Journal of Public Health and Development
Vol.20 No.3 September-December 2022

ORIGINAL ARTICLE

Efficacy of psychoeducational intervention on depression and anxiety after discharge in patients with covid-19

Abbas Ghodrati Torbati[1], Seddigheh Abbaspour[1], Anahita Zandi[2]

[1] Department of Nursing, School of Nursing and Midwifery, Torbat Heydariyeh University of Medical Sciences, Torbat Heydariyeh, Iran
[2]Department of Anesthesiology, School of Paramedical Sciences, Torbat Heydariyeh University of Medical Sciences, Torbat Heydariyeh, Iran

Corresponding Author Abbas Ghodrati Torbati **Email:** ghodratita171@yahoo.com

Received: 14 April 2022 **Revised:** 5 July 2022 **Accepted:** 12 July 2022 **Available online:** September 2022
DOI: 10.55131/jphd/2022/200317

ABSTRACT

People with anxiety and depression are more worried. This worry can weaken their immune system and make them vulnerable to diseases. This study attempted to evaluate the effectiveness of CFT on depression and anxiety in patients with COVID-19. The study had a quasi-experimental pretest-posttest design with a control group. The statistical population included 30 men who underwent quarantine for COVID-19 in 2021. Participants were chosen through convenience sampling and then were randomly assigned to experimental and control groups. In the experimental group, CFT treatment was performed in 10 sessions of 90 minutes. Beck Depression and Anxiety Questionnaires were used to collect the required data. Data were analyzed using SPSS 21 software and multivariate covariance analysis (MANCOVA). The results showed a significant difference between the mean scores of depression and anxiety in the experimental and control groups ($p < 0.05$). The effect of this treatment on reducing the scores of depression and anxiety was 51% and 68%, respectively. Based on the results, CFT can reduce anxiety and depression in patients with COVID-19 disease. It is suggested that this intervention can be used in psychological treatment programs.

Key words:
compassion focused therapy; depression; anxiety; covid-19

Citation:
Abbas Ghodrati Torbati, Seddigheh Abbaspour, Anahita Zandi. Efficacy of Psychoeducational intervention on depression and anxiety after discharge in patients with COVID-19. J Public Hlth Dev. 2022;20(3):209-220 (https://doi.org/10.55131/jphd/2022/200317)

INTRODUCTION

December 2019 coincided with the onset of the coronavirus outbreak, which originated in China and the city of Wuhan in central Hubei. The disease, abbreviated as COVID-19, spread rapidly and affected individuals and health organizations worldwide.[1] The severity of the disease now appears to be more than initially estimated[2,] and this pandemic could have far-reaching consequences for individuals.[3] The world is in a state of crisis caused by coronavirus disease.[4] Collective tragedies often exacerbate fear and anxiety, causing widespread disruption in the behavior and welfare of many people in the population.[5] One of the psychological problems during the outbreaks of diseases is job burnout, which causes a lack of energy and vitality.[6] During the COVID-19 outbreak, 2.23%, 4.7%, and 5.57% of society had burnout symptoms in the form of emotional exhaustion, personality decency, and personal inadequacy, respectively, which increased the level of anxiety and stress.[7] These symptoms can also affect people's mental health, even leading to mental disorders such as PTSD.[8]

A cross-section study on family members of staff in five hospitals in China during the outbreak of COVID-19 involving 822 people reported the prevalence of anxiety and depressive symptoms as 33.73% and 29.35%, respectively.[9] Depression is a common negative emotion experienced by individuals and medical staff during an infectious disease outbreak. In the early stages of coronavirus outbreaks in China, more than half of the respondents experienced severe to moderate cognitive effects, and about one-third reported moderate anxiety.[10] Previous findings have shown clear links between epidemic patients with anxiety and increased stress symptoms, infection concerns, health anxiety, post-traumatic stress, and suicide.[11] Lai et al. reported that most participants in their study showed symptoms of depression, anxiety, insomnia, and distress. In addition, a large number of them experienced clinically significant fear and anxiety during an outbreak.[12]

Rumination is a way to respond to anxiety that is especially associated with the onset, severity, and persistence of depression.[13] Constantin et al. argued that people with anxiety and depression experience more worry.[14] A problem in respiratory patients is anxiety.[15] Clinical anxiety can reduce the quality of life in about 60% of chronic respiratory patients.[16] The COVID-19 epidemic has caused a wave of stress and anxiety worldwide. Fear of getting sick is usually seen in chronic and dangerous diseases.[17] Anxiety and fear of the unknown always weaken the human immune perception and increase a person's level of anxiety.[18] In addition, stress, and anxiety can also weaken the human immune system and make people vulnerable to disease.[19] According to studies, COVID-19 patients have a low psychological tolerance capacity and are highly exposed to psychological disorders such as anxiety and depression due to the current state of the disease.[20] In this regard, the results of several studies conducted on patients with COVID-19 in China during the spread of the disease showed a number of these psychological disorders, including anxiety, stress, depression, and insomnia.[10, 21]

Psychological disorders are generally prevalent among these patients.[22] Previous studies have shown that psychotherapy techniques are important in diagnosing and reducing the symptoms of anxiety and depression.[23, 24] One of these techniques is compassion focused therapy. Compassion therapy is an emotion-driven strategy consisting of three components: kindness to oneself in adversity rather than self-judgment, human commonalities rather than isolation and a balanced awareness of your feelings and thoughts rather than extreme cloning. Compassion consists of

understanding oneself without having a judgmental and self-critical view, having the view that one's experiences are part of experiences of all human beings, and knowing one's experiences and feelings in a balanced way without magnifying oneself.[25] Compassion leads to active coping styles to promote and maintain mental health and reduce anxiety, stress, and ultimately depression. Therefore, people with compassion experience less pain and defects than others and have a supportive attitude toward themselves, which reduces feelings of depression and anxiety and increases their satisfaction with life.[26] Moreover, people who have compassion have more mental health.[27]

The outbreak of COVID-19 disease has caused confusion and, with changes in people's living conditions, has had devastating psychological effects, including depression and anxiety. Epidemic crisis conditions can cause negative psychological and social effects that in some way affect the mental health of people in society. Considering that so far little research has been done on the impact of psychological interventions on depression and anxiety symptoms of patients during the COVID-19 outbreak in Iran, this study aimed to answer the question, whether compassion-focused therapy affects depression and anxiety in patients with COVID-19 after hospital discharge?

METHODS

This quasi-experimental pretest-posttest study with a control group was conducted in 9th Dey Hospital in Torbate Heydariyeh, Iran, in 2021. Approved by the Torbat Heydariyeh University of Medical Sciences (THUMS) ethics committee, this study adhered to the STROBE guidelines. The statistical population included all men who had passed 14 days after discharge from the hospital and had undergone COVID-19 quarantine. Before starting the intervention, the necessary explanations were given to the individuals about the research objectives. After obtaining the informed consent, the individuals entered the project. The statistical sample consisted of 30 people (15 people in each group) based on the statistical formula[1] by considering $\alpha= 0.05$, $\beta=0.1$, and $d = 1.3$ and similar studies.[28,29]. Available sampling method was used and participants were randomly assigned to two experimental and control groups with lottery *method*. Inclusion criteria were: being male, the minimum age of 20, the maximum age of 40,[29] no history of chronic mental illness, non-use of sedatives, and being a COVID-19 patient discharged for 14 days.

On the other hand, the exclusion criteria were the absence of more than two sessions in training sessions, dissatisfaction and lack of cooperation of individuals, failure to perform the tasks specified in the training process, and recurrence of the disease. At the beginning of the study, both groups were pre-tested by Beck Depression Inventory and Beck Anxiety Inventory. Compassion intervention was performed on the experimental group (all people trained together) in 10 sessions of 90 minutes (two sessions per week). The interventions were in the form of face-to-face sessions with observance of protocols and social distancing and using personal protective equipment by the clinical psychologist. The control group was on the waiting list during the treatment intervention. After the last treatment session, a post-test was performed in both groups, and the data were analyzed based on a multivariate analysis of covariance (MANCOVA) in SPSS

[1]- $n=2\frac{(z\frac{\alpha}{2}+z\beta)^2}{d^2}$

software number 16. After the end of the study, compassion training was held in person for the control group by observing social distance and using personal protective equipment. The content of treatment sessions is reported in Table 1.

Beck Depression Questionnaire: This questionnaire consists of 21 items to assess the severity of depression and its diagnosis. Each item has a score between zero and 3, and each person can get a score between 0 and 63. Beck et al. reported the internal reliability of this instrument as 0.73 to 0.92, with a mean of 0.86 and a Cronbach's alpha coefficient of 0.86 for the patient group and 0.81 for the non-patient group.[30] Dabson and Mohammad Khani obtained 0.92 reliability of the Persian version of the questionnaire by the Cronbach's alpha method. In addition, its structural validity has been confirmed, and the retest coefficient was reported to be 0.49 within a three-week interval.[31]

Beck Anxiety Questionnaire (BAI): It consists of 21 items, and each statement reflects one of the symptoms of anxiety. This scale is scored as a Likert scale from xx (= 0) to severe (= 3). Thus, the range of anxiety scores is from 0 to 63. Concurrent validity with state anxiety, trait anxiety, daily anxiety and Beck depression questionnaires were 0.58, 0.47, 0.54, and 0.50, respectively, and its internal consistency coefficient was 0.92 and its retest coefficient was 0.81 (1-week interval).[32] In the Persian version, the structural validity of the questionnaire was confirmed and its convergence validity was calculated to be 0.72. In addition, its internal consistency coefficient was 0.92 and its retest coefficient was 0.83.[33]

Table 1: The content of compassion-focused therapy sessions based on Gilbert's treatment plan

Session	content
First session	Primary acquaintance, communication, familiarity with the general concept of self-compassion and empathy and pre-test.
Second session	Introducing the session objectives, group definition, rhythmic breathing exercise, and characteristics of a group
Third session	Empathy training, examining the way members deal with self-criticism or compassion (defining self-criticism and its consequences, defining compassion), Training to understand and make people feel empathetic, Rejection by the group is one of the biggest fears of individuals in interview.
Fourth Session	What is self-compassion? Its features and skills, how it affects one's mental states, the introduction of three emotional regulation systems, and how they interact. Shaping and creating more and more varied feelings about people's issues to increase their care and attention to their health.
Fifth session	Teaching forgiveness training, teaching the concept of awareness, its logic and how it is practiced, (focusing on breathing and tracking emotions and thoughts and watching them without any reaction)
Sixth Session	Introducing mental imaging and its logic, imaging training and implementation in group (color imagination, location and compassionate characteristics)
Seventh Session	Developing self-compassionate Concepts: wisdom, ability, warmth, and responsibility for generating compassion, training in imaging about self-compassion, training to develop valuable and transcendent emotions in order to deal effectively with the environment
Eighth Session	Self-centered compassion and identifying different aspects (attention, thinking, feeling, behavior, self-awareness)

Session	content
Ninth Session	Recalling Compassionate Skills, the role of compassion in guiding thought, thought training responses, and compassionate behavior in the face of criticism
Tenth session	Receiving feedback from team members on the principles taught, reviewing and summarizing past material, and post-test implementation.

RESULTS

The demographic variables of the two groups are presented in Table 2. According to the Chi-square test results, the studied groups were homogeneous with no significant difference in terms of age, marital status, occupation, and level of education ($p > 0.05$).

The mean and standard deviation of depression and anxiety scores by pre-test and post-test in both experimental and control groups are shown in Table 6. MANOCA results to compare experimental and control groups in terms of dependent variables are also presented in Tables 8 and 9, respectively. In this study, MANCOVA was used for the inferential analysis of the results. First, the required assumptions were examined (Table 2-4). The main assumptions of multivariate analysis of covariance test, including normality of score distribution, the similarity of score variances, and equality of score covariances, were examined.

Table 2: Shapiro-Wilk test results for normalization of variable distribution

	Statistic	df	Sig.
Anxiety	0.975	30	0.694
Depression	0.957	30	0.254

According to Table 2, the results of the Shapiro-Wilk test showed that the distribution of data was normal ($p > 0.05$).

Table 3: Box's test of equality of covariance matrices

Box's M	F	df1	df2	Sig.
11.215	0.946	10	3748.207	0.489

As shown in Table 3, based on the results of the box test (Sig. = 0.489, F = 0.946, M box = 11.215), the equality of covariances were confirmed.

Table 4: Levene's test of equality of error variances

	F	df1	df2	Sig.
Anxiety	0.579	1	28	0.453
Depression	0.017	1	28	0.896

According to Table 4, Levene's test for the variables of anxiety (Sig. = 0.453; F = 0.579) and depression (Sig. = 0.896; F = 0.017), showed that the assumption of equality of variance is confirmed in all variables of the study.

Table 5: Descriptive statistics of demographic variables

Variable		**Case, n (%)**	**Control, n (%)**	***Value (Chi-Squared)***	***P-value***
Age	20 to 29 years	5(33.33%)	4(26.66%)	0.602	0.740
	30 to 39 years	6(40%)	5(33.33%)		
	40 to 49 years	4(26.66%)	6(40%)		
Status Marital	Single	4(26.66%)	6(40%)	1.491	0.475
	Married	6(40%)	3(20%)		
	Divorce	5(33.33%)	6(40%)		
Employment type	Employee	4(26.665)	7(29%)	1.329	0.514
	Freelance Job	6(40%)	4(26.66%)		
	Homemaker	5(26.66%)	4(26.66%)		
Education	*Sub-Diploma*	5(33.33%)	5(33.33%)	0.800	0.670
	Diploma	4(26.66%)	6(40%)		
	Academic	6(40%)	4(26.66%)		

Table 6: Mean score of depression and anxiety in the experimental and control groups

Variables	***Group***	**Pre-test**	**Post-test**
		Mean ± SD	Mean ± SD
Depression	Case	33.60 ± 3.08	28.80 ± 2.27
	Control	33.26 ± 2.05	33.46 ± 2.38
Anxiety	Case	36.33 ± 2.41	29.66 ± 1.95
	Control	34.93 ± 2.46	35.06 ± 1.83

Table 7: Estimated marginal mean

				95% Confidence Interval	
Dependent Variable	Groups	Mean	Std. Error	Lower Bound	Upper Bound
Anxiety	CFT	29.667	.489	28.666	30.668
	Control	35.067	.489	34.066	36.068
Depression	CFT	28.800	.602	27.567	30.033
	Control	33.467	.602	32.234	34.699

Table 8: Multivariate analysis of covariance to compare experimental and control groups in dependent variables

Test	Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared	Observed Power
Pillai's Trace	0.875	43.594	4.000	25.000	<0.001	0.87	1.000
Wilk's Lambda	0.125	43.594	4.000	25.000	<0.001	0.87	1.000
Hotelling's Trace	6.975	43.594	4.000	25.000	<0.001	0.87	1.000
Roy's Larger Root	6.975	43.594	4.000	25.000	<0.001	0.87	1.000

As shown in Table 8, the value of Wilkes lambda was significant ($p < 0.05$). Therefore, there is a statistically significant difference between the experimental and control groups in post-test scores on the variables of depression and anxiety. This difference was 0.87, meaning that 87% of individual differences in the variables are related to the differences between the groups.

Table 9: Multivariate analysis of covariance to compare the effect of treatment on research variables

Depended Variable	Sum of Squares	df	Mean Square	F	P-value	Partial Eta Squared	Observed Power
Depression	163.333	1	163.333	30.061	<0.001	0.51	1.000
Anxiety	218.700	1	163.333	61.073	<0.001	0.58	1.000

According to Table 9, by eliminating the effects of pre-test scores, the difference between the mean of post-test scores in the variables of depression and anxiety in the experimental and control groups is significant ($p <0.05$). The effect of this treatment on reducing the scores of depression and anxiety was 51% and 68%, respectively.

DISCUSSION

In the present study, compassion was considered as a therapeutic approach and its effects on depression and anxiety levels in patients with COVID-19 after discharge were investigated. The present study aimed to evaluate the effectiveness of CFT on post-discharge depression and anxiety in COVID-19 patients. The results showed that this treatment reduced the score of depression in individuals.

The results of a study conducted by Pinto-Gouveia et al.[34] show that increasing compassion is associated with the reduction of psychopathology in the form of reduction of stress and depression in patients with cancer, and compassion-focused intervention therapy with increasing psychological compatibility of cognitive psychology leads to the management of psychological consequences of cancer. Also, the systematic results of the review by Kirby[35] showed that compassion therapy now has many benefits in a wide range of clinical interventions and can be helpful in reducing the pain and suffering of patients. In this regard, the results of a study performed by

Jazaieri et al. [36] in the form of a randomized clinical trial show that compassion therapy is associated with improvement in compassion for others, receiving compassion from others, and self-compassion. Also, in a study conducted among patients with chronic psychological problems, who were admitted to a hospital[37], it was found that CFT significantly reduced self-criticism, depression and anxiety. Haj Sadeghi et al. studied the CFT effects on anxiety and depression in women with breast cancer and showed their significant effect on reducing depressive and anxiety symptoms.[38] Pepping et al. also indicated that CFT improved sexual function and reduced depression in sexually minor young people with depressive symptoms.[39] Frostadottir et al. compared the effectiveness of mindfulness-based cognitive therapy (MBCT) and CFT on symptom change, mindfulness, and self-compassion in patients with depression, anxiety, and stress. Both treatments showed a significant increase in self-awareness and self-compassion and a reduction in depression, anxiety, and stress.[40]

These all are in line with the findings of the present study. Psychological training that compassion therapy provides can play an important role in enabling the patients to maintain compatibility with their disease. [41]During the training period about compassion, people learn how to cultivate self-directed kindness in their minds.[42] In general, CFT was effective in strengthening and creating compassion in people by providing compassionate techniques, identifying self-compassionate thoughts, removing barriers to self-compassion, and protecting the individual against negative situations.[43] Depression and anxiety in response to life's problems, especially cancer, are natural and inevitable and they learn to respond in a kind and receptive state of mind to their disease.[44] Instead of answering in forms of suppression of experience, avoidance of social relationships or self-blame, which worsen the situation, patients learn to respond with awareness and compassion to their body-related inner painful experiences.[45] Compassion focused therapy is in fact generated from within, but directed towards self and others.[46] This leads to improved well-being and dramatic changes in the struggle with depression and anxiety induced by cancer[47]. At the behavioral level, compassion leads to psychological resilience and adaptive psychological functioning and the removal of dominance of depression, anxiety, and threatening behaviors.[48] In CFT, instead of being sensitive to the suffering of oneself and others, we are encouraged to be kind to ourselves, be rational, and avoid feeling ashamed and weak. Such an attitude directs people to kind behaviors and reduces their anxiety in various anxious situations.[49] In fact, when patients are able to pay attention to themselves and others with deep compassion, with internal reserves of confidence, and with high willingness to take action, they better approach others and flourish personally regardless of the diseases.[50] A compassionate mind is indeed less dominated by negative cancer-related emotions and following behaviors are less driven by threats. The patient, then, can choose goals that lead to a meaningful life.[51] Therefore, this approach is an appropriate intervention to help patients with COVID-19 adjust to the side effects and psychological complications of their disease. The findings of this study showed that compassion therapy is associated with a significant reduction in depression and anxiety in people with COVID-19 after discharge. These findings can be promising in the view of using psychological interventions as a complementary treatment in patients with COVID-19.

Limitations of the present study included: low statistical population, non-isolation of patients in terms of disease severity and also all participants were males. Also, patients were not isolated in

terms of disease severity. The next limitation was holding face-to-face training sessions for the experimental group with the possibility of contracting the COVID-19 virus.

CONCLUSION

This study showed that the CFT could reduce anxiety and depression in patients with COVID-19 disease. Therefore, to prevent further psychological consequences caused by this virus, it is recommended to use this intervention in designing treatment programs for psychological centers, comprehensive health service centers, counselors, clinical psychologists, and therapists. It is also necessary that health policy makers provide preventive, supportive, educational and timely intervention programs in the early stages of the onset of epidemics to minimize the stress of these diseases in the community so that they do not face serious problems in the next stages.

ACKNOWLEDGMENTS

This article is the result of a research project with the code of ethics committee IR.THUMS.REC.1400.001 under the support of the Vice Chancellor for Research and Technology of Torbate Heydariyeh University of Medical Sciences. Therefore, we thank all relevant officials and all participants for participating in the research project.

REFRENCES

1. Singhal T. A review of coronavirus disease-2019 (COVID-19). Indian J Pediatr. 2020;87(4):281-6.
2. Fouladi Dehaghi B, Ghodrati-Torbati A, Teimori G, Ibrahimi Ghavamabadi L, Jamshidnezhad A. Face masks vs. COVID-19: a systematic review. Invest Educ Enferm. 2020;38(2).
3. Sarmadi M, Ghodrati-Torbati A, Gazerani A, Yaghoobi H, Bakhtiari-Dovvombaygi H. Association of HIV/AIDS and COVID-19 variables: an ecological study. HIV AIDS Rev. 2021;20(2):71-7.
4. Kumar A, Somani A. Dealing with Corona virus anxiety and OCD. Asian J Psychiatr. 2020;51:102053.
5. Peng EY-C, Lee M-B, Tsai S-T, Yang C-C, Morisky DE, Tsai L-T, et al. Population-based post-crisis psychological distress: an example from the SARS outbreak in Taiwan. J Formos Med Assoc. 2010;109(7):524-32.
6. Seyyedmoharrami I, Dehaghi BF, Abbaspour S, Zandi A, Tatari M, Teimori G, et al. The relationship between organizational climate, organizational commitment and job burnout: Case study among employees of the university of medical sciences. Open Public Health J. 2019;12(1).
7. Rahmani R, Sargazi V, Jalali MS, Babamiri M. Relationship between COVID-19-caused Anxiety and Job Burnout among Hospital Staff: A Cross-sectional Study in the Southeast of Iran. J Occup Hyg Eng. 2021;7(4): 61-9.
8. Abbaspour S, Tajik R, Atif K, Eshghi H, Teimori G, Ghodrati-Torbati A, et al. Prevalence and correlates of mental health status among pre-hospital healthcare staff. Clin Pract Epidemiol Ment Health. 2020;16:17.
9. Ying Y, Ruan L, Kong F, Zhu B, Ji Y, Lou Z. Mental health status among family members of health care workers in Ningbo, China, during the coronavirus disease 2019 (COVID-19) outbreak: a cross-sectional study. BMC Psychiatry. 2020;20(1):1-10.
10. Liu S, Yang L, Zhang C, Xiang Y-T, Liu Z, Hu S, et al. Online mental health

services in China during the COVID-19 outbreak. Lancet Psychiatry. 2020;7(4): e17-e8.
11. Seyedmoharrami I, Atif K, Tatari M, Teimori Boghsani G, Ghodrati Torbati A. Accomplices of job burnout among employees of a medical university. Russian Open Medical Journal. 2019; 8(1):105. doi: 10.15275/rusomj. 2019. 0105
12. Lai J, Ma S, Wang Y, Cai Z, Hu J, Wei N, et al. Factors associated with mental health outcomes among health care workers exposed to coronavirus disease 2019. JAMA netw open. 2020;3(3): e203976-e.
13. Nolen-Hoeksema S, Wisco BE, Lyubomirsky S. Rethinking rumination. Perspect Psychol Sci. 2008; 3(5):400-24.
14. Seyyedmoharrami I, Kimiaei SA, Bagheri F, Ghodrati Torbati A, Parsa Z. The role of personality factors in predicting life satisfaction of non-native students with the mediating role of self-differentiation. Polish Annals of Medicine. 2021;28(2):34-41.
15. Dong X-Y, Wang L, Tao Y-X, Suo X-l, Li Y-C, Liu F, et al. Psychometric properties of the Anxiety Inventory for Respiratory Disease in patients with COPD in China. Int J Chron Obstruct Pulmon Dis. 2017;12:49.
16. Willgoss TG, Yohannes AM, Goldbart J, Fatoye F. "Everything was spiraling out of control": experiences of anxiety in people with chronic obstructive pulmonary disease. Heart Lung. 2012;41(6):562-71.
17. Liu K, Chen Y, Wu D, Lin R, Wang Z, Pan L. Effects of progressive muscle relaxation on anxiety and sleep quality in patients with COVID-19. Complement Ther Clin Pract. 2020;39: 101132.
18. Bajema KL, Oster AM, McGovern OL, Lindstrom S, Stenger MR, Anderson TC, et al. Persons evaluated for 2019 novel coronavirus—United States, January 2020. MMWR Morb Mortal Wkly Rep. 2020;69(6):166.
19. Merrells K. What you need to know about nutrition and the immune system: Staying strong with TBI.
20. Yang L, Wu D, Hou Y, Wang X, Dai N, Wang G, et al. Analysis of psychological state and clinical psychological intervention model of patients with COVID-19. MedRxiv. 2020.
21. Yao H, Chen J-H, Xu Y-F. Patients with mental health disorders in the COVID-19 epidemic. Lancet Psychiatry. 2020; 7(4):e21
22. Lehrer PM, Karavidas MK, Lu S-E, Feldman J, Kranitz L, Abraham S, et al. Psychological treatment of comorbid asthma and panic disorder: a pilot study. J Anxiety Disord. 2008;22(4):671-83.
23. Deshmukh VM, Toelle BG, Usherwood T, O'Grady B, Jenkins CR. Anxiety, panic and adult asthma: a cognitive-behavioral perspective. Respir Med. 2007;101(2):194-202.
24. Sánchez-Román S, Velasco-Furlong L, Rodríguez-Carvajal R, Baranda-Sepúlveda J. Effectiveness of a cognitive-behavioural program to reduce anxiety in medically ill patients. Rev Invest Clin. 2006;58(6):540-46.
25. Neff KD. Self-compassion, self-esteem, and well-being. Soc Personal Psychol Compass. 2011;5(1):1-12.
26. Alicke MD, Sedikides C. Self-enhancement and self-protection: What they are and what they do. Eur Rev Soc Psychol. 2009;20(1):1-48.
27. Kyeong LW. Self-compassion as a moderator of the relationship between academic burn-out and psychological health in Korean cyber university students. Pers Individ Differ. 2013; 54(8):899-902.
28. Taheri Daghiyan A, Qasemi Motlagh M, Mehdian H. The effectiveness of dialectical behavior therapy on anxiety and rumination in depressed patients.

Med J Mashhad Univ Med Sci. 2019; 62:264-74.
29. Ghodrati Torbati A, Nejat H, Toozandehjani H, Samari AA, Akbari Amarghan H. Effect of Compassion-Focused Therapy (CFT) on Blood Cortisol and Cognitive-Emotion Regulation in Drug Abusers. Jundishapur J Health Sci. 2020;12(1).
30. Beck AT, Steer RA, Brown GK. Beck depression inventory. 1996.
31. Dabson E, Mohammadhkani P. Psychometric features of depression inventory-II in depressive disorders in partial remission. J Rehabil. 2007; 8(29):80-6.
32. Beck AT, Epstein N, Brown G, Steer RA. An inventory for measuring clinical anxiety: psychometric properties. J Consult Clin Psychol. 1988;56(6):893.
33. Kaviani H, Mousavi A. Psychometric properties of the Persian version of Beck Anxiety Inventory (BAI). Tehran Univ Med J. 2008.
34. Pinto-Gouveia J, Duarte C, Matos M, Fraguas S. The protective role of self-compassion in relation to psychopathology symptoms and quality of life in chronic and in cancer patients. Clin Psychol Psychother. 2014;21(4): 311–23.
35. Kirby JN. Compassion interventions: The programmes, the evidence, and implications for research and practice. Psychol Psychother. 2017;90(3):432–55.
36. Jazaieri H, Jinpa GT, McGonigal K, Rosenberg EL, Finkelstein J, SimonThomas E, et al. Enhancing compassion: A randomized controlled trial of a compassion cultivation training program. J Happiness Stud. 2012;14(4):1113–26.
37. Gilbert P, Procter S. Compassionate mind training for people with high shame and self-criticism: Overview and pilot study of a group therapy approach. Clin Psychol Psychot. 2006;13(6):353–79.
38. Haj Sadeghi Z, Yazdi-Ravandi S, Pirnia B. Compassion-Focused Therapy on Levels of Anxiety and Depression Among Women with Breast Cancer: A Randomized Pilot Trial. Int J Cancer Manag. 2018;11(11):e67019. doi: 10.5812/ijcm.67019.
39. Pepping CA, Lyons A, McNair R, Kirby JN, Petrocchi N, Gilbert P. A tailored compassion-focused therapy program for sexual minority young adults with depressive symotomatology: study protocol for a randomized controlled trial. BMC Psychol. 2017;5(1):5.
40. Frostadottir AD, Dorjee D. Effects of Mindfulness Based Cognitive Therapy (MBCT) and Compassion Focused Therapy (CFT) on Symptom Change, Mindfulness, Self-Compassion, and Rumination in Clients With Depression, Anxiety, and Stress. Front Psychol. 2019;10:1099.
41. Przezdziecki A, Sherman KA, Baillie A, Taylor A, Foley E, Stalgis-Bilinski K. My changed body: Breast cancer, body image, distress and selfcompassion. Psychooncology. 2013;22(8):1872–9.
42. Thimm JC. Relationships between early maladaptive schemas, mindfulness, self-compassion, and psychological distress. Int J Psychol Psychol Therap. 2017;17(1):3-17.
43. Krieger T, Hermann H, Zimmermann J, grosse Holtforth M. Associations of self-compassion and global self-esteem with positive and negative affect and stress reactivity in daily life: Findings from a smart phone study. Pers Individ Differ. 2015;87:288-92.
44. Ross S, Bossis A, Guss J, Agin-Liebes G, Malone T, Cohen B, et al. Rapid and sustained symptom reduction following psilocybin treatment for anxiety and

depression in patients with life-threatening cancer: A randomized controlled trial. J Psychopharmacol. 2016;30(12):1165–80.
45. Gale C, Gilbert P, Read N, Goss K. An evaluation of the impact of introducing compassion focused therapy to a standard treatment programme for people with eating disorders. Clin Psychol Psychother. 2014;21(1):1–12.
46. Gilbert P. The origins and nature of compassion focused therapy. Br J Clin Psychol. 2014;53(1):6-41.
47. Tirch D, Gilbert P. Compassion-focused therapy. In: Berlant L, editor. Working with emotion in cognitive-behavioral therapy: Techniques for clinical practice. Routledge; 2014. p.35–59.
48. Morris BA, Shakespeare-Finch J, Scott JL. Posttraumatic growth after cancer: the importance of health-related benefits and newfound compassion for others. Support Care Cancer. 2012; 20(4):749-56.
49. Alonso-Fernández M, López-López A, Losada A, González JL, Wetherell JL. Acceptance and commitment therapy and selective optimization with compensation for institutionalized older people with chronic pain. Pain Med. 2016;17(2):264-77.
50. Beck AT, Clark DA. Anxiety and depression: An information processing perspective. Anxiety Res. 1988;1(1): 23–36.
51. Griffiths RR, Johnson MW, Carducci MA, Umbricht A, Richards WA, Richards BD, et al. Psilocybin produces substantial and sustained decreases in depression and anxiety in patients with lifethreatening cancer: A randomized double-blind trial. Psychopharmacol. 2016;30(12):1181–97.