6.33	0.88	5	8	0.13	-0.25	0.90	0.160
		Control	9.26	0.96	8	11	-0.05	-1.05	0.86	0.030
Other-blame	Pre-test	Experimental Group	13.58	1.16	12	15	-0.24	-1.35	0.86	0.059
		Control	13.13	1.12	12	15	0.39	-1.27	0.84	0.012
	Post-test	Experimental Group	12.41	0.99	11	14	0.27	-0.65	0.89	0.137
		Control	13.40	1.35	11	15	-0.25	-1.29	0.88	0.061
	Follow-up	Experimental Group	10.83	0.718	10	12	0.26	-0.68	0.81	0.015
		Control	13.26	1.280	11	15	-0.10	-1.11	0.91	0.155
Rumination	Pre-test	Experimental Group	16.66	1.497	14	19	-0.28	-0.72	0.95	0.682
		Control	16.53	1.685	14	19	-0.06	-1.21	0.93	0.271
	Post-test	Experimental Group	14.75	0.754	14	16	0.47	-0.86	0.80	0.011
		Control	16.53	1.685	14	19	-0.06	-1.21	0.93	0.271
	Follow-up	Experimental Group	14.41	0.515	14	15	0.38	-2.26	0.64	< .001
		Control	16.53	1.685	14	19	-0.06	-1.21	0.93	0.271
Catastrophizing	Pre-test	Experimental Group	13.75	1.288	11	15	-0.97	0.37	0.86	0.057
		Control	13.067	1.335	11	15	-0.13	-1.22	0.90	0.110
	Post-test	Experimental Group	13.083	1.443	11	15	-0.38	-0.92	0.87	0.073
		Control	13.400	1.242	11	15	-0.38	-0.76	0.91	0.154
	Follow-up	Experimental Group	12.583	1.505	11	15	0.09	-1.64	0.83	0.022
		Control	13.667	1.234	12	15	-0.31	-1.54	0.83	0.009
Acceptance	Pre-test	Experimental Group	13.00	1.41	11	15	-0.46	-1.27	0.85	0.040
		Control	13.40	1.29	11	15	-0.65	-0.26	0.89	0.069
	Post-test	Experimental Group	14.50	1.24	12	16	-0.51	-0.09	0.91	0.228
		Control	13.20	1.20	11	15	-0.72	-0.43	0.86	0.026
	Follow-up	Experimental Group	14.91	0.90	14	16	0.18	-1.86	0.78	0.006
		Control	13.33	1.34	11	15	-0.91	-0.21	0.81	0.006
Positive Reappraisal	Pre-test	Experimental Group	29.00	1.70	26	32	0.000	-0.30	0.97	0.958
		Control	29.60	1.40	28	32	0.47	-0.91	0.89	0.071
	Post-test	Experimental Group	27.83	0.83	26	29	-0.77	1.14	0.84	0.030
		Control	28.66	1.58	26	32	0.51	0.13	0.95	0.575
	Follow-up	Experimental Group	29.33	2.01	26	33	0.73	0.69	0.88	0.097
		Control	28.46	1.72	26	32	0.49	-0.16	0.94	0.443
Positive Refocusing	Pre-test	Experimental Group	13.58	1.37	11	15	-1.08	0.39	0.82	0.017
		Control	13.13	1.45	11	15	-0.58	-1.07	0.82	0.009
	Post-test	Experimental Group	13.75	1.28	11	15	-0.97	0.37	0.86	0.057
		Control	13.06	1.43	11	15	-0.46	-1.07	0.85	0.018
	Follow-up	Experimental Group	14.16	1.19	12	16	0.007	-0.20	0.92	0.372
		Control	13.40	1.29	11	15	-0.65	-0.26	0.89	0.069

Table 4. Covariance Analysis Test

Variable		Source	SS	MS	F	P	Eta Squared
Self-blame	Within Subjects Effects	TIME	0.07	0.07	0.13	0.715	0.006
		TIME ✻ Pre-test	0.24	0.24	0.43	0.518	0.01
		TIME ✻ Group	10.01	10.01	17.32	< .001	0.41
		Residuals	13.87	0.57			
	Between Subjects Effects	Pre-test	0.18	0.18	0.15	0.695	0.007
		Group	56.00	56.00	47.20	< .001	0.66
Other-blame	Within Subjects Effects	TIME	0.18	0.18	0.13	0.713	0.006
		TIME ✻ Pre-test	0.02	0.02	0.02	0.885	8.910×10^{-4}
		TIME ✻ Group	6.90	6.90	5.29	0.030	0.18
		Residuals	31.29	1.30			
	Between Subjects Effects	Pre-test	1.55	1.55	1.15	0.292	0.04
		Group	34.38	34.38	25.60	< .001	0.51
Rumination	Within Subjects Effects	TIME	9.26	9.26	9.40	0.005	0.28
		TIME ✻ Pre-test	9.69	9.69	9.84	0.004	0.29
		TIME ✻ Group	0.22	0.22	0.22	0.637	0.009
		Residuals	23.64	0.98			
	Between Subjects Effects	Pre-test	24.46	24.46	19.04	< .001	0.44
		Group	53.66	53.66	41.77	< .001	0.63
Catastrophizing	Within Subjects Effects	TIME	1.82	1.82	1.55	0.225	0.06
		TIME ✻ Pre-test	1.73	1.73	1.47	0.237	0.05
		TIME ✻ Group	2.86	2.86	2.43	0.132	0.09
		Residuals	28.23	1.17			
	Between Subjects Effects	Pre-test	0.17	0.17	0.07	0.792	0.003
		Group	6.64	6.64	2.63	0.118	0.09
Acceptance	Within Subjects Effects	TIME	0.11	0.11	0.08	0.772	0.004
		TIME ✻ Pre-test	0.19	0.19	0.14	0.707	0.006
		TIME ✻ Group	0.33	0.33	0.24	0.622	0.01
		Residuals	32.13	1.33			
	Between Subjects Effects	Pre-test	0.73	0.73	0.45	0.505	0.01
		Group	25.74	25.74	16.01	< .001	0.40
Positive Reappraisal	Within Subjects Effects	TIME	1.75	1.75	0.88	0.356	0.03
		TIME ✻ Pre-test	2.09	2.09	1.05	0.314	0.04
		TIME ✻ Group	11.07	11.07	5.58	0.027	0.18
		Residuals	47.60	1.98			
	Between Subjects Effects	Pre-test	0.02	0.02	0.008	0.929	3.410×10^{-4}
		Group	0.008	0.00	0.003	0.960	1.065×10^{-4}
Positive Refocusing	Within Subjects Effects	TIME	1.18	1.18	0.85	0.364	0.03
		TIME ✻ Pre-test	0.90	0.90	0.65	0.426	0.02
		TIME ✻ Group	0.09	0.09	0.06	0.799	0.003
		Residuals	33.21	1.38			
	Between Subjects Effects	Pre-test	0.13	0.13	0.06	0.808	0.003
		Group	6.52	6.52	3.00	0.096	0.11

Table 5. Post Hoc Comparisons - Group ✻ TIME

Variable			MD	SE	t	p_{bonf}
Self-blame	Experimental Group, Post-test	Control, Post-test	-1.18	0.36	-3.25	0.020
		Experimental Group, Follow-up	1.40	0.31	4.53	< .001
		Control, Follow-up	-1.51	0.36	-4.15	0.002
	Control, Post-test	Experimental Group, Follow-up	2.59	0.36	7.12	< .001
		Control, Follow-up	-0.32	0.27	-1.17	1.000
	Experimental Group, Follow-up	Control, Follow-up	-2.92	0.36	-8.01	< .001
Other-blame	Experimental Group, Post-test	Control, Post-test	-0.90	0.48	-1.88	0.433
		Experimental Group, Follow-up	1.59	0.47	3.38	0.015
		Control, Follow-up	-0.77	0.45	-1.72	0.590
	Control, Post-test	Experimental Group, Follow-up	2.49	0.44	5.58	< .001
		Control, Follow-up	0.12	0.42	0.29	1.000
	Experimental Group, Follow-up	Control, Follow-up	-2.37	0.42	-5.55	< .001
Positive Reappraisal	Experimental Group, Post-test	Control, Post-test	-0.90	0.52	-1.72	0.583
		Experimental Group, Follow-up	-1.58	0.58	-2.732	0.070
		Control, Follow-up	-0.63	0.62	-1.011	1.000
	Control, Post-test	Experimental Group, Follow-up	-0.68	0.65	-1.052	1.000
		Control, Follow-up	0.27	0.51	0.522	1.000
	Experimental Group, Follow-up	Control, Follow-up	0.95	0.74	1.284	1.000

The findings from Table 5 and Figures 3–5 indicated significant differences between the experimental and control groups in self-blame and other-blame during the post-test and follow-up phases. The negative mean differences suggest a reduction over time in these variables among participants in the experimental group, confirming the effectiveness of the intervention. Additionally, significant differences were observed within the experimental group between post-test and follow-up stages, supporting the stability and maintenance of treatment effects.

In contrast, no significant differences were found between the groups for positive reappraisal, potentially due to the conservative nature of the Bonferroni adjustment, which may have limited the detection of group differences.

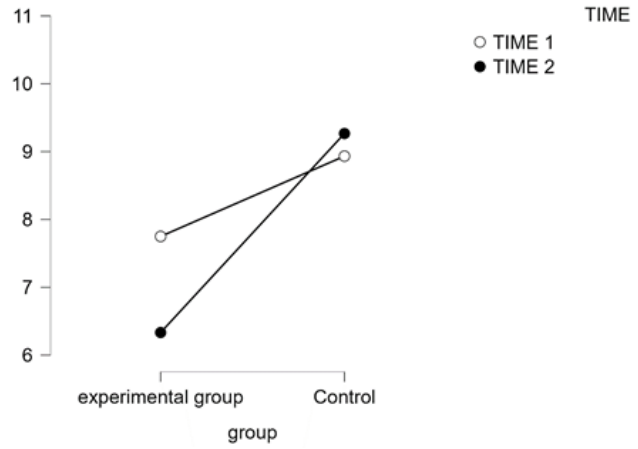

Figure 3. Pairwise analysis of the interaction effects between TIME and groups for Self-blame variable.

Table 6. Post Hoc Comparisons

Variable	TIME	Group(I)	Group(J)	MD	Std. Error	P
Rumination	Post-test	Experimental Group	Control	-1.87*	0.29	< .001
	Follow-up	Experimental group	Control	-2.13*	0.50	< .001
Acceptance	Post-test	Experimental group	Control	1.24*	0.48	0.017
	Follow-up	Experimental group	Control	1.56*	0.46	0.003

* The mean difference is significant at the 0.05 level.

As shown in Table 6, significant differences were observed between the experimental and control groups in rumination during both the post-test and follow-up phases ($p < 0.001$). The reduction in mean scores for the experimental group indicates that the intervention was effective in decreasing rumination levels. Similarly, significant between-group differences were found for acceptance across the post-test and follow-up phases ($p < 0.05$), with increased mean scores in the experimental group, suggesting that the intervention successfully enhanced acceptance compared to the control condition.

Discussion

The main objective of this study was to examine the effectiveness of emotion-focused therapy protocol on emotion regulation in a cohort of patients with autoimmune diseases. The findings indicated that the emotion-focused therapy protocol was successful in decreasing self-blame towards oneself and others, reducing excessive thinking, and promoting acceptance among autoimmune patients.

The results of the current research, which demonstrated the effectiveness of emotion-focused therapy in helping autoimmune patients regulate their emotions, align with findings from previous studies in other chronic populations [13–15]. Specifically, EFT has been shown to enhance adaptive emotion processing [13], improve emotion regulation, quality of life, and pain perception in patients with type 2 diabetes [14], and promote emotional expression and coping abilities in patients with multiple sclerosis [15]. While these studies were conducted in populations with conditions other than autoimmune diseases, they provide a theoretical and empirical basis for expecting similar benefits of EFT in autoimmune patients. The self-blame and other-blame experienced by autoimmune patients are often a response to their chronic and unpredictable health conditions. Due to physical problems and chronic diseases, these individuals may feel weak, helpless, or guilty, leading them to blame themselves or others. Self-blame can worsen feelings of guilt and worthlessness while other-blame can harm social relationships. These behaviors typically occur unconsciously in reaction to anxiety and stress [23]. EFT assists patients in recognizing and correcting negative thought patterns. Through this therapy, patients learn to manage their emotions in a healthy way rather than placing blame. This therapeutic approach helps patients see themselves as less responsible for their problems and encourages them to seek effective solutions, reducing feelings of guilt and helplessness [12]. Rumination, a

common issue in autoimmune patients, can negatively impact mental health. By focusing on managing emotions and learning how to address negative thoughts, patients can interrupt this cycle and decrease associated anxiety. This approach guides patients to focus on the present moment and view their problems more calmly and rationally, breaking free from repetitive thoughts [24]. Acceptance is a key concept in emotion-focused therapy, helping patients come to terms with the realities of their lives, including their disease. Patients with chronic illnesses often experience denial or resistance to their condition as a defense mechanism against negative emotions and fears [11]. Emotion-focused therapy helps patients acknowledge and embrace their emotions and situations, enabling them to adjust and deal with them more effectively. Acceptance acts as a mechanism for repairing connections with oneself and others and promoting inner tranquility within the person [10,25].

Despite its contributions, this study has several limitations. The relatively small and heterogeneous sample limits the generalizability of the findings, highlighting the need for larger and more diverse samples in future research. Individual differences in the type and severity of autoimmune diseases, as well as psychological and personality characteristics, may have influenced treatment outcomes, suggesting that tailored and stratified intervention approaches are warranted. In addition, some participants exhibited psychological resistance or negative attitudes toward emotion-focused therapy, which may have reduced treatment effectiveness; future studies should incorporate educational and motivational components to enhance engagement.

The study did not examine the potential influence of cultural and identity-related factors, nor did it assess the broader impact of the intervention on functional outcomes such as social relationships and occupational performance. Moreover, reliance on self-report measures may have introduced response biases, underscoring the importance of multimethod assessment strategies, including clinical interviews and behavioral indicators. Finally, variability in patients' physical and psychological capacity to participate fully in treatment should be considered in future research designs to optimize feasibility and effectiveness.

Conclusion

The present findings suggest that EFT may be associated with improvements in emotion regulation, reduced self-blame and rumination, and greater acceptance of illness among individuals with autoimmune disorders, particularly those experiencing psychological distress. EFT could be considered as an adjunctive psychological intervention to support emotional well-being in this population. Importantly, this approach should be regarded solely as complementary to standard medical and pharmacological treatments, not as a replacement. Any clinical application should therefore be implemented cautiously within structured healthcare settings. A multidisciplinary care model, integrating medical specialists and mental health professionals, may further support comprehensive patient management. Future controlled and comparative studies are required to clarify the relative effectiveness of EFT in comparison with established interventions such as Cognitive-Behavioral Therapy (CBT) and Acceptance and Commitment Therapy (ACT), and to better delineate its specific indications and limitations.

Conflict of Interest

No conflicts of interest were reported by the authors, and no financial support was received from any institution or organization.

Ethical Approval

In adherence to ethical guidelines, the general process of the study was explained to the participants, and an informed consent was obtained. Participants' privacy and confidentiality were respected, and they were given the option to voluntarily participate or withdraw from the study at any time.

Declaration of Generative AI and AI-Assisted Technologies

During the preparation of this work, the authors did not use any AI tools.

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