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Comparison Of The Effectiveness Of Mindfulness Training And Cognitive Behavioral Therapy On Nurses' Mental Health In Coronavirus Epidemics

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Abstract

Background and Aim: Mental health is one of the most important issues in the field of health and wellness that is of special importance to nurses in maintaining the health of patients due to their occupational nature. Therefore, the aim of this study was to compare the effectiveness of mindfulness training and cognitive-behavioral therapy on nurses' mental health in coronavirus epidemics.

Methods: The present study is applied in terms of purpose and semi-experimental in terms of method with pre-test design and post-test with control group. The statistical population of this study included all nurses working in hospitals in Tehran in 1400 that 45 people were selected by available sampling method and one group waiting for treatment and two experimental groups (15 people in each group) were randomly replaced. . One experimental group received 8 90-minute sessions with mindfulness method and one experimental group received 8 90-minute sessions with cognitive-behavioral therapy and the waiting group did not receive any training. The groups completed the Mental Health Questionnaire (GHQ-28) as a pretest and posttest. Analysis of covariance was used to analyze the data.

Results: The results showed that the mean score of mental health in the mindfulness experimental group and in the experimental cognitive-behavioral therapy group was

significantly different ($p < 0.01$) and this rate was not significantly different in the control group.

Conclusion: The findings of this study recognize the importance of the use of mindfulness therapy and cognitive behavioral therapy in increasing and improving the mental health of nurses. These two approaches can be used to improve the level of occupational health of nurses and provide optimal health services in hospitals.

Keywords: Mindfulness, Cognitive Behavioral Therapy, Mental Health, Corona

Introduction

Nursing is one of the important fields of health and treatment that has a direct relationship with human health. Today, the medical and nursing systems are able to continue to provide their effective services by identifying the factors that weaken and decrease the efficiency and performance of nurses and other service and treatment staff and devise measures to manage them as optimally as possible. (Al Homayun et al., 2013). Healthcare team members, and nurses in particular, are people who experience high levels of stress in their professional lives. (Magnago et al., 2010) In the surveys conducted in the field of occupational stress over the past 30 years, the nursing profession is considered the first source of stress due to the insufficient number of nurses and as a result the high pressure of work. (Hosseini et al., 2015) if the National Institute of Occupational Health and Safety has determined the nursing profession at the 27th position in terms of acceptance of professional stress by examining the occupational stress of 130 professions. (Rostami et al., 2014) According to the reports of the Nursing System Organization, 75% of nurses suffer from depression and physical and mental illnesses. (Meturipour et al., 2012)

Corona virus (Covid-19) is a large family of viruses that may cause respiratory infections from colds to more severe diseases such as MERS and Sars. Recently, this virus has been named as COVID-19; The outbreak of the new virus started in December 2019 in Wuhan, China (World Health Organization, 2020). The symptoms of this virus vary from mild to severe. Signs and symptoms of infection include fever, cough, and difficulty breathing (Wu and McCogan, 2020). The emergence of covid-19 has put an unprecedented pressure on the country's healthcare system and created various challenges for its nursing workforce, which potentially affects nurses' work performance and mental health, and even endangers their lives. (Lu, Yao, Xi, Zhang, Zhang, Chen, and Liu, 2020; Maben and Bridges, 2020; Mo, Deng, Zhang, Long, Liao, Rang, and Hong, 2020). Anxiety is common among health care workers who are directly involved in the management of patients with epidemic diseases. Available data suggest that the prevalence of anxiety among health care workers during a pandemic ranges from 22.6 to 36.3% (Liu, Gill, Wilder-Smith, & Rocklaw, 2020), rates that are significantly higher. were higher than those observed in the general population. Among health care workers, nurses have been reported to experience the highest levels of anxiety

and the highest prevalence of anxiety, ranging from 15% to 92% (Alwani, Majed, Hirwani, Ruf, Saad, Shad, & Hamirani et al., 2020; Lu , Gao, Yu and Wong, 2020).

The main source of anxiety in nurses during the covid-19 pandemic is the fear of being infected with covid-19 (Mo et al., 2020). In this regard, the findings of Zhang et al. (2020) showed that the mental pressure and stress caused by the Covid-19 disease affect the general health of people, the quality of sleep and the symptoms of post-traumatic stress, and the symptoms caused by mental pressure can be in different forms. is problematic during disease outbreaks (Bartol et al., 2016). In general, when psychological pressure increases, it affects people's health, health is a multidimensional concept and is associated with a state of complete physical, mental and social well-being (Cohen et al., 1983). The health of individuals is the main prerequisite for improving the health and health of society (Heiman and Shindo, 2020).

The World Health Organization (2004) defines mental health as a state of well-being in which a person recognizes his abilities, uses them effectively and productively, and is useful for his community. Mental health is included in the general concept of health, and health means the ability to play social, mental and physical roles. People's mental health is very important, and for this reason, today, different societies have mobilized to organize policies related to mental health and the prediction of mental illnesses. These policies, which can have very high human and economic values, require employment to be recognized first of all, the needs of mental health and the causes of its disorder (Ganji, 2017). In fact, one of the most important factors that puts people's health at risk is high stress and low tolerance of people, and according to cognitive behavioral perspectives, when a person faces mental pressure, he goes through three stages of warning, resistance, and collapse (Hong and Rong Liu, 2020) and a person who is not able to cope properly with all kinds of stressors, may progress to the point of confusion and collapse in physical and mental health. In short, experiencing stress for a long time can weaken the human body's immune system (Chen et al., 2020) and make a person vulnerable to diseases that range from small examples such as colds to more serious ones such as Covid-19.

Meanwhile, mindfulness can be a way to increase the mental health of nurses during the covid-19 pandemic (Luizo, 2018; Rodriguezuga, Palau, Manus Sanjos, 2020). Mindfulness is the ability to pay attention to the present moment in an intentional and non-judgmental way (Ludwig and Kabat-Zinn, 2008). In other words, mindfulness is considered as focused attention on objective experience in the present moment (Essonsen, Cornens, Wicker, & Dundas, 2017). Conversely, fear of Covid-19 is focused on the future, such as being close to the virus or losing loved ones to the disease. Meanwhile, mindfulness conveys awareness and acceptance of the present moment, which may neutralize the negative effect of fear associated with Covid-19 and allow people to overcome the dominant symptoms such as anxiety, hopelessness and depression that are present in times of global crisis. exist, not be

(Bahan, 2020). Mindfulness is associated with emotion regulation, increases well-being and flexibility, and promotes a state shift from an automatic state to one of cognitive awareness, which enables a more thoughtful approach to clinical decision-making (Gattire, Mayer, Griffey, & Gould, 2015; Durham, Sohaida, Normand, Jankiewicz, & Fogg, 2019; Kahneman, 2011) and one of the actions carried out by the La Paz University Hospital mental health team was the development of a brief mindfulness-based intervention for frontline health care workers (including nurses). For actual training, if nurses have strong mindfulness and are aware of their thoughts and feelings and can control their thoughts and feelings, their stress will be reduced (Askari and Hatami, 2018).

Another method effective on mental health is cognitive behavioral therapy. Cognitive-behavioral therapy is a combination of cognitive and behavioral approaches that helps a person to recognize their distorted thinking patterns and dysfunctional behaviors, and uses regular discussions and structured behavioral assignments to change these distorted and dysfunctional thoughts. Cognitive behavioral therapy is effective in creating and increasing capabilities such as decision-making, motivation, acceptance of responsibility, positive communication with others, happiness, self-esteem, problem solving, self-regulation, self-sufficiency and mental health. Based on this, according to the studies conducted and the theories presented in this research, the effectiveness of mindfulness training and cognitive behavioral therapy on the mental health of nurses in the conditions of the corona virus epidemic was noticed, so the researcher is looking for an answer to the question of whether the mind Is there a difference between awareness and cognitive behavioral therapy in the mental health of nurses in the conditions of the corona virus epidemic?

Method

The current research is practical in terms of its purpose and in terms of method, it is a semi-experimental type with a pre-test and post-test design with a control group. The statistical population of this research included all the nurses working in Tehran hospitals in 1400, 45 of whom were selected by available sampling method, and one group awaiting treatment and two experimental groups (each group of 15 people) were randomly replaced. . An experimental group of 8 90-minute sessions with mindfulness method and an experimental group of 8 90-minute sessions with cognitive behavioral therapy method were trained, and the waiting group did not receive educational treatment. The groups completed the mental health questionnaire (GHQ-28) as a pre-test and post-test. Covariance statistical test was used to analyze the data.

Research tool

General Health Questionnaire (GHQ-28)

In the present study, the 28-question mental health form prepared by Goldberg and Hiller (1979) is used. The 28-question form of Goldberg and Hiller (1979) was built in order to

increase the amount of variance and based on factor analysis on the original form of Goldberg (1972) and includes 4 scales of 7 questions that include physical symptoms, anxiety/insomnia, dysfunction measures social and depression. The answer is placed on a 4-point scale from one (the mildest condition) to four (the most severe condition). Therefore, lower scores indicate greater mental health (Taqvi, 2010). This questionnaire has good reliability and validity in the country of origin and it has been investigated in Iranian culture by Taghvi (2010). In a sample of students of Shiraz University, he has reported the reliability of the questionnaire using retest, split and Cronbach's alpha methods as 0.70, 0.93 and 0.90 respectively, and the validity of the questionnaire using three The method includes: concurrent validity with the MHQ mental health questionnaire, the correlation of the subtests of this questionnaire with the total score and factor analysis have been described as satisfactory. The validity of this scale was investigated by Khosrowjerdi and Khanzadeh (2006), through convergent validity. The correlation of the data obtained from the implementation of two general health questionnaires and SCL-90-R is 0.72 and its reliability is reported by Cronbach's alpha as 0.76.

Mindfulness

Mindfulness therapy in this research refers to therapy sessions that were held during 8 sessions (8 weeks) of 90 minutes, once a week based on Kabat Zen's mindfulness therapy sessions (MBSR).

Summary of the content of treatment sessions:

1) The first session: Getting to know automatic guidance and how to direct attention to different parts of the body.

2) The second session: more focus on the body and more control of the reaction to daily events.

3) Third session: Deliberate focus of awareness on breathing, concentration and greater integration.

4) The fourth session: teaching presence of mind and avoiding distractions.

5) Session 5: Teaching permission to be present to the experience as it is, without judging or changing it.

6) The sixth session: Familiarizing the participants with the way that the creation and thoughts limit the experience.

7) Seventh session: reviewing the symptoms of substance abuse and relapse, suicidal thoughts

8) Session 8: Teaching how to regularly practice mindfulness.

Summary of cognitive behavioral therapy sessions

The details of the intervention in the cognitive behavioral therapy group by sessions will be as follows. In the first session, the distinction between thoughts and feelings and their grading was taught. In the second session, thoughts come on their own and cognitive errors were discussed and cognitive errors and ineffective thoughts were evaluated and their benefits and harms were discussed. In the third session, the reconstruction of cognitive errors and dysfunctional thoughts was taught and the evidence confirming or rejecting them was examined. In the fourth session, planning to carry out activities, starting stagnant activities and having a neutral attitude to problems were taught. The fifth session of problem solving and problem solving methods was taught. In the sixth session, logical errors were evaluated and in addition, anger control and how to deal with it were taught. The seventh session was taught to identify stress and how to deal with it. In the eighth session, communication skills, communication barriers and various communication styles were taught and the contents of the previous sessions were summarized.

Results

The average and standard deviation of the mental health variable in the two groups of mindfulness training and cognitive behavioral therapy and the control group are shown in table (1) separately for pre-test and post-test.

Table (1): mean and standard deviation of mental health variable

Standard deviation		Average		group	Variable
post-test	pre-exam	post-test	pre-exam		
24/55	29/85	134/08	64/25	Mindfulness	**mental health**
28/38	22/45	148/21	75/35	cognitive behavioral therapy	
6/42	7/18	72/47	67/21	Control	

As seen in Table 1, changes in pre- Test, post-test in mental health variable occurred in both mindfulness and cognitive behavioral therapy groups. In mindfulness and cognitive behavioral therapy, the mean and standard deviation of mental health scores increased significantly in the post-test compared to the pre-test. In this research, the statistical test of covariance was used due to its suitability and compatibility with the research hypothesis.

Table (2): Comparison of the difference in post-test and pre-test scores of mental health in three groups of mindfulness and cognitive behavioral therapy and control

P	F	MS	DF	SS	Dependent variable	Source
0/001	23/70	2355/53	2	4711/06	mental health	group
		43/31	43	1862/52	mental health	error
			45	12421/35	mental health	Total

According to the results of Table 2, after adjusting the pre-test scores, the difference between the groups is significant at the alpha level of 0.001; Therefore, the hypothesis of the research based on the effectiveness of mindfulness training and cognitive behavioral therapy on the mental health of nurses in the conditions of the corona virus epidemic and the difference between the groups in the post-test is confirmed. Tukey's post hoc test was used to accurately check the mean of the groups. According to the results of Tukey's test, the average difference between the pre-test and post-test mental health scores in the cognitive behavioral therapy group was lower than the control group, and the average score difference of the mindfulness group was lower than the control group (p 0.001, in other words, the cognitive behavioral therapy group and Mindfulness has been more effective on mental health than the control group, but no significant difference was found between the average pre-test and post-test scores of the cognitive-behavioral therapy and mindfulness groups.

Discussion and conclusion

The purpose of this research was to compare the effectiveness of mindfulness training and cognitive behavioral therapy on the mental health of nurses in the context of the corona virus epidemic. The results obtained from the comparison of the post-test of mental health in the two groups indicate that after participating in the sessions of mindfulness and cognitive behavioral therapy, the average scores of the variables mentioned in the post-test stage have increased compared to the pre-test stage, so mindfulness and cognitive behavioral therapy are more effective. The mental health of nurses has had a significant impact in the conditions of the corona virus epidemic. This finding is with the findings of Pakenham et al. (2020), Lundy et al. (2020); McCracken et al. (2021), Gilmartin, Goyal, Hemati, Mann, Sant, and Chopra (2017), Fisher et al. (2016), Moynihan, Chapman, and Clurman (2013) and Zahrabi et al. (2015); Shahriari et al. (2018), Lotfi Kashani et al. (2012), Golpasha and Asayesh (2016) agree. In explaining the effectiveness of mindfulness training, it can be said that the medical staff in the hospital, who are at the forefront of fighting this disease, experience a high level of anxiety, which causes mental and emotional problems in them. The result of the study by Arnaz, García-Sorena, López Sanago and Bloch (2019) shows that psychological factors such as disease anxiety make a person vulnerable to the disease. Corona brings many psychological problems. One of the psychological problems of contagious diseases like Corona is disease anxiety (Alipour et al., 2019). Anxiety has a proven effect on the body and can have destructive effects on the functioning of the body's immune system (Shahyad and

Mohammadi, 2020). Medical staff working in hospitals during the corona epidemic have reported experiences of anxiety (Hassamel, 2021). The cause of which can be the possibility of being infected with the corona virus and the death of oneself and loved ones due to the corona disease, so psychotherapy can play an important role in reducing anxiety and stress caused by the corona disease. During the Corona epidemic, medical staff can use mindfulness exercises such as cognitive therapy, reducing the reaction to disturbing thoughts and feelings that are associated with the experience of pain. Mindfulness has shown positive effects in the field of increasing positive emotions and reducing negative emotions, reducing negative behavior patterns, automatic thoughts and regulating positive behaviors related to health, improving mood, reducing depression and anxiety, and increasing psychological adaptation (Sajadi and Askarizadeh, 2015). In other words, in stress, confusion, mindfulness helps a person to eliminate them by living in the present, being alert and accepting emotions (Sichywicz, 2018). Therefore, it can be said that nurses who live in the present moment and do not pay attention to disturbing thoughts caused by the coronavirus epidemic, experience less disease anxiety. do In general, the skill of mindfulness allows people to be encouraged to simply observe and accept their emotional experiences using mindfulness practices without attempting any kind of change. Probably, facing negative emotions in this way can reduce impulsiveness to stress and anxiety. When a person practices mindfulness in their daily activities, they recognize when they are normal and give themselves the opportunity to enter and live in the present moment, thus reversing the chain of events that lead to unpleasant feelings. And it causes anxiety, it breaks. Mindfulness meditation makes a person respond creatively to the current situation and frees himself from involuntary reactions, and physical examination exercises by directly feeling the body increases the sensitivity of receiving body messages and reduces mental disturbances. found and thus people suffering from the disorder can continue their normal life despite these terrible emotions and feelings, and this finding is confirmed by the research of Alipour Shaheer, Esfahani Khaleghi, Arabzadeh and Alipour Shaheer (2021), which showed that the mind Awareness can improve the situation of doctors during the corona epidemic in the fields of corona anxiety. is consonant In fact, in methods based on mindfulness, it uses meditation techniques such as becoming aware of breathing and increasing awareness of the situation and oneself in order to cope and survive in times of crisis, and it makes a person feel less pain in the long and short term. bear physically and emotionally. Mindfulness is the skill of recognizing that everything happens in the present, and this makes patients perceive events in the present as less distressing.

In explaining the effectiveness of cognitive behavioral therapy training on the mental health of nurses in the conditions of the corona virus epidemic, it can be said that cognitive behavioral therapy significantly reduces the symptoms of anxiety and stress. Recent studies indicate that cognitive behavioral therapy is an effective therapy for reducing anxiety and stress. The evaluation of the results of the cognitive-behavioral treatment of anxiety is based

on the protocols that have been used especially for investigating individual disorders. Cognitive behavioral therapy is based on the assumption that people with anxiety disorders have learned maladaptive patterns of understanding and responding to the environment and also lack effective coping strategies. From this point of view, a person suffering from anxiety suffers from excessive worry and anxiety because instead of constructive behavior, he is prone to perceive threat, avoid response and helplessness. After years of identifying potential threats and responding in the form of anxiety, worry, and avoidance, these clients develop automatic and persistent patterns of responding. Anxious thoughts, feelings, and behaviors are persistent and repetitive, so eventually the chain is completely out of consciousness. Considering that the main criterion of anxiety is the cause of worry, therefore, by using cognitive and behavioral therapy and the cognitive content of therapy sessions and perceptual change of patients, their processing style is changed, and as a result, new strategies are proposed to solve patients' problems with logical analysis methods. Considering that anxiety is a disorder that arises from the interaction of physiological, cognitive and behavioral components, comprehensive cognitive behavioral therapy can be highly effective in its case. Regarding the reasons for the effectiveness of cognitive behavioral therapy in reducing anxiety and stress, the components of this therapy can be mentioned. Techniques that target the physiological component of anxiety include diaphragmatic or deep breathing training, progressive relaxation training, and mental relaxation training. These techniques target the physical and physiological component of anxiety. By teaching these techniques, clients learn to cope appropriately with the symptoms and triggers of anxiety, so as to reduce the baseline level of physical tension. These strategies can be considered basic emotion regulation skills that patients with general anxiety usually lack. Practicing relaxation requires one to focus on the present and the here and now, and is therefore suitable for people suffering from anxiety and stress, as the nature of worry is future-oriented. Cognitive techniques teach clients to identify their anxious thoughts and examine them objectively. The therapist tries to expose the patient to new information, which he has previously ignored. These techniques help clients adjust and correct their interpretations and misperceptions of environmental events and develop new perspectives. Clients learn that complexity and ambiguity characterize most life situations, and thus learn to tolerate this ambiguity and uncertainty and become more cognitively flexible. Finally, the clients use these new cognitive perspectives as a different response to anxiety-provoking events. Techniques that target the behavioral component of anxiety include identification of anxiety safety behaviors, identification and elimination of active and passive avoidance behaviors, mental exposure and coping exercises, lifestyle behavior modification, and identification of neglected behaviors. These techniques gradually eliminate the safety behaviors of worry and active and passive avoidance through exposure and response inhibition tasks.

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