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Reducing depression and anxiety symptoms in patients with Parkinson's disease: The effectiveness of group cognitive behavioral therapy

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ABSTRACT

Introduction: /Objective: The aim of this study was to investigate the effectiveness of group cognitive behavioral therapy in depression and anxiety symptoms in patients with Parkinson's Tehran city.
Methods: This quasi-experimental study was conducted with experimental and control groups at pretest, posttest, and follow-up. Patients 60–75 years old with Parkinson's disease centers and psychiatric services made up the study population. Based on a random sample of 90 people in Tehran city who scored highly on both the Beck Anxiety Inventory and the Beck Depression Scale, in two 45-person groups-the experimental group and the control group-were randomly assigned. The experimental group underwent group cognitive behavioral therapy for 8 weeks, while the control group just received training once per week. Methods of analysis of variance with repeated measures were employed to test the hypotheses.
Results: The outcomes showed the independent variable is successful in lowering symptoms of anxiety and depression. Patients with Parkinson's disease who participated in group cognitive behavioral therapy for stress reduction showed a reduction in their anxiety and depressive symptoms.
Conclusion: Effective psychological interventions, like group cognitive behavioral therapy, can improve mood, lessen anxiety and depression, and help patients adhere more closely to treatment guidelines. As a result, these patients can help prevent the complications of Parkinson's disease and take effective action to raise their level of physical and mental health.

1. Introduction

Many Parkinson's disease patients also struggle with anxiety and/or sadness. Grieving after receiving a Parkinson's diagnosis and from losing one's freedom and movement can lead to depression and anxiety. Parkinson's disease causes chemical changes in the brain, which are also connected to depression and anxiety. Parkinson's disease and depression frequently have similar symptoms, which makes a diagnosis challenging. However, it is crucial to recognize and address mental health issues. Parkinson's disease symptoms can be treated with those of sadness and anxiety with appropriate treatment. [1] Parkinson's disease is a neurological disorder that mostly impacts movement in the body. Neither a cause nor a treatment are currently understood. The symptoms are brought on by the gradual death of some brain cells, which results in a deficiency of dopamine, a chemical messenger required for steady, controlled movement of the body. Parkinson's disease symptoms appear gradually over years and develop slowly [2].

These symptoms can affect and disrupt many daily tasks and activities such as walking, talking, writing, dressing and eating. A wide range of 'non-motor' symptoms are also common, including problems sleeping, fatigue, pain, slowness of thinking, memory problems, constipation and urinary incontinence. Around 80,000 Australians have Parkinson's disease1 and this number is expected to grow as the population continues to age. While most people diagnosed with Parkinson's are aged over 60, 15% of people with Parkinson's are diagnosed before the age of 50. [2–4].

Most people feel anxious sometimes, but for some people, anxious feelings are overwhelming and cannot be brought under control easily.

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An anxiety disorder is a condition characterised by feelings of apprehension or nervousness which don't go away and which affect a person's ability to carry out normal daily activities. There are many types of anxiety disorders, each with a range of symptoms. A person may be experiencing an anxiety disorder if, for some time, worry and fear have interfered with other parts of life. An anxiety disorder will usually be far more intense than normal anxiety and go on for weeks, months or even longer. An anxiety disorder can be expressed in different ways, such as uncontrollable worry, intense fear (phobias or panic attacks) or upsetting dreams. Like depression, there are effective treatments available for anxiety disorders. [5–7].

Despite this established negative impact, depressive symptoms in Parkinson's Disease are under recognised and under treated in clinical practice. [8] Additionally, there is a lack of well designed studies that can guide clinical management of these patients. So far, only a few doubleblind, placebo controlled trials have specifically assessed antidepressant use for Parkinson's Disease patients, and even fewer research data exist on non pharmacological approaches for Parkinson's Disease-associated depression. As a result, evidence-based recommendations and consensus on the best treatment choice for this patient population are scarce. [9–11] The previous pharmacological studies have shown that medication traditionally used for depression in older people (e.g., SSRIs) may not be more effective than placebo in Parkinson's Disease, or may be difficult to utilise in this age group due to the aggravation of orthostatic hypotension, constipation, and cognitive impairment (e.g., tricyclic antidepressants). [12–14].

This is the first study in the context of Parkinson's Disease suggesting this intervention may be useful in future intervention studies, and the emerging themes of this intervention can also help understand and enhance patterns of coping with Parkinson's Disease.

2. Method

It was decided to randomly select the first of the six psychiatric services clinics that were willing to work with one another. The clinic, often known as a psychiatric clinic or health center, is situated in Tehran. A phone call regarding study and how it was communicated was made to 115 patients who were referred to the psychiatric clinic in the spring. Their ages ranged from 60 to 75, and the lowest and maximum cycle of education was a master's degree. The test for each group of 45 people to be tested, the potential for subject loss and degradation, as well as a wider sample of what you truly want to choose, were all indicated by research. [15] The patients were randomly divided into experimental and control groups and during the 5 subjects were assigned to experimental and control groups. During the 5 members of the experimental group were avoided in order to maintain the equality of the two groups, 5 patients were excluded from the control group. obtained informed consent from all participants.

3. Beck Depression Inventory

Beck Depression Inventory (BDI), for the first time in 1961 by Beck, Mendelson, Mock and Erbaugh developed. [16] In 1971, Beck and his colleagues at the Center for Cognitive Therapy, Philadelphia, and University of Pennsylvania presented a new version where the double negative sentences within the same symptoms had previously been removed. The final version was published in 1979. Revised form of the BDI was designed to determine the severity of depression in patients with psychiatric diagnosis. Shear strengths obtained from the response of depressed patients, including the four categories. Grades 9-0 show the minimum depression. Score of 16-10 indicates mild depression. Mean depression scores of 29-17 and 63-30 scores indicating more severe depression. [17–19].

4. Statistical analysis methods

Analysis of raw data from the study by SPSS-25 software in two cross sections and inferential statistical procedures using repeated measures ANOVA was performed.

5. Results

In the above Table 1 for the group and the control group to test, pretest and post-test and follow-up is. Because of the interaction of two variables F (96.05) is with degrees of freedom (1) at $p < 0.05$ meaningful. The interactive effects of two variables and test significant differences between experimental and control groups in mean show pretest, post-test and follow-up and it becomes clear that the teaching of effectiveness of group cognitive behavioral therapy in depression and anxiety symptoms in patients with Parkinson's is effective in the treatment group.

According to the results of Table 2, LSD post hoc tests revealed that the pretest - posttest and pretest - up in the $P \leq 0.01$. But the post-test and follow-up at $P \leq 0.05$ there is no significant difference. group cognitive behavioral therapy training in other words, reduce depression and anxiety symptoms in patients with Parkinson's have a significant effect over time.

6. Discussion

This study sought to determine whether group cognitive behavioral therapy had any impact on Parkinson's patients' experiences of anxiety and depression. Because of the interaction of two variables F (96.05) with degrees of freedom (1) at $p < 0.05$meaningful, but in the post-test and follow-up of the experimental group had mean decreases and it becomes clear group cognitive behavioral therapy training in reducing depression and anxiety symptoms in patients with Parkinson's is effective in the treatment group.

Onclusion The impact of group cognitive behavioral therapy on the depressive and anxiety symptoms of Parkinson's patients is hypothesized. The experimental group had mean decreases in the post-test and follow-up, indicating that group cognitive behavioral therapy training in reducing depression and anxiety symptoms in patients with Parkinson's is effective in the treatment group. This is because the interaction of two variables F (96.05) with degrees of freedom (1) at $p < 0.05$meaningful. Thus, the hypothesis is confirmed. The results showed after training in the pre-test and post-test and follow-up. There is a relationship between pretest - posttest and pretest –follow up. group cognitive behavioral therapy training in reduce depression and anxiety symptoms in patients with Parkinson's have a significant effect over time. In this regard, Eisner et al. (2014), in their research on depression in people over 18 years as the effectiveness of group cognitive behavioral therapy expressed group cognitive behavioral therapy for depression can be improved and will greatly inhibit the recurrence of depression. [19] Consistent with the findings of the study findings Christopher et al. (2010) the effects of group cognitive behavioral therapy training on depression as a group of counselors and psychologists expressed. [20] Results Hayes et al. (2010) also conducted a review of studies on the effects of cognitive therapy on mood disorders expressed group cognitive behavioral therapy as compared to a mere cognitive decline and mood disorders, particularly depression is more effective. [21] Hathaway et al. (2009) group cognitive behavioral therapy with religious origins significant way to reduce anxiety and depression in patients with these disorders expressed and citing similar research conducted in this area was noted that the effectiveness of this treatment in the majority of this research has been significant. In this regard Lynch et al. (2011) in a study of the relationship of group cognitive behavioral therapy the human emotional states expressed group cognitive behavioral therapy is much to overcome the negative mood and reduce depression in people in such a way that people who are familiar with the techniques of group

Table 1
Results of analysis of variance with repeated measures on the pretest, post-test and follow-up in both the control group and the experimental variables of depression and anxiety.

Variable Index	Squares	Degree of freedom	Mean Squares	F	Significant Level	Chi Eta	Statistical power
Group test (Greenhouse geisser)	975.37	1	515.47	96.05	0.001	0.79	0.99

Table 2
Results of the LSD post hoc test, post-test and follow-up test depression and anxiety test in the experimental group.

Test	The mean difference	SD	Significance level
Pre- and post-test	13.08	1.2	0.01
Pre-test and follow-up	14.11	1.008	0.02
Post teat- follow-up test	0.81	0.94	0.50

cognitive behavioral therapy and benefit from it in everyday life, in comparison with other individuals are less depressed and more successful way to overcome the negative mood and emotion. [22] Finally, Gilbert et al. (2012) in their study to investigate the relationship between happiness and expressed happiness and group cognitive behavioral therapy techniques of group cognitive behavioral therapy in everyday life is a significant correlation so that the people in their lives are more aware of the mind, less depressed than other people are. [23] group cognitive behavioral therapy for the disease. Depression is assumed the man who does not know that depression, happiness will know something. Depressed person, a lot of opportunities to false interpretation his sense of style and her attitude to what is going on around them, is influenced. In other words, because the depressed person feel alone and sad who mistakenly thinks that he does not care who is unfit and improper. The depressed person can be helped to emphasize instead on his depressed mood, pay to change their cognitive errors. [8,9,24] group cognitive behavioral therapy is due to the impact of depression during the follow-up to this point important that teaching group cognitive behavioral therapy techniques including relaxation, group cognitive behavioral therapy of breathing techniques and body checking is equipped and teaching these techniques to depressed people with diabetes can reduce their level of physical and mental stress.

Ethical considerations

In accordance with the Declaration of Helsinki, all research ethical issues were observed.

Consent

Informed consent was obtained from the participants.

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The current study received no funding.

Data availability

Data are available from authors on request.

Declaration of competing interest

The author declares no conflict of interest.

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