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How Effective are Efficiency Studies?: An Evaluation in the Context of Cognitive Behavioral Therapies



Esra GÜVEN¹ , Gözde GÖKÇE² 

SUMMARY

The consensus view is that the main goal of a psychotherapy approach is to make changes in dysfunctional attitudes and behaviors. Therapeutic effectiveness, which is defined as “the establishment of causality between the intervention and the emergent changes in target behavior, symptom, or disorder,” has been examined via studies of therapeutic effectiveness. In this review, we aimed to evaluate the therapeutic efficacy and/or effectiveness studies in terms of their methods, results, and approaches. In addition, we wanted to discuss debates and criticism about these studies in the context of Cognitive and Behavioral Therapy (CBT). In this context, the definition of therapeutic effectiveness has been given and then, the measuring methods have been discussed within the framework of effectiveness, efficacy, and meta-analysis studies. Differences in the point of views regarding the results of effectiveness studies have also been examined. The place of Cognitive Behavioral Therapy has been discussed in the context of mentioned topics. In the conclusion part, the numbers of questions that are thought to contribute to an effective interpretation for therapeutic effectiveness have been proposed. In this context, it is a fact that Cognitive and Behavioral Therapy, which is one of therapies most widely used, has been determined as effective on depression and anxiety disorder. The CBT’s, prevalence, being a structured method, and studies about its impact on therapeutic change strengthens the evidence of its effectiveness.

Keywords: Cognitive Behavioral Therapy, therapeutic effectiveness, efficacy, effectiveness, common factors, specific factors

The evidence-based feature of psychotherapy methods is based on different theories and approaches, and is supported by the findings from the effectiveness studies. Because of the studies and interpretations emphasizing the psychotherapeutic effectiveness might have some limitations, it has been mentioned that the research finding should be interpreted in a holistic view in order to talk about the effectiveness and efficacy of a therapy method (Tolin et al 2015). Limitations that the methods and approaches used by the studies in the field of effectiveness/efficacy may impose may lead to impaired clinical validity or misinterpretation of psychotherapy methods that are said to be effective. For this reason, it is important to consider the usefulness of the effectiveness studies conducted

and to make comprehensive assessments while evaluating the effectiveness of psychotherapy methods. Limited interpretations of these assessments may lead to labor, time, and material loss at the individual and institutional level, which may damage the reliance of psychotherapy specialists and methods. In this framework, we aimed at examination the methodology, findings, and follow-up of the effectiveness/efficacy studies in the context of Cognitive Behavioral Therapy (CBT), which is one of the most widely used psychotherapy approaches in our country and in the world. In addition, the criticisms and debates in the field will be discussed in this review study. For these purposes, a search has been done using the keywords of effective therapy, efficacy, therapeutic change, common and

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specific factors, and cognitive behavioral therapy. As a result of the relevant search, the research articles, reviews, and meta-analysis that have been published between 1961 and 2016 have been reached. Priority has been given to meta-analysis studies and some basic sources have been used as well.

Important Elements in Therapeutic Effectiveness

Therapeutic effectiveness can be defined as the ability to establish a causal relationship between change in target behavior, symptom or disorder, and intervention (Thomas 2006). It has been observed that the causality relation has been examined in the framework of some basic components.

Components of Therapeutic Change

The most frequently addressed components of therapeutic change are the mechanism that represents the response of the question “What is the targeted change?” and the mediating components that represent the response of the question “In what ways are the targeted changes achieved?” (Kazdin 2007).

Mechanism is the elements that leads to change in symptom(s) or the problem as a result of psychotherapy (Lorenzo-Luaces et al 2015). Many psychotherapy approaches aim to change the mechanisms that are associated with their theoretical background and have been suggested as the cause of the problem or problems. Different psychotherapy approaches can change different mechanisms, but these changing mechanisms can have similar effects on symptoms or problems (Arch and Craske 2008, DeRubeis et al 2005). Mediator components point out the ways in which the change in mechanisms occurs and have usually been examined by testing the mediation (Lorenzo-Luaces et al 2015). In this framework, it can be assumed that the fundamental mechanism and mediator components of the CBT are interfering with maladaptive behavior and thinking by adapting psychotherapeutic principles of learning theories and cognitive psychology principles. In other words, it can be said that the therapeutic effect of CBT consists of the mechanisms that aim at the change in cognition and behavior while, the mediator components are the factors that cause this change.

The cognitive mechanism that predicts therapeutic efficacy in the CBT includes perceptions, interpretations, and explanations of the self, the environment, the experiences and the future of the individual. These are the cognitive structures formed by the individual’s automatic thoughts, intermediate beliefs and rules, core beliefs, and distortions associated with these cognitions, which are maladaptive. This cognitive mechanism influences therapeutic change through the identification of the individual’s thoughts and beliefs related to the problem area and the reconstruction of them in a way that can be evaluated and adapted. In other words, changes in attitudes, thoughts, and beliefs mediate the effect of therapeutic

interventions on symptoms. The cognitive change that takes place in this way involves the exchange of cognitive processes and the content of cognition. It also involves the acquisition of new compensatory skills either directly or indirectly. The behavioral mechanism that predicts therapeutic efficacy encompasses reinforced, customized, or exacerbated behavior of the person with the problem area based on learning theories (Dobson 2009). The behavioral mechanism of CBT contributes to therapeutic change through behavioral interventions such as, exposure, response prevention, and behavioral activation. Examples of mechanism and mediator components of the CBT that make changes on some psychopathologies are presented in Table 1.

One of the frequently used ways in research to identify mechanisms and mediators that cause therapeutic change in the CBT is to compare cognitive and behavioral interventions. In studies comparing cognitive and behavioral interventions in depression, these interventions did not differ statistically in terms of short-term outcomes (Jacobson et al 1996, Longmore and Worrell 2007). Findings in this direction have been interpreted as the fact that the component of cognitive change does not lead to a change beyond the behavioral component on the symptoms. Therefore, it has been stated that cognitive change in depression may not be a mechanism in terms of changes in symptoms. (Longmore and Worrell 2007, Lorenzo-Luaces et al 2015). In the case of generalized anxiety disorder, addition of behavioral techniques such as relaxation exercise and exposure to cognitive techniques have been found to give better results than merely behavioral techniques (Hoyer et al 2009, Siev and Chambless 2007). According to this finding, behavioral techniques, when combined with cognitive techniques, help individuals to cope with not only the thoughts that increase their anxiety, but also the possible consequences of their anxiety. In addition, in generalized anxiety disorder, cognitive therapy has been suggested as being superior to behavioral therapy in terms of symptoms. Indeed behavioral therapy focuses on small number of distinct target behaviors while cognitive therapy focuses on the distorted cognitions related to the threat (Wells 1999). However, it is important to bear in mind that cognition and behavior may affect each other when interpreting these findings. Interestingly, several researchers have suggested that primarily non-cognitive methods may involve some cognitive processes (eg, Hofmann 2008, McCarthy and Barber 2009). For example, according to Lorenzo-Luaces et al. (2015), increasing the level of activity, which is a behavioral intervention in the depression, aims to orient the individual to new activities and increase the enjoyment of the activities. Although an activity is not a cognitive exercise, it may contribute to the change of mood through the reduction of hopelessness that serves as a cognitive element.

Table 1. Examples of mediators and mechanism of CBT on some common psychopathologies

	Mechanism		Mediators	
	Cognitive	Behavioral	Cognitive	Behavioral
Depression	Negative cognitive triad Learned helplessness and attribution	Increased avoidance and withdrawal behaviors conditioned by the reduction of positive reinforcements	Monitoring mood Record of automatic thoughts and cognitive distortions Generating realistic opposing evidence, cognitive reappraisal	Behavioral activation
Generalized Anxiety Disorder	Irrational thoughts about threat Irrational thoughts about coping skills Metacognitions about worry “Worry is necessary to avoid from danger.” “Worrying is bad.” Intolerance to uncertainty	Increased avoidance behaviors Increased physiological responses	Record of automatic thoughts Cognitive reappraisal Cope with stress	Relaxation exercises Exposure
Posttraumatic Stress Disorder	Memory and the meaning of trauma Cognitive rigidity	Avoidance from trauma-related objects, persons or places	Psychoeducation (symptoms of PTSD and stress reactions, trauma-related stimuli and their effects on symptoms sustainability) Negative thoughts about trauma, reappraisals of beliefs Activation of fear structure	Prolonged exposure Breathing exercises Relaxation exercises
Obsessive-Compulsive Disorder	Repetitive, intrusive and disturbing beliefs Metacognitions: “If I think about something, it means that i have done it” “If I think about it, it will happen.”	Rules and repetitive behaviors that must be follow strictly	Testing of alternative thoughts, make less threatening and consistent explanations Avoiding from biased thinking about the importance of thought content Reducing exaggerated personal responsibility	Exposure and response prevention

Beside this, it has been documented that CBT has indirect effects such as increase in self-esteem, increase in social and vocational harmony, social support, improvement in general health, and a decrease in symptoms (Hofmann et al 2012, Taylor and Montgomery 2007). Hence, it is difficult to determine whether these indirect effects are caused by the fact that the symptoms that lead to the decrease are indirect effects or because the symptoms are decreasing. For this reason, it may not always be the best way to compare the therapeutic processes or mechanisms in terms of changes in symptoms. While comparing the changes on the symptoms, it may be useful to make an operational definition of the mechanisms and mediators that are intervened by the approach and to discuss the results in the context of confounding variables. How the components examined, as well as how these components are examined, might influence the relevant discussion is also important. In another way, the methodology of these studies appears as another important issue that must be taken into account in the interpretation of therapeutic effectiveness.

Evaluation Methods in Therapeutic Effectiveness

The benefits of a psychotherapy approach are mainly assessed through efficacy/effectiveness and meta-analysis studies. Although the concepts of efficacy and effectiveness are used interchangeably in daily language, there are some

fundamental differences between them. Efficacy refers to the ability to benefit when the psychotherapy approach is implemented in a structured and controlled manner. Effectiveness, on the other hand, points out the benefit occurrence when the psychotherapy is used in practice (Andrews 1999). More precisely, whether a psychotherapy approach is effective when applied to an average client seeking treatment by an average practitioner is related to efficacy. Effectiveness studies investigate how many people who received the treatment respond to this treatment, while efficacy studies investigate how much of those who meet the conditions for inclusion in an experimental protocol respond to intervention. Thus, the differences in responses to the question “Is the intervention or psychotherapy approach effective for the average client?” and “Is the intervention or psychotherapy approach found to be superior to the placebo or to other approach in randomized clinical experiments?” suggests a distinction between efficacy and effectiveness (Andrews, 1999). The methodological differences between effectiveness and efficacy studies as well as the advantages and disadvantages of these studies are summarized in Table 2.

Despite the differences between them, studies in the field of efficacy and effectiveness share some common structural features. Both studies seem to be experiments that examine the reliability of psychotherapy methods in a sense. In these

Table 2. Comparison of efficacy and effectiveness studies

Efficacy Studies	Effectiveness Studies
Look for the answer of the question: "Is the intervention working in ideal condition?"	Look for the answer of the question: "Is the intervention working in real world?"
They focus on the importance of making a causal inference between the treatment and the treatment outcome. (They target the internal validity)	They are interested in generalizability and the effectiveness studies conducted with more limited research protocols. (They target the external validity)
They are based on a controlled clinical trial method in which participants are randomly assigned to treatment groups.	Participants in effectiveness studies are often selected without using exclusion criteria and are free to choose the treatment they want to receive.
Treatments are standardized; there is a manual and the number and arrangement of the sessions are determined.	Treatments are not standardized; they are administered as if they were in clinical practice without a manual or a set number of sessions.
Randomized clinical trials test the relatively artificial treatment in an artificial controlled environment in atypical patients. Generalizability to the real world is weak.	The applied treatments are closer to the real world. Generalizability is much higher.
It is assumed that any changes in the treatment groups are directly related to the causal effect of the treatment.	Causative effect cannot be claimed because it is devoid of randomized assignment and structured treatment conditions and is more influenced by individual confounders.

studies, an evaluation method is applied in which a number of highly regarded rules are observed from an original research method. These rules are concerned with how participants should be selected, how much participants is needed, how participants are assigned to groups, and how the data is to be analyzed. In addition, the psychotherapy approach that is examined is applied to each participant in the same way. In other words, this approach is analyzed in a fairly standardized and structured way (Barlow and Durand 2015).

Considering the advantages and disadvantages of both methods, an intervention and psychotherapy approach seems to require both efficacy and effectiveness studies while assessing the effects of them on the change. In the case of therapeutic change, the level of efficacy of an intervention, which is found to be efficacious in randomized clinical experiments/trials, is also very important. Singal et al (2014) suggests that the method should be supported by at least two studies that demonstrate efficacy-effectiveness continuity in order to be able to make a decision about whether a psychotherapy or intervention is contributing to change.

Another method that provides information about the effects of psychotherapy approach or techniques is meta-analysis studies. Meta-analysis studies are carried out by combining a series of research results made at different times and with different participants, concentrating on the same topic through qualitatively and quantitatively appropriate statistical methods (Açikel 2009). In general, these studies are formed by combining the results of effectiveness and efficacy studies with appropriate statistical analyses.

There are numerous efficacy and efficacy/meta-analysis studies that examine the impact of CBT on individuals that consult to psychotherapy with various psychopathologies. These

studies are predominantly focused on depression and anxiety disorders (Hall et al 2016). For example, in a study examining the efficiency of CBT and Schema Therapy in the treatment of depression, it was determined that the effect of Schema Therapy and CBT on depression symptoms did not differ significantly (Carter et al 2013). A meta-analysis study of 198 efficacy studies (Barth et al 2013) comparing the effect on the depression symptoms of seven psychotherapeutic interventions (CBT, interpersonal therapy, behavioral activation, problem solving therapy, social skills training, psychodynamic therapy and supportive counselling) was performed. While the magnitude of the impact of the CBT was somewhat greater than the other interventions, a similarity was mentioned. In another study (Leichsenring 2001) examining the efficacy of CBT and Short-Term Psychodynamic Therapy on depression, it was mentioned that both approaches have a similar contribution to the change in symptoms. These findings can be interpreted that CBT is effective but not statistically superior to other psychotherapy approaches in terms of change in symptoms in the case of depression.

However, many studies suggest that the disorder category to which CBT is the most contributing to therapeutic change is anxiety disorders (eg, Comer 2015, Hoffman et al 2012, Hoffman and Smiths 2008). For example, a meta-analysis study (Hoffman and Smiths 2008) where the effect of CBT on the disorders was addressed in DSM IV (American Psychiatric Association 2001) as under the frame of anxiety disorders. Both the efficacy and the effect size of CBT were found to be significantly higher than the placebo group. Among the anxiety disorders, however, the two disorders in which CBT had the lowest magnitude of effect were found to be obsessive-compulsive disorder (OCD) and panic disorder. In another meta-analysis study (Bandelow et al 2015),

in which the effect of CBT on panic disorder, generalized anxiety disorder, and social phobia was examined, CBT and psychopharmacological intervention were compared. It was found that for the level of change in the symptoms, the CBT group was higher than the waiting list, the psychological placebo group, and the pharmacological placebo group. However, the drugs were more efficient than CBT in these disorders. In another study comparing the effect of CBT and pharmacological intervention on generalized anxiety disorder, both approaches provided more variation than the control group, but did not differ in terms of effect size (Mitte 2005). Recent studies have pointed out that pharmacologic intervention in the short-term depression and anxiety disorders group predominates over CBT or a similar effect size, but long-term follow-up studies emphasize that the change provided by the CBT lasts longer and the recurrence rate is lower (eg, Barlow and Durand 2015, Comer 2015).

In addition to depression and anxiety disorders, various psychopathologies and situations where the individual may be uncomfortable (substance abuse, schizophrenia and other psychotic disorders, depression and dysthymia, bipolar disorder, anxiety disorders, somatoform disorders, eating disorders, insomnia, personality disorders, anger and aggression, crime and criminal behaviors, general stress, anxiety due to medical conditions, chronic pain and fatigue, anxiety related to birth complications and female hormonal conditions) a meta-analysis study of 269 meta-analyses of the efficacy of CBT was done (Hoffman et al 2012). The results of this study indicate that the CBT has strong scientific support; particularly on anxiety disorders, somatoform disorders, bulimia, anger control problems and general stress complaints.

In summary, it appears that CBT has altered the symptoms of many psychopathologies, especially anxiety disorders, but there are controversial findings when compared with other approaches in terms of therapeutic superiority (eg, Barth et al 2013, Carter et al 2013, Hoffman et al 2012, Mitte 2005). Findings of efficacy and effectiveness studies that examine the effect of CBT on psychopathology suggest that CBT is an effective psychotherapy approach, but it is noteworthy that effectiveness studies are relatively in small numbers (Lutz et al 2016, Stewart and Chambless 2009). This suggests that we need more specific work beyond experimental conditions in order to be able to understand the effectiveness of the CBT on a broad manner. Although it seems plausible to think that the clearest conclusions can be reached with meta-analysis studies, it has also been suggested that the success of experimental method is based on the skills of therapist in terms of implementation of structured procedure in solid experimental designs. There is no answer to the question whether the treatment will be effective when applied by an average practitioner to an average client in the field. In other words, the efficacy

outcomes are uncertain (Andrews 1999). Indeed it may be useful to interpret and evaluate the results of efficacy and effectiveness studies together when talking about effectiveness of a psychotherapy approach as previously mentioned. There are numbers of efficacy, effectiveness, and meta-analysis studies in which the effect of CBT in various psychopathologies is examined. In these studies, the quasi-experimental effectiveness findings, which are fewer in number than the solid experimental research findings, appear to be partially consistent with each other. In this context, it can be said that the meta-analysis results on the contribution of CBT to the therapeutic change partly provide continuity of effectiveness-efficacy.

The components of therapeutic change as well as how these components are assessed are discussed up to this section. The question “how to interpret the effect of a therapy approach on change provide more powerful output” can be considered as an important question in terms of effectiveness studies.

Interpretation Differences in Therapeutic Effectiveness Studies: Common and Specific Factors, Evidence-Based Approach

It has been mentioned that interventions in a psychotherapy approach must be generally structured and the symptoms and the risk of recurrence must be reduced in order to be characterized as an effective and efficacious method contributing to the change (Andrews 1999).

Therapy structuring in effective therapy, which can be expressed as outcomes and long-term effects of psychotherapy, may either be specific to the method of psychotherapy or may be a consequence of the general functions of psychotherapy. Therefore, it has been suggested that a number of questions with central importance should be considered while evaluating the effect of psychotherapies on change (Abramowitz 1998, McAleavey and Castonguay 2015):

1. Does the effect of psychotherapy stem from the components that make psychotherapy approach specific? Or is this effect better explained by the common elements in each of the different approaches?
2. Does the level of efficacy of psychotherapies demonstrated by clinical experimental studies indicate a clinically significant change? Can these psychotherapies be considered as providing clinical validity as well?

It can be argued that these and similar questions mentioned above lead to differences in interpretation of therapeutic effectiveness and/or effective therapy outcomes. These interpretation differences, also referred to as therapeutic change models, focus on the factors that contribute to therapeutic change and mainly discuss whether each approach-specific intervention or common and general psychotherapeutic components lead therapeutic change (Feinstein et al 2015).

Common and Specific Factors

The “Dodo Bird Verdict” inspired by Lewis Carroll’s famous work “Alice in Wonderland” has been used to express that the elements that are effective in psychotherapies can be explained by common factors (Rosenzweig 1936). According to this approach, all types of psychotherapies are effective, resulting in equal positive output as a result of common factors. No method has superiority over another. This argument summarizes the interpretation of therapeutic change from the perspective of common factors (Luborsky et al 1975). Therapeutic common factors can be defined as factors that cannot be reduced to any psychotherapy methods and are frequently seen in different psychotherapies. There are many studies that have examined the common therapeutic factors, which are thought to effect change in therapy. For example, client characteristics, therapeutic alliance, therapist’s characteristics and behaviors, a healing environment, a rationale that accounts for the client’s problem and rituals, hopes and positive expectations that are thought to help solve the problem. Hawthorne effect (monitoring effect), development of self-efficacy and success feelings, and the effects of non-therapeutic events out of the therapy context have been indicated as common elements affecting therapeutic change (Grencavage and Norcross 1990, Frank and Frank 1991, Feinstein et al 2015, McLeavey and Costanguay 2015, Tracey et al 2003).

The main criticism to the common factors view is the likelihood that individuals suffering from specific problem areas will be deprived of evidence-based approaches (such as anxiety disorders-CBT) that have been shown to be effective in the areas where they are problematic (Feinstein et al 2015). It can be said that this thought criticism brings the approach of original factors to the agenda. The proponents of the specific factors suggest that different psychotherapy methods have different ways to the same outcome and indicate that not every psychotherapy has been tested for each disorder. Therefore, all psychotherapies cannot be considered effective (Chambless and Ollendick 2001, DeRubeis et al 2005). The specific factors are the elements of a given psychotherapy approach that are not common with other therapy approaches. When considering the components in therapeutic change, it can be interpreted that the specific factors point out to mediating components. Specific factors, such as common therapeutic factors, can also be categorized into various categories including techniques (eg, the list of automatic thinking records in the CBT), effects (early unresolved psychoanalytic conflicts), and change mechanisms (eg, McLeavey and Costanguay 2015).

It can be assumed that in the context of the CBT, specific factors are based on the argument that changing dysfunctional beliefs and thoughts will lead cognitive change. Evidence that cognitive change is a specific therapeutic mechanism is based on prediction of change in symptoms by change in

cognitive processes or contents (Lorenzo-Luaces, et al 2015). Homework is one of the specific factors that has gained experimental support in the CBT. In a study conducted with depressed individuals, it was found that homework predicted the outcome of psychotherapy (Burns and Nolen-Hoeksema 1991). These and similar findings support the hypothesis that the homework used in the CBT creates an opportunity for the implementation of new skills. In addition, this paves the way for generalization of the things learned in the therapy, continuation of the active position of the client after therapy, development of self-awareness and interaction with the positively reinforcing stimuli (Kazantzis et al 2016, Maultsby 1971). The efficacy of the homework used in the CBT has been examined in various disorders such as anxiety disorders, psychotic disorders, substance abuse, and chronic pain, which has been suggested to be related to changes after treatment (Soylu and Topaloglu 2015).

In addition to homework, one study on individuals with depression were divided into three groups: cognitive and behavioral components involving CBT group, merely cognitive therapy based on automatic thinking change group, and merely behavioral therapy based only on activity planning and monitoring group, and the therapeutic effect of specific factors was evaluated (Jacobson et al 1996). Accordingly, behavioral activation intervention was found to be as effective as the classical CBT, which included both cognitive and behavioral components. These findings are interpreted as increasing the activities that an individual enjoys. In addition, therapeutic behaviors are effective and specific factors of the CBT protocol as well (Dimidjian et al 2006).

Common and specific factors seem to be one of the issues that need to be addressed in a fundamental and holistic way in the field of therapeutic effectiveness. The following points are mentioned in the joint work of the American Psychological Association (APA) “Society of Clinical Psychology” and “Society for the Advancement of Psychotherapy” (Kazantzis et al 2015, Norcross and Wampold 2011):

In particular, therapist characteristics such as flexibility, experience, honesty, respect, reliability, self-esteem, care and attention, closeness, warmth, and openness have been found predicting the therapy variance more than specific techniques. In addition, therapists that criticize themselves and have advanced psychological health and skills are more influential on positive outcomes.

2. Focusing on the self-efficacy of clients (self-control and goal attainment) is another common feature of psychotherapies considered to be effective. Self-efficacy practices involve teaching clients to expose themselves to emotional, intellectual, or situational contexts that threaten themselves, to recognize and express appropriate emotional responses, and to acquire coping skills.

3. The ability to create positive expectations and hopes for change and development in the client is thought to be more effective than specific techniques.

The above points emphasize that common factors predominate over specific factors, but it should be kept in mind that the common and specific processes of psychotherapy are systematically interdependent (Tschacher et al 2012). It has been proposed to combine common and unique factors, since discussing the common and specific factors independently may lead to miss the complex reality of therapeutic change (Tschacher et al 2012). This combination, called faux-unique variables, represents elements that may function in a particular approach but may also be in other psychotherapy approaches (Castonguay 2011). Another integrative view that deals with common and specific factors is called a generic model. The generic model perspective provides a holistic framework for common factors and differentiated theoretical orientations (Orlinsky 2009). For example, the therapeutic contract may seem to be one of the specific components of the CBT, but it can also be considered as a common factor. Therapeutic contract, being actually used in many approaches like CBT and psychodynamic approach is different in practice. In terms of a therapeutic contract, it can be said that the therapist is generally more active and didactic in CBT, while she/he is less didactic and active in the psychodynamic approach. However, from the viewpoint of common factors the regarding therapeutic contract, both approaches appear to have an unwritten assumption about the therapeutic role of the client and the therapist. Similarly, Cuijpers et al. (2010) refer to the fact that the therapeutic manual and its constructs used in experimental studies related to psychotherapies cannot be completely separated from each other. For example, in short-term psychodynamic therapies, some cognitive-behavioral techniques such as “false beliefs” and “irrational beliefs” are mentioned; similarly, CBT practitioners use some psychodynamic items such as transference. It is stated that CBT and CBT techniques are the most overlapping techniques in psychotherapy approaches; in other words, the most common partnership with other approaches is CBT and CBT techniques (Cuijpers et al 2010). Given this specificity issue, the question of “What are the most contributing factors to therapeutic change?” comes up. Therefore, it is getting difficult to distinguish which components are responsible for the change, and this suggests a process that is intertwined.

The findings of the meta-analysis studies give support for both arguments. In some studies, any specific approach may not yield superior outputs from the common factors approach, and all approaches have similar and equal effects (eg, DeRubeis and Crits-Christoph 1998, Hall et al 2016). In contrast, there are also studies that emphasize that some specific psychotherapy approaches and techniques, particularly the CBT, have a greater impact on psychotherapy outcomes than

others (eg, Pincus et al 2016). It has been indicated that some of the efficacy studies, emphasize the superiority of behavioral therapies to general psychotherapy (not based on any theoretical approach). While the other studies may emphasize the equal influence of both approaches, there are no studies indicating the superiority of the general psychotherapy over behavioral therapy (Reisner 2005). The author indicates that behavioral therapies gain superiority when focused on inter-related changes in certain variables (such as work and social cohesion or fear) as a result of intervention. However, when the psychotherapy process is taken as a whole in terms of various dependent variables, the difference disappears. Therefore, it can be said that specific approaches may show superiority in certain areas such as CBT, especially in anxiety symptoms. However, similar effects are observed when general psychotherapy process is considered.

Evidence-Based Approach

Another basic view in interpreting the studies of therapeutic effectiveness is that studies must bear certain experimental conditions. The evidence-based intervention conditions established by the American Psychological Association Clinical Psychology Unit are (APA 1993):

1. Qualifying conditions as well-established therapy:
 - I. At least two group design studies conducted by different researchers and providing evidence of effectiveness associated with one or more of the following results:
 - a. Superior to medication, psychological placebo, or other intervention
 - b. Equal impact to a “well-established” intervention method that has achieved the appropriate statistical power.
 - or
 - II. A wide range of studies carried out with a single-subject design pointing to efficacy. These studies should provide the following conditions:
 - a. It should be carried out with a high power experimental design,
 - b. It should include a comparison with other types of intervention approaches as described in item I.a.
- Additional conditions for items I and II
- III. The studies should be conducted with therapy manuals.
- IV. The characteristics of the sample clients should be clearly defined and specified.

2. Conditions for qualifying as Probably Efficacious Therapy:
 - I. Two studies pointing to superiority to the control group generated by the waiting list

or

II. A study that meets criteria I, III, and IV for “well-established therapy” and indicates two studies conducted by the same investigator, or an indication of the effectiveness of all of these conditions.

or

III. At least two high power studies that point to effectiveness but the client sample is weak in terms of heterogeneity.

or

IV. A small number of series of studies that were conducted with a single-subject design and met the criteria of “established therapy” namely the items I, III, and IV.

American Psychological Association (1993) has published a list of therapeutic approaches according to the criteria in its working group report (APA, Division 12 Board; Task Force on Promotion and Dissemination of Psychological Procedures) that addresses the conditions for the procedures of evidence-based effectiveness studies. In addition to this, it has been suggested in this report that educational institutions should create their curriculum following the published lists and people should be referred to psychotherapy approaches in this list as well. In response to a number of criticisms to the Association shortly after the Task Force was published, American Psychological Association (APA) added a conclusion to the Task Force in 1994. In the added conclusion section, opposing views such as the published list is heavily influenced by the CBT bias and excludes other approaches that provide advantages to the therapists adopting the cognitive behavioral approach. All psychotherapies have equivalent efficacy that a psychotherapy approach cannot be useful on the basis of a few studies and that further research is needed constantly. After these criticisms, it can be said that the conditions for effective psychotherapy were stretched in the following years. For example, the relevant Task Force defined “Evidence Based Practice in Psychology” in 2006. Accordingly, evidence-based practices in psychology have been expressed as combining clinical expertise with the most appropriate research that can be done in the context of client characteristics, culture, and preferences (Norcross and Wampold 2011). Similarly, Yates (2013) summarized the relevant Task Force through three components: knowing and understanding current research, the expertise of the clinician, and the individuality of the clients.

In summary, different opinions about evaluating the effectiveness of a psychotherapy method and the debates in this area continue. Nevertheless, it can be concluded that, while interpreting the efficacy of a psychotherapeutic approach, determining the mechanism and mediator elements that leads the therapeutic change, examining the measurement methods of the findings, considering the common and specific

factors contributing to the therapeutic change, and taking into account the characteristics of the client, the therapist, the context and the culture while preserving the scientificness as much as possible are important.

Other Points for Interpretation of Effectiveness Studies

The CBT is one of the leading experimental psychotherapy methods among “effective” therapies. Findings that CBT has evidence-based efficacy are widespread, but there seems to be some debate about the effectiveness of therapies and how they are effective.

One of the essential elements when talking about the effect on change by a psychotherapy approach is effectiveness study. There are some important points to consider when interpreting the results of effectiveness studies. The first of these is the prevalence of the psychotherapy method being discussed. In this respect, the question that is first asked is “are effectiveness studies influenced by basic specifications and dominant orientations?” CBT is one of the most commonly used psychotherapy approaches in practice and vocational training programs. Basic psychology and psychiatric training in the USA includes one or two of CBT, psychodynamic and supportive therapy theories, and supervisions (Feinstein et al 2015). In Turkey, similar results on prevalence of CBT in terms of practices and training (Bilican and Soygüt 2015) were obtained in a study that examined the therapists’ professional characteristics. Considering these findings, it can be said that the experts working in mental health field worldwide have either learned CBT more comprehensively as compared to other schools of psychotherapy. In addition, they may have more knowledge of CBT than others, and in Turkey, the dominant orientation in the clinical psychology program is cognitive orientation as well.

Another question that may arise while interpreting the results of effectiveness studies is that “Are the results of the CBT’s effectiveness affected by publication bias?” In a comprehensive meta-analysis study (Cuijpers et al 2010), which is thought to be an example of the answer to this question, the CBT’s publication weight was examined in research that compared the therapeutic change effects of CBT and other approaches. In this study, it was determined that a bias towards a CBT was found in a large amount of the meta-analysis studies emphasizing depression-CBT match.

Exclusion and/or inclusion criteria in meta-analysis studies are also one of the issues that affect the interpretation of the results of the effectiveness studies. As a matter of fact, the results of meta-analysis studies vary according to the characteristics of the studies included in the study (DeRubeis and Crits-Christoph 1998). DeRubeis and Crits-Christoph (1998) explained that the differences in some of these investigations are the use of structured manuals, while others do not

use them, which biases sample selection, inclusion of appropriate participants to the approach, and damages generalizability. It is stated that these differences in the studies included in the meta-analysis may be confounding variables and may overshadow the scientificness of the results (Ablon and Jones 2014, Açikel 2009, Reisner 2005).

It is also important to take into account the follow up studies while examining the effect of an approach on therapeutic change. Considering the recurrence rates of psychological disorders, effective psychotherapy may be expected to be effective not only in reducing symptoms but also in preventing recurrence. In a study conducted by Fava et al. (1996), it was found that the recurrence rate at the end of four years in the depressed and successfully treated individuals with BDT was 35%. In panic disorder, social phobia, post-traumatic stress disorder, generalized anxiety disorder, and obsessive-compulsive disorder therapy gains were found to continue at the end of one year (DiMauro et al 2013). From these findings, it can be said that CBT is a relatively effective therapy in terms of long-term therapy gains.

The findings that indicate that a psychotherapy method may be effective and should be interpreted with positive effects as well as negative consequences. There may be a number of participants in each study where therapeutic change is not observed or where there is a negative change. However, it has been observed that effectiveness/efficacy studies pay more attention to positive findings and negative outcomes often is not taken into consideration (Gülüm 2012, Resiner 2005). It is noteworthy that such a bias is limited to publications that report on negative output, which is also observed in studies investigating the therapeutic efficacy of CBT. For example, it is known that exposure techniques in posttraumatic stress disorder (PTSD) may trigger alcohol relapse, intense guilt and shame, sleep disturbances, or psychotic-like symptoms in some clients (Foa et al 2002, Pitman et al 1991, Solomon et al 1992). Similarly, there have been studies that mention that relaxation exercises may also create paradoxical anxiety in some clients (eg, Mohr 1995). A similar finding is the presence of a 3 to 5% population, in which CBT is unresponsive or does not show a significant change, especially in chronic depressive disorders (Fournier et al 2009). In addition, it is known that CBT has a significantly lower therapeutic success in clients with comorbid personality disorder (Shafran et al 2009). Similarly, the positive effect of CBT appears to be limited in clients that complain of OCD or psychotic disorders (Abramowitz 1998).

While interpreting effectiveness studies, the question “can the studies that indicate the therapeutic change effect of the CBT be carried out with participants that can comply with the CBT or can complete the CBT process?” comes up too. Feinstein et al. (2015) emphasize that therapeutic change is based on the choice of a good and appropriate method for

the client rather than choosing a client that is appropriate for the method.

Finally, it should not be forgotten that, although the results of studies examining the therapeutic change contribution of a psychotherapeutic approach and the other discussions mentioned above help to make inferences that the approach is “effective”, the result or effectiveness decision is shaped by statistical decisions. Some researchers argue that considering therapeutic effect merely by statistical significance is not a genuine interpretation. They emphasize that an approach should have clinical significance besides statistical significance in order to be considered “effective” (Guyatt et al 2002, Jacobson and Truax, 1991). Clinical significance is based on a comparison with the change in the symptom of the individual in terms of percent and the comparison with the normal population after the change in the symptom of the individual (Guyatt et al 2002). According to the classification of Foa et al. (1983), 70% or more improvement is considered as advanced development, while 31-69% of the change is considered as the average development, and below 30% change is considered as treatment failure. Jacobson and Truax (1991) also describe this phenomenon in terms of functionality or level of symptoms after therapy: (a) should be different from the level of functioning or symptoms of the population with disorder; (b) should be at the interval of the level of functionality or symptom level of the population; and (c) should be closer to the level of functionality and symptoms of the functional population than to population with disorder.

In studies examining the contribution of CBT to therapeutic change, it appears that the number of studies on which the clinical significance criteria mentioned are taken into consideration is rather limited. Studies have been particularly limited to obsessive compulsive disorder (Abramowitz 1998, Fisher and Wells 2005, Jacobson et al 2016). In Abramowitz’s (1998) study, participants at the end of the seventeen-week exposure and response-prevention (E / RP) therapy were found to approximate the OCD symptom distribution from the clinical distribution to the normal population distribution. Approximately 5 months after the cessation of treatment, healing was still observed to be satisfactory. However, it was emphasized that a satisfactory change after treatment was only observed in half of the treatment group. In this context, it can be said that E/RP therapy is effective in some obsessive compulsive individuals but not in others. In addition, despite the effects of E/RP, the treated patients were still found to report symptoms at higher levels and higher rates than the general population. Lundgren et al. (2004) also reported similar results in a study examining the clinical significance of CBT in eating disorders, suggesting that treated patients still show symptoms at higher levels and higher rates than the general population.

CONCLUSION

In this study, therapeutic effectiveness was defined, therapeutic effectiveness measures were examined within the framework of effectiveness, efficacy, and meta-analysis studies, differences in interpretation approaching the findings of efficacy studies were examined, and the role of CBT in the context of these issues was discussed. When considering the issues discussed in this study, therapeutic effectiveness should not be limited to effectiveness and efficacy studies, and effectiveness should not be determined merely by evidence-based criteria. Within the framework of an intervention, it can be said that the findings that obtained through strict experimental methods are not enough to support to consider CBT as the cause of the change in target attitudes and behaviors. Nevertheless, the CBT appears to be quite powerful in terms of evidence-based studies of therapeutic effectiveness. The CBT is based on features such as power of being evidence-based, having structured manuals, presence of numerous studies on effectiveness, and efficacy and meta-analyses of these studies as well. However, it should be taken into consideration that the number of effectiveness-efficacy-meta-analysis studies carried out in the context of CBT is not sufficient and that the methods and findings of these studies are subject to various bias. Considering the criticisms of the methodology of the studies on the effectiveness of the CBT, it has been found that, among the experts conducting the research, the proportion of CBT educated researchers and practitioners is higher than other approaches (education and researcher bias). The clients included in the survey have characteristics that comply with CBT and particularly the number

of meta-analysis studies in which the effectiveness of the CBT is examined is considerably higher than the other approaches (publication bias). This suggests that studies showing that the CBT is effective may bear many biases in terms of the methodological point of view. However, the extent to which the scope of the studies that provide evidence for the effectiveness of the CBT varies, whether negative outputs in the transmission of findings are ignored (whether positive outcome bias is relevant), and whether follow-up studies are adequate are still heavily debated.

In addition to these debates, it has been emphasized that to be characterized as effective, the evidence-based (experimental) power is important but not sufficient, since the assessment of the specificity of the approach that is examined in terms of effectiveness is needed as well. Accordingly, an examination of whether the specific aspects of an approach are significantly higher than the common therapeutic characteristics associated with other approaches appears to be important for understanding its effectiveness. The studies assessing this view in the context of the CBT argues that CBT has specific features. However, it is the common feature in all therapies, such as the therapeutic relationship that causes the therapeutic change.

Another important aspect of effectiveness studies concerns the fact that whether the evidence-based method based on statistical significance does provide clinical validity. As a result of research on therapeutic effectiveness, in an approach that is characterized as “effective” providing change, as well as increasing the functioning of the individual’s life or approximating the individual to normal population characteristics seem

Table 3. CBT in the context of the recommended questions to be asked to define a therapy approach as “effective”

	YES	CONTROVERSIAL/ LIMITED
Is it structured?	√	
Is there a manual that is applied in studies?	√	
Is it an original approach?		√
Is the therapeutic effect of its specific factors more than the contribution of common factors?		√
Is there sufficient number of efficacy and/or effectiveness studies?		√
How varied are the scope of studies?	√	
How varied are the problem areas found to be effective at the end of the study?		√
Is there efficacy-effectiveness continuity?		√
Does efficacy-effectiveness studies involve follow-up studies or the efficacy-effectiveness studies are supported by follow-up studies?		√
Are the researches and meta-analysis studies indicating efficacy and effectiveness biased?		√
Publication biases		√
Education biases		√
Researcher biases		√
Inclusion-exclusion criteria		√
Positive outcome biases (ignorance of the negative outcomes)		√
Is there clinical validity/significance of the statistical results indicating therapeutic change?		√

to be important. It is observed that CBT provides statistically significant changes in symptoms, attitudes, and behaviors, but the studies examining the clinical validity of this change are very limited. The recommended questions to be asked in order to characterize a therapy approach as “effective” and the answers to these questions in the CBT are given in Table 3.

In summary, careful interpretation of the methods and findings in the research that reveal the effect of the approach and identification of the areas where the psychotherapy method is effective is needed. In addition, common and unique factors that affect the change in these areas, evaluation of the situation ensuring the criteria suggested by the institutions, and associations that are accepted as authority while the client and the therapist are aware of their own, cultural, and contextual characteristics become prominent when talking about the effectiveness of a psychotherapy. These questions, which are contentious in the field of psychotherapy and point to areas that need further work, are thought to provide further information on the effectiveness of psychotherapy approaches and techniques. In this context, CBT seems to be an approach that is especially effective in determining anxiety disorders and depression. Being a structured method, CBT is prevalent and effective on therapeutic change.

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