Research Paper:

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ABSTRACT

**Background:** Breast cancer, as the most common prevalent cancer in Iran, is associated with severe psychological consequences. This study aimed to compare the effectiveness of Cognitive-Behavioral Therapy (CBT) with an integrated package of Gestalt Therapy and Cognitive-behavioral Therapy (GT-CBT) on the self-efficacy of women with breast cancer.

**Methods:** This research was a quasi-experimental study with a pre-test, post-test design and a control group. Sixty patients with breast cancer referred to the Cancer Clinic of Imam Khomeini Hospital in Tehran City, Iran, were recruited through a convenience sampling method. They were randomly assigned to the control (n=20), CBT (n=20), and GT-CBT (n=20) groups. The study data were collected by the Sherer self-efficacy scale and analyzed using descriptive (Mean±SD) and inferential statistics (analysis of covariance [ANCOVA]) in SPSS software, v. 20.

**Results:** The results indicated that both CBT and GT-CBT have significantly increased the subjects’ self-efficacy (Eta=0.73, F51,2=70.60, P<0.001). Post hoc test indicated that GT-CBT is more effective than CBT (P<0.05).

**Conclusion:** The effectiveness of GT-CBT on the subjects’ self-efficacy was higher than CBT. Therefore, it is suggested to use integrated methods such as GT-CBT to enhance the self-efficacy of patients with breast cancer.
1. Introduction

The word “cancer” has been used for more than a hundred different diseases in various parts of the body. What all these diseases have in common is a defect in the mechanisms of regulating normal cell growth and proliferation (Ramsey, & Schickedanz, 2010). In breast cancer, abnormal cells grow uncontrollably in one or both breasts. These cells can invade the surrounding tissues and cause the formation of a mass that is often called a tumor (Mutebi et al., 2020).

After a woman is diagnosed with breast cancer, various aspects of her life will change. Her body exposes to aggressive methods and side effects of treatments, and emotions are aroused to adapt to this deadly disease (do Socorro Gonçalves Pimentel et al., 2016). The survival chances of these patients have increased in recent decades. However, despite their longer lifespan, they face various long-term physical and psychological problems throughout their lives (Carreira et al., 2021). Psychological and personality traits affect the management of chronic diseases such as cancer (Cerezo, Blanca, & Ferragut, 2020). These patients face several psychological conditions, such as body image changes, sexual dysfunction, marital conflict (Irandoost, Nasiri, & Izadpanahi, 2021), depression, and anxiety (Tsaras et al., 2018). People who are potentially vulnerable to depression and anxiety may show more severe reactions to the disease (Wang et al., 2020). In contrast, those with psychological abilities are more successful in managing the problems and consequences of the disease (Tu, Yeh, & Hsieh, 2020).

Self-efficacy is an individual’s belief in his or her capacity to execute behaviors necessary to produce specific performance attainments (Bandura, 1986). It is one psychological ability that increases a person’s ability to adjust to chronic diseases such as breast cancer (Chirico et al., 2017). People with low self-efficacy lack the necessary ability to influence events and conditions. As a result, they believe that any effort is in vain and fruitless, and it is not surprising that they have a lot of sorrow and worry. In contrast, people with a high sense of self-efficacy tend to engage more and more with the tasks. When faced with a problem, they resist and like to do the assigned tasks properly and change their strategies whenever necessary to achieve the goal.

People with lower self-efficacy experience higher disability and helplessness as they feel less efficacy in managing their illness (Chana et al., 2021). Stronger self-efficacy leads to more effective efforts for self-care, therapy adherence, and positive therapeutic outcomes (Devarajoo and Chinna, 2017).

In the last two decades, many complementary therapies have been developed to manage cancer. Among these therapies, Cognitive-Behavioral Therapy (CBT) has shown positive results in cancer patients (Hagström et al., 2020). CBT is based on a combination of theories and techniques of behavioral therapy and cognitive therapy. The therapist helps patients manage their psychological problems by changing their thinking and behavior (David et al., 2018). To improve emotional regulation, CBT focuses on changing cognitive distortions (e.g., thoughts, beliefs, and attitudes) and behaviors (Benjamin et al.,

## Highlights

- CBT and an integrated package of Gestalt Therapy with GT-CBT were used to increase self-efficacy in patients with breast cancer.
- The study findings indicated that GT-CBT and CBT had increased self-efficacy in patients with breast cancer.
- The effectiveness of GT-CBT on the self-efficacy of patients with breast cancer was significantly higher than that of CBT.

Plain Language Summary

Women with breast cancer are involved with complex conditions. The stress associated with cancer, its treatment, and complications diminishes their quality of life. However, self-efficacy enables them to cope with the challenges and stressors of illness. In this study, an integrated package of Gestalt Therapy and GT-CBT was designed for the first time. Then, its therapeutic effect on the self-efficacy of women with breast cancer was compared with that of CBT alone. The study results indicated that GT-CBT was more effective than CBT.
This treatment has been used for a wide range of psychological problems and chronic diseases such as cancer (López-López et al., 2019).

Gestalt Therapy (GT) is another successful phenomenological method that emphasizes factors, such as human experiences, responsibility, ability to experience present, and the experiences of clients and therapists. The general purpose of this approach is awareness toward others and the environment that have contributed to the formation of personality (David, Cristea, & Hofmann, 2018). Gestalt therapy has been used for improving the quality of life of cancer patients in a few studies (Nazari et al., 2021); nevertheless, its effectiveness on chronic diseases such as cancer has been confirmed. Because this method has not been used as much as CBT in chronic diseases, more research is needed to determine its effectiveness. On the other hand, combining treatment modalities may be more effective than single therapies. It has been stated that each of these approaches has its strengths and weaknesses, so combining CBT and Gestalt therapy is suggested (Hager et al., 2010). This study aimed to evaluate the comparative effectiveness of CBT and an integrated package of Gestalt Therapy and Cognitive-Behavioral Therapy (GT-CBT) on the self-efficacy of women with breast cancer.

2. Materials and Methods

Study design and sample

This research was a quasi-experimental study with a pre-test, post-test design and a control group. The statistical population included women with breast cancer referring to the Cancer Clinic of Imam Khomeini Hospital in Tehran City, Iran, during the second quarter of 2021. The subjects were recruited through the convenience sampling method, and of 96 selected cases, 60 were eligible for the study. The inclusion criteria were as follows: breast cancer diagnosis by a specialist, more than 6 months passed since the diagnosis, the second or third stage of cancer, age between 18 and 65 years, a minimum high school degree, ability to use mobile phones, and willingness to cooperate.

The subjects were assigned into three groups of CBT (n=20), GT-CBT (n=20), and control (n=20) through block randomization. Those with comorbid chronic illness or absent for more than one session were excluded from the study.

Study instruments

The study data were collected by a demographic questionnaire (age, marital status, education, history of psychiatric illness, duration of illness, stage of illness) and the general self-efficacy scale.

Scherer and Adams developed the general self-efficacy scale in 1983. It is a 17-item scale scored on a 5-point Likert scale (1= strongly disagree, 5= strongly agree). Some examples of the items are “When I make plans, I am certain I can make them work”, “I give up easily”, “I am a self-reliant person”, and “I avoid facing difficulties”.

Questions 3, 8, 9, 13, and 15 are scoring in reverse. The total score ranges from 17 to 85, and a higher score indicates stronger self-efficacy. The reliability of this instrument in the pilot study using the Cronbach α coefficient was 0.76, and the validity of the scale was confirmed by factor analysis (Sherer, & Adams, 1983). The reliability of the Persian version of this scale has been calculated among a student sample as 0.74 using the Cronbach α coefficient (Farnia et al., 2020). In this study, the Cronbach α was found 0.79.

Study procedure

The integrated GT-CBT package was designed using main reference textbooks. Six experts in CBT and Gestalt therapy evaluated the content of the package and approved it after some modifications.

The patients in each of the CBT and GT-CBT groups participated in eight sessions of 60-90 minutes long per week. The sessions were held online in the Zoom app by the first author of the study. The emphasis was on group training, and the techniques were applied individually. PowerPoint slides were used to perform the tutorials. The organizer had the necessary expertise to implement the protocols. Participants in all sessions received the relevant assignments according to the content of each session. Pre-test was performed in person at Imam Khomeini Hospital. Therapeutic sessions were conducted online in the Zoom app, and post-test was performed in WhatsApp.

Cognitive-Behavioral Therapy (CBT)

The content of the sessions was designed based on a study by Bavadi, Poursarif, and Lotfikashani (2016) for patients with breast cancer at the University of Social Welfare Sciences. In the first session, the group members and the psychologist were introduced. The goals...
and content of the sessions were discussed, and questions were answered. In the second session, the automatic thoughts related to breast cancer were identified through worksheets, and each member presented the content of their worksheet in the group. In the third and fourth sessions, the identified automatic thoughts were discussed. Each member presented evidence of whether the thoughts were right or wrong. In the fifth session, Jacobsen’s relaxation technique was taught and practiced on a chair by the members. The sixth session included the technique of replacement and modification of automatic thoughts. In the seventh session, desensitization was taught, and a list of pleasant activities was prepared. The eighth session concluded with a summary and review.

**Combined package of Gestalt Therapy and Cognitive-Behavioral Therapy (GT-CBT)**

In the first session, group members and psychologists were introduced to each other. The goals and content of the sessions were discussed, and questions were answered. In the second session, the Gestalt unfinished work technique was used. In this technique, the participants were asked to list unfinished avoided works and explain them to the group. Then, using worksheets, thoughts related to unfinished works were identified. In the third session, the ideas identified in the second session were challenged through questions and answers, and the participants were asked to complete the challenge worksheet and describe it in the group. The participants were then asked to use personal pronouns during the description of the contents of the worksheet and say at the end of each section that “I take responsibility for it”. In the fourth session, the inverted game technique was used. In this technique, each member was asked in a hypothetical scenario to act contrary to her behavior. For example, a shy person was asked to play the role of a daring person. In the fifth session, the technique of replacing thoughts was performed using a worksheet. This technique is the last stage of cognitive reconstruction. The corrective thoughts of each member were discussed in the group. Then, the relaxation technique was taught. In the sixth session, the technique of relaxation was practiced, and the projection game was performed by each member. In this technique, the participants were asked to play the behavior or attitude they projected. For example, a member who accuses another person of being selfish is asked to play the role of an arrogant and selfish person as much as possible. In the seventh session, desensitization technique was taught, and one of the daily stresses was practiced. Then the hot chair technique was run. In this technique, one of the members volunteered, and the members of the group asked her to express her feelings and emotions by asking questions. In the eighth session, a summary and review were made, and the questions were answered.

**Data analysis**

The obtained data were analyzed by descriptive and inferential statistics, such as Mean±SD, analysis of variance (ANOVA), and analysis of covariance (ANCOVA) in SPSS software, v. 20. Pre-test was considered as the covariate. To find out the difference between the three groups, the Bonferroni post hoc test was performed. The assumptions of normality were checked by the Kolmogorov-Smirnov test. The significance level was set at lower than 0.05.

**3. Results**

In this study, the subjects were 60 eligible women with breast cancer referred to the Cancer Clinic of Imam Khomeini Hospital during the second quarter of 2021. Of 60 participants at the beginning of the study, 56 completed the study. One person in the control group was excluded due to unavailability in the post-test stage, and 3 subjects in the intervention groups did not complete the sessions. Finally, 19, 18, and 19 cases remained in the control, GT-CBT, and CBT groups, respectively. The Mean±SD age of the participants in the control, GT-CBT, and CBT groups were 45.46±7.65, 43.26±5.12, and 46.50±6.72 years, respectively (P>0.05).

Demographic characteristics of the research subjects are presented in Table 1. The mean self-efficacy scores of the experimental and control groups in the pre-test and post-test phases are presented in Table 2.

Based on the results presented in Table 2, there was no significant difference between the groups in the pre-test phase. The mean post-test scores of self-efficacy significantly increased compared to the pre-test in the intervention groups. In Table 3, after removing the pre-test effect, the groups were compared using ANCOVA.

For the analysis of covariance, the normality assumption was confirmed using the Kolmogorov-Smirnov test. The normality of the data and parallel lines assumption was met. There was a significant difference between the mean scores of self-efficacy from pre-test to post-test phase comparing the experimental groups and the control group (Eta=0.73, F_{51, 2}=70.60, P<0.001) (Table 3). To find out the difference between the three groups, the Bonferroni post hoc test was conducted (Table 4).
The difference between the two experimental groups and the control group was significant at the level of 0.001. There was a significant difference at the level of 0.05 between the GT-CBT and CBT (Table 4).

4. Discussion

The results showed that in the experimental groups, GT-CBT was more effective than CBT. Gestalt therapy and acceptance and commitment-based therapy had a similar effect on the self-efficacy score of the subjects in the Barati, Ebrahimi, and Firoozeh study (2021). Another study reported that both emotion-focused therapy and CBT affected subjects’ sexual self-efficacy, and there was no difference between the two treatments in terms of sexual self-efficacy (Safar Mohammadlou, Mollazadeh, & Meschi, 2020).

Aumann (2004) showed that rational emotive behavioral therapy video training is more effective than Gestalt awareness training. Comparing the effectiveness of acceptance and commitment-based therapy with CBT on pain self-efficacy in patients with chronic pain showed that both therapies have had simi-

### Table 1. Comparison of demographic characteristics of participants in the intervention and control groups

<table>
<thead>
<tr>
<th>Variables</th>
<th>GT-CBT Group</th>
<th>CBT Group</th>
<th>Control Group</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education High school</td>
<td>14(77.8)</td>
<td>11(61.1)</td>
<td>13(68.4)</td>
<td>0.54</td>
</tr>
<tr>
<td>Academic</td>
<td>4(21.2)</td>
<td>7(38.9)</td>
<td>6(31.6)</td>
<td></td>
</tr>
<tr>
<td>Age (y)     &gt;40</td>
<td>3(16.7)</td>
<td>5(27.8)</td>
<td>3(15.8)</td>
<td></td>
</tr>
<tr>
<td>40-60</td>
<td>11(61.1)</td>
<td>11(61.1)</td>
<td>13(38.4)</td>
<td>0.43</td>
</tr>
<tr>
<td>&lt;61</td>
<td>4(22.2)</td>
<td>2(11.1)</td>
<td>3(15.8)</td>
<td></td>
</tr>
<tr>
<td>Occupation  Home keeper</td>
<td>14(77.8)</td>
<td>10(55.6)</td>
<td>13(68.4)</td>
<td></td>
</tr>
<tr>
<td>Working</td>
<td>3(16.7)</td>
<td>6(33.3)</td>
<td>5(26.3)</td>
<td>0.83</td>
</tr>
<tr>
<td>Network</td>
<td>1(5.4)</td>
<td>2(10.8)</td>
<td>1(5.3)</td>
<td></td>
</tr>
<tr>
<td>Marital status Single</td>
<td>2(11.0)</td>
<td>2(11.1)</td>
<td>-</td>
<td>0.41</td>
</tr>
<tr>
<td>Married</td>
<td>16(88.9)</td>
<td>16(88.9)</td>
<td>19(100)</td>
<td></td>
</tr>
</tbody>
</table>


The difference between the two experimental groups and the control group was significant at the level of 0.001. There was a significant difference at the level of 0.05 between the GT-CBT and CBT (Table 4).

4. Discussion

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### Table 2. Descriptive indicators of self-efficacy in the pre-test and post-test phases

<table>
<thead>
<tr>
<th>Group</th>
<th>Pre-test</th>
<th>Post-test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean±SD</td>
<td>P'</td>
</tr>
<tr>
<td>GT-CBT</td>
<td>88.38±7.49</td>
<td>0.42</td>
</tr>
<tr>
<td>Control</td>
<td>88.78±7.61</td>
<td>0.42</td>
</tr>
<tr>
<td>CBT</td>
<td>91.00±8.31</td>
<td>0.42</td>
</tr>
</tbody>
</table>


### Table 3. ANCOVA to test the difference between the mean self-efficacy of the experimental groups

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean of Squares</th>
<th>F</th>
<th>P</th>
<th>Eta</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-efficacy</td>
<td>2811.03</td>
<td>1</td>
<td>2811.03</td>
<td>191.99</td>
<td>0.001</td>
<td>0.79</td>
</tr>
<tr>
<td>Group</td>
<td>2051.57</td>
<td>2</td>
<td>2051.78</td>
<td>70.60</td>
<td>0.001</td>
<td>0.73</td>
</tr>
<tr>
<td>Error</td>
<td>746.68</td>
<td>51</td>
<td>14.64</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
lar effects on increasing self-efficacy (Kiani et al., 2020). The difference between the mentioned studies and the present study can be related to the research sample and methods used. In none of the above studies, the GT-CBT method was compared with the CBT method. Combining different techniques can lead to more comprehensive effectiveness. The GT-CBT package included techniques of Gestalt therapy (mainly responsibility and emotion expression) and CBT (mainly relaxation and cognitive reconstruction). Cognitive reconstruction and relaxation can change the thought process and reduce anxiety. However, if people cannot express their emotions and accept responsibility, they cannot use these techniques perfectly. Accepting responsibility for actions and thoughts allowed the participants to develop a new way of thinking, along with stress reduction and cognitive reconstruction techniques. Accordingly, they become more aware of their efficacy or disabilities.

Through games such as reverse and projection games, participants could become aware of their projections and feel effective by accepting responsibility for their actions. In the integrated package, these techniques, along with relaxation and cognitive reconstruction, will show more effectiveness because, besides informing about negative thoughts, they help manage these thoughts through reconstruction. In Gestalt therapy, related techniques through reverse and projection games enable participants to become aware of their projections, and they feel stronger self-efficacy and control through accepting responsibility for their life. Gestalt therapy techniques help participants to discover their emotions and responsibilities. Meanwhile, through CBT techniques, they could manage discovered emotions and thoughts. On the other hand, attending the sessions by increasing the feeling of control over the mental and psychological condition helped the participants feel more efficient after the intervention (Brenninkmeijer et al., 2019).

In GT-CBT sessions, a combination of CBT and Gestalt therapy techniques was used. This combination helped participants to accept responsibility for their identified thoughts. Relaxation techniques gave the ability to face emotions through techniques such as hot chair. Behavioral techniques enable the patients to be aware of the role of their dysfunctional negative thoughts in the onset and persistence of the symptoms. This awareness of thoughts and teaching how to cognitively reconstruct in the face of dysfunctional thoughts made participants feel successful and efficient in controlling their emotions. This finding indicates that when Gestalt techniques were added to cognitive-behavioral techniques, treatment success was more remarkable. The addition of techniques such as reverse play, emotional outbursts, and hot chair to cognitive-behavioral techniques, along with cognitive reconstruction, could help participants manage and regulate the emotions of disability and helplessness.

This study has some limitations due to the lack of resources to compare Gestalt therapy with other therapies or combination therapies. The research sample was limited to women with breast cancer, and therefore the results cannot be generalized to other cancer patients. Because of performing treatments online due to the COVID-19 epidemic, the effectiveness of the programs may not have been sufficiently desirable. As many studies in chronic diseases have integrated CBT with other approaches, it is recommended that a meta-analysis be performed in this area.

Ethical Considerations

Compliance with ethical guidelines

The scientific Committee of Allame Tabatabayie University approved the study. The necessary permissions were obtained and submitted to Imam Khomeini Hospital, Tehran. Written informed consent was obtained from all study participants.

Funding

This article was extracted from the PhD. dissertation of the first author at the Department of Psychology, Allameh Tabatabai University, Tehran.

<table>
<thead>
<tr>
<th>Groups</th>
<th>Mean Difference</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>GT-CBT</td>
<td>Control</td>
<td>14.55</td>
</tr>
<tr>
<td>CBT</td>
<td>Control</td>
<td>9.86</td>
</tr>
<tr>
<td>CBT</td>
<td>GT-CBT</td>
<td>4.69</td>
</tr>
</tbody>
</table>

Table 4. Post hoc test to pairwise comparison of the groups

Abbreviations: CBT, Cognitive-Behavioral Therapy; GT-CBT, Gestalt Therapy, and Cognitive-Behavioral Therapy.
Authors' contributions
All authors equally contributed to preparing this article.

Conflict of interest
The authors declared no conflict of interest.

References


Bavadi, B., Poursharifi, H. & Lotfikashani, F., 2016. The effective


