

The Effectiveness of Emotion-Focused Therapy on Catastrophizing and Mental Well-being in People Recovered from COVID-19

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Abstract

Introduction: The corona virus epidemic was a sudden and destructive event that led to many deaths. This study aimed to investigate the effectiveness of emotion-focused therapy on catastrophizing and mental well-being in people who have recovered from COVID-19.

Research Method: The research was a two-group semi-experimental research (experimental and control) with three stages (pre-test, post-test and three-month follow-up). The statistical population included all those who recovered from COVID-19 and were discharged from Imam Reza hospital in Mashhad in the first quarter of 2021. Out of this population, 30 people were selected using the convenient sampling method based on the purpose and using the inclusion criteria, and were randomly placed in two groups of 15 (experimental and control). The experimental group received ten 90-minute sessions of emotion-focused therapy, while the control group did not receive training. The research tools included Sullivan's Pain Catastrophizing Scale and Keyes and Magyar-Moe's Subjective Well-Being Questionnaire, which were administered to the participants in both groups in the pre-test, post-test and follow-up phases. Data analysis was done using repeated measure ANOVA using SPSS-22.

Findings: Results showed that the mean catastrophizing scores of the experimental group compared to that of control group decreased significantly in the post-test phase ($P < 0.001$). Also, the average mental well-being scores of the experimental group compared to that of the control group increased significantly in the post-test phase ($P < 0.001$). These results remained stable in the follow-up phase.

Conclusion: Based on the results, it can be concluded that emotion-focused therapy can be considered an effective intervention method in reducing catastrophizing and improving mental well-being in people who have recovered from COVID-19.

Keywords: Catastrophizing, COVID-19, Emotion-focused Therapy, Mental Well-being

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Introduction:

Since December 2019, the world has faced a new and highly contagious virus called SARS-CoV-2 (COVID-19) (1). The rapid spread of infections, the risk of mortality and related health problems, along with the economic and social consequences of quarantine, have caused distress and despair in communities (2). The COVID-19 pandemic was a sudden and devastating event that resulted in many deaths and overburdened the health care system, disrupted social habits, and changed life perspectives (3). COVID-19 crisis not only caused physical problems, but also seriously affected the mental health of the general public (4). It has affected the well-being of people around the world (5), creating a massive emergency with significant health, economic, and psychological concerns (3).

Recent studies have confirmed the increase in the level of psychological distress (including stress, anxiety, and depression) in different countries due to the impact of the pandemic and restrictive quarantine measures (6-7). The models for predicting mental distress in this disease were different among people in different societies, and some societies showed more adaptability and flexibility (1).

Due to the large number of people infected with COVID-19, which is increasing rapidly, public anxiety and concern has increased. Unfortunately, such concerns cause a disturbance in the understanding of the cases related to the disease and lead to other psycho-social challenges, including catastrophizing. Catastrophizing means seeing problems and issues too big (8). Ziadni et al. (9) stated that cognitive appraisal, especially pain catastrophizing, plays an important role in chronic pain and exacerbates this disease. Catastrophizing is one of the reasons why people do not use appropriate coping strategies and have irrational negative predictions of future events. In this regard, Doosti et al. (10) showed in a research that the rumination resulting from the COVID-19 was different in different ages, also the feeling of helplessness and the magnification was less observed with increasing age.

Catastrophizing is likely to have a negative impact on the mental well-being of those affected by the disease. It is an influential variable in the faster recovery of the COVID-19. Mental well-being includes important principles that can be identified through the impact of emotions on all aspects of human behavior and development (including physical and mental health, skill and educational development, social competence and the creation of positive social relationships) (11). According to Keyes' view (12), mental well-being consists of three interrelated but distinct factors, including emotional well-being, psychological well-being and social well-being. In this view, well-being indicates a person's perceptions and evaluations of his life based on emotional states and psychological and social activity. This perspective includes all three aspects of well-being, namely the emotional aspect (emotional well-being) and the functional aspect (psychological and social well-being). According to Keyes' mental health model, well-being is defined as a state that is first the absence of mental illness and at the same time the presence of a high level of well-being (13). Golestani Bakht showed that people with a high sense of well-being experience more positive emotions (14).

Some psychotherapists have recently tried to use new approaches in psychotherapy. One of these approaches is emotion-focused therapy (EFT). This treatment was introduced and invented by Leslie Greenberg. EFT deals with the psychological suffering of humans by emotional processing in order to experience them and create a new meaning instead of avoiding and suppressing emotions. The basic principle of this treatment is to work with emotions and the therapist plays the role of a coach in guiding the person's emotions from the unconscious to the conscious (15). In this regard, the research of Zariéh et al. (16) showed that EFT is effective in increasing psychological flexibility and sense of coherence in cardiovascular patients. Also, in a study, Delkhosh and Movahedi (17) showed that EFT increases resilience and reduces cognitive confusion. In the same context, Mirlohian et al. (18) also concluded that EFT was effective in improving depression and behavioral flexibility of subjects, and this effect was reported to be stable in the follow-up phase. Also, in a research, Sanagoy Moharrer et al. (19) showed that EFT reduced the symptoms of anxiety and depression in patients with multiple sclerosis.

Considering the relatively high prevalence of the COVID-19 in Iran, managing the consequences of this disease is important due to its impact on the lives of millions of people, and knowing that the focus of EFT is on people's emotions, therefore, by informing patients about their negative emotions help them to adapt well to the effects of the negative emotions. Also, by reviewing the literature on the effectiveness of EFT on the improvement of psychological symptoms of patients with chronic diseases, it is possible to show the usefulness of the treatment in the field of improving the psychological consequences of this virus in those who have recovered. According to what was stated, it seems that emotion-focused therapy leads to a decrease in catastrophizing and an increase in mental well-being, and the main question of this research is whether emotion-focused therapy is effective on catastrophizing and mental well-being in people who have recovered from COVID-19.

Research Methods:

This is a semi-experimental research and its design is in two groups (experiment and control) with pre-test, post-test and follow-up stages. The statistical population include all those who recovered from COVID-19 and were discharged from Imam Reza Hospital in Mashhad in the first three months of 2021. 30 out of this population were randomly selected based on the target and based on the inclusion criteria and divided into two groups, experimental (n = 15) and control group (n = 15), and questionnaires were implemented for them. Then the experimental group received 10 90-minute EFT sessions and the control group did not receive training. At the end of the last session, the relevant questionnaires were administered again between the two groups. After three months, the questionnaire was administered again between the experimental and control groups as a follow-up. The inclusion criteria in this study were: age between 20 and 45, education from high school to bachelor and being recovered from COVID-19, and the exclusion criteria were being absent from training sessions and not doing homework.

The data collection tool included:

1) Pain Catastrophizing Scale (PCS): It was designed by Sullivan et al. and is a 13-item tool aiming to evaluate the level of pain among patients, and it includes three subscales: magnification, rumination, and helplessness. In this tool, the answers are specified by Likert scale from never (0) to always (4). In Sullivan et al.'s research (20), rumination accounted for 41% of the total variance, magnification for 10%, and helplessness for 8% of the total variance. The alpha coefficient for the rumination, magnification and helplessness subscales were 0.87, 0.60 and 0.79, respectively, and for the total pain catastrophizing scale score was 0.87 (20). In Mohammadi et al.'s (21), Cronbach's alpha coefficient for these subscales was 0.65, 0.53, 0.81, respectively, and for the total score was 0.84.

2) Subjective Well-being Scale (SWS): this scale was designed to measure emotional, psychological and social well-being by Keyes and Magyar-Moe, which consists of 45 questions. The first 12 questions are related to emotional well-being, the next 18 questions are related to psychological well-being, and finally the next 15 questions are related to social well-being. A 5-point Likert scale is used for scoring. The internal validity of emotional well-being subscale was 0.91. The psychological and social well-being subscales have an average internal validity from 0.4 to 0.7 and the total validity of both of these scales is 0.8 and higher (12). In the study of Keyes and Magyar-Moe (12), factor validity was used to check the validity of this scale. The results of confirmatory factor analysis have confirmed the three-factor structure of this scale. In Mera'ati et al.'s (22), the reliability coefficient of this questionnaire was reported as 0.68.

3) Emotion-focused therapy protocol: Emotion-focused therapy training sessions adapted from Greenberg's book (15) are as follows:

Table 1. Emotion-focused therapy training sessions (15)

Level	Session	Description
First stage: Crisis management and problem prevention	First	It includes a general introduction to the group members, introducing the therapist, stating the goals and checking their motivation and expectations from participating in the class, providing a definition of emotion-focused therapy concepts, and getting to know the problems of the members.
	Second	In this session, the therapist encourages the clients to express their fears such as the fear of contracting the disease again, the current problem and identifying the painful and prominent emotional experience of the client.
	Third	In this session, secondary reactive emotions such as anger, frustration, bitterness, feelings related to illness and catastrophic thoughts are reflected and valued, accompanying, observing and discovering the client's emotional processing style and emotional coaching through the stages of identification, awareness, acceptance, tolerance and emotion regulation
	Fourth	In this session, the group members externalized the problem with the help of therapist and looked at the primary feelings and unfulfilled needs in a way that the cycle is a key communication problem.
Second stage:	Fifth	In this session, the group members get to know their different aspects and finally experience their sense of worth, discover and identify primary,

Reconstruction of emotions		secondary or instrumental emotions by working on micro and task markers and using chair work techniques.
	Sixth	In this session, the group members learn to trust the emotions that have just been revealed and experience new reactions to their motivations, continue to identify, represent and adjust the underlying, compatible/incompatible or healthy/unhealthy emotions.
	Seventh	In this session, the primary emotions that were identified in the previous stages are processed more fully. The therapist initiates a routine in which the client expresses his desire for a new kind of communication in an almost explicit manner, identifying and working on interruptions or blockages in access to primary and secondary emotions and experience.
	Eighth	Facilitating new solutions for problems and telling a new story of their problems and trying to redesign it, tracking and identifying subjects and object images of the current problem and relating it to the images of themselves, father, mother or other possible objects
	Third level: Strengthening and integration	
	Ninth	In this session, clients remember the path they used to walk and how they found their way back, coaching clients during object representation and reaching experiential insight.
	Tenth	Establishing the new self and generalizing to future events

Data were analyzed using repeated measure ANOVA using SPSS-22.

Findings:

In the present study, the sample group of participants in the research project were 30 people, 15 (9 women and 6 men) in the experimental group with an average age of 32.60 ± 7.04 and 15 (10 women and 5 men) in the control group with an average age of 30.73 ± 7.55 and it shows that these two groups are homogeneous in terms of age variable. In terms of education, the highest number of educations in the experimental group was a bachelor's degree with a frequency of 6 people (40%) and diploma in control group with a frequency of 6 people (40%). Tables 2 and 3 show the descriptive statistics of catastrophizing and mental well-being variables.

Table 2. Mean (standard deviation) of catastrophizing by measurement stage in groups

Variable	Group	Pretest	Posttest	Follow-up
Magnification	Experimental	15.07 (2.52)	9.40 (3.29)	8.47 (2.64)
	Control	14.07 (2.87)	14.33 (2.79)	12.87 (2.17)
Rumination	Experimental	15.53 (2.62)	9.13 (2.13)	8.93 (1.98)
	Control	13.67 (2.87)	13.60 (2.16)	13.80 (1.70)
A feeling of helplessness	Experimental	17.67 (2.64)	11.60 (3.07)	12.20 (2.65)
	Control	16.87 (2.42)	16.33 (2.35)	16.53 (2.36)
Catastrophizing	Experimental	48.27 (6.77)	30.13 (7.54)	29.60 (6.50)
	Control	44.60 (6.42)	44.27 (5.06)	43.20 (3.36)

Table 3. Mean (standard deviation) of mental well-being by measurement stage in groups

Variable	Group	Pretest	Posttest	Follow-up
Emotional well-being	Experimental	26.40 (3.83)	43.07 (5.53)	42.13 (3.64)
	Control	26.67 (4.98)	27.20 (4.30)	27.20 (3.91)
Psychological well-being	Experimental	58.93 (14.63)	79.27 (10.61)	75.73 (12.96)
	Control	47.40 (11.96)	55 (10.80)	55.40 (10.55)
Social well-being	Experimental	45.07 (11.35)	61.60 (10.91)	61.27 (11.01)
	Control	45.40 (7.56)	44.93 (5.87)	44.20 (5.44)
Mental well-being	Experimental	130.40 (22.13)	183.93 (19.60)	179.13 (19.99)
	Control	129.47 (14.50)	127.13 (12.03)	125.80 (10.31)

As can be seen in table 2, the mean in the experimental group in the post-test stage has decreased compared to the pre-test, and in table 3, the mean in the experimental groups in the post-test stage has increased compared to the pre-test, and these changes have been maintained in the follow-up stage, but no significant change was observed in the control group.

Repeated measure ANOVA was used to investigate the effect of emotion-focused therapy method and control group on catastrophizing scores and mental well-being in the pre-test, post-test and follow-up stages. First, the assumptions of repeated measure ANOVA were checked. In this regard, the Kolmogorov-Smirnov test showed that the data of the two variables of catastrophizing and components and mental well-being and components in the experimental and control groups are normal ($p < 0.05$). Also, Levene's F test to check the homogeneity of variances in the pre-test of the experimental and control groups showed that the equality of variances calculated in the catastrophizing variable and its components and the mental well-being variable and its components in the pre-test in the experimental group was not significant at the $p < 0.05$ level, that is, there is no significant difference between the variance scores of this scale in the pre-test of these groups. The next assumption is the M-box test and the results showed that the M-box test is significant ($p < 0.05$). Tabachnick and Fidell (23) state that if the significance value is less than 0.001 and the number of subjects in the groups is equal, it can be ignored. Also, the variance of the difference between all combinations of groups (sphericity) should be the same. To check this hypothesis, Mauchly's sphericity test was used, the results of which are presented in Table 4.

Table 4. Mauchly's sphericity test to check the homogeneity of covariances

Variables	Magnification	Rumination	Helplessness	Catastrophizing	Emotional wellbeing	Psychological wellbeing	Social wellbeing	Mental wellbeing
Df	2	2	2	2	2	2	2	2
Mauchly's W	0.85	0.62	0.82	0.72	0.62	0.72	0.11	0.28
Sig	0.12	0.002	0.07	0.001	0.001	0.001	0.001	0.001

As can be seen in Table 4, the assumption of sphericity is not established in the variables except for the magnification component and a feeling of helplessness. Accordingly, in the test of those hypotheses, the Greenhouse Geysler criterion is used to obtain a more accurate approximation. A summary of the results of repeated measures ANOVA for intragroup and intergroup factors for catastrophizing components is presented in Table 5.

Table 5. Repeated measure ANOVA of catastrophizing components scores

Variable	Statistical index of factors	SS	df	MS	F	Sig	Eta
Magnification	Test (repetition of measurement)	293.40	2	119.70	67.27	0.001	0.71
	Interaction test * group	161.62	2	80.81	45.42	0.001	0.62
	intergroup	173.61	1	173.61	9.20	0.005	0.25
Rumination	Test (repetition of measurement)	209.09	1.45	144.46	58.81	0.001	0.68
	Interaction test * group	214.02	1.45	147.87	60.19	0.001	0.68
	intergroup	139.38	1	139.38	11.61	0.002	0.29
Helplessness	Test (repetition of measurement)	194.60	2	97.30	81.84	0.001	0.75
	Interaction test * group	142.82	2	71.41	60.07	0.001	0.68
	intergroup	170.84	1	170.84	9.65	0.004	0.26
Catastrophizing	Test (repetition of measurement)	3849.38	1.57	2458.68	200.44	0.001	0.83
	Interaction test * group	1705.38	3.13	544.63	44.40	0.001	0.68
	intergroup	2312.04	2	1156.02	9.25	0.001	0.31

Results of Table 5 show that in relation to the intragroup factor, the F value calculated for the effect of stages (pre-test, post-test, and follow-up) between the emotion-focused therapy group and the control group is significant at the 0.05 level for catastrophizing and its components (magnification, rumination, and helplessness) ($P < 0.05$). As a result, there is a significant difference between the average scores of pre-test, post-test and follow-up of catastrophizing components in the pre-test, post-test and follow-up. Summary of the results of repeated measures ANOVA on mental well-being and its components is presented in Table 6.

Table 6. Repeated measure ANOVA of scores of mental well-being components

Variable	Statistical index of factors	SS	df	MS	F	Sig	Eta
Emotional wellbeing	Test (repetition of measurement)	1403.29	1.45	970.72	113.27	0.001	0.80
	Interaction test * group	1230.49	1.45	851.18	99.32	0.001	0.78
	intergroup	2330.71	1	2230.71	50.45	0.001	0.64
Psychological wellbeing	Test (repetition of measurement)	1322.82	1.56	848.52	17.15	0.001	0.38
	Interaction test * group	2293.62	1.56	1471.23	29.73	0.001	0.52
	intergroup	5553.88	1	5553.88	15.61	0.001	0.36
Social wellbeing	Test (repetition of measurement)	1210.69	1.06	1144.12	18.80	0.001	0.40
	Interaction test * group	1479.80	1.06	1398.43	22.98	0.001	0.45
	intergroup	2788.90	1	2788.90	15.43	0.001	0.36
Mental wellbeing	Test (repetition of measurement)	25988.31	1.16	22994.16	116.72	0.001	0.74
	Interaction test * group	16341.51	2.32	7038.72	36.70	0.001	0.64
	intergroup	42680.04	2	21340.02	26.27	0.001	0.56

According to the results of Table 6 regarding the interaction between the factors of the stages and the group, the F value calculated for the effect of the stages (pre-test, post-test and follow-up) between the emotion-focused therapy group and the control group is significant at the 0.05 level for all three components of mental well-being (emotional well-being, psychological well-being and social well-being) ($P < 0.05$). As a result, there is a significant difference between the average scores of pre-test, post-test and follow-up of mental well-being components in two groups.

Discussion and conclusion:

The present study aimed to investigate the effectiveness of emotion-focused therapy on catastrophizing and mental well-being in people who have recovered from COVID-19. The results showed that emotion-focused therapy reduced catastrophizing and its components (rumination, magnification, and feelings of helplessness) and increased mental well-being and its components (emotional well-being, psychological well-being, and social well-being), and this effect was also lasting in the follow-up period.

This finding is in agreement with the results of previous researches such as Zariah et al. (16) who showed that EFT is effective in increasing psychological flexibility and the sense of coherence in cardiovascular patients, and Delkhosh and Movahedi (17) who found that EFT increases resilience and reduce cognitive fusion. It is also in line with the research of Mirloshian et al. (18) who concluded that emotion-focused therapy was effective in improving the subjects' depression and behavioral flexibility. These findings are in agreement with the findings of Myers et al. (8) who showed that catastrophizing is one of the reasons why people do not use appropriate coping strategies and have irrational negative predictions of future events, and Ziadni et al. (9) who stated that cognitive evaluation, especially pain catastrophizing, plays an important role in chronic pain, and Amin (24) who received COVID-19 has a negative psychological effect on human mental well-being, and Lee et al. (25) who in a study showed that the relationship between catastrophic changes and pain intensity is weak.

In the explanation of these findings, it can be stated that due to the fact that COVID-19 is an epidemic disease and it has affected the lives of billions of people and threatened individuals and nations,, preventive measures by governments to limit the spread of the disease are necessary and also, it seems necessary to examine the behavioral, cognitive, emotional and psychological reactions after the disease (26). On the other hand, disaster cannot be defined, but it can be understood practically. There is no disaster without loss, pain and suffering, confusion and distress. What turns an event into a disaster is severe disruption to the body, mind, family, home, livelihood and society. When a society is faced with an incident (such as the outbreak of COVID-19), transient and intense concerns are quite normal and may be adaptive in an attempt to quickly solve the problems. If these reactions interfere with basic functions such as eating, sleeping and solving essential problems, they require attention to mental health (27).

In this context, emotion-focused therapy mainly aims to help clients in psychotherapy to become aware of their emotions and use them in a useful way. In this treatment, clients are helped to better identify, experience, accept, examine, understand, change and manage their emotions in a flexible way (15) and this in turn reduces catastrophizing and improves mental well-being in people.

In emotion-focused therapy sessions, patients who have recovered from COVID-19 express their feelings and emotions and experience new emotions, and they are helped to identify, experience, discover, change and manage their emotions in a better way and get rid of negative emotions such as anxiety and stress and face fewer problems in life, and in case of problems, respond better to the conditions and adapt to the environment. Also, in therapy sessions, catastrophic thoughts are reflected and valued. In this way, those emotions are first discovered and processed, then accepted, tolerated and regulated. People externalize the problem and finally experience a sense of self-worth. Finally, they learn to trust the newly revealed emotions and create new solutions for problems and tell a new story of their problems and try to redesign it.

It must be acknowledged that in emotion-focused therapy sessions, patients recovered from COVID-19 learned to be aware of their feelings and express their feelings in different ways such as facial expressions, body movements, and voices without needing to express them verbally, then they came to the understanding that they themselves must find the necessary will to change. Clients

also learned to identify destructive beliefs and thought patterns that express their unhealthy feelings and externalize those negative thoughts as if they are coming out of them. They recognize the irrational beliefs that cause these extreme emotions in them and avoid them and begin to reorganize and become bolder. Also, they understood the messages of their reactions and acted and experienced sensibly and corrected the situation and thus their well-being was improved.

Research limitations

The current research had some limitations, among these limitations was that it was not possible to randomly select the sample group in the current research, which makes the generalization of the results to be done with caution. The research data was obtained through a survey and a self-report questionnaire and may be different from the data obtained through clinical observation. The impossibility of controlling social and cultural variables in the COVID-19 crisis was another limitation. For this reason, during the intervention, the subjects repeatedly heard bad news about the COVID-19 in Iran and the world, and this increased their catastrophizing.

Conflict of interest

The authors also declare that there is no conflict of interest in the results of this research.

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