Comparison of the Effectiveness of Mindfulness-Based Stress Reduction Group Exercises with Emotion-Focused Group Therapy on Authentic Happiness in Critically Ill Inpatients and Recovered COVID-19 Patients

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ABSTRACT

Objective: This study aimed to compare the effectiveness of Mindfulness-Based Stress Reduction (MBSR) group exercises and Emotion-Focused Group Therapy (EFGT) on the authentic happiness of critically ill inpatients and those recovered from COVID-19.

Methods: The research utilized a quasi-experimental design with three groups (one control group and two experimental groups), conducted in three phases (pre-test, post-test, and three-month follow-up). The study population included all critically ill patients hospitalized and then recovered from COVID-19 during the second quarter of 2021 at Imam Reza Hospital in Mashhad. A sample size of 15 patients per group, totaling 45 patients, was considered. Patients were randomly assigned to three groups using a convenience sampling method. The training group (1) received eight 45-minute sessions of Emotion-Focused Group Therapy by Greenberg, Warwar, and Malcolm (2008), and training group (2) underwent eight 120-minute sessions of MBSR by Kabat-Zinn (2005), while the control group did not receive any treatment. Data were collected using Rashid's (2008) Authentic Happiness Inventory and analyzed using mixed ANOVA with repeated measures through SPSS-23 software.

Findings: Results indicated that although both treatments had an effect on authentic happiness and its components up to the follow-up stage ($p < 0.01$), no significant difference in the effectiveness of the two treatments on authentic happiness in patients was observed.

Conclusion: This research could broadly benefit the psychological state improvement in critically ill inpatients and those recovering from acute or chronic illnesses.

Keywords: Stress, Mindfulness, Emotion-Focused Therapy, Authentic Happiness.

1. Introduction

The emergence of the COVID-19 pandemic can be traced back to the city of Wuhan, with the first case of infection reported on November 17, 2019 (Saricali et al., 2022). On September 28, 2020, the World Health Organization reported a total of 33,238,168 confirmed cases and 999,629 deaths due to the virus worldwide. This disease still lacks a definitive cure and significantly affects not only physical health but also mental health, leading to various psychological issues such as depression, anxiety, and stress. The profound impact of this illness on humans is such that researchers state that estimating the psychological effects of COVID-19 on society is unpredictable (Burke & Arslan, 2020). Therefore, understanding how to respond to the consequences of the virus during the outbreak is challenging (Xiang et al., 2020). Given that maintaining mental health in the face of a significant source of stress can be challenging (de Cates et al., 2015), examining the psychological characteristics of individuals may be fruitful for understanding the impact of preventive behaviors on psychological well-being, particularly in recovered COVID-19 patients. For instance, exploring positive psychological resources and effective factors could enhance the psychological health of individuals, especially those who have recovered (Hajar Kargar et al., 2022).

Authentic happiness, derived from Seligman's theory (2001), regarded as the father of positive psychology, encompasses the concept of happiness through three elements: positive emotions, engagement, and a sense of meaning (Seligman, 2001). Positive emotions are feelings like joy, fun, and enjoyment measured in varying degrees (Kirwan, 2018) and enable individuals to be more resilient in facing life's challenges, planning better for achieving goals due to their belief in success (Urdan & Bruchmann, 2018). Engagement, the second factor in the proposed model for happiness, stems from being fully involved in activities and interventions (Butler & Kern, 2016) and is a component of a deep, complete, and meaningful life that can add a positive element to health psychology (Bakker & van Woerkom, 2017). A sense of meaning, as having a clear path in life that makes an individual's life valuable and significant (Ayse, 2018), involves using personal strengths not just for oneself but to achieve significant goals. With COVID-19 infection, due to high stress, traits like positive emotions, the level of engagement, or having a meaningful life decrease and are affected by the circumstances. Research conducted by Parks and Boucher (2020) confirmed changes in the levels of positive psychological traits during the COVID era (Parks & Boucher, 2020). Based on the research by Dubey et al. (2020), one of the most utilized treatments during the COVID-19 epidemic to reduce stress and improve positive psychological traits in recovered patients is group-based stress reduction exercises rooted in mindfulness (Dubey et al., 2020). These mindfulness-based stress reduction exercises, a standard protocol of mind-body therapies, include mindfulness meditation, patient education, and group support, introduced by Kabat-Zinn (1979), the founder and former director of the Stress Reduction Clinic at the University of Massachusetts Medical Center (Kabat-Zinn, 2001; Kabat-Zinn, 2003, 2005). Using mindfulness exercises in recovered individuals activates the parasympathetic system, significantly enhancing a sense of calm by reducing stress in the body's defense system. Moreover, mindfulness helps recovered individuals from COVID-19 focus on correct and preventive behaviors without worries or distress about reinfection (Saricali et al., 2022). Besides mindfulness-based stress reduction group exercises, emotion-focused group therapy is also an effective treatment in recovered COVID-19 patients. Emotion-focused therapy, a therapeutic approach that evolves by understanding the role of emotions (Koren et al., 2021), guides individuals towards strategies that increase awareness, acceptance, expression, regulation, and alteration of emotions with the goal of enhancing effective self-regulation and creating new meaning in life (Beasley & Ager, 2019). In recovered COVID-19 patients, this group therapy can effectively reduce stress levels and manage emotions regarding the fear of reinfection or anxiety about virus transmission to close ones. Studies on the psychological status of critically ill inpatients and recovered COVID-19 patients in Iran have been mostly descriptive, with few interventionist approaches explored in other countries. These limited studies have primarily focused on the psychological disorders of these patients, and none have examined the state of authentic happiness in critically ill inpatients and recovered COVID-19 patients. Also, no research project has attempted to improve the status of authentic happiness in individuals during the COVID-19 pandemic. Given the outbreak of COVID-19 and its adverse effects on authentic happiness in critically ill inpatients and recovered patients, reviewing such research seems essential. This study aimed to compare the effectiveness of group-based stress reduction exercises rooted in mindfulness with emotion-focused group therapy on authentic happiness in

hospitalized and recovered COVID-19 patients to answer the following questions:

Is there a significant difference between the impact of mindfulness-based stress reduction group exercises and emotion-focused group therapy on authentic happiness in critically ill inpatients and recovered COVID-19 patients?

Are mindfulness-based stress reduction group exercises and emotion-focused group therapy effective on authentic happiness in critically ill inpatients and recovered COVID-19 patients in the post-test phase?

Is the effect of mindfulness-based stress reduction group exercises and emotion-focused group therapy on authentic happiness in critically ill inpatients and recovered COVID-19 patients sustainable in the follow-up phase?

2. Methods

2.1. Study design and Participant

The present study employed a quasi-experimental design utilizing three groups (one control group and two experimental groups). The design included three testing phases: pre-test, post-test, and follow-up. The study population consisted of all critically ill patients hospitalized with COVID-19 during the second quarter of 2020 at Imam Reza Hospital in Mashhad, who had recovered and were subsequently discharged. The sample size was 45, with inclusion and exclusion criteria applied, and 15 participants allocated to each group using a convenience sampling method. Participants were then randomly assigned to the three groups to minimize intra-group and inter-group variance. The training group (1) received eight 45-minute sessions of Emotion-Focused Group Therapy, and the experimental group (2) received eight 120-minute sessions of Mindfulness-Based Stress Reduction. The control group did not receive any intervention. All groups underwent a pre-test, a post-test after the sessions, and a follow-up test two months later.

Ethical considerations in this research were as follows: All information remained confidential with the researcher, informed written consent was obtained from all study participants, the researcher bore all costs related to this research, and no charges were imposed on the participants. Participants were assured they could withdraw from the study at any stage. After obtaining the necessary permissions and approaching the hospital, 45 participants who met the conditions for participation in the intervention classes were selected conveniently and randomly assigned to the test and control groups.

2.2. Measures

2.2.1. Authentic Happiness

Developed by Rashid (2008) as the Positive Psychotherapy Inventory for assessing the level of happiness based on Seligman's (2003) theory of Authentic Happiness and Flourishing. For the Persian translation, the name was changed to Authentic Happiness Inventory. This questionnaire consists of 21 items evaluating three subscales: Pleasant Life, Engaged Life, and Meaningful Life. It is a self-report tool where subjects choose from four statements that most reflect their characteristics (on a four-point Likert scale from 0 to 3 for each item). Scoring is similar to the Beck Depression Inventory, with a total score range from 0 to 63 and subscale scores from 0 to 21, where higher scores indicate greater happiness in the respective area. Completing this questionnaire takes less than 10 minutes (Rashid, 2020). Evidence suggests high internal consistency reliability, with an overall Cronbach's alpha of 0.90 and subscale alphas ranging from 0.78 to 0.80. Convergent validity of the questionnaire was established through correlations with well-being scales such as Diener's Life Satisfaction Scale (Diener et al., 1985) with a correlation of 0.68, Fordyce's Emotions Questionnaire (Fordyce, 1988) with 0.56, and the PANAS Positive Affect Scale (Watson et al., 1988) with 0.62. Discriminant validity was confirmed through negative correlations with depression scales like the Beck Depression Inventory at -0.62 and the Zung Self-Rating Depression Scale (Zung, 1965) at -0.57 (Rashid, 2020). Research in Iran by Ghorbani et al. (2015) showed internal consistency of the overall Positive Psychological Traits Questionnaire was 0.80, and for the three components ranged from 0.80 to 0.92. The retest reliability of the entire test was 0.70 and the subscale reliability ranged from 0.61 to 0.73. Also, a correlation of 0.73 was found with the Oxford Happiness Questionnaire, indicating criterion validity of the Positive Psychological Traits Questionnaire. Confirmatory factor analysis validated a three-factor model of the Positive Psychological Traits Questionnaire in the Iranian population, explaining 79.99% of the total variance (Ghorbani et al., 2015).

2.3. Intervention

2.3.1. Emotion-Focused Group Therapy

Greenberg, Warwar, and Malcolm (2008) proposed an implementation plan consisting of eight 45-minute sessions

for Emotion-Focused Group Therapy (Greenberg et al., 2008):

Session 1: Introduction

The first session serves as an introduction where the group members meet each other and the therapist introduces themselves. The purpose of this session is to explore the motivations and expectations of the members from participating in the group. The therapist provides an overview of Emotion-Focused Therapy concepts and initiates a preliminary discussion about the members' issues.

Session 2: Confrontation

In this session, the therapist encourages the group members to express their fears, such as fear of death, rejection, or discussing flaws that have been holding back the dynamics of their relationships. The focus is on allowing members to confront their deeper emotions openly within the group.

Session 3: Secondary Emotions

This session is dedicated to identifying and valuing secondary reactive emotions like anger, frustration, and resentment that are related to the members' illness or other life stressors. The therapist helps the members recognize these emotions as legitimate and important parts of their emotional landscape.

Session 4: Externalization

Members work with the therapist to externalize their problems during this session. They are guided to connect their expressed issues with underlying primary feelings and unmet attachment needs, viewing them as key relational dynamics.

Session 5: Sense of Value

In this session, group members explore various aspects of self-worth. Through guided discussions and activities, they come to recognize and ultimately experience a sense of their own value, enhancing their self-esteem and self-acceptance.

Session 6: Trust and Response

Members learn to trust and respond to newly surfaced emotions. The therapist facilitates exercises that help members experiment with new responses to their emotional triggers, aiming to build trust in their emotional experiences and reactions.

Session 7: Emotional Processing

This session involves more in-depth processing of the primary emotions identified in earlier sessions. The therapist introduces techniques that allow members to articulate their desires and needs more clearly, fostering new ways of emotional connection.

Session 8: Presenting New Solutions

The final session focuses on developing new solutions for the members' issues. The group collaboratively creates new approaches to their problems and revisits the paths they have taken, including how they found their way back from previous challenges. The session ends with a reflective summary of the journey they have undertaken together.

2.3.2. Mindfulness-Based Stress Reduction

Kabat-Zinn (2005) proposed an implementation plan consisting of eight 120-minute sessions for Mindfulness-Based Stress Reduction Group Exercises (Kabat-Zinn, 2005):

Session 1: Introduction and Initial Scanning

The introductory session covers the basics of the automatic guidance system/how mindfulness can be applied in the present moment to reduce stress through awareness of physical sensations, thoughts, and emotions. This session includes a raisin eating exercise, three-minute breathing space, and sets the assignments for the next week.

Session 2: Mindfulness of Breathing Meditation

Participants revisit body scanning techniques, discuss their experiences, and practice mindfulness of breathing. The session also includes yoga stretching exercises to complement the mindfulness practice.

Session 3: Sitting Mindfully

This session focuses on sitting meditation, where participants practice being aware of their breath in a seated position. The session also includes yoga exercises and another round of the three-minute breathing space.

Session 4: Mindful Yoga

Participants repeat the body scanning exercise and engage in mindful yoga practices. The session includes a five-minute exercise focused on either seeing or hearing, and a repeated practice of sitting mindfully with an awareness of breath and body.

Session 5: Understanding Stress and Reaction

This session involves breathing exercises, repeated practice of sitting mindfully (awareness of breath, body, sounds, thoughts), and discussions about stress and the participants' reactions to it. The session also reviews awareness of pleasant and unpleasant events and their impact on feelings, thoughts, and physical sensations, complemented by mindful yoga exercises and the three-minute breathing space.

Session 6: Mindful Yoga

Continuation of mindful yoga practices and sitting meditation focusing on the presence of mind from sounds

and thoughts, deepening the integration of mindfulness into everyday activities.

Session 7: Mountain Meditation

The mountain meditation is introduced along with sleep hygiene tips. The session reviews exercises from previous sessions and includes the creation of a list of enjoyable activities, reinforcing the application of mindfulness in pleasurable aspects of life.

Session 8: Program Review

The final session involves a body scan exercise, a comprehensive review of the entire program, and discussions about the plans moving forward. The session ends with a meditation focusing on stones, beads, and marbles, symbolizing the solid foundation they've built through the practice of mindfulness.

2.4. Data Analysis

Data were initially assessed for normality using the Kolmogorov-Smirnov test and Mardia's test based on Mahalanobis distance. Research hypotheses were then analyzed using mixed ANOVA via SPSS software version 23.

3. Findings and Results

In the current study, the sample group participating in the research design consisted of 45 women, with 15 individuals in Experimental Group (1) having an average age of 32.59 ± 7.03, 15 in Experimental Group (2) with an average age of 33.92 ± 7.66, and 15 in the Control Group with an average age of 30.73 ± 7.55, indicating that the three groups were homogeneous in terms of the age variable. Regarding education, the highest education level in Experimental Group (1) was a bachelor's degree with 6 participants (40%), and in Experimental Group (2), a bachelor's degree with 7 participants (46.7%), while the Control Group predominantly had a diploma with 6 participants (40%). In terms of occupation, the most frequent category in Experimental Group (1) was professionals and freelancers with 6 participants (40%), and in Experimental Group (2) with 5 participants (33.3%), while the Control Group had 7 homemakers (46.7%).

Table 1

Descriptive Statistics of Scores for Authentic Happiness Components by Pre-test and Post-test for Control and Experimental Groups

Component	Measurement	Group	n	Mean	Standard Deviation
Pleasant Life	Pre-test	Control	15	6.47	3.09
		Experimental 1	15	6.27	1.39
		Experimental 2	15	5.67	2.26
	Post-test	Control	15	6.60	2.67
		Experimental 1	15	8.73	2.63
		Experimental 2	15	7.67	2.35
	Follow-up	Control	15	6.27	2.79
		Experimental 1	15	11.73	3.41
		Experimental 2	15	10.47	3.27
Engaged Life	Pre-test	Control	15	5.67	2.38
		Experimental 1	15	5.47	2.17
		Experimental 2	15	6.20	2.86
	Post-test	Control	15	5.80	2.24
		Experimental 1	15	10.40	1.80
		Experimental 2	15	10.47	3.25
	Follow-up	Control	15	5.33	2.61
		Experimental 1	15	13.33	3.54
		Experimental 2	15	12.40	2.95
Meaningful Life	Pre-test	Control	15	6.20	1.86
		Experimental 1	15	5.73	1.71
		Experimental 2	15	5.53	3.20
	Post-test	Control	15	6.87	1.92
		Experimental 1	15	8.87	2.47
		Experimental 2	15	10.47	4.03
	Follow-up	Control	15	6.60	1.24
		Experimental 1	15	8.73	3.13
		Experimental 2	15	10.13	3.16
Authentic Happiness	Pre-test	Control	15	18.33	4.25

	Experimental 1	15	17.47	2.13	
	Experimental 2	15	17.40	6.41	
Post-test	Control	15	19.27	3.88	
	Experimental 1	15	28.00	3.70	
	Experimental 2	15	28.60	6.00	
Follow-up	Control	15	18.20	2.93	
	Experimental 1	15	33.80	5.94	
	Experimental 2	15	33.00	6.34	

Table 1 provides descriptive statistics related to the scores of the research variables and each of their components. According to the table data, the post-test scores for genuine happiness and its components in both experimental groups showed an increase from the pre-test, and this change remained through the follow-up period.

To perform the analysis of variance test, prerequisites of this test were first examined and confirmed. Accordingly, the assumption of data normality was checked using the Kolmogorov-Smirnov test, multivariate normality using Mahalanobis distance and Mardia's statistics (1971), the assumption of no significant differences in the pre-tests of the three groups using one-way ANOVA, the linearity of the relationship between variables using scatter plots, homogeneity of covariance matrices using Box's M test, and homogeneity of variances using Levene's test were all confirmed. The Kolmogorov-Smirnov test indicated that the z-values obtained for the variables in the pre-test and post-test of the control and experimental groups were significant ($p > 0.05$), demonstrating a normal distribution of these scores. Similarly, the Shapiro-Wilk test confirmed multivariate normality as the MV statistic was significant ($p > 0.05$). The Levene's test results indicated that the F values obtained for some components were below 0.05 ($p < 0.05$), hence the homogeneity of variances assumption was violated. However, as the groups were randomly assigned, this discrepancy does not impair the analysis.

Table 2

Results of Repeated Measures Analysis of Variance by Time, Intervention Method, and Interaction of Time and Method

Effect	Test	Value	F	df Hypothesis	df Error	p	η²
Between Group	Pillai's Trace	0.536	5.001	6	82	< 0.001	0.268
	Wilks' Lambda	0.495	5.616	6	80	< 0.001	0.296
	Hotelling's Trace	0.957	6.223	6	78	< 0.001	0.324
	Largest Root	0.887	12.122	3	41	< 0.001	0.470
Within Group	Pillai's Trace	0.888	49.083	6	37	< 0.001	0.888
	Wilks' Lambda	0.112	49.083	6	37	< 0.001	0.888
	Hotelling's Trace	7.959	49.083	6	37	< 0.001	0.888
	Largest Root	7.959	49.083	6	37	< 0.001	0.888
Time*Group	Pillai's Trace	0.902	5.203	12	76	< 0.001	0.451
	Wilks' Lambda	0.199	7.671	12	74	< 0.001	0.554
	Hotelling's Trace	3.529	10.587	12	72	< 0.001	0.638
	Largest Root	3.379	21.400	6	38	< 0.001	0.772

The results of Table 2 showed that the main effect of time was significant ($p < 0.01$, $F = 6.37$, $\eta^2 = 0.89$, $\Lambda = 0.112$). Also, the main effect of the group was significant ($p < 0.01$, $F = 6.80$, $\eta^2 = 0.62$, $\Lambda = 0.495$), and the results of the time-group interaction indicated that there is a significant difference in the trend of score changes in at least one of the components of genuine happiness from pre-test to post-test and follow-up in the three groups ($p < 0.01$, $F = 12.74$, $\eta^2 = 0.55$, $\Lambda = 0.199$). The Mauchly's test for the homogeneity of the error covariance matrix related to the transformed dependent variables was used. The findings of the Mauchly's test were not significant for the meaningful life component ($w > 0.05$), but were significant for the pleasant life and engaged life components ($w < 0.05$), thus the Greenhouse-Geisser adjusted degrees of freedom were used as the basis for reporting the F value. To investigate the within-group effects, namely the measurement time (with three levels: pre-test, post-test, and follow-up), and the interaction of measurement time with the between-group effect, namely the intervention types, results are presented in Table 3.

Table 3

Results of Repeated Measures ANOVA for Authentic Happiness with Greenhouse-Geisser Correction

Effect	Component	Correction Type	SS	df	MS	F	Sig	Eta Squared (η²)
Time Effect	Pleasant Life	Greenhouse-Geisser	253.970	21.906	145.179	34.793	<0.001	0.453
	Engaged Life	Greenhouse-Geisser	491.793	1.598	331.663	80.825	<0.001	0.658
	Meaningful Life	Sphericity Assumed	234.681	1.928	117.341	22.972	<0.001	0.354
Time * Group Effect	Pleasant Life	Greenhouse-Geisser	146.119	3.499	41.763	10.009	<0.001	0.323
	Engaged Life	Greenhouse-Geisser	285.985	3.195	96.434	23.501	<0.001	0.528
	Meaningful Life	Sphericity Assumed	90.919	3.855	22.730	4.450	0.003	0.175

The between-group effect tests revealed that the between-group effect on pleasant life ($p < 0.05$, $F = 2.42$, $\eta^2 = 0.18$), engaged life ($p < 0.01$, $F = 2.42$, $\eta^2 = 0.43$), and meaningful life ($p < 0.05$, $F = 2.42$, $\eta^2 = 0.18$) was significant. With the significance of the between-group effect, it can be stated that there is a significant difference between the experimental and control groups for the components of genuine happiness. To examine the interaction of the within-group variable and the between-group variable, namely the type of intervention, on genuine happiness, a Bonferroni post-hoc test was conducted interactively.

Table 4

Bonferroni Post-hoc Test Results for Interaction Between Intragroup and Intergroup Factors on Authentic Happiness

Group	Component	Time Points Compared	Mean Difference	Standard Deviation	Significance Level (p)
Control	Pleasant Life	1 to 2	-0.133	0.350	<0.001
		1 to 3	0.200	0.223	<0.001
		2 to 3	0.333	0.361	<0.001
	Engaged Life	1 to 2	-0.133	0.133	<0.001
		1 to 3	0.333	0.347	<0.001
		2 to 3	0.467	0.322	0.507
	Meaningful Life	1 to 2	-0.667	0.667	<0.001
		1 to 3	-0.400	0.550	<0.001
		2 to 3	0.267	0.573	<0.001
Experimental 1	Pleasant Life	1 to 2	-2.467	0.888	0.045
		1 to 3	-5.467	1.116	<0.001
		2 to 3	-3.000	0.834	0.009
	Engaged Life	1 to 2	-4.933	0.643	<0.001
		1 to 3	-7.867	1.050	<0.001
		2 to 3	-2.933	0.813	0.009
	Meaningful Life	1 to 2	-3.133	0.883	0.010
		1 to 3	-3.000	0.946	0.020
		2 to 3	0.133	0.910	<0.001
Experimental 2	Pleasant Life	1 to 2	-2.000	0.683	0.033
		1 to 3	-4.800	0.823	<0.001
		2 to 3	-2.800	0.449	<0.001
	Engaged Life	1 to 2	-4.267	0.556	<0.001
		1 to 3	-6.200	0.835	<0.001
		2 to 3	-1.933	0.473	0.003
	Meaningful Life	1 to 2	-4.933	1.185	0.003
		1 to 3	-4.600	0.400	<0.001
		2 to 3	0.333	0.994	<0.001

The results of the Bonferroni test for examining the within-group and between-group interaction showed that there was no significant difference between the three measurement times for the control group. However, for the group under mindfulness-based stress reduction therapy and for the pleasant life component, there was a significant difference between the pre-test and post-test, the pre-test and follow-up ($p < 0.01$), and the post-test and follow-up ($p < 0.01$). Similarly, for the group under mindfulness-based stress reduction therapy and for the engaged life component,

there was a significant difference between the pre-test and post-test, the pre-test and follow-up, and the post-test and follow-up. Also, for the group under mindfulness-based stress reduction therapy and for the meaningful life component, there was a significant difference between the pre-test and post-test ($p < 0.05$) and between the pre-test and follow-up ($p < 0.01$). However, for the group under emotion-focused therapy and for the pleasant life component, there was a significant difference between the pre-test and post-test ($p < 0.05$), the pre-test and follow-up, and the post-test and follow-up ($p < 0.01$). Similarly, for the group under emotion-focused therapy and for the engaged life component, there was a significant difference between the pre-test and post-test ($p < 0.01$), the pre-test and follow-up, and the post-test and follow-up ($p < 0.01$). And for the group under emotion-focused therapy and for the meaningful life component, there was a significant difference between the pre-test and post-test ($p < 0.05$) and between the pre-test and follow-up ($p < 0.01$).

4.   Discussion and Conclusion

This study aimed to compare the effectiveness of Mindfulness-Based Stress Reduction group exercises with Emotion-Focused Group Therapy on authentic happiness in critically ill hospitalized patients and those recovered from COVID-19. The results of the mixed ANOVA with repeated measures indicated that although both treatments and their components were effective up to the follow-up stage, no significant difference in effectiveness between Mindfulness-Based Stress Reduction group exercises and Emotion-Focused Group Therapy on authentic happiness in critically ill hospitalized and recovered COVID-19 patients was observed. These findings are consistent with the results of prior studies (Afzali et al., 2022; Behan, 2020; Dubey et al., 2020; Economides et al., 2018; Guardino et al., 2014; Heshmati & Ghorbani, 2016; Mason et al., 2016; Saricali et al., 2022; Weis et al., 2021; Wielgus et al., 2020) demonstrated that Mindfulness-Based Stress Reduction significantly affected the quality of life related to health and its components in individuals with coronary artery disease. The research of Wielgus and colleagues (2020) showed that mindfulness exercises significantly reduce anxiety levels during the COVID era (Wielgus et al., 2020). Weis and colleagues (2021) established that mindfulness is effective in managing stress and anxiety related to COVID-19 (Weis et al., 2021). The findings of Bahan (2020) indicated that practicing mindfulness during the COVID-19 illness led to

increased treatment completion and reduced stress levels in individuals (Behan, 2020). Afezli et al. (2021) showed that mindfulness could predict post-traumatic growth in female nurses (Afzali et al., 2022).

In relation to explaining this finding, it can be said that through mindfulness, individuals can successfully manage their everyday life stresses. Since the primary aim of mindfulness is not relaxation but a different awareness of personal experiences without judgment. Observing internal negative events without physiological arousal can induce calmness (Kabat-Zinn, 2003). Having a receptive and non-reactive attitude towards what is happening in the moment can well define an individual's psychological needs (Kabat-Zinn, 2001). Through mindful meditations, individuals clear their minds from irrational thoughts and beliefs about various life events and, with mindful attention, become aware of what is really happening, recognizing their genuine needs for experiencing happiness and planning and striving to achieve them. In fact, this process will enable individuals to discover the true meaning of their lives and, by achieving it, feel many positive emotions and experience genuine happiness. In mindfulness exercises, individuals are taught not to deny or suppress their unpleasant thoughts and feelings, and there is no need to analyze or judge them, but simply to be aware of and attend to what they experience in a non-judgmental way (Kabat-Zinn, 2005). Mindfulness is also the best way to achieve liberation, as it can quiet internal and external pressures. This therapeutic approach allows individuals to fully present in the moment, see the realities of their lives from all angles, and realize that their own interpretations, explanations, and judgments will lead to rumination and internal dialogue. Thus, the practice of mindfulness allows individuals to realize that thoughts are merely thoughts, and when they understand that thoughts may not represent the truth, they can more easily let them go (Mason et al., 2016). Observing and accepting life's negative and unpleasant events without judgment can lead to calmness (Heshmati & Ghorbani, 2016), which can bring genuine happiness to individuals.

Regarding Emotion-Focused Therapy, these findings are consistent with previous research (Fathi et al., 2021; Greenberg et al., 2008; Jahangirrad et al., 2021). The study by Fathi et al. (2020) showed that Emotion-Focused Therapy was able to enhance the quality of life in women suffering from chronic headaches. Hajar and colleagues (2021) showed that Emotion-Focused Therapy helped reduce catastrophizing and increase mental well-being in patients (Hajar Kargar et al., 2022). Salari et al. (2020) found in their

study that adaptive cognitive emotional regulation strategies were negatively and significantly related to COVID-19 anxiety (Salari et al., 2020).

In connection with explaining the current findings, according to Diener (2000), happiness includes how individuals evaluate different aspects of their lives such as life satisfaction, marital satisfaction, job satisfaction, absence of depression and anxiety, and the presence of positive feelings. Emotion-Focused Therapy is based on the principle that we can only change when we accept ourselves as we are (Diener, 2000). The underlying assumption of this therapeutic method is that emotion is a fundamental and determinant factor in regulating behavioral patterns and processing information, and in this way, it can help patients to better adapt and align with others and events in their environment. Therefore, according to this therapy, emotions must be accepted so that the individual can discover their meaning and through this awareness increase their positive emotions and help improve their life situation (Jahangirrad et al., 2021). Emotion-Focused Therapy can help patients to have greater control and management over their life by being more aware of the different aspects of their existence and their feelings and emotions, and by adjusting their unpleasant emotions or replacing them with pleasant ones, achieve greater satisfaction in life and thus experience a pleasant life and enjoy genuine happiness. Furthermore, one of the most important aspects of emotional function is adaptation and compatibility in processing information and the individual's readiness for efficient behavioral manifestations, which can lead to a better life and greater satisfaction for individuals. If patients can accept their thoughts, feelings, and emotions, especially their negative and unpleasant emotions, and not avoid them, they can come closer to the values and meaning of their lives, and with the mental peace gained from this acceptance, they have a greater ability to choose appropriate and more effective ways to reach the meaning of their life (Fathi et al., 2021). Thus, Emotion-Focused Therapy creates conditions for patients to have more focus on what they want in life with mental peace and security, become aware of their genuine and real needs, and achieve happiness and joy. Thus, Emotion-Focused Therapy will greatly assist in creating genuine happiness in patients.

5. Suggestions and Limitations

Like all research in various fields of humanities, this study faced limitations, including limitations in measuring variables using only questionnaires without using interviews, observation, and other measurement methods. The results of this research are limited to critically ill COVID-19 patients in the second quarter of 2021 who were hospitalized and then recovered and discharged, so caution should be exercised in generalizing the results to other patients. The lack of gender differentiation may limit the generalization of results to men and women separately. It was not possible to control and neutralize the demographic and socio-cultural status of the sample, and there was also no tool to verify the authenticity of responses.

Authors' Contributions

All authors have contributed significantly to the research process and the development of the manuscript.

Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

Transparency Statement

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

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Declaration of Interest

The authors report no conflict of interest.

Ethical Considerations

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

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