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Effectiveness of Schema Therapy on the Treatment of Depressive Disorders: A Meta-Analysis

Şema Terapinin Depresif Bozuklukların Tedavisindeki Etkililiği: Bir Meta-Analiz

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Öz

Bu meta-analiz çalışması, şema terapinin depresyon bozukluklarının tedavisindeki etkililiğini incelemek üzere yapılmıştır. Araştırma kapsamında, seçilen veri tabanları kullanılarak yapılan literatür taraması sonucunda, 2007-2017 yılları arasında yürütülmüş ve 7 tanesi meta-analize dahil edilen toplam 35 araştırmaya ulaşılmıştır. Söz konusu 7 deneysel araştırma için araştırmanın gerçekleştirildiği ülke (kültür), depresyon grubu, hastalık türü, deney grubundaki birey sayısı, uygulanan seans sayısı, uygulanan seans türü (bireysel ve grup), seans süresi (dakika) ve seans süreci (hafta) hipotez moderatör değişkenler olarak belirlenmiştir. Rassal etki modeli kullanılarak yapılan analiz sonuçları, şema terapinin depresyon bozukluklarının tedavisinde yüksek düzeyde etkisinin olduğunu göstermiştir. Belirlenen moderatör değişkenlerden hiç birisinin moderatörlük işlevi göstermediği belirlenmiştir.

Anahtar sözcükler: Şema terapi, depresyon, meta-analiz.

Abstract

The effectiveness of schema therapy in the treatment of depressive disorders was examined in this meta-analysis study. As a result of the literature review using various databases, a total of 35 studies which were carried out in 2007-2017 were reached, 7 of which included in this meta-analysis. For these 7 experimental studies, the country (culture), the type of depressive disorder, the number of participants, the number of sessions, the type of session (individual or group), the duration of the session (minute), and the whole session process (week) were determined as hypothetic moderator variables. The results of the analysis using the random effect model showed that schema therapy had a high level of efficacy in the treatment of depressive disorders. It had been determined that none of the hypothetic moderator variables had moderator functions.

Key words*:* Schema therapy, depression, meta-analysis

DEPRESSION is a common mood disorder that causes serious physical and social dysfunction in individuals (Aydemir et al. 2009). The most common symptoms in depression are lack of energy, agitation in movements, decrease in interest and pleasure, decrease in self-esteem, feelings of pessimism and guilt, self-injurious thoughts, changes in sleep patterns and appetite and decrease in libido (Karamustafalıoğlu and Yum-

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rukçal 2011). Depressive disorders in DSM-5 (APA 2013), separated from bipolar and related disorders, are classified as follows; disruptive mood dysregulation disorder, major depressive disorder, persistent depressive disorder (dysthymia), premenstrual dysphoric disorder, substance/medication-induced depressive disorder, depressive disorder due to another medical condition, and unspecified depressive disorder.

Psychotherapy is indicated as an important remedy for the treatment of depression (Cuijpers et al. 2010). Studies have been carried out that demonstrate the effectiveness of awareness-based cognitive therapy (Hofman et al. 2010), acceptance and commitment therapy (Forman et al. 2007), cognitive behavioral therapy (Manber et al. 2008; Rahman et al. 2008), emotion-focused therapy (Rood et al. 2009), psychodynamic therapy (Leinchsenring and Rabung 2008, Driessen et al. 2010), systemic therapy (Sydow et al. 2010), cognitive therapy (Forman et al. 2007, DeRubeis et al. 2008) and solution-focused therapy (Kim 2008, Gingerich and Peterson 2013) on depressive disorders. Another therapy that has been used in the treatment of depressive disorders in recent years is schema therapy (Hawke and Provencher 2011).

Schema therapy is defined as an integrated therapy model that includes cognitive, behavioral, experiential, and psychodynamic elements (Young et al. 2003). According to this model, early maladaptive schemas are seen as the main source of psychopathology. Early maladaptive schemas are defined as non-functioning basic beliefs that are persistent, including the individual's judgments about himself and the outside world, resulting from negative life experiences of the individual during infancy and childhood (Young et al. 2003). The situation that the child's physical and emotional needs are not met consistently, traumatic experiences and unhealthy parental attitudes play an important role in the formation of maladaptive schemas (Renner et al. 2013). The maladaptive schemas are similar in structure to the concept of basic belief in cognitive therapy and describe in a wider and more specific way the similar structure with the 18 maladaptive schemas and five schema domains (James et al. 2004). These maladaptive schemas include; abandonment, mistrust, emotional deprivation, defectiveness, social isolation, dependence, vulnerability to harm or illness, enmeshment, failure, entitlement, insufficient self-control, subjugation, self-sacrifice, approval-seeking, pessimism, emotional inhibition, unrelenting standards and punitiveness (Young et al. 2003). Maladaptive schemas can remain hidden until they are triggered by any event, situation or interaction during adolescence and adulthood, and they can create strong negative emotions when triggered (Wegener et al. 2013). Individuals react in three different ways to the negative emotions created by maladaptive schemas. Young et al. (2003) have identified these three incompatible reaction mechanisms as schema avoidance, schema surrender and schema compensation. These three mechanisms are seen as dysfunctional mechanisms because they maintain and reinforce the existence of maladaptive schemas.

Beck (1967, 1987) first explained the emergence of depressive disorders which has high general population prevalence compared to other psychiatric disorders with a comprehensive cognitive model by describing negative automatic thoughts, negative basic beliefs, and self-schema concepts. Therapists who adopt the model have focused on creating changes in therapies through these concepts. Expanding this model, Young (1994) described early maladaptive schemas and explained that the modification of these maladaptive schemas in the therapeutic process may be possible by integrating

elements from gestalt, object-relational and psychodynamic models into a cognitive-behavioral-experiential framework.

The schema model explains the formation of depressive disorders in three dimensions. In the first dimension, there are early negative life experiences (neglect, unmet needs, parenting styles, etc.). In the second dimension there are maladaptive schemas and those that trigger these schemas. The third dimension includes the dysfunctional coping mechanisms and interpersonal elements that lead to the continuation of maladaptive schemas (Renner et al. 2013). An abandonment schema can occur in an individual who experienced negative parental behaviors during childhood, who was abused and whose emotional needs were not met. During the adulthood period, any triggering event (separation of a romantic partner, death of a loved one, etc.) could trigger this schema, and as a result the individual may experience intense depressive feelings. In depressive disorders, the individual tends to avoid negative emotions and surrender to these emotions (Renner et al. 2013). Similarly, an individual with a failure schema caused by his or her negative childhood experiences becomes more vulnerable to depressive feelings as a result of a triggering situation (leaving a job, academic failure, financial distress, etc.) during adulthood, and exhibiting dysfunctional coping mechanisms with these feelings further reinforces the maladaptive schema. In the schema therapy, the treatment of depressive disorders is treated in three stages. These are the stages of exploration, change and relapse prevention (Young et al. 2003). During the exploration phase, the concept of the schema is explained to the clients and it is shown to them which schemas they have. It then focuses on the relationship between current situations and schemas that cause clients to experience depressive emotions. In the end of the exploration stage, the focus is on the early negative life experiences that make up the client's schemas, encouraging clients to feel the negative emotions created by the schemas, and to describe past life experiences through imagination and visualization. In the stage of change, cognitive, experiential, behavioral techniques and therapeutic alliance are used simultaneously. Cognitive techniques consist of techniques used in cognitive therapy (Beck et al. 1979). The goal in cognitive techniques is to make clients aware of their maladaptive schemas which are dysfunctional and false in a rational context. Experiential techniques, on the other hand, are used to feel the same concept on the emotional level of the client. Visualization, imagination, chair work and mode dialogues are the experiential techniques used. With experiential techniques, clients are strengthening healthy adult mode by being able to cope with negative emotions, express their missing needs, create functional defense mechanisms, and learn to express intense feelings such as anger, hatred and frustration. Behavioral techniques involve role playing, homework and behavioral practices similar to those of other behavioral schools. The aim here is to practice the cognitive and emotional awareness about the schemas. When the therapeutic relationship is compared with cognitive therapy, it is more important in schema therapy. In some cases, clients may impose a parental role to the therapists according to their modes. In these cases, therapists need to be aware of the situation with an empathic understanding and explain the unmet needs of the client.

Studies have been conducted that examine the relationship between maladaptive schemas and depression. In a study conducted by Halvorsen et al. (2009), individuals who were diagnosed with depression had higher scores on 12 maladaptive schemas than non-diagnosed individuals. Similarly, in a study by Shah and Waller (2000), the level of

16, in a study by Cooper et al. (2005), the level of 9 maladaptive schemas were found higher in depressed individuals. Some maladaptive schemas such as failure, emotional deprivation and abandonment are suggested to be more effective in the development of depression (Renner et al. 2012). Although there are strong relations between maladaptive schemas and depression, a limited number of studies have been conducted on the efficacy of schema therapy in depression (Wegener et al. 2013). Renner et al. (2016) conducted a study of 25 individuals diagnosed with chronic depression and found that schema therapy significantly reduced depressive symptoms. Malogiannis et al. (2014) showed that depression level of 7 individuals decreased significantly at the end of the schema therapy process applied on 12 individuals who were diagnosed as chronic depression. Heileman et al. (2011) applied the schema therapy to 8 women with low socioeconomic level, the depression levels of women showed a significant decrease at the end of the therapy process. Carter et al. (2013) compared the efficacy of schema therapy with that of cognitive therapy working on 100 individuals with major depressive disorder and no significant difference was found between the two therapy methods. In a study conducted by Gheisari (2016) on 6 individuals who were diagnosed with chronic depression, schema therapy reduced depression levels and improved cognitive functions of participants. As a result of the group schema therapy process conducted by Hashemi and Darvishzadeh (2016) on 30 married women with major depressive disorder symptoms, group schema therapy significantly reduced the symptoms. When we look at research that examines the overall effectiveness of schema therapy on psychological disorders, Masley et al. (2012) carried out a meta-analysis study involving a total of 12 studies examining the effects of schema therapy on borderline personality disorder, disorders related to childhood traumas, substance abuse, posttraumatic stress disorder, eating disorders and agoraphobia. Bakos et al. (2015) conducted a review study to determine the overall efficacy of schema therapy on a total of 9 studies, including various psychological disorders, depression, and personality disorders. The effectiveness of schema therapy on psychological disorders has generally been investigated by examining several groups of disorders together.

In this study, the effectiveness of schema therapy in the treatment of depressive disorders was investigated. In addition, i) the country in which the study was conducted (culture), ii) the type of depressive disorder, iii) the number of individuals in the experiment group, iv) the number of sessions, v) the type of session (individual or group), vi) session duration (minute) and vii) session process (week) were determined as hypothetical moderator variables because of the thought that they may affect the overall effect size. Together with all these variables, the following hypotheses were tried to be tested:

H1 Schema therapy is effective in the treatment of depressive disorders.

H2 The country (culture) in which the study is conducted is the moderator of the effectiveness of schema therapy in the treatment of depressive disorders.

H3 The type of depressive disorder is the moderator of the effectiveness of schema therapy in the treatment of depressive disorders.

H4 The number of individuals in the experiment group is the moderator of the effectiveness of schema therapy in the treatment of depressive disorders.

H5 The number of sessions is the moderator of the effectiveness of schema therapy in the treatment of depressive disorders.

H6 The type of session (individual or group) is the moderator of the effectiveness of schema therapy in the treatment of depressive disorders.
H7 The session duration (minute) is the moderator of the effectiveness of schema therapy in the treatment of depressive disorders.
H8 The session process (week) is the moderator of the effectiveness of schema therapy in the treatment of depressive disorders.

Table 1. Characteristics of studies included in meta-analysis

Study	Country	Diagnosis	# of individuals in experiment group	The number of sessions	The type of session	The session duration	The session process	Experiment group posttest-pretest difference (*p*)
Hashemi and Darvishzadeh (2016)	Iran	Major depression	15	10	Group	90 minutes	8 weeks	.000
Heilemann et al. (2011)	USA	Major and minor depression	8	8	Individual	120 minutes	8 weeks	.000
Malogiannis et al. (2014)	Greece	Dysthymia	12	60	Individual	50 minutes	80 weeks	.032
Renner et al. (2016)	Holland	Dysthymia	25	75	Individual	50 minutes	80 weeks	.008
Wegener et al. (2013)	Germany	Major depresion	47	40	Group and individual	90 minutes	8 weeks	.001
Gheisari (2016)	Iran	Dysthymia	6	12	Individual	60 minutes	15 weeks	.028
Rashidi and Rasooli (2015)	Iran	Major depression	20	12	Individual	45 minutes	12 weeks	.001

Method

Study Design

The purpose of this study is to determine the effectiveness of schema therapy on depressive disorders by meta-analysis. Meta-analysis refers to the analysis made to combine the results obtained from different studies carried out on a given topic to obtain a general result (Dinçer 2014).

Literature Review and Inclusion/Exclusion Criteria

In order to determine the work to be included in the meta-analysis, a literature review was conducted to EBSCO, ProQuest, Science-Direct and Scopus databases. In the review process, the terms of schema therapy and depression were searched in the title section of the studies, and the experimental studies listed were included in the meta-analysis. The publication intervals for the studies were set to 2007-2017 and the studies conducted between these dates were added to the meta-analysis.

Table 2. The efficacy of schema therapy in the treatment of depressive disorders

Variable	*n*	*N*	*MD*	CI		Q	Q_b
				Lower	Upper		
Schema therapy	7	133	.67**	.49	.85	7.29	
[Country]							.82
Collectivist	3	41	.78**	.48	1.08		
Individualist	4	92	.61**	.38	.84		
[Diagnosis]							4.54
Dysthymia	3	43	.68**	.35	1.02		
Major depression	3	82	.62**	.41	.84		
Major and minor depression	1	8	1.91**	.75	3.08		
[Number of individuals in the experiment group)]							7.29
6 individuals	1	6	1.25*	.18	2.31		
8 individuals	1	8	1.91**	.75	3.08		
12 individuals	1	12	.71*	.08	1.34		
15 individuals	1	15	.67**	.27	1.06		
20 individuals	1	20	.87**	.35	1.38		
25 individuals	1	25	.58**	.16	1.02		
47 individuals	1	47	.51**	.21	.82		
[Number of sessions]							6.89
8 sessions	1	8	1.91**	.75	3.08		
10 sessions	1	15	.67**	.27	1.06		
12 sessions	2	26	.94**	.48	1.40		
40 sessions	1	47	.51**	.21	.82		
60 sessions	1	12	.71**	.08	1.34		
75 sessions	1	25	.58**	.16	1.00		
[Type of session]							1.91
Individual	5	71	.80**	.53	1.07		
Group	1	15	.67**	.27	1.06		
Individual and group	1	47	.51**	.21	.82		
[Session duration]							6.81
45 minutes	1	20	.87**	.35	1.38		
50 minutes	2	37	.62**	.27	.97		
60 minutes	1	6	1.25*	.18	2.32		
90 minutes	2	62	.57**	.33	.81		
120 minutes	1	8	1.91**	.75	3.08		
[Session process]							1.92
8 weeks	3	70	.63**	.39	.86		
12 weeks	1	20	.87**	.35	1.38		
15 weeks	1	6	1.25*	.18	2.32		
80 weeks	2	37	.62**	.27	.97		

*p<.01, **p<.05

According to the result of the literature review, a total of 35 studies including the terms of schema therapy and depression in their titles were listed and examined in the first place. According to the results of the examination, 7 studies were finally meta-analyzed, because 28 studies were excluded from research (being a relational study or having lack of sufficient statistical data), because they did not meet the specified criteria. Descriptive statistics related to the 7 studies are presented in Table 1. The criteria for inclusion in the meta-analysis are as follows;

1. Being an experimental study in which schema therapy is conducted therapeutically in the treatment of depressive disorders
2. The presence of an experiment group (the control group was not taken as a criterion, but rather the improvement in the posttest-pretest scores of the experiment group was analyzed)
3. Number of sessions, session duration (minute) and session process (week) are specified
4. The effectiveness of the schema therapy process on the experiment group (experiment group pre-test post-test difference, p value) is specified

Coding

The coding process is basically a data sorting process, in which clearer and more appropriate data is extracted from the complex information in the research. In this context, in this study, a coding form was created before the statistical analysis and coding was carried out with this form. The coding form of the study consists of the following headings; authors and year of the study, country, diagnosis, the number of individuals in the experiment group, the number of sessions, the type of session, the session duration, the session process, the posttest-pretest difference of the experiment group (p)

Moderator Variables

In this study, only the Qb value was used to examine whether the differences between the moderators were statistically significant. In the study, seven moderator variables were considered to play a role in the average effect size.

Results

Meta-analysis findings showing the efficacy of schema therapy in the treatment of depressive disorders are presented in Table 2.

The efficacy of the schema therapy in the treatment of depressive disorders was determined as .67 ($p < .01$). Individuals with depressive disorders who have received schema therapy have a general decrease of .67 points in their symptoms of depression as a result of the therapy process. This finding confirms the H1 hypothesis. Schema therapy has been found to be highly effective in the treatment of depressive disorders.

In the classification of countries where the research is carried out, Iran is classified as a collectivist country; USA, Greece, Holland and Germany are classified as individualist countries. The effectiveness of schema therapy in collectivist culture was found as .78 decrease in depression scores ($p < .01$), and in the individualist culture a decrease of .61 ($p < .01$). There were no significant differences between the groups ($Qb = .82$, $p > .05$). The H2 hypothesis was not confirmed. The culture in which the research is carried out does not function as a moderator.

In depressive disorders treated by schema therapy, dysthymia (persistent depressive disorder) decreased by .68 points (p <.01), major depressive disorder by .62 (p <.01), and major and minor depressive disorder by 1.91 points (p <.01). There was no significant difference between the groups among the diagnosed individuals (Qb = 4.54, p> .05). The H3 hypothesis was not confirmed. The diagnostic group on which the schema therapy is conducted does not function as a moderator variable.

When the total number of subjects in the experiment groups in which the schema therapy was conducted was examined, the depression scores in the low group were found to decrease more (6 individuals - 1.25 points, p <.05, 8 individuals - 1.91 points, p <.01). The increase in the number of individuals in the experiment group generally reduces the decrease in depression scores. There was no significant difference between the groups (Qb = 7.29, p> .05). The H4 hypothesis was not confirmed. The number of individuals in the experiment group does not function as a moderator variable.

When the number of sessions of the schema therapy was examined, It has been identified that the highest effectiveness was in 8 sessions (MD = 1.91, p <01), 12 sessions (MD = .94, p < .01) and 60 sessions (MD= .71, p< 01). There was no significant difference between the number of sessions (Qb = 6.89, p> .05). The H5 hypothesis was not confirmed. The number of sessions of the schema therapy does not function as a moderator variable.

It was found that the schema therapy conducted by individually (MD=.80, p< .01) led to a further decrease in the depression scores compared to the group sessions (MD=.67, p< 01) and that the schema therapy conducted by both individually and as a group (MD= .51, p< .01) provided the least decrease in the depression scores but no significant difference (Qb = 1.91, p> .05) was found in the type of session. The H6 hypothesis was not confirmed. The type of session conducted to the experiment group does not function as a moderator.

The session duration that provided the greatest effect and the greatest reduction in depression scores were found to be 120 minutes (MD= 1.91, p< .01) and 60 minutes (MD= 1.25, p< .05), but no significant difference (Qb = 6.81, p> .05) in efficacy between sessions was observed. The H7 hypothesis was not confirmed. The duration of the session does not function as a moderator in the efficacy of schema therapy in the treatment of depressive disorders.

When the total treatment process of schema therapy were examined, the highest effect on depression scores was found to be 15 weeks (MD = 1.25, p <.05) and the lowest effectiveness was 80 weeks (MD = .62, p <.01). There was no significant difference between the session processes (Qb = 1.92, p> .05). The H8 hypothesis was not confirmed. The total process of the sessions does not function as moderator variables.

Discussion

In this meta-analysis study, it was determined that schema therapy was significantly effective in reducing symptoms in depressive disorders. Schema therapy has been indicated to be a new and effective method for the treatment of depressive disorders (Heilemann, 2011, Carter et al. 2013, Malogiannis, 2014). Bakos et al. (2015) reported that schema therapy is an effective therapy for chronic depression. This meta-analytical finding confirms holistically previous experimental studies.

Schema therapy deals with depressive disorders in a three-step model (Renner et al. 2016). These are early adverse experiences, maladaptive schemas that depend on them, and the mechanisms of coping with these schemas. Symptoms such as social isolation, agitation and decrease in daily functioning, which are most common in depressive patients, can be attributed to the tendency to surrender to maladaptive schemas, to avoid them, or to compensate them (Barret and Barber, 2007, Renner et al. 2012). Depressive disorders are seen as a consequence of dysfunctional coping mechanisms. In the intervention phase, the dysfunctional coping mechanisms of the clients are overcome with experiential techniques, and their maladaptive schemas are being tried to be changed.

There is no significant difference between the collectivist and individualist countries in the healing effect of schema therapy on depressive disorders, but the general depression score drop is more in collectivist countries. Authoritarian parenting style is more prevalent in the collectivist cultures in which our country is also included (Rudy and Grusec 2006), and autonomy is not supported in the process from infancy to adulthood, and individuals are more prone to develop more psychological symptoms and maladaptive schemas because of the parenting styles they are exposed to (Varela et al. 2009). At the same time, factors such as the social structure, the importance of interpersonal relations and traditional gender roles can cause individuals to compensate more these maladaptive schemas, to surrender more to the schemas, or to avoid more from schemas. The maladaptive schemas that are possessed can also bring about maladaptive coping mechanisms. Because of these factors, early maladaptive schemas are more likely to play a role in the formation of psychological symptoms in collectivist cultures, and consequently, there is a further decline in depression scores at the end of schema therapy processes.

No significant differences were observed when individual schema therapy and group schema therapy processes were compared, but individual schema therapy provided further decrease in depressive scores in depressive disorders. Farrell et al. (2009) examined the efficacy of schema therapy in treating borderline personality disorder, as opposed to this finding; more improvement was observed in individuals in group schema therapy. Schema therapy is defined as a long-term therapy model in which the client's early negative life experiences are examined in depth and with experiential techniques and in which mode dialogues are conducted (Young et al. 2003). Group therapies also have some advantages over individual therapies. The most important of these are the healing effect of the group on the individual and the feeling of being together with other individuals who share the individual's own problems (Corey and Corey 2013).

Given the total session processes of schema therapy, the greatest decrease in depression scores is 15 weeks of schema therapy and the least decrease is 80 weeks of schema therapy, but there is no significant difference between the groups. Similarly, Van Vresswijk et al. (2014) reported that short-term schema therapy may provide more significant improvements in mood and anxiety disorders. These findings do not provide information about the persistence of the decline in depression scores. While short-term schema therapy can provide acute improvements, it is thought that the benefits of long-term schema therapies may be more permanent. The number of studies involved in meta-analysis is one of the limitations of this study. In the emergence of this limitation,

the number of experimental studies that can be reached in the indicated publication interval and in the specified databases, is low and schema therapy is more likely to be conducted on personality disorders and related disorders. In similar meta-analysis studies to be done, it is suggested that the publication interval should be kept wider; more of the database should be included in the research.

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