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Effectiveness of Schema Mode Therapy for Children and Adolescents in the Internalizing Behaviors Problems among Adolescents Referred to Consulting Center in Ahvaz, Iran

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Abstract

Background: Internalizing behaviors problems, such as anxiety and depression, are two common disorders in adolescents. These problems result in negative outcomes, including dropping out of school, drug abuse, a higher risk of suicide, and other psychological consequences. The present study aimed to investigate the effectiveness of Schema Mode Therapy for Children and Adolescents (ST-CA) in the internalizing behaviors problems among adolescents referred to consulting center in Ahvaz, Iran.

Methods: This quasi-experimental study was conducted based on a pretest-posttest design and a control group. The statistical population comprised adolescents aged 12-14 years having behavioral, educational, and mood problems who were referred to counseling centers in Ahvaz, Iran. The sample consisted of 30 adolescents (11 boys and 19 girls) selected by the convenience sampling method and randomly divided into experimental and control groups (15 cases per group). The experimental group underwent 14 sessions (120-min sessions per week) of ST-CA. The research instrument included the Child Behavior Checklist. Data analysis was performed using SPSS software (version 26).

Results: The findings of the present study revealed that ST-CA had a significant effect on the improvement of the internalizing problems (anxiety-depression, withdrawal-depression, and somatic complaints) ($P<0.001$).

Conclusion: It seems that the ST-CA well reduces internalizing problems; therefore, it is recommended that this method be used for adolescents.

Keywords: Adolescents, Anxiety, Behavioral problems, Depression, Schema therapy

1. Background

Behavioral issues are among the most serious issues affecting adolescents' and their families' psychological health. If they are not treated, the behavioral problem can become chronic and have negative long-term consequences (1, 2). Depression-anxiety, withdrawal-depression, and somatic complaints are manifestations of internalized problems. Furthermore, clinical descriptions of anxiety disorders include behavioral inhibition characteristics, such as social withdrawal, negative emotions, and hypervigilance. (3, 4). Depression and anxiety, also known as internal or affective disorders, are two of the most common psychological disorders among adolescents (5). According to Iranian studies, the prevalence of internalized problems ranges from 13.2 to 20.4 (6).

Internalizing and externalizing have long-term consequences for individuals' psychological health. According to the studies, adults who had records of psychological disorders during their adolescence have a higher risk of developing these disorders later in life (7). Internalizing problems appear to be more stable than externalizing problems, which may be due to the fact that they cause fewer problems for others, and the majority of the symptoms that the children experience are internal. These problems have a lower chance of being diagnosed and treated; therefore, they remain stable throughout development and pave the way for psychological disorders in adulthood (8, 9).

Internalizing disorders are linked to a number of negative outcomes, including school dropout, drug abuse, a higher risk of suicide, and other psychological consequences. Children with mental health problems develop educational problems as well. Early prevention and treatment plans for internalizing must be prioritized in terms of public health, as well as by the family and society (10, 11). Given that adolescence is a time when problems are internalized and externalized, early intervention may help to prevent more acute or chronic problems (12). Furthermore, it is a time when the characteristics of a personality disorder can be more flexible than in adulthood, which can significantly reduce the negative outcomes associated with personality disorders (i.e., depression, suicide, crime, and social damage) and prevent behavioral patterns from becoming chronic (13).

Schema therapy is founded upon the early maladaptive schemas' structures, schema coping styles, and schema modes. Early maladaptive schemas are a continuous performance model of emotions, cognitions, memories, and physical sensations affecting one's view of oneself, others, and the world, often developing in (early) childhood through interactions with the child's intrinsic mood and undesirable experiences (e.g., neglect, abuse, hostility, and criticism) (14). Schemas are formed in response to unmet basic emotional needs, including secure attachment (the need for love, security, stability, and acceptance), autonomy, sufficiency, identity, freedom of expressing one's health needs and emotions, spontaneity, leisure, and realistic limitations (15). To cope with their parents' emotional neglect, children use two distinct coping styles, namely internalizing and externalizing. Neither of these coping strategies allows the child to fully develop his or her potential abilities. The studies showed that early maladaptive schemas were mediated by psychological damages. The schema coping styles reflect a person's adaptation methods to the maladaptive schema and damaging childhood experiences. Schema activation results in acute distress states. Young et al. (16) referred to these states as schematic modes, which are defined as emotional, intellectual, behavioral, and neurobiological states experienced by an individual at the present moment.

The central tenet of mode-based schema therapy is that changing inefficient modes serves as the foundation for behavioral change (17). It is assumed that behavior therapy results in superficial and short-term change and modification of children's and parents' behavior. However, it appears that changes in mode are deeper, more effective, and stable because they are part of a more complex mechanism that includes the body's reaction, thoughts, affections, and behavior, all of which lead to more expansive and stable changes (18). The mode model is used first in the Schema Therapy for Children and Adolescents (ST-CA) because it allows for the use of a simpler language and a variety of therapies. For children, the concept of the schema is frequently abstract. Therefore, concentrating on the mode allows the therapist to work with less complexity. School-age children are usually able to describe their actions and experiences. If a child can name their condition and states, they can be controlled (19).

The techniques proposed in this model are thought to be a structured and innovative bridge between traditional play therapy and a behavioral-cognitive therapeutic approach for establishing interaction with children and adolescents during the therapy process. The mode-based therapy gradually builds a solution-oriented bridge between the experiences of children and adolescents and the resulting changes in daily life, paving the way for positive change and growth while also preventing the recurrence of symptoms and problems. The ST-CA allows specialists to assist adolescents in overcoming severe accidents and choosing a new and healthier path (18). Furthermore, since adolescents focus on their peers and prefer their peers' responses over those of their parents or health professionals, they can benefit more from group therapies than adults (20). However, because the majority of adolescents are part of the family system, taking their parents or caregivers into account is critical in their treatment.

Despite the fact that the effectiveness of ST has been demonstrated in adults on numerous occasions, there have been very few studies focusing on the adolescent population. According to recent studies, ST appears to be effective in adolescents with personality pathology associated with mode problems, behavioral problems, depression, low self-esteem, and social anxiety.

2. Objectives

Based on the mentioned background, this study aimed to investigate the effectiveness of ST-CA in the internalizing behaviors problems among adolescents referred to consulting center in Ahvaz, Iran.

3. Methods

This quasi-experimental study was conducted based on a pretest-posttest design and a control group. The statistical population comprised adolescents aged 12-14 years having behavioral, educational, and mood problems who were referred to counseling centers in Ahvaz, Iran. The participants were selected via the convenience sampling method. The adolescents scoring 60 or more on the total problems of Achenbach's Child Behavior Checklist (CBCL) on the first session of clinical interview, were willing to participate in group therapy sessions, and signed the consent form for participation were registered in the waiting list. The sample consisted of 30 (11 boys and 19 girls) adolescents selected by the convenience sampling method. In total, 15 adolescents with one of their parents (Mothers who participated in this study) were assigned to the experimental group, and the next 15 adolescents remained on the waiting list as the control group. In the present research, the sample size for the groups was estimated at 30 adolescents aged 12-14 based on G*Power software with effect size (1.60), alpha (0.05), and power of a test (0.90) (21). The pretest and posttest were administered to both groups before and after the intervention, respectively. The inclusion criteria were having and living with at least one parent (since the program also involved parents) and the age of 12-14 years. On the other hand, the adolescents with psychological disorders, as well as major and effective changes in their life, such as the death of a close family member or friend were excluded from the study.

Regarding the ethical considerations, a written consent form for participation in the study was obtained from all participants. Moreover, the study protocol was approved by the Ethics Committee of Ahvaz Branch, Islamic Azad University, Ahvaz, Iran (code: IR.IAU.AHVAZ.REC.1399.042).

Table 1 presents a brief overview of 14 sessions (2-hour) of schema mode therapy in a psychological and counseling service center in Ahvaz, Iran.

and strategies used to deal with these emotions. Emotional schemas refer to the designs, methods, and strategies used by a person in response to an emotion. The emotional schemas model refers to the design, methods, and strategies used by a person in response to an emotion (13). The model of emotional schemas indicates that people may differ in how they conceptualize their emotions, or in other words, people have different schemas about their emotions. These

schemas reflect how people experience emotions and believe that they are looking to evoke unpleasant emotions about the appropriate plan for action or how to act against such emotions in mind, in the model of Leahy emotional schemas when experiencing an unpleasant emotion, a set of strategies and processes of interpretation are used. The first step when it emerges is to pay attention to that excitement, which can include both attention and labeling of emotions. The second step in the Leahy model is cognitive and emotional avoidance of emotion. This avoidance can be both natural and sickly dissociation, fun and drug and alcohol consumption, etc., occurs (14). The specific value of the emotional schemas model is that it directly targets the conceptualization and measures of the patient about unpleasant emotions. In general, this model is a form of metacognitive therapy that helps the patient identify his theory about how emotions work, the length of the course and the controllability of emotions, faulty measures to manage emotions and problematic beliefs, and strategies for interpreting judgment and controlling their emotions. Also, this model suggests that the patient's motivational problems may reflect more pervasive problematic views about unpleasant emotions (15).

Since cognitive-behavioral therapy (CBT), including cognitive training in medical diseases, can reduce the need to use medical abstinence services and increase the mental health of patients, this trend is particularly important for medical and chronic diabetes in general (16). Therefore, resilience has been considered in recent decades as one of the main character structures for understanding motivation, emotion, and behavior. Resilience is the ability to match the control level according to environmental conditions. In the field of human behavior, resilience is often considered as a characteristic associated with the character, personality, and ability to cope and implies the strength, flexibility, ability to dominate or return to normal after exposure to stress and severe challenge. As a result of this adaptive flexibility, people with higher resilience have higher self-confidence are more likely to experience positive emotions in their lives, and are far from anxiety sensitivities (17).

One of the factors associated with adherence therapy is compassion-focused therapy (CFT). People who do not experience negative events in life generally have more unkind and critical behavior in comparison with their favorite people in the same situation. Self-compassion, that is, people have the same kindness and care they have for others while experiencing hardships. Studies have also shown the role of compassion in the field of physical health. For example, compassion itself plays a role in reducing immune and behavioral responses due to anxiety sensitivities, reducing anxiety sensitivities in HIV patients, reducing unsafe sexual behaviors and adaptive responses to HIV, increasing health-promoting behaviors, and more positive responses to aging (18). The CFT focuses on four areas of previous and historical experiences, basic fears, solutions for feeling safe and unforeseen consequences, and outcomes (19). The construct of compassion-focused therapy is based on an evolutionary approach to psychological functions. Based on this approach, motivations and capabilities of compassion are associated with evolved brain systems that are the basis of attachment, altruism, and kindness behaviors. The natural function of compassion is to create love behaviors, provide opportunities for togetherness, security, relief, participation, encouragement, and support (20).

Table 1. A brief overview of schema mode therapy sessions (22)

Sessions	Content in brief	Participants
1	Establishing therapeutic relationship; explaining the goals of the next sessions; distributing the questionnaires and the adolescent's strengths and positive points worksheets; defining the basic psychological-emotional needs of any human being (illustrated)	Joint
1	Examining the positive points; explaining (illustrated) the schemas and their roots based on the concept of unmet needs, and the use of the glasses tool	Joint
3 and 4	Implementing an imaginary interview with parents (with the adolescent playing the role of the parent); positive schemas; chair work and treasure bag techniques	Adolescents

5	Explaining the concept of the inner house (experiences-schema-mode); explaining and drawing the modes; explicating the sore points and their roots; delineating coping modes; distributing the mode flashcards	Joint
6	Interviewing the dysfunctional mode technique; examining the flashcards	Adolescents
7	Conducting the dysfunctional mode interview; examining the flashcards; mode flashcards-parents' version	Parents
8	Conceptualizing the problem with modes (illustrated); practicing the clever and wise driver's license technique	Adolescents
9 and 10	Conceptualizing the problem; limitations of the vicious cycle; explaining the SORC model; drawing a genogram for parents; working with mode flashcards; training and practicing self-compassion with the vulnerable child and assertive behavior	Parents
11 and 12	Walking with the mode's technique; working with mode flashcards; training self-compassion with the vulnerable child and assertive behavior	Adolescents
13	Reviewing and practicing the assignments; fantasy trip to the clever and wise mode (hypnosis) and its congruence with the aroma of lemon	Joint
14	Answering questions about the instructed concepts; checking the assignments; discussing the effect of listening to the audio file about clever and wise imagery; filling out the questionnaires	Joint

3.1. Research instruments

The Child Behavior Checklist:

The CBCL, parents' version, was used to measure the internalizing problems in the questions about the scale of the internalizing problem. This scale is divided into three sections of anxiety-depression, withdrawal-depression, and somatic complaints. This tool can be used as a self-report or an interview, and it can be used to assess behavioral changes in children during or after therapy. The CBCL is based on the Achenbach System of Empirically Based Assessment which provides forms for easy and cost-effective assessment of competencies, adaptive action/function, and emotional-behavioral problems. In this assessment system, a behavior grading system is utilized to obtain information from three sources of parents, teachers, and children. Scores ranging from 0 to 240, 60 to 63, and > 63 indicate the range of emotional-behavioral problems, borderline range, and clinical range, respectively (23). Yazdkhasti and Oreyzi (24) reported a Cronbach's alpha coefficient of 0.90 for the whole scale. In the present study, Cronbach's alpha coefficient was obtained at 0.88 for the scale.

3.2. Statistical analyses

The obtained data were analyzed by descriptive and inferential statistics, such as mean, standard deviation (SD), and multivariate analysis of covariance (MANCOVA).

4. Results

The participants in the experimental and control group were in the age range of 13.70±1.30 and 13.33±0.81 years, respectively. In terms of gender, the majority of the participants in the experimental (n=9; 60%) and control groups (n=10; 66.67%) were boys. Table 2 presents the mean±SD of the pretest-posttest
scores of internalizing behaviors problems, including anxiety-depression, withdrawal-depression, and somatic complaints in the experimental and control groups.

Table 2. Mean±SD of the variables in the experimental and control groups at pretest-posttest

Variables	Phase	Experimental group	Control group
		Mean±SD	Mean±SD
Internalizing behaviors problems (total)	Pretest	74.93±5.28	72.87±4.43
	Posttest	63.00±4.97	71.93±4.90
Anxiety-depression	Pretest	72.80±6.12	69.73±4.02
	Posttest	60.93±4.48	68.40±3.62
Withdrawal-depression	Pretest	66.67±7.65	60.40±8.12
	Posttest	54.80±775	59.80±8.41
Somatic complaints	Pretest	73.40±7.63	71.60±8.08
	Posttest	61.53±5.22	72.00±6.47

In this study, the assumptions of covariance analysis were checked initially. The results showed the obtainment of the assumptions of scores' normal distribution in the population (Kolmogorov-Smirnov) (P>0.05), homogeneity of variances in the two groups (Levene's test) (F=0.537; P=0.470), and regression slope homogeneity (F=0.443; P=0.512). Based on Table 3, there is a significant difference between the two groups of participants in terms of at least one dependent variable (internalizing behaviors problems, including anxiety-depression, withdrawal-depression, and somatic complaints) (F=40.31; P<0.001). The effect size was estimated at 0.84. In other words, 84% of the individual differences in the posttest scores of internalizing behaviors problems, anxiety-depression, withdrawal-depression, and somatic complaints were due to the effect of the ST-CA.

Table 3. Results of multivariate analysis of covariance regarding the posttest scores of study variables in the experimental and control groups

Variables	Value	df	Error df	F	P-value	Partial η^2	Power
Pillais Trace	0.84	3	23	40.31	<0.001	0.84	1.00
Wilks Lambda	0.16	3	23	40.31	<0.001	0.84	1.00
Hotelling's Trace	5.25	3	23	40.31	<0.001	0.84	1.00
Roy's Largest Root	5.25	3	23	40.31	<0.001	0.84	1.00

According to Table 4, at the posttest and after controlling the pretest, a significant difference was observed between the two groups in terms of internalizing behaviors. Therefore, at the posttest, the ST-CA mitigated internalizing behaviors in the experimental group (F=60.49; P<0.001). The effect size was estimated at 0.74. In other words, 74% of the individual differences at the posttest scores of internalizing behaviors problems were due to the effect of ST-CA (group membership). The results also showed a significant difference between the experimental and control groups in terms of anxiety-depression (F=45.19; P<0.001). The effect size was obtained at 0.64, and in other words, 64% of the individual differences at the posttest score of anxiety-depression were due to the effect of ST-CA. There was a significant difference between the two groups in terms of withdrawal-depression (F=22.01; P<0.001). The effect size was 0.47, and in other words, 47% of the individual differences at the posttest score of withdrawal-depression were due to the effect of ST-CA. Furthermore, there was a significant difference between the two groups in terms of somatic complaints (F=88.36; P<0.001). The effect size was 0.77, and in other words, 77% of the individual differences at the posttest score of somatic complaints were due to the effect of ST-CA.

Table 4. Results of univariate analysis of covariance at the posttest score of the research variables

Dependent variables	Source	SS	df	MS	F	P-value	η_p^2	Statistical power
Internalizing behaviors problems (total)	Pretest	323.56	1	323.56	28.38	<0.001	0.57	0.99
	Group	689.62	1	689.62	60.49	<0.001	0.74	1.00
	Error	239.38	21	11.39				
Anxiety-depression	Pretest	443.50	1	443.50	37.25	<0.001	0.59	1.00
	Group	1051.95	1	1051.95	88.36	<0.001	0.77	1.00

	Error	297.60	25	11.90				
Withdrawal-depression	Pretest	1069.90	1	1069.90	38.53	<0.001	0.60	1.00
	Group	511.31	1	511.31	22.01	<0.001	0.47	0.99
	Error	964.09	25	27.76				
Somatic complaints	Pretest	150.66	1	150.66	62.66	<0.001	0.35	0.93
	Group	510.14	1	510.14	45.19	<0.001	0.64	1.00
	Error	282.16	25	11.28				

5. Discussion

The present study aimed to investigate the effectiveness of ST-CA in the internalizing behaviors problems in adolescents referred to consulting center in Ahvaz, Iran, during 2020. According to the findings, the mean score of internalized behavioral problems (depression-anxiety, withdrawal-depression, and somatic complaints) in adolescents in the experimental groups was significantly lower than that in the control group. This finding is consistent with the results of a study conducted by Van Wijk-Herbrink et al. (12) and Roelofs et al. (20). Van Wijk-Herbrink (12) examined the effectiveness of an innovative schema therapy-based treatment for adolescents with destructive behaviors and traits of personality disorder and reported that early maladaptive schemas and schema modes were improved in patients with behavioral problems.

By taking into account this dimension of experience, schema therapy introduced childish modes, which are mostly known as complex experiences that can become pervasive or even take control for a short while (25). Therefore, when schema therapy discusses the inner child, it means a transient state resulting from emotional functions. This is where there is hope for change through schema therapy. Schemas are formed due to unmet needs during childhood (12). Linking the main structure of ST
with behavioral problems allows us to see how schema modes and coping styles mediate the relationships between the early maladaptive schema of rejection and disconnection and behavioral problems. In addition, the coping styles such as surrender, avoidance, and internalizing modes (Abandoned Child, Lonely Child, Compliant surrenderer, Punitive parent, and Detached protector) were mechanisms through which this schema was linked to the internalizing behaviors problems, such as depression and anxiety. The schemas of disconnection-rejection and impaired autonomy-performance mediate the relationship between misbehavior in childhood, as well as depression and anxiety in adolescents. Furthermore, depression and anxiety can be predicted by the maladaptive schema of disconnection-rejection and impaired autonomy-performance (26).

To explain the effectiveness of ST-CA in reducing internalizing problems, it can be argued that it is one of the characteristics of people who suffer from internalizing behaviors, withdrawal from social interactions, somatic complaints, inhibition, anxiety, and depression in general. Several studies have shown the relationship between early maladaptive schemas, especially rejection/disconnection, realistic limits, and externalizing behaviors (12, 14). Early maladaptive schemas are formed based on one's early experiences with parents, classmates, and significant others in general, and distort one's view of the environment as a pair of glasses (27). If early maladaptive schemas are activated in an undesirable situation and be accompanied by dysfunctional coping mechanisms, an inefficient mode (like that of an angry and impulsive child) emerges in children, adolescents, parents, or other people in relation to them. As a result of the conflicts between modes and inappropriate interaction, adolescents' and parents' basic emotional-psychological needs are not met, and this leads to more damage (16).

The findings of the present study, as well as its effectiveness due to the presence of parents during the therapy process, emphasized the importance of parental participation in therapy. Parents learned to recognize their inefficient schema and schematic modes, as well as the manner and timing with which they conflict with the child's modes. They learned to teach their children how to regulate their emotions (20). The amount of change in the participants varied according to their personal circumstances. Participants whose parents participated in the therapy and were potentially more sensitive to their children's needs showed greater development. Adolescents learn to correspond more from the healthy adolescent mode and less from the inefficient modes during therapy. Adolescents begin to think differently about themselves, the world, and the future as a result of the techniques used. Working as a team enables children to form relationships, develop the necessary social skills that will benefit

them at school and other social settings, and reduce feelings of isolation. When children discuss similar issues, they benefit from the experiences of others. Encouraging children to talk about their problems alleviates feelings of isolation and alienation. On a smaller scale, a ST group represents family and society. This group fosters a welcoming and accepting environment in which children can express their feelings to their peers and therapist. The ST-CA provides the children with an opportunity to discover their modes, where they can receive feedback in a safe space and modify their behavior. This group enables its members to perceive, cope with, and identify more than one person (19).

It is beneficial for parents to hear during the mental training that it is natural to feel distressed and even childish feelings as a parent. Parents should be at ease, and it should be ingrained in their minds that making mistakes is an inevitable part of learning to be a father or mother. Furthermore, the notion that their children's behavior demonstrates that they have failed as a mother or father was challenged. In terms of mode, parents must understand their child's mode and the response patterns that they produce (18). When parents exhibit fewer reactions, they are better able to manage their angry or vulnerable child's mode and treat them more effectively. Furthermore, they assist parents in detecting the interaction of their affective states with respect to their child's status, which is done to strengthen parents' healthy adult mode (taking care and guiding) (through cognition and respect). The ability to reflect on one's own thoughts and feelings (meta-cognition) develops during adolescence. It improves a person's ability to assess (again) emotional situations and experience them in new ways (28). When responding to these items, adolescents are capable of systematically considering their previous judgments and mental effects. Furthermore, they can contrast their feelings in previous situations with the reactions of others in similar situations. This enables individuals to identify their triggers for sadness, rage, or anxiety in a given situation (29). Another critical aspect of ST is distinguishing between previous and current coping strategies. The current study investigated coping modes to help reduce the identification of an adolescent with that maladaptive mode. Failure to complete this aspect of ST may result in significant resistance during the changing stage (15).

The key point in therapy is that both parents and children should be aware of their modes and name them so that they can be recognized in future situations. Furthermore, they must learn to separate themselves from their inefficient mode in order to observe and weaken it (similar to diffusion technique in mindfulness and the process of ACT). Finally, both should use coping modes and styles, as well as effective strategies, to meet their emotional-psychological needs, which is the ultimate goal of ST.

6. Limitations

One of the limitations of this study was the lack of follow-up; therefore, the results reported during the therapy or on the last day cannot be interpreted as stable changes in behavior. Another limitation was that evaluations were made by the therapist, which could increase the risk of a biased response. The present research was performed on adolescents in Ahvaz, Iran, and caution should be observed in generalizing the results to other communities.

7. Conclusion

Emphasizing changes in the maladaptive schema, particularly disconnection/rejection and impaired autonomy-performance, or lessening their impact, can lead to improved psychological well-being and a reduction in depression and anxiety symptoms. It seems that the ST-CA well reduces internalizing problems; therefore, the use of this method is recommended for adolescents.

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Ethical considerations

The study protocol was approved by the Ethics Committee of Ahvaz Branch, Islamic Azad University, Ahvaz, Iran (code: IR.IAU.AHVAZ.REC.1399.042).

Clinical Trial information

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Conflict of Interests

No conflict of interest to declare.

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