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Effectiveness of Cognitive–Behavioral Family Therapy: A Systematic Review of Randomized Controlled Trials

Bilişsel-Davranışçı Aile Terapisinin Etkililiği: Randomize Kontrollü Çalışmaların Sistematik Bir İncelemesi

Belemir Şule Samar[1], Koray Akkuş[1], Bahtım Kütük[1]

[1]Ege University, İzmir

ABSTRACT

Cognitive–behavioral family therapy (CBFT) is used for a wide range of psychological and physical problems in integration with different treatment protocols. Effectiveness of CBFT research studies on the control group are limited in literature, even though this treatment is used frequently. Although various studies highlighted the effectiveness of CBFT, no systematic reviews were conducted. The study aims to review randomized controlled trials on CBFT. The study used keywords to identify 402 related articles in commonly used psychology databases (ULAKBİM, American Psychological Association, Psychology Database, Web of Science, Medline, and Scopus). The PRISMA diagram was used for analysis. Studies assessed with control groups were included without a historical limitation. The articles were screened according to inclusion and exclusion criteria. Fourteen articles were evaluated in terms of sample characteristics, content, application methods, characteristics of control and comparison groups, assessment tools, and findings. The results indicated that CBFT is especially more effective than individual CBT, psychoeducation or waitlist for various issues, such as anxiety disorders, obsessive compulsive disorders, pediatric bipolar disorder, substance use disorder, anorexia nervosa and chronic physical problems. The study inferred that CBFT can be used to improve mutual interaction between mental or physical problems with family. In other words, CBFT can be used to improve the effect of disorders experienced by one member on the family and the effect of the family on the disorders. In this manner, the risk of relapse can be reduced in the treatment of certain disorders. Therefore, the study suggests that CBFT should be used increasingly and that this field warrants further research.

Keywords: Cognitive–behavioral family therapy, effectiveness, systematic review

ÖZ

Bilişsel davranışçı aile terapisi (BDAT) psikolojik veya fizyolojik sorunların tedavisinde oldukça geniş bir spektrumda kullanılmaktadır. BDAT ayrıca birçok farklı terapi modeline entegre edilerek uygulanabilmektedir. Literatür incelendiğinde BDAT'nin sık kullanılmış olmasıyla birlikte, kontrol gruplu etkililik çalışmalarının sayıca az olduğu görülmüştür. Bu makalede, söz konusu aile terapisi yaklaşımına dair yapılmış olan etkililik çalışmaları sistematik bir biçimde gözden geçirilerek, literatürde eksik olduğu düşünülen bu noktaya dair bir katkı sunulması amaçlanmaktadır. Söz konusu sistematik çalışma kapsamında belirlenmiş olan anahtar kelimeler, psikoloji alanında en çok kullanılan veritabanlarında (ULAKBİM, American Psychological Association, Psychology Database, Web of Science, Medline, and Scopus) taratılmış ve 402 araştırmaya ulaşılmıştır. Bulguların analiz sürecinde ise PRISMA diyagramı yöntemi kullanılmıştır. Çalışmanın içleme ve dışlama kriterleri göz önünde bulundurularak yapılan elemeler sonucunda ulaşılan 14 çalışma; örneklem özellikleri, BDAT'nin içeriği ve uygulama biçimleri, kontrol veya karşılaştırma gruplarının özellikleri, kullanılan ölçüm araçları ve bulguları açısından değerlendirilmiştir. Yapılan bu değerlendirme sonucunda ise BDAT'nin kaygı bozukluklarından, kronik fiziksel rahatsızlıklara kadar geniş bir yelpazede özellikle bireysel BDT ve psikoeğitim uygulamalarına veya bekleme listesine göre daha etkili olduğu görülmektedir. BDAT'nin etkililiği göz önünde bulundurularak, yaşanılan ruhsal veya fiziksel sorunlar ile aile arasındaki karşılıklı etkileşimin BDAT ile düzenlenebildiği ifade edilebilir. Bu noktada BDAT'nin kullanımının daha da yaygınlaştırılması ve bu bağlamda daha çok araştırma yapılması gerektiği düşünülmektedir.

Anahtar sözcükler: Bilişsel davranışçı aile terapisi, etkililik, sistematik derleme

Address for Correspondence: Belemir Şule Samar, Ege University Faculty of Letters, Department of Clinical Psychology, Izmir, Türkiye **E-mail:** bsulesamar@hotmail.com
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Introduction

Family therapies are used for many psychiatric disorders such as anxiety disorders, bipolar disorder, anorexia nervosa or obsessive-compulsive disorders (Stewart et al. 2020). Family therapies were especially found to be more effective than individual therapies for long term treatment effects (Liddle et al. 2008). Since 1960s, several studies provided evidence for the effectiveness of cognitive–behavioral therapy in individual and group therapies. According to meta analyses conducted so far, the model was also adapted to therapeutic studies based on family systems (Butler et al. 2006, Cuijpers et al. 2016). According to learning theories and cognitive psychology, cognitive–behavioral family therapy (CBFT) is a structured therapy model which assumes that family members interact with each other in terms of behavioral, emotional and cognitive aspects in a family concept. Furthermore, the model incorporates emotional, social, and developmental elements in addition to cognitive and behavioral components (Özcan and Çelik 2017).

CBFT varies in terms of its issues of focus. Behavioral parent education, functional family therapy, behavioral therapy of sexual dysfunctions, and behavioral couple therapy are among different interventions related to CBFT (Gladding 2017). Scholars estimate that CBFT will become increasingly prevalent due to its suitability to be integrated into different therapy models such as Rational Emotive Therapy, thanks to its openness to improvement and flexibility (Dattilio 2005, Efe and Türkçapar 2013, İkizoğlu 2019).

At the beginning of the developing process of family therapies, behavioral family therapies played a significant role on the treatment of families. Behavioral family therapies focus on eliminating problematic situations by conducting behavioral analysis. The evaluation of family members' attitudes, beliefs and expectations regarding each other, which are thought to have impact on problematic situations, was understood to be essential in the improvement of cognitive therapies. Therefore, both behavioral analyses to eliminate symptomatic situations and cognitive interventions to focus on mental processing that arises and continues symptoms, begun to be used together in family therapies (Dattilio 2010).

Specifically, the objective of family therapies based on the cognitive–behavioral approach is to discover the behavioral patterns of family members to eliminate problematic situations. In other words, such therapies focus on behavioral problems instead of the structure of the family. Within this context, CBFT not only focuses on the elimination of problematic behaviors but also intends to increase positive reinforcement. The model emphasizes the clients' skills in improving problem solving, communication, and compromise. Therefore, it helps families to solve problems in the future by challenging distorted beliefs and teaching cognitive strategies. In this regard, the aforementioned approach is arguably rich in technical terms (Dattilio 2005).

CBFT follows structured protocols such as individual interventions of cognitive–behavioral therapy (CBT). The treatment protocol is introduced in the first session. Subsequent sessions are generally initiated by checking the homework and by summarizing the previous session. The pre-defined agenda of the current session is recalled and therapy model-specific techniques are used to achieve the agenda. To conclude the session, a homework that focuses on the problem and aims to facilitate cognitive and behavioral changes is given and explained. The session is summarized and completed (Beck 1995, Friedberg 2006).

Clients are taught techniques for solving family problems in line with the agenda of the session. Two factors are important in this context. The first is to determine the basic level frequency of problematic behavior. Thus, feedback can be received about the success of the therapy. The second is to identify the strategies for changing family-specific reinforcers related to problematic behaviors. Therapists firstly gather information to determine the behavioral frequency and to set up a client-specific intervention program by analyzing observations of reinforcers that were identified prior to a problematic behavior, as well as reinforcers following the behavior (Nichols 2013). After sessions are performed to reduce symptoms, therapists address the long-term prevention of relapse and maintenance of well-being. The family is given responsibilities such as following, supporting self-scanning and giving feedback to the family member for problematic situations, after which therapy is completed (Özcan and Çelik 2017). According to meta analyses (Pilling et al. 2002) and another empirical research (Bird et al. 2010), treatment protocols that include family intervention are more available for psychosis disorders at this point.

With regard to the intervention methods used for CBFT, the therapy process begins with psychoeducation (Efe and Türkçapar 2013). Given the content of the treatment protocols used, techniques are then listed under two categories. Accordingly, techniques, such as agreement, reciprocity, self-instruction, application of the Premack principle, modeling, and role-playing compose the behavioral interventions considered effective for resolving family conflicts and promoting coherence among family members (Thibaut and Kelley 1959, Meichenbaum 1977, Premack 1965, Wetchler and Piercy 1986, Gottman and Krokoff 1989, Eaves et al. 2005, Friedberg 2006,

Nichols 2013, Gladding 2017). Another group of techniques include cognitive interventions. In this group, thinking mistakes and basic beliefs that prevent the establishment and maintenance of healthy family relations are identified, whereas efforts are focused on changing such dysfunctional cognitions (Friedberg 2006, Efe and Türkçapar 2013). Within this context, Socratic questioning, catastrophizing questions, pie chart technique, continuum technique, and behavioral experiments are used to tackle distorted cognitions and develop alternative thoughts (Beck 1995, James and Barton 2004, Friedberg 2006, Efe and Türkçapar 2013, Türkçapar ve ark. 2015).

Awareness of the strong and weak aspects of one's family's interactional dynamics is a prerequisite for setting the goals of the treatment and applying the treatment protocol using the CBFT approach. Moreover, understanding the current functioning method of the family at developmental level is crucial. Therefore, therapists suggest which changes are required to eliminate ongoing problems. Lastly, therapists identify intervention areas by reviewing the cognitive, emotional, and behavioral styles of the family (Efe and Türkçapar 2013).

Family members affect and are affected by each other's experiences related to family. Individuals' beliefs, attitudes and expectations are focused. People struggle to infer about their families' experiments based on their individual schemas conducted in the past by observing. Therefore they can realize families' repeated manners and tendencies and predict their attitudes. Thus families' schemas are created. Briefly, family's schemas are combined with their beliefs about how to be perceived. Family's experiments are thus interpreted and concluded (Epstein 2007, Dattilio 2010). Conversely, one's perception may vary individually and contextually even for the same individual (Dattilio 1998). In line with the basic beliefs of individuals about themselves, schemas provide the basis for thinking mistakes that do not comply with the truth and subsequent relationship and behavior problems that may be experienced (Dattilio 1998, Dattilio 2005, Fredberg 2006).

The primary objective of the approach is to increase the awareness of family members regarding thinking mistakes. In the process, therapists provide family members with alternative perspectives based on collecting data that may be useful in trained individuals (Dattilio 2001). Following the changes made in schemas, therapists may continue treatments using behavioral techniques. In this context, therapies focus on the excessiveness of negative interactions between family members, rareness of positive relations, weakness of self-expression and listening skills for communication and problem-solving, and the inadequacy of discussion and behavior-changing skills (Spillane-Grieco 2000).

In literature, most of the techniques that are included in CBFT are used after being integrated with other family therapy approaches or being conceptualized with different names. Moreover, CBFT is understood to be the most widely used approach in the world (Dattilio 2010). CBFT is especially used for adolescents (Liddle et al. 2008). Additionally, according to meta analyses, it is also used for obsessive compulsive disorder cases resulting from family accommodation affecting severity of disorders (Stewart et al. 2020). Although CBFT is thought to be functional, empirical studies about its effectiveness are very limited (Faulkner et al. 2002, Dattilio 2005, Dattilio 2021). Moreover, no related studies are found in the national literature. In this regard, this research can be said to be significant for pointing to this lack of literature.

Various studies in the field of CBFT investigated the effectiveness of CBFT and the interaction between various mental or physical problems experienced by individuals and their families. They suggest that the involvement of family members in treatment may aid the reduction of symptoms (Palermo et al. 2009, Chalder et al. 2010, Canavarro and Dattilio 2011, Lloyd et al. 2012, Zarei et al. 2018). However, there's no systematic review for evaluating the effectiveness of CBFT. At this point, specific situations conducted on child and family together with the use of control groups can be thought to be difficult for researchers. To address this research gap, the current study aims to systematically review randomized controlled studies that assessed the effectiveness of CBFT, and to evaluate the therapeutic strength of this intervention method on mental or physical problems. In this manner, the present study aims to promote further research on this approach for therapy, and serve as a reference for those who use CBFT in clinical practice.

Method

To identify studies on the effectivity of CBFT, this study searched for related articles on the following databases: ULAKBİM, American Psychological Association, Psychology Database, Web of Science, Medline, and Scopus. Very few studies were found to use the keywords "cognitive–behavior family therapy," "effectiveness," "efficiency," and "efficacy" in various combinations. Although, "efficiency" and "efficacy" have different meanings from "effectiveness", they were searched even so, as they were used instead of effectiveness in some

researches. Furthermore, other keywords were noted for CBFT, such as "family-based cognitive–behavioral therapy" or "cognitive–behavioral therapy integrated into family interventions". Therefore, the keywords were changed to "cognitive behavio* therap*" AND "famil*" word groups in research titles to reach as many studies as possible in the abovementioned databases. The asterisk "*" symbol was added to the end of words to also include the plural forms of words in the search. The same searching procedure were also implemented for Turkish language. The criteria for inclusion in and exclusion from the study are provided in Table 1.

Table 1. Criteria for inclusion in and exclusion from the study
Criteria of Inclusion
Written in English or Turkish
Without a historical limitation
Conducted on the effectiveness of CBFT with control groups
Studies on cognitive and behavioral techniques that included family members were considered CBFT.
Self-report objective measurements with quantitative technique
Without limitation on the use of longitudinal or cross-sectional methods
Without limitation in terms of CBFT intervention areas (e.g., psychopathology and problematic behaviors)
Criteria of Exclusion
Non-English or Turkish studies
Articles without control groups
Case studies
Review articles
Book sections

For systematic reviews, a few research methods are used in the literature. For instance, Quality Assessment Tool for Observational Cohort and Cross-Sectional Studies (Von Elm et al. 2008, Danthi et al. 2014) can be mentioned. However, this study involves the PRISMA Diagram (See at Figure 1) method, as it is the most frequently used on in the literature (Page et al. 2021).

The study identified 402 studies by searching using the "cognitive behavio* therap*" AND "famil*" keyword groups in the cited databases. After screening for duplicate studies, a total of 166 articles remained. After screening according to the exclusion criteria and relevance level, 30 studies remained at the end of the first stage of the screening process, which was conducted together with an evaluation of study abstracts. Of the screened articles, the study further omitted two articles written in the German language, two books, five book sections, 11 book reviews, eight meeting briefings, one treatment protocol, one proceedings text, two study protocols, and one study text. In addition, 15 case studies, one meta-analysis, three systematic reviews, and 11 review articles were excluded. After the evaluation, the authors deemed 47 articles irrelevant to the subject matter. Lastly, 26 articles were excluded for lack of access. Accordingly, the screening process produced 30 articles, which will be evaluated in full text. After the full-text review, eight articles were additionally excluded as they were single-group studies, whereas one article was further excluded because it was a qualitative research. Seven articles were considered irrelevant to the subject matter as per the full-text evaluation. In total, the study identified 14 articles after the screening process. Figure 1 provides a summary of the screening process.

Results

The comprehensive literature review on the effectiveness of CBFT suggests that studies that used the method in relation to specific family or individual problems and assessed its effectiveness are relatively few. Reason of this gap can be the difficulty of conducting studies on full families than on just a couple. Compared to couples that consists of only two people, families of up to five or six people makes it very difficult for maintaining a sample size and routine involvement, particularly with young children. In this context, the study infers that a systematic evaluation of results from randomized control groups in studies that employed the CBFT across fields may present reliable findings regarding the effectiveness of the method. Moreover, the study proposes that CBFT is applicable to broad fields. Table 2 provides a summary of the selected articles, whose results will be discussed as part of the systematic review.

Sample Characteristics

The sample sizes of the selected studies range from 20 (Zarei and Roohafza 2018) to 161 families (Kendall et al. 2008). No limitation was observed regarding the components that composed the participating families, such as mother–father–child, mother–child, father–child, or mother–father–child–siblings.

According to the characteristics of families, members that are mainly treated along with family therapy are aged between 7 to 45 years. Accordingly, one of the reviewed studies targeted adult family members (Baruah et al. 2018), whereas the remaining 13 studies focused on family members in the childhood and adolescence periods. Furthermore, no research was conducted on children under the age of 7 and their families.

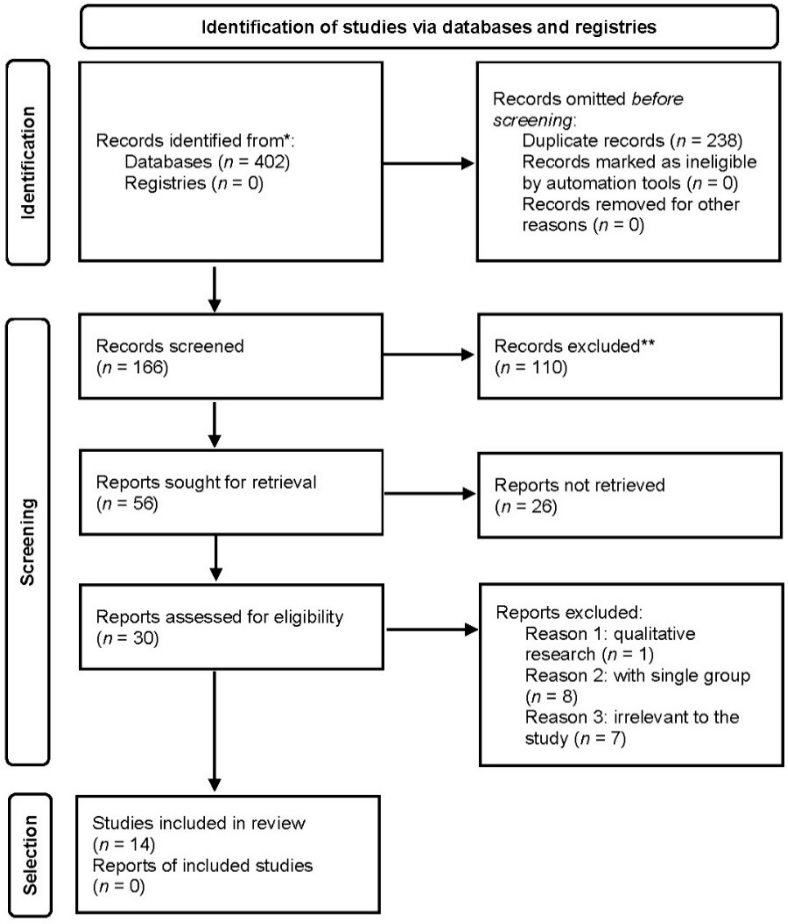

Figure 1. PRISMA flow diagram

In terms of the characteristics of participants with problematic situations for which the efficiency of CBFT was reviewed, four studies focused on children and adolescents with anxiety disorder and their families (Wood et al. 2006, Groot et al. 2007, Bodden et al. 2008, Kendall et al. 2008). Two of the studies were conducted on children diagnosed with pediatric bipolar disorder and their families (MacPherson et al. 2016, Weinstein et al. 2017) and another two studies focused on the obsessive–compulsive disorder (OCD). One sample consisted of adults (Baruah et al. 2018) and another consisted of children and adolescents (Storch et al. 2007). In addition, one study was conducted on adolescents and young adults diagnosed with anorexia nervosa (Ball and Mitchell 2004) and another study on adolescents with substance use problems (Latimer et al. 2003). Moreover, apart from these psychiatric problems, the effectiveness of CBFT in the treatment of physical disorders was evaluated. Two studies were conducted on adolescents diagnosed with chronic fatigue (Chalder et al. 2010, Lloyd et al. 2012), and another one was related to children with chronic pain and their families (Palermo et al. 2009). The last one focused on children with sickle cell anemia-related problems and their families (Zarei et al. 2018).

Table 2. Overview of methods and findings of selected studies

Study	n	Participants	Intervention Name and Components	Comparator	Duration Frequency of Treatment	Follow up	Outcome Measures	Main Findings
Ball and Mitchell (2004)	25	Adolescent and young adults with anorexia nervosa	Behavioral family therapy: Several behavioral interventions	Standard CBT	Twenty-five sessions with a duration of 1 h over 1 year	Six months	Physical status (i.e., weight and menses)	Both treatment groups displayed significant improvements in physical status (i.e., weight and menses) Although a significant change was observed for BMI, MRS, and EDE, it

							Overall functioning (MRS) Eating attitudes and behaviors (EDE)	remained within symptomatic range at follow-up.
Baruah et al. (2018)	64	Adults aged 18–45 years with OCD	Brief family-based intervention Treatment includes psychoeducation, exposure, and response prevention and family intervention.	Relaxation exercises	Six sessions lasting for 90–120 min in 3–4 weeks	Three months	Response to treatment (Y-BOCS and CGI)	Treatment groups responded better than control groups. The CBT group is superior to the relaxation group in terms of illness severity, family accommodation, and expressed emotion.
Bodden et al. (2008)	128	Children aged 8–18 years with anxiety disorder	Family CBT: includes three phases, namely, reducing child and parent anxiety through exposure; identifying and modifying parental dysfunctional beliefs; and addressing problematic family interaction	Child CBT: Cognitive and behavioral strategies conducted with the child accompanied by minimal parent attendance	Thirteen sessions lasting for 60–90 min	Three months	Diagnostic status (ADIS-C/P) Anxiety symptoms (i.e., SCARED-71, STAI, and CBCL) Automatic thought (CATS)	Approximately half of the children no longer met the criteria for anxiety disorder after treatment, and gains were maintained at follow-up. Post-treatment, more children no longer met the criteria for any anxiety disorder in child CBT compared with family CBT. However, this superiority disappeared at follow-up.
Chalder et al. (2010)	63	Adolescents aged 7–18 years with chronic fatigue syndrome	Family-focused cognitive–behavioral therapy The therapy program includes increasing activities, establishing sleep routine, addressing maladaptive beliefs, and encouraging family members to express their views about the illness	Psychoeducation Similar content with CBT is delivered in a didactic manner. Homework and cognitive restructuring were not provided	Three sessions every two weeks for six months	Six months	School attendance (self-report hours attended per week) Fatigue (CFQ) Physical functioning (SF-36) Impairment (SAS) Adjustment (SDQ) Global improvement and satisfaction (self-report)	The participants in both groups exhibit similar improvements in school attendance and secondary outcomes at the six month follow-up. However, family-focused CBT groups report greater satisfaction than the control group.
Groot et al. (2007)	29	Children aged 7–12 years with anxiety disorder	Family-focused CBT (group format) Groups include 5–6 children and parents. The treatment has two components, namely, parent and child. The parent sessions include	Family-focused CBT (individual format) The same CBT program was conducted in an individual format	Twelve sessions weekly and a booster session after the completion of treatment at 3–4 weeks	Six months	Diagnostic status (ADIS) Anxiety symptoms (SCAS) General symptomatology (SDQ)	Approximately half of the children in both groups no longer met the criteria for anxiety disorder at post-treatment and follow-up. Questionnaire data also indicate that both treatments yielded significant symptom reduction. No differences were observed between the two conditions.

			psychoeducation, promotion of awareness, and management of their anxiety and modeling to children. The children's sessions address helpful thoughts and exposure.					
Kendall et al. (2008)	161	Children aged 7–14 years with anxiety disorder	Family cognitive–behavioral therapy The treatment consists of psychoeducation, teaching skills, and exposure tasks	Individual (child) CBT and family-based education	Sixteen sessions per week lasting for 60 min	One year	Diagnostic status (ADIS) Anxiety symptoms (MASC) Coping skills (i.e., CQ-C and CQ-P)	Although children under all three conditions exhibited significant improvement, therapy groups (individual and family) were superior to the education group in reducing the presence of anxiety disorder. Treatment gains were maintained at follow-up.
Latimer et al. (2003)	43	Adolescents aged 12–18 years with substance use disorder	Integrated family and cognitive–behavioral therapy The cognitive–behavioral component consists of rational emotive therapy and problem-solving therapy principles. The family therapy component includes communication, appropriate family roles, and effective parenting skills.	Psychoeducation Physiological effect of drug use	Sixteen individual family therapy sessions (once a week) and 32 peer group sessions (twice a week) over a duration of 16 weeks	Six months	Diagnostic status (DICA) Psychological dependence (PEI) Family assessment (FAM)	The treatment group displayed greater reduction in substance use compared with that of the control group. In the CBT group, the adolescents displayed improvement in problem-solving and learning strategy skills; parents exhibit more adaptive scores on communication and involvement, control.
Lloyd et al. (2012)	44	Adolescents with chronic fatigue syndrome	Family-focused cognitive–behavioral therapy Behavioral interventions (i.e., increasing activities and modifying sleep routines) Cognitive interventions (i.e., modifying unhelpful beliefs, encouraging family members to express their own views about the illness, relapse prevention)	Psychoeducation Giving information about illness and problem solving is provided in deductive way. Treatment manual and homework are not included.	Thirteen sessions every two weeks	Twenty-four months	School attendance (i.e., self-report hours attended per week) Fatigue (CFQ) Physical functioning (SF-36) Impairment (SAS) Adjustment (SDQ) Global improvement and satisfaction (self-report)	School attendance, impairment, improvement, and proportion of recovered adolescents displayed a non-significant difference at 24 months. Family-focused CBTs lead to better emotional and behavioral adjustment.

			A treatment manual was given to families, and homework was assigned to adolescents					
MacPherson et al. (2016)	69	Children aged 7–13 years with pediatric bipolar disorder	Child and family-focused cognitive–behavioral therapy Treatment consists of six, three, and three sessions for the family, parent, and children, respectively.	Treatment as usual	Twelve weekly sessions lasting for 60–90 min and booster sessions after treatment for up to six monthly sessions	Six months	Mania (CMRS) Depression (CBDRS) Global functioning (CGAS)	Compared with treatment as usual (TAU), children in the CBT group exhibited greater improvement in mania, depression, and global functioning at post-treatment. A similar finding was observed at follow-up except for mania.
Palermo et al. (2009)	48	Adolescents aged 11–17 years with chronic pain and their parents	Internet-delivered family cognitive–behavioral therapy The program consists of two components: The child component includes education, identification of negative emotions, relaxation, cognitive skills, sleep hygiene, and maintenance of activities The parent component consists of education, operant strategies, modeling, and communication	Wait-list control	Weekly log on a website over eight weeks	Three months	Activity limitation (CALI) Pain (online diary) Depressive symptoms (RCADS) Parental response to pain behavior (ARCS) Treatment satisfaction (TEI)	At post-treatment and follow-up, the CBT group reported less activity limitation and pain intensity and more clinical improvement. No difference was noted for parental protection and child depressive symptoms at post-treatment
Storch et al. (2007)	40	Children and adolescents aged 7–17 years with OCD	Family-based cognitive–behavioral therapy Psychoeducation, cognitive training, and exposure with response prevention At least one parent attended all sessions with the children.	The same treatment was delivered for prolonged periods (weekly sessions for 14 weeks)	Fourteen sessions are conducted each weekday for three weeks	Three months	Diagnostic status (ADIS) Symptom severity and impairment (CY-BOCS, CGI-S, and COIS-P) Family accommodation (FAS)	Although intensive CBT indicated certain advantages after treatment (i.e., CGI-S and FAS), the two conditions indicated no difference at follow-up. Overall treatment gain maintained over time.
Weinstein et al. (2017)	71	Children aged 7–13 years with pediatric bipolar disorder	Child and family-focused cognitive–behavioral therapy	Psychotherapy TAU	Twelve weekly sessions for a duration of 60–90 min and up to six monthly	6 month	Diagnostic status (WASH-U-KSADS) Suicide ideation	Both treatment groups exhibited significant improvement in the likelihood and intensity of ideation. However, no group differences were observed.

			The program is composed of routine, affect regulation, improvement of self-esteem and parent efficacy, cognitive restructuring, social skills, training in problem solving and communication, and social support		booster sessions		and suicidal behavior (C-SSRS) Depression (BDI-II)	
Wood et al. (2006)	40	Children with anxiety disorder	Family-focused cognitive–behavioral therapy CBT strategies (i.e., exposure, reward, and skill training) and parent training were combined. Sessions were delivered to the children and parent.	Child-focused cognitive–behavioral therapy Skill training and practice are conducted with children alone not family attendance	Sessions that last for 60–80 min for 12–16 sessions	–	Diagnostic status (ADIS-C/P) Anxiety symptoms (i.e., CGI and MASC)	Children in both groups exhibit significant improvement. However, family CBT produces greater improvement in terms of diagnostic status and parent reports of child anxiety but not children's self reports at post-treatment.
Zarei and Roohafza (2018)	20	Family with children suffering from sickle cell disorders	Cognitive–behavioral family therapy Psychoeducation, identifying, and challenging negative thoughts and cognitive errors	Control group	Eight weekly sessions	Three months	Social stigma (SSQ) Family function (FAD)	Scores For social stigma and family functioning significantly improved after intervention, whereas no change was observed in the control group.

CFQ: Chalder Fatigue Questionnaire; SF 36: Health Survey Questionnaire; SAS: Social Adjustment Scale; SDQ: Strengths and Difficulties Questionnaire; CMRS: Child Mania Rating Scale; CBDRS: Child Bipolar Depression Rating Scale; CGAS: Children's Global Assessment Scale; Y-BOCS: Yale–Brown Obsessive–Compulsive Scale; CGI: Clinical Global Impression Scale; DICA: Diagnostic Interview for Children and Adolescents; PEI: Personal Experience Inventory; FAM: Family Assessment Measure; ADIS-P: Anxiety Disorder Interview Schedule-Parent Version; CY-BOCS: Children's Yale–Brown Obsessive–Compulsive Scale; CGI-S: Clinical Global Impression Severity; COIS-P: Child Obsessive–Compulsive Impact Scale; FAS: Family Accommodation Scale; SCARED-71: Screen for Child Anxiety Related Emotional Disorders-71; STAI: State Trait Anxiety Inventory; CBCL: Child Behavior Checklist; CATS: Children's Automatic Thought Scale; MRS: Morgan–Russell Assessment Schedule; EDE: Eating Disorders Examination; SCAS: Children's Anxiety Scale-Child Version; SDQ: Strengths and Difficulties Questionnaire Extended Version; MASC: Multidimensional Anxiety Scale for Children; CQ-C: Coping Questionnaire-Child; CQ-P: Coping Questionnaire-Parent; SSQ: Social Stigma Questionnaire; FAD—McMaster Family Assessment Device; CALI: Child Activity Limitations Interview; RCADS: Revised Child Anxiety and Depression Scale; ARCS: Adult Responses to Children's Symptoms; TEI: Treatment Evaluation Inventory Short Form; WASH-U-KSADS: Washington University Schedule for Affective Disorders and Schizophrenia; C-SSRS: Columbia Suicide Severity Rating Scale; and BDI-II: Beck Depression Inventory-II

Content and Intervention

The scopes of intervention cover a wide range of behavioral and cognitive strategies, such as exposure, response prevention (Storch et al. 2007, Bodden et al. 2008, Baruah et al. 2018), increasing activities and modifying sleep routines evaluating dysfunctional thoughts, encouraging family members to express their own views about the illness (Chalder et al. 2010, Lloyd et al. 2012), management of their anxiety and modeling to children (Groot et al. 2007). Moreover, protocols include psychoeducation and homeworks regarding problem solving skills, communication, appropriate family roles and effective parenting skills, affect regulation, improvement of self-esteem and social skill training (Latimer et al. 2003, Weinstein et al. 2017). In Palermo et al. (2009), CBFT was conducted online with the same content.

Based on structural characteristics, the number of sessions mostly varied between 12 and 16. However, one study consisted of six sessions (Baruah et al. 2018) and another of 25 sessions (Ball and Mitchell 2004). Apart

from these studies, Palermo et al. (2009) and Zarei et al. (2018) conducted eight sessions. Additionally, as per session durations, Baruah et al. (2018) conducted sessions that were 90–120 minutes longer than the average durations of other authors' sessions. On average, the sessions of other studies lasted 60–90 minutes.

According to the frequency of sessions, many therapies were conducted once a week. However, several applications were performed at different intervals. For instance, Storch et al. (2007) employed a three-week program of one session per weekday. Chalder et al. (2010) and Lloyd et al. (2012) held sessions once every two weeks. Baruah et al. (2018) and Groot et al. (2007) conducted sessions once every 3–4 weeks. Treatment duration varied from 3 to 6 months on average. Accordingly, the 3-week treatment program of Storch et al. (2007), which was held on a daily basis for 14 sessions, appears to be the shortest treatment protocol among selected studies. Conversely, the 25-session treatment protocol of Ball and Mitchell (2001) lasted for more than 1 year without any information on session frequency. In the same manner, Wood et al. (2006) provided no information on session frequency. Alternatively, a number of therapy protocols held post-treatment booster sessions. Specifically, Groot et al. (2007) held booster sessions at 3 and 4 weeks after treatment and up to 6 months post-treatment, whereas MacPherson et al. (2016) and Weinstein et al. (2017) held booster sessions once per month.

Comparison Groups

In all studies, the participants were randomly assigned to groups. Zarei et al. (2018) employed a control group, whereas Palermo et al. (2009) opted for a wait-list group. The remaining 12 studies compared CBFT with other treatment methods such as individual CBT, psychoeducation or relaxation exercises. MacPherson et al. (2016) and Weinstein et al. (2017) compared treatment as usual with CBFT on the basis of pediatric bipolar disorder. In terms of treatment settings, CBFT was compared with individual CBT in four studies, three of which were conducted on anxiety disorder groups (Ball and Mitchell 2004, Bodden et al. 2008, Kendall et al. 2008), whereas one was conducted on a group diagnosed with anorexia nervosa (Wood et al. 2006). Additionally, Groot et al. (2007) compared CBFT with cognitive–behavioral group therapy on the basis of anxiety disorders. Latimer et al. (2003), Chalder et al. (2010) and Lloyd et al. (2012) considered psychoeducation as a treatment method and compared it with CBFT in the contexts of chronic fatigue and substance use problems. For adults diagnosed with obsessive–compulsive disorder, Baruah et al. (2018) compared CBFT with relaxation exercises. Lastly, Storch et al. (2007) made a comparison between children and adolescents diagnosed with obsessive–compulsive disorder by changing the frequency of the CBFT application.

Assessment Periods and Tools

Many studies included pre-test, post-test, and follow-up measurements. However, Wood et al. (2007) conducted an assessment in the middle of the treatment as well. In terms of follow-up measurements, which were frequently taken at three and six months, Kendall et al. (2008) conducted a follow-up after one year, whereas Lloyd et al. (2012) observed a follow-up after 2 years.

The parameters evaluated in all studies were primarily based on self-reports, whereas several studies used clinician-administered scales to determine diagnostic status (Latimer et al. 2003, Wood et al. 2006, Groot et al. 2007, Storch et al. 2007, Bodden et al. 2008, Kendall et al. 2008, Weinstein et al. 2017, Baruah et al. 2018). Specifically, Groot et al. (2007), Bodden et al. (2008), Kendall et al. (2008) and Wood et al. (2006) focused on anxiety disorders and employed the Anxiety Disorder Interview Schedule's parent version. Moreover, Chalder et al. (2010) and Lloyd et al. (2012) highlighted chronic fatigue and used various assessment tools, such as school attention (by asking children and adolescents to provide weekly self-reports of school attendance), the Chalder Fatigue Questionnaire, the SF 36-Health Survey Questionnaire, Social Adjustment Scale, and the Strengths and Difficulties Questionnaire. Table 2 presents detailed information regarding these measurement tools.

Evaluation of the Findings on the Effectiveness of CBFT

According to the results of the selected articles, several findings were considered important in terms of the effectiveness of CBFT. In the study of Zarei et al. (2018) on sickle cell disease, CBFT produced significant improvement in familial functions and social labeling compared with those of the control group. In Palermo et al. (2009), which involved a wait-list, the findings indicated a reduction in the activity limitation and pain sensitivity of children with chronic pain, despite the same levels of family accommodation and depressive symptoms.

The findings of two studies that compared CBFT and treatment as usual for children diagnosed with pediatric bipolar disorder indicate that CBFT was effective in terms of mania, depression, suicidal behavior, severity of

disease, and global functionality. Such effects were maintained, except for mania during the follow-up period. Although significant differences were observed between treatment groups in terms of depression, mania and global functionality in one of them (MacPherson et al. 2016), which is in favor of CBFT. The other study reported that the two treatments produced similar effects (Weinstein et al. 2017).

Comparing the effectiveness of CBFT and individually applied cognitive–behavioral therapy on the basis of three studies on anxiety disorders and one study on anorexia nervosa indicated that both therapies were similarly effective in terms of symptoms. In both conditions, symptom severity was reduced, children no longer met the criteria for anxiety disorders and BMI was increased for anorexia nervosa. Moreover, therapy gains were maintained during the follow-up periods (Ball and Mitchell 2004, Wood et al. 2006, Bodden et al. 2008, Kendall et al. 2008). Additionally, Wood et al. (2006) suggested that CBFT is more effective in terms of the severity of anxiety disorder according to feedback received from family. According to the results of Groot et al. (2007), who compared the group and individual settings of CBFT conducted on children and adolescents diagnosed with anxiety disorder, both settings were considerably effective and displayed no differences between groups.

Three studies comparing CBFT and psychoeducation in the context of chronic fatigue and substance use problems found that CBFT is more effective in terms of affective and behavioral adaptation, problem-solving skills, and family satisfaction (Latimer et al. 2003, Chalder et al. 2010, Lloyd et al. 2012). The examination of effectiveness of CBFT and relaxation exercises on obsessive–compulsive disorder among adults indicates that CBFT produces more improvements in terms of the severity of disease, expression of emotions, and family accommodation (Baruah et al. 2018).

Lastly, Storch et al. (2007) modified and compared the session frequencies of two CBFT formats, such as intensified (daily) and weekly interventions, on a sample group of children and adolescents with obsessive–compulsive disorder. At the end of the therapy, the intense format was found more effective in terms of symptom severity and family accommodation. At follow-up, both interventions maintained therapy gains with no differences between groups.

Discussion

This study aimed to systematically review the effectiveness of CBFT in studies that employed various samples. The literature review indicates that studies on CBFT are few, and that several studies use different names to identify CBFT. Moreover, research studies that have a control group are limited and many of them compared the effectiveness of CBFT with other intervention protocols. The current study used various keyword combinations to reach a sufficient number of articles. Given the inclusion and exclusion criteria, 14 randomized controlled group studies were evaluated in terms of sample characteristics, content and intervention methods of CBFT, feature of comparison groups, assessment tools and findings, using the PRISMA diagram method (Page et al. 2021).

On average, therapy sessions were conducted for 60–90 minutes with a frequency of once a week and a duration of 12–16 weeks. Additionally, several studies included monthly booster sessions (Groot et al. 2007, MacPherson et al. 2016, Weinstein et al. 2017). In terms of follow-up, treatment gains were mostly maintained for a long time up to two years (Lloyd et al. 2012). Thus, the current study suggests that the effects of CBFT can continue in the long-term with booster sessions. However, it can be said that more research is required to ensure the effectiveness of follow up (Liddle et al. 2008).

The evaluation of the CBFT related contents in the selected articles demonstrates that various techniques, such as psychoeducation, exposure or altering dysfunctional thoughts can be employed. Other techniques, such as problem solving, social skills training or communication skills are also among common intervention methods (Latimer et al. 2003, Weinstein et al. 2017). According to study results, these techniques are thought to be available for anxiety disorders, obsessive compulsive disorders, anorexia nervosa, bipolar disorders and physical disorders, although it was not possible to infer which techniques are more suitable for a certain disorder. In this regard, the current study proposes that the scopes of CBFT protocols can be extended based on the problem. Additionally, we can say that family therapies are more effective than individual therapies in terms of long term impact (Kolko et al. 2000).

Some differences can be seen when the studies involved in this research are compared with each other in terms of used techniques, practice patterns and follow up periods. For instance, some treatment protocols that are included in intervention methods are not included in other treatment protocols, like increasing activities, modifying sleep routines (Chalder et al. 2010, Lloyd et al. 2012) or emotional interventions (Latimer et al. 2003). Some studies are executed both with parents and children in the same sessions (Storch et al. 2007), while others

are executed with parents and children in different sessions (Groot et al. 2007). These distinctions do not affect the effectiveness of CBFT significantly. Borders of CBFT can be thought to be flexible. However, some studies are not included in the follow up period and this situation can be thought to be an obstacle in terms of the evaluation of results in the long term. Furthermore, the duration of the effectiveness of CBFT cannot be determined for certain as well. Despite these differences between studies, the effectiveness of CBFT can be assessed by evaluating their similarities and results.

The results of the evaluation suggest that CBFT is relatively effective on a wide range of problems, such as anxiety disorders and chronical physical problems. Specifically, CBFT is effective in the treatment of children with anxiety disorder (Wood et al. 2006, Bodden et al. 2008, Kendall et al. 2008). CBFT applied on depressed mothers of children with disruptive behavior succeeded for 6 months in follow up (Sanders et al. 2000).Therefore, the current study recommends that treatment for children should require the involvement of families in the process, which may increase the success of therapy.

In cases with physical problems, such as chronic fatigue and sickle cell diseases, such issues may also affect other family members. Studies that evaluated the effect of CBFT in cases with physical disorders (Palermo et al. 2009, Chalder et al. 2010, Lloyd et al. 2012, Zarei et al. 2018) suggest that the involvement of family members in treatment may aid in the reduction of symptoms. This therapy method can be used more frequently in the treatment of not only mental disorders but also mental problems experienced by individuals with physical problems.

This systematic research has limitations. Firstly, the search of this systematic review in the database was made only in the title of the articles. Additionally, some research that was not accessible weren't included. Moreover, few studies are in the same concept with randomized controlled groups, which posed a difficulty for evaluating the effectiveness of CBFT. Thus, sample differences between studies are another restriction.

Conclusion

In terms of methodology and as a result of having controlled trials, studies' findings infer that CBFT can be used effectively. CBFT responds to various problems experienced by families. It can be used by being integrated with different techniques such as relaxation exercises to improve the effect of physical or psychological disorders experienced by one member on the family and the effect of the family on the disorders. Briefly, CBFT can be thought to be more effective than individual CBT or psychoeducation in terms of long term treatment effects (Liddle et al. 2008). In this manner, the risk of relapse can be reduced in the treatment of certain disorders such as anxiety disorders, bipolar disorder or substance use problems. Moreover, it is one of the most highly integrated therapy among family therapists.

The current study recommends that the aforementioned method should be used more frequently in the field. Research with long-term follow-up periods should be conducted. Furthermore, researchers should focus on studies that evaluate the effectiveness of family therapies in the context of specific psychopathologies, chronic physical disorders and issues of family dysfunction with qualitative or quantitative studies. Therefore, researchers can better evaluate the effectiveness of CBFT with access to a higher number of studies. In addition, depending on the basic principles of CBFT, new intervention techniques can be added to a treatment protocol and this therapy model is very suitable in this regard. Lastly, this study shows more studies can be conducted by comparing CBFT with different treatment protocols in the future, as the effectiveness of CBFT was shown by research conducted by comparing individual CBT or psychoeducation.

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