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Integrative therapy (short-term psychodynamic psychotherapy & cognitive-behavioral therapy) and cognitive-behavioral therapy in the treatment of generalized anxiety disorder: A randomized controlled trial

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ABSTRACT

Background: and purpose: Cognitive-behavioral therapy and psychodynamic psychotherapy are common psychotherapies used for mental disorders. The purpose of the present article was to achieve an integration of cognitive-behavioral therapy and short-term psychodynamic psychotherapy that enjoys simultaneously the effects of cognitive-behavioral therapies and the stability of short-term psychodynamic psychotherapies.
Materials and methods: It was a pre-test/post-test experimental study. Selected based on a purposive non-probabilistic sampling method, the sample studied here consisted of 36 people diagnosed with generalized anxiety according to Clinical Diagnostic Interview, psychiatrist diagnosis and Hamilton Rating Scale for Anxiety (HRSA). They were divided randomly into three 12 person groups: two treated groups by integrative therapy and cognitive-behavioral therapy, and one control group. Only pre-test and post-test were employed for the control group without any kind of treatment. To select patients and evaluate the effects of each type of treatments, the "Hamilton Rating Scale for Anxiety" and "Beck Depression Inventory" were applied for the pre-test/post-test and the differential diagnosis, respectively. The results obtained were analyzed by covariance and ANOVA analyses using SPSS software.
Results: The results of the study indicate the efficacy of both cognitive-behavioral therapy and integrative therapy in the treatment of generalized anxiety and integrative therapy was more effective in the treatment of generalized anxiety compared to cognitive-behavioral therapy.
Conclusion: Integrative treatment not only to be effective in the treatment of generalized anxiety disorder and the reduction of its symptoms, but also to be more effective than cognitive-behavioral therapy.

1. Introduction

Anxiety disorders are among the most common mental diseases and form the largest group of mental disorders. They often show a chronic trend [1]. International studies have shown that out of every three people, one is affected by an anxiety disorder during his/her lifetime, and the risk of being affected by anxiety disorders is 14–29% [2]. Cognitive-behavioral therapy and psychodynamic psychotherapy are common psychotherapies used for mental disorders of adolescents. Although cognitive-behavioral therapy has yielded effective outcomes in most cases of mental disorder, the positive outcome rates of treatment responders in specific mental disorders have not been acceptable, especially if long-term outcomes are taken into account. This is the case for depressive disorders and some anxiety disorders such as social phobias or generalized anxiety disorders. The randomized controlled trials have provided some evidences, which show that psychodynamic psychotherapy is superior to control conditions and is generally as effective as already established treatments for specific mental disorders [3].

In the present article, both approaches have been given serious attention, because therapists can simultaneously benefit from their positive features in the treatment of the generalized anxiety disorders

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simply by integrating these two approaches.

Generalized anxiety disorder is characterized by persistent and excessive distress and worries about various things, including job performance and academic achievement that one finds difficult to control. In addition, the person experiences physical symptoms that include restlessness, nervousness, being easily fatigued, difficulty in concentrating or mind going blank, irritability, muscle tension, and sleep disturbance [4]. There is a high comorbidity of generalized anxiety disorder with social anxiety, depression, bipolar, and some personality disorders. In clinical settings, it has been reported that 55–60% of those diagnosed with this disorder were female. It is slightly more common in women than men and the median age of its onset is about 30 years. It is unlikely for people with generalized anxiety disorder to be recovered spontaneously, and it becomes chronic if not treated [1,4,5]. The psychodynamic psychotherapy is characterized by the discovery of the aspects of self that have remained unknown. Evidence suggests that the benefits of psychodynamic psychotherapy are lasting and sustainable and go far beyond the symptom remission [6]. Psychodynamic psychotherapy can include both long-term and short-term treatments. The short-term treatment is generally time-limited and needs 16–30 sessions on average; although a range of 7–40 sessions has been reported [3,7].

Generalized anxiety disorder is caused by weakening or disintegration of defense mechanisms. The constant experience of high levels of anxiety, lack of failure experiences, and new sources of anxiety in everyday life are the main causes of this consequence. If a person is constantly punished for expressing the drives of the id, his/her anxiety will be continuously high. As a result, his/her defense mechanisms would become unable to cope with those levels of anxiety, which would inevitably cause the disintegration of defense mechanisms [8].

Cognitive-behavioral therapy usually formulates and individualizes time-limited therapy goals, and aims to directly target symptoms, reduce distress, re-evaluate thinking and promote constructive behavioral responses. The treatment mainly focuses on “here and now”. Generally speaking, cognitive-behavioral therapy is one of the shortest psychotherapies in time. The duration of cognitive-behavioral therapy usually ranges from 10 to 20 sessions, which varies based on patient comorbidity, pre-defined treatment goals and the specific conditions of the health care system [3].

Cognitive models of emotional disorders are based on this belief that events are not solely responsible for causing negative emotions such as anxiety or sadness, and it is the people’s expectations from and interpretations of those events which causes those negative effects. According to Beck, people with chronic anxiety have beliefs and assumptions based on which consider a wide range of situations threatening. When generalized anxiety occurs in someone, changes in concentration and behavior contribute to the continuity (and even aggravation) of the problem. People with generalized anxiety do not consistently avoid particular external situations, but often avoid them in more delicate and unstable ways which makes negative beliefs firmer [5,9–11].

According to London (1964 as cited in Stricker[39]) only two approaches to treatment of generalized anxiety disorders can be distinguished: action-oriented and insight-oriented approaches, which can be integrated effectively. Most of the names referring to the action-oriented approach, such as behavioral therapy, encourage clients to act and change their behaviors, while the insight-oriented approach, such as psychodynamic psychotherapy, seeks to discuss topics of concern to raise awareness, and the point that is always evident is that the most effective and lasting therapeutic changes require an increase in perception and behavioral change. In the same vein, Frank (1961) claimed that all approaches to psychotherapy were based on similar principles and the second approach was in fact an attempt to translate a therapeutic language, usually psychoanalysis, into another language, usually the learning theory. This view reached its climax in the work of Dollard and Miller (1950) who claimed that the major difference between approaches has a linguistic rather than intrinsic nature. Examining carefully the relationship between psychoanalysis and learning theory, Marmor (1969, 1971) concluded that all psychotherapies include fundamental principles of learning, and these two approaches should be regarded as complementary views about human functioning, not competing ones [12].

It is not the first effort to integrate different approaches, as some attempts, including Lawson’s research, have been made in this field and in relation to such theories as the communication theory. However, to the best of our knowledge, there has been no attempt to integrate the short-term or long-term psychodynamic psychotherapy with cognitive-behavioral therapy. Although no fixed and established list of common factors across different psychotherapy approaches exists, but there is consensus that such a list would include the therapeutic alliance, therapist and client expectations of positive change, beneficial therapist qualities such as attention, empathy and positive regard, providing logic for the client problems, and the use of systematic therapeutic procedures. But still there are discrepancies in the case formulation, overcoming the patient’s resistance, the ways of exposure, and the rate of attention to the index of transition between the two approaches [3,12–15].

As stated earlier, attempts have been made to integrate different approaches. On the one hand, the integration of cognitive therapy with psychoanalysis and that of psychoanalysis with behavioral therapy indicate that not only integration is not an emerging action in the field of treatment, but also it is theoretically and practically feasible. On the other hand, the discrepancies between various schools of psychotherapy has been more about techniques rather than basics to the extent that it can be said that all approaches express one word in a variety of ways [6]. Differences in techniques are common and inevitable; as such differences can be seen even among the therapists of a school. In contrast with differences in techniques, other differences can be expressed in an integrated form, because there are no conflicts preventing them from being used simultaneously. For example, none of the psychotherapy schools deny the effect of people’s past and their experiences on the formation of behaviors or feelings. Even the behavioral therapy that focuses on “here and now” and the influence of learning on behavior, acknowledges the fact that learning has already happened and its effects can be seen in the form of behavior. Wachtel (1977–1997) showed in his theoretical approach that the behaviorism and psychoanalysis could be integrated. In fact, none of the schools ignore the importance of this possibility, and the only difference is in the level of importance they attach to it. The existence of a concept called schema in the cognitive-behavioral therapy that was developed later by Young reflects the importance of the past in cognitive-behavioral therapy and its effects on irrational beliefs, cognitive errors and disorder. Moreover, a technique like homework has no contradiction with psychodynamic psychotherapy and can be used along with its techniques to make behavioral changes. The insights gained at the treatment session affect the thinking process of the client. They are carried out of the treatment session and offer more depth in the client’s insights. In the same way, one of the techniques used by the cognitive-behavioral therapy to increase people’s knowledge of the cause of behavior and problem is the follow-up questions, used to refine the client’s cognition and identify his/her cognitive distortions. In fact, it is somehow the same resistance and defense mechanisms introduced in the psychodynamic psychotherapy and psychoanalysis, as Beck himself acknowledged [13]. The principles of psychodynamic psychotherapy such as resistance, transference, interpretation and exposure can be found in all therapies, including cognitive-behavioral therapy, and this is a fact that cannot be denied. This is the reason why this study tries to use a method for the treatment of mental disorders based on the above-mentioned facts: a method that simultaneously includes the stability of psychodynamic psychotherapies and the effectiveness of cognitive-behavioral therapies [3,16–18].

To prepare a model for the integration, the six-factor model of Saunders (2008) and the eight-factor model of Lawson (2012) were

employed:

1) Teaching cognitive-behavioral skills to enhance performance.
2) Penetrating in the resistance pattern by challenging cognitive distortions and defense mechanisms.
3) Reconstructing cognitive distortions and defense mechanisms that lead to negative emotions.
4) Making cognitive-behavioral interventions to increase the generalizability of treatment out of the treatment setting.
5) Identifying the transference pattern of the client in relation to the therapist and other people in his/her life.
6) Making Trauma-related interventions that target post-trauma symptoms.
7) Modifying affective, communicative, and emotional experiences.
8) Investigating reactions, summarizing them, and receiving feedback.

The Hazlett-Stevens protocol was employed for the preparation of the treatment protocol in this research, which consisted of 15 sessions. The overall structure of the integrative sessions included reviewing, challenging, determining the strategy and assignments, summarizing, and receiving feedback.

The structure of the cognitive-behavioral sessions has been as follows: setting the agenda, making the patient aware of the latest information, reviewing assignments and particular strategies of cognitive-behavioral therapy, assigning homework and assessing reactions to the sessions.

The authors derived their initial model of treatment from short-term psychodynamic psychotherapy and cognitive-behavioral approaches. The integrative model (cognitive-behavioral and psychodynamic model) has tried to address the factors created in the past such as cognitive errors, behavioral patterns and past experiences by unlocking the unconscious, gaining insight and modifying the behaviors and thoughts in the present. However, those affected by past experiences lack the skills needed to o their problems. The initial problem can be overcome, and the ego can become more powerful only by creation of insight and modification of behaviors and thoughts.

Therefore, there is a need for learning new skills which in turn strengthens the ego and the individual self-efficacy. In all of these stages, the past, present and future influence each other. This influence is independent of any one of these three periods, since the process of mutual influence can be transferred from time to time. The schematic diagram of this model has been presented in Fig. 1.

To date, research on the efficacy of the two techniques has been conducted separately. Some studies in the field of cognitive-behavioral therapy, including Mahdi et al. (2015), Borza (2017) [19], Kishita and Laidlaw (2017) [20], Sharma, Mehta, and Sagar (2016) [21], Hall et al. (2016) [22], Cuijpers et al. (2014) [23], Fonzo et al. (2014) [24], and Mahoney et al. (2016) [25], have shown that cognitive-behavioral therapy is effective in the treatment of generalized anxiety disorder.

Some studies in the field of psychodynamic psychology, including Lilliengren et al. (2017) [26], Monti, Tonetti, & Ricci Bitti, (2014) [27], Salzer et al. (2011) [28], Keefe et al. (2014) [29], and Leichsenring et al. (2009) [30] have demonstrated the efficacy of psychodynamic psychology in the treatment of generalized anxiety disorder.

Accordingly, research conducted on cognitive-behavioral therapy indicates the efficacy of this technique in the treatment of mood and anxiety disorders. However, there is evidence suggesting that the effects of cognitive-behavioral therapy will not last forever and the symptoms return after a while. There is also evidence that psychodynamic psychotherapy has a longer-term effect than cognitive-behavioral therapy. Experiences in the past play a significant role in the process of formation and treatment of the disorder and their effects cannot be ignored undoubtedly. Therefore, those experiences should be considered and treated in the process of treatment. Additionally, to the best of our knowledge, no research was conducted on the integration of the two techniques up to the time of conducting the research. Therefore, considering the above-mentioned facts shows the importance and necessity of this research. This research is an effort to answer the question of whether the integration of the two techniques is effective in the treatment of the disorders or not.

2. Methodology

A pre-test/post-test experimental research method is used in the present study. The statistical population in this research consisted of 36 people with anxiety disorder. The subjects were evaluated according to Clinical Diagnostic Interview based on DSM5 diagnostic criteria, psychiatrist diagnosis, Hamilton Rating Scale for Anxiety (HRSA). Because

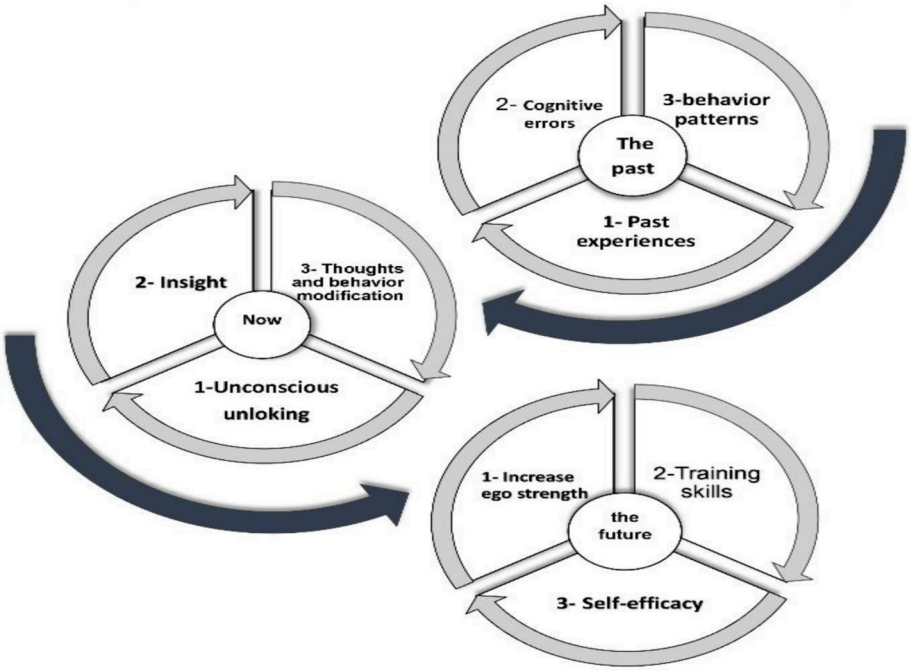


Fig. 1. Integrated treatment model.

of high comorbidity of generalized anxiety disorder with depression, Beck Depression Inventory was used for differential diagnosis. In the case of depression, it is determined whether it was of primary or secondary type, and those with a primary depression were excluded from the sample studied. Ultimately, 36 people were selected using a purposive non-probabilistic sampling method based on the above-mentioned screening method. They were divided randomly into three groups with 12 people in each: integrative therapy, cognitive-behavioral therapy, and control group. The inclusion criteria for selecting subjects were the presence of DSM-5 diagnostic criteria for generalized anxiety, psychiatrist diagnosis, the score higher than mean in Hamilton Anxiety Rating Scale (HRSA) and the presence of secondary depression. The study subjects ranged in age from 18 to 35 years. The exclusion criteria were the absence of DSM-5 diagnostic criteria for generalized anxiety and the presence of primary depression.

For each person in test groups (integrative therapy and cognitive-behavioral therapy groups), the process of treatment, the number of sessions, and any other essential information were explained and their informed consent was obtained. For the people with secondary depression caused by generalized anxiety, the treatment of generalized anxiety started only after finalizing the treatment of depression.

The treatment process in each test group included a 15-session protocol consisting of individual treatment for every 12 people in each group. Each of the subjects was assessed at the beginning and the end of the treatment. The control group was also assessed twice with a distance of three to four months according to the time length of the treatment, except that no therapeutic measure was taken for the control group. The research process lasted three years. The guidelines for both treatment techniques have been presented in Tables 1 and 2.

2.1. Data collection method

Hamilton Rating Scale for Anxiety (HRSA): It was developed by Max Hamilton in 1959. The inventory includes 14 items defined by a series of symptoms, and measures both psychic anxiety and somatic anxiety. Research on the test of this inventory on an Iranian sample showed a correlation coefficient of 0.75 and test-retest reliability of 0.81 [31].

Beck Depression Inventory: it is a 21-question self-report inventory. Each of its items includes 4 phrases and each phrase is given a score from 0 to 3, from which the client selects one. In the study by Ghasemzadeh (2005), the reliability coefficient of the overall inventory and its test-retest reliability coefficient have been reported to be 0.87 and 0.74 respectively [35].

3. Results

The results of the Shapiro-Wilk test for test groups and control group indicated that the significance level for all variables in all three groups was less than (0.05) ($P < 0.05$). Therefore, the null hypothesis and consequently, the normal distribution of the variables were confirmed with a confidence level of 95%.

Data on baseline characteristics of the groups are presented in Table 3.

Descriptive indicators for all three treatment groups are presented in Table 4.

First hypothesis: Cognitive-behavioral therapy is effective in reducing the symptoms of generalized anxiety. The descriptive indicators of the study variables were investigated. The mean of the cognitive-behavioral therapy group ($M = 10.67$) was lower than that of the control group ($M = 29.75$). To evaluate the assumption of homogeneity of variances, Levene's test was carried out. The Levene's test showed $p = 0.229$ which shows a significance level higher than $p = 0.05$, indicating the homogeneity of variances of the variables. In the assumption of homogeneity of regression slopes, $F_{(1,20)} = 2.510$ was not statistically significant ($P = 0.129$) with a confidence level of 95% and therefore, the regression slopes were homogeneous.

Table 1
The guideline for cognitive-behavioral therapy.

Session (1)	**Assessment:** DSM interview, Beck Anxiety Inventory, and Beck Depression Inventory; **Behavioral interventions:** psychological training, normalization of concern **Homework:** worksheet (1)
Session (2)	**Assessment:** Reviewing assignments, the client status **Behavioral interventions:** exercise, treatment of insomnia if necessary, scheduling think-time **Cognitive interventions:** identifying areas of concern and anxious thoughts **Homework:** worksheet (1)
Session (3)	**Assessment:** Reviewing assignments, the client status **Behavioral interventions:** exercise, mindfulness **Cognitive interventions:** identifying areas of concern and anxious thoughts, and challenging negative automatic thoughts **Homework:** worksheet (1)
Session (4)	**Assessment:** Reviewing assignments, the client status **Behavioral interventions:** teaching self-assertiveness and communication skills **Cognitive interventions:** identifying and challenging negative automatic thoughts**,** creating alternative interpretations or predictions **Homework:** worksheet (2), practicing learned skills
Session (5)	**Assessment:** Reviewing assignments, the client status **Behavioral interventions:** reward management, scheduling activities to monitor feelings of pleasure, mastery, and anxiety, resolving conflicts **Cognitive interventions:** identifying and challenging negative automatic thoughts**,** creating alternative interpretations or predictions, using acceptance and metacognitive strategies **Homework:** worksheet (2), practicing reward management/ scheduling activities
Session (6)	**Assessment:** Reviewing assignments, the client status **Behavioral interventions:** investigating the resources of stress in the patient's life, generalizing mindfulness to new situations **Cognitive interventions:** identifying inefficient basic assumptions (downward arrow) **Homework:** worksheet (2), practicing learned skills
Session (7)	**Assessment:** Reviewing assignments, the client status **Behavioral interventions:** teaching problem-solving skills **Cognitive interventions:** continuing the identification of inefficient basic assumptions, distinguishing the probability of occurrence, the possibility of occurrence, and reasonableness **Homework:** worksheet (2), practicing learned skills
Session (8)	**Assessment:** Reviewing assignments, the client status **Behavioral interventions:** Helping to exposure avoided situations **Cognitive interventions:** identifying and challenging inefficient basic assumptions, predicting the most terrible phobia of the patient, mental imagery **Homework:** worksheet (2), practicing learned skills and exposure
Session (9)	**Assessment:** Reviewing assignments, the client status **Behavioral interventions:** teaching anger management skills (if necessary), continuing exposure **Cognitive interventions:** continuing the identification of inefficient basic assumptions, creating a new view, clarifying the relationship between the concern and schemas **Homework:** worksheet (2), practicing learned skills
Session (10)	**Assessment:** Reviewing assignments, the client status **Behavioral interventions:** Behavioral change in lifestyle, exposure **Cognitive interventions:** Identifying and modifying maladaptive personal schemas **Homework:** worksheet (3), practicing learned skills
Session (11)	**Assessment:** Reviewing assignments, the client status **Behavioral interventions:** Behavioral change in lifestyle, self-efficacy skill **Cognitive interventions:** Identifying and modifying maladaptive personal schemas **Homework:** worksheet (3), practicing learned skills
Session (12)	**Assessment:** Reviewing assignments, the client status **Behavioral interventions:** Devil's advocacy technique **Cognitive interventions:** Identifying and modifying maladaptive personal schemas **Homework:** worksheet (3), practicing learned skills, behavioral experiment
Session (13)	**Assessment:** Reviewing assignments, the client status **Cognitive interventions:** Identifying and modifying maladaptive personal schemas, investigating worrying metacognitive beliefs,

(*continued on next page*)

Table 1 (*continued*)

	identifying beliefs related to failure and solving them **Homework:** worksheet (3), practicing learned skills
Session (14)	**Assessment:** Reviewing assignments, the client status **Behavioral interventions:** completing gradually treatment, determining long-term and short-term goals **Cognitive interventions:** creating new assumptions and schemas, and effective assumptions **Homework:** worksheet (3), implementing self-designed assignments to cope with future problems
Session (15)	**Assessment:** Reviewing assignments, the client status **Behavioral interventions:** completing gradually treatment, identifying effective behavioral techniques to cope with possible future problems **Cognitive interventions:** reviewing learned skills and practicing them **Homework:** practicing learned skills

After analyzing the Analysis of Covariance (ANCOVA) assumptions, this hypothesis was analyzed by analysis of variance (ANOVA). According to the results from Table 5, after adjusting the pre-test effect with $F_{(1,22)} = 39.896$, the value obtained was statistically significant ($P = 0.0001$). The change in the mean of the anxiety variable indicated that the cognitive-behavioral therapy affected the reduction of anxiety in subjects in the experimental group. This effect was shown to be about 64%.

Second hypothesis: Integrative therapy (cognitive-behavioral therapy and psychodynamic therapy) is effective in reducing the symptoms of generalized anxiety. The descriptive indicators of the study variables were investigated. The mean of the integrative therapy group ($M = 7$) was lower than that of the control group ($M = 29.75$). To evaluate the assumption of homogeneity of variances, Levene's test was carried out. The Levene's test showed $p = 0.084$ which shows a significance level higher than $p = 0.05$, indicating the homogeneity of variances of the variables. In the assumption of homogeneity of regression slopes, $F_{(1,20)} = 2.413$ was not statistically significant ($P = 0.136$) with a confidence level of 95% and therefore, the regression slopes were homogeneous.

After analyzing the Analysis of Covariance (ANCOVA) assumptions, this hypothesis was analyzed by analysis of variance (ANOVA). According to the results from Table 6, after adjusting the pre-test effect with $F_{(1,22)} = 79.343$, the value obtained was statistically significant ($P = 0.0001$). The change in the mean of the anxiety variable indicated that the integrative therapy affected the reduction of anxiety in subjects in the experimental group. This effect was shown to be about 79%.

Third hypothesis: integrative therapy is more effective in reducing the symptoms of generalized anxiety than cognitive-behavioral therapy alone. The descriptive indicators of the study variables were investigated. The mean of the integrative therapy group ($M = 7$) was lower than that of the cognitive-behavioral therapy group ($M = 10.67$). To evaluate the assumption of homogeneity of variances, Levene's test was carried out. The Levene's test showed $p = 0.147$ which shows a significance level higher than $p = 0.05$, indicating the homogeneity of variances of the variables. In the assumption of homogeneity of regression slopes, $F_{(1,20)} = 0.081$ was not statistically significant ($P = 0.779$) with a confidence level of 95% and therefore, the regression slopes were homogeneous.

After analyzing the Analysis of Covariance (ANCOVA) assumptions, this hypothesis was analyzed by analysis of variance (ANOVA). According to the results from Table 7, after adjusting the pre-test effect with $F_{(1,22)} = 4.543$, the value obtained was statistically significant ($P = 0.044$) with a confidence level of 95% ($P < 0.05$). There was a difference between the means of the two treatment techniques in the anxiety variable, which was statistically significant. Therefore, it can be concluded that the integrative therapy was more effective in reducing anxiety than cognitive-behavioral therapy alone.

Table 2
The guideline for integrative therapy (short-term psychodynamic psychotherapy and cognitive-behavioral therapy).

Session (1)	**Assessment:** (Psychodynamic interview, Beck Anxiety Inventory, and Beck Depression Inventory), identifying developmental stages, the affected person's needs, defense mechanisms, anxious thoughts, neurotic style, identifications, problem background **Homework:** recording anxious thoughts and situations, exercise
Session (2)	**Assessment:** following up, reviewing **Psychodynamic techniques:** identifying anxious thoughts, schemas, resistance and defense mechanisms Summarizing and receiving feedback **Homework:** recording anxious thoughts and situations, exercise
Session (3)	**Assessment:** following up, reviewing **Psychodynamic techniques:** identifying anxious thoughts, schemas, resistance and defense mechanisms **Solution:** mindfulness, abdominal breathing, **Summarizing and receiving feedback** **Homework:** recording anxious thoughts and situations, exercising, practicing the skill
Session (4)	**Assessment:** following up, reviewing **Psychodynamic techniques:** identifying and challenging anxious thoughts, schemas, resistance and defense mechanisms **Solution: mindfulness**, abdominal breathing, creating alternative interpretations **Summarizing and receiving feedback** **Homework:** recording anxious thoughts and situations, exercising, practicing the skill
Session (5)	**Assessment:** following up, reviewing **Psychodynamic techniques**: identifying and challenging anxious thoughts, schemas, resistance and defense mechanisms **Solution:** creating alternative interpretations **Summarizing and receiving feedback** **Homework:** recording anxious thoughts and situations, exercising, practicing the skill
Session (6)	**Assessment:** following up, reviewing **Psychodynamic techniques**: identifying and challenging schemas, resistance and defense mechanisms, visualizing **Solution:** investigating evidence and probabilities, profit and loss, accepting the past and living in the present, **Summarizing and receiving feedback** Homework: recording anxious thoughts and situations, exercising, practicing the skill
Session (7)	**Assessment:** following up, reviewing **Psychodynamic techniques**: identifying and challenging schemas, resistance and defense mechanisms, identifying the basis of avoidance behaviors, exposure to them Solution: mental imagery (downward arrow), **Summarizing and receiving feedback** **Homework**: recording anxious thoughts and situations, exercising, practicing the skill (exposure, behavioral experiment)
Session (8)	**Assessment:** following up, reviewing **Psychodynamic techniques:** identifying and challenging schemas, resistance and defense mechanisms **Solution**: exposure, the practice of confrontation, behavioral experiment, **Summarizing and receiving feedback** **Homework:** recording anxious thoughts and situations, exercising, practicing the skill
Session (9)	**Assessment:** following up, reviewing **Psychodynamic techniques**: identifying and challenging schemas, resistance and defense mechanisms **Solution:** creating new views, self-assertiveness skill, **Summarizing and receiving feedback** **Homework:** recording anxious thoughts and situations, exercising, practicing the skill
Session (10)	**Assessment:** following up, reviewing **Psychodynamic techniques**: identifying and challenging schemas, resistance and defense mechanisms **Solution:** creating new views, problem-solving skill, **Summarizing and receiving feedback** **Homework:** recording anxious thoughts and situations, exercising, practicing the skill
Session (11)	**Assessment:** following up, reviewing **Psychodynamic techniques**: identifying and challenging schemas, resistance and defense mechanisms **Solution:** behavioral change in the lifestyle, self-efficacy skill, **Summarizing and receiving feedback**

(*continued on next page*)

Table 2 (*continued*)

	Homework: recording anxious thoughts and situations, exercising, practicing the skill
Session (12)	**Assessment:** following up, reviewing **Psychodynamic techniques**: identifying and challenging schemas, resistance and defense mechanisms **Solution:** Devil's advocacy technique, **Summarizing and receiving feedback** **Homework:** recording anxious thoughts and situations, exercising, practicing the skill
Session (13)	**Assessment:** following up, reviewing **Psychodynamic techniques**: identifying and challenging schemas, resistance and defense mechanisms **Solution:** modifying fundamental schemas and beliefs, creating new behaviors **Summarizing and receiving feedback** **Homework:** recording anxious thoughts and situations, exercising, practicing new behaviors
Session (14)	**Assessment:** following up, reviewing **Psychodynamic techniques:** identifying and challenging schemas, resistance and defense mechanisms **Solution**: practicing learned skills, Devil's advocacy technique **Summarizing and receiving feedback Homework:** practicing new behaviors and skills
Session (15)	**Assessment:** following up, reviewing **Psychodynamic techniques**: identifying and challenging schemas, resistance and defense mechanisms, completing the treatment, reviewing the learned skills and practicing them

Table 3
Baseline characteristics of the groups.

		cognitive behavioral	Integrative therapy	control group
Gender	Female	75%	91.7%	83.3%
	Man	25%	8.3%	16.7%
Education	Associate Degree	16.6%	16.7%	25%
	Bachelor's degree	66.6%	66.6%	53.3%
	Master's Degree	16.6%	16.7%	16.7%

Table 4
Mean ± Standard deviation of Anxiety and Age.

group	Anxiety-pre	Anxiety-pos	Age
cognitive-behavioral	30.67 ± 8.46	10.67 ± 4.87	24.83 ± 0.04
integrative	36.67 ± 8.92	7 ± 3.44	24.92 ± 5.25
Control	31 ± 9.81	29.75 ± 9.26	24.42 ± 3.68

Table 5
Analysis of Variances to assess the effect of cognitive-behavioral therapy on reducing anxiety.

Source	Sum of Squares	df	Mean Square	F	Sig	Partial Eta Squared
group	2185.042	1	2185.042	39.896	0.0001	0.645
Error	1204.917	22	54.769			
Total	13191.000	24				

4. Discussion and conclusion

The purpose of this study was to compare the efficacy of integrative therapy (a combination of short-term psychodynamic psychotherapy and cognitive-behavioral therapy) to that of cognitive-behavioral therapy in the treatment of generalized anxiety disorder. The results of the analysis of covariance (ANCOVA) and analysis of variance (ANOVA) indicated that both types of therapy were effective in the treatment of generalized anxiety disorder. However, integrative therapy was more effective than cognitive-behavioral therapy.

Table 6
Analysis of covariance to assess the effect of integrative therapy on reducing anxiety.

Source	Sum of Ssquares	df	Mean Square	F	Sig	Partial Eta Squared
Anxiety. pre	201.700	1	201.700	4.854	0.039	0.188
group	3296.718	1	3296.718	79.343	0.0001	0.791
Error	872.550	21	41.550			
Total	12283.000	24				

Table 7
Analysis of Variances to assess the effect of integrative therapy and cognitive-behavioral therapy on reducing anxiety.

Source	Sum of Squares	df	Mean Square	F	Sig	Partial Eta Squared
group	80.667	1	80.667	4.543	0.044	0.171
Error	390.667	22	17.758			
Total	2344.000	24				

It was shown that cognitive-behavioral therapy was effective in the treatment of generalized anxiety disorder, which is consistent with the results of Borza (2017) [20], Fonzo et al. (2014) [24], Kishita and Laidlaw (2017) [20], Mahoney et al. (2016) [25], Sharma et al. (2016) [21], Mahdi et al. (2015) [33], Cuijpers (2014) and [23] Stefan et al. (2019) [34].

To explain this result, it can be stated that cognitive-behavioral therapy is a brief and structured kind of psychotherapy. Its supportive context and techniques are associated with a collaborative therapeutic stance and as such it focuses on the key role of cognition and behavior in appearance and maintenance of mental diseases. The fundamental assumption of this therapeutic approach is that maladaptive cognitions contribute to the maintenance of behavioral problems and emotional disorders. The primary model assumes that therapeutic strategies lead to changes in emotional disturbances and behavioral problems by changing these maladaptive cognitions. Clients and therapists work together on feelings, thoughts, and behavior by focusing on the present situation. Obtaining skills and assigning homework are among the cases that distinguish cognitive-behavioral therapy from conversation-based therapies [30,32,35–37].

Worry, as the core component of all anxiety disorders, is a cognitive activity. It is considered as the main symptom of generalized anxiety disorder. People diagnosed with generalized anxiety disorder suffer from excessive worry [38]. Various cognitive-behavioral models emphasize the fact that anxious people exaggerate negative events, neglect base rates, suffer from perfectionism and seek to be confirmed. They are less likely to tolerate ambiguity and uncertainty [13].

Cognitive-Behavioral therapy is an effective and excellent therapeutic approach to change pathological worries to natural worries. It is widely used to treat generalized anxiety disorder. However, there are still a large number of people who do not respond to this treatment [19,24].

The results of this study demonstrated that integrative therapy was effective in the treatment of generalized anxiety disorder. To the best of our knowledge, up to the time of writing this article, no research has been conducted on this subject. However, the results are consistent with Keefe et al. (2014) [29], Salzer et al. (2011) [28], Lawson et al. (2013) [16], Lilliengren et al. (2017) [26], who investigated the efficacy of psychodynamic psychotherapy and cognitive-behavioral therapy.

Gold and Stricker (2001) presented an assimilative model of integration using cognitive, behavioral, experiential, and other techniques within a relational psychodynamic model. Active and exploratory techniques may complement one another and allow for more meaningful work within the session. An integrative approach is often

recommended to intervene at multiple levels of functioning. This integration facilitates deeper experiences of personal growth and provides a didactic structure for patients to target behavioral changes and develop effective problem-solving strategies. Gold and Stricker (2001, 2012) argue that early integration and an assimilative use of active, cognitive-behavioral techniques within a psychodynamic framework often accelerate and strengthen the development of a positive therapeutic alliance [39].

The original concentration of Gold and Stricker (2001, 1996) was on the use of the short-term psychodynamic psychotherapy (STPP) model to examine treatment outcomes in relation to integrated therapeutic interventions. The integration of cognitive-behavioral techniques in the short-term psychodynamic psychotherapy model has been significantly associated with positive treatment outcomes in some functional areas. By increasing the use of cognitive-behavioral techniques within a psychodynamic session (psychoeducation and increased therapist activity), the therapists can ensure a stronger emphasis on obligatory aspects of the alliance by providing explanations for their approach. Besides answering the question of which therapy is more effective in the treatment of generalized anxiety disorder, the results suggested that psychodynamic techniques can help the patients develop new perceptions of themselves and change their interpersonal dynamics with others. However, when psychodynamic techniques work in combination with cognitive-behavioral, systematic, and strategic interventions, they may lead to behavioral changes and deepen psychodynamic exploration. A high emphasis on the integration of psychodynamic-interpersonal and cognitive-behavioral techniques in intersession activities can also strengthen the alliance mutually, which in turn increases the likelihood of patients practice therapeutic activities outside of sessions because of their trust in the therapist. Active therapists use mostly cognitive-behavioral techniques. When traditional cognitive–behavioral elements are presented from a psychodynamic perspective, for example, patients are provided with explicit information and rationale about their symptoms and treatment, this can give patients more confidence to face their challenges and they may feel a greater sense of collaboration with their therapist [39].

In general, it can be argued that the integration of such elements as the development of new perceptions, behavioral changes, the modification of defense mechanisms and cognitive dysfunctions, the development of a context for learning new skills, and the increase in the therapeutic alliance caused the integrative approach not only to be effective in the treatment of generalized anxiety disorder and the reduction of its symptoms, but also to be more effective than cognitive-behavioral therapy. However, more research is required in this field to confirm the results of this article.

In the process of doing the present research, we encountered some limitations, including the reluctance of clients in continuing the treatment or completing the questionnaires. The personal history of participants was one of the most important limitations that certainly affected the results of the research. However, its effects may be minimized by implementing group therapy or conducting controlled experimental research. Finally, it seems that this kind of treatment requires more research, either individually or in groups, to investigate the results obtained more carefully and implement them more effectively.

Author contributions

MOA, SAM, KH, and MP contributed to the development of the study design and methodology. This research is taken from the corresponding author's PhD thesis, MOA, was responsible for conducting the research. SAM as Supervisor, and KH and MP as advisor contributed in direction and supervision of this research. Corresponding author trained in the both psychodynamic psychotherapy and cognitive-behavioral therapy courses and all authors have experience and expertise in both fields. MOA wrote the original manuscript and SAM, KH, and MP all helped with revision. All authors read and approved the final manuscript.

Statement of human rights

Informed consent: In accordance with the terms and conditions of Iran, informed consent was obtained from all individual participants included in the study. For each person in two experimental groups, the process of treatment, the number of sessions, and so on were explained and their informed consent was obtained.

I have trained in cognitive-behavioral therapy and short-term psychodynamic psychotherapy in Iran and I have been working in these fields for 5 years.

Declaration of competing interest

The authors declare that they have no conflict of interest in this study. It is also notable that no funding was received.

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