**Original Article**

# The Effect of Avoiding Cognitive Errors through Narrative Therapy on Depression and Dysfunctional Attitude in Primary School Girls

Maryam Fallah Zadeh, [1]*, Habib Hadian Fard, [2], Mohammad Reza Taghavi, Seyed [3]

[1]*MA in Clinical Psychology, Shiraz University, Shiraz, Iran.*
[2]*Associate Professor of Clinical Psychology, Shiraz University, Shiraz, Iran.*
[3]*Professor of Clinical Psychology, Shiraz University, Shiraz, Iran.*
*( *corresponding author: Maryam Fallahzadeh, Email: Falahzadeh25ma@yaoo.com)*

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## *Abstract*

**Introduction**: The present study was conducted to investigate the effect of teaching to avoid cognitive errors through narrative therapy on depression and dysfunctional attitude in primary-school girls.

**Methods**: This experimental study was conducted with a pretest-posttest design and a one-month follow-up. The assessment tool consisted of the Depression Self-Rating Scale (DSRS), and DAS-C and clinical interviews were used to evaluate dysfunctional attitude among the students. The sample population consisted of 36 fourth- and fifth-grade, female, primary-school students with depression in Shiraz. The experimental group was exposed to narrative therapy, the placebo group to selective stories (without educational content on avoiding cognitive errors) and the control group received no treatment. The ANCOVA was used to analyze the data.

**Results**: The three groups were not different in terms of their depression score in the posttest (F=2.36, P=0.11), but the difference between them was significant in the follow-up stage (F=5.53, P=0.009). Significant differences were observed among the groups in terms of dysfunctional attitude and depression in the posttest (F=4.84, P=0.001) and the follow-up (P=0.0001, F=12.08).

**Conclusion**: Narrative therapy was found to be effective in reducing depression and dysfunctional attitude in the students.

**Declaration of Interest:** None.

**Key words**: Cognitive Errors, Narrative Therapy, Depression, Dysfunctional Attitude.

## *Introduction*

The increasing incidence of psychiatric disorders has attracted the scientific community to mental health research (1). In recent years, cases of depressive disorders have increased not only among adults, but also among children (2-4). Their prevalence ranges from 0.3% to 7.8% in children below the age of 13 years old. In Brazil, the prevalence of childhood depression below 14 years old varies from 0.2% to 7.5%, depending on the assessment method used (5). The tendency toward depressive thoughts starts from an early age. Beck argued that children's thinking process in general is absolute and 'either this or that,' and this primitive thinking approach continues into adulthood.

Studies on children and adolescents with depression have shown that individuals with depression are more prone to cognitive distortions, disappointment, and attribute the consequences of affairs to uncontrollable external causes compared to individuals without depression (6). These tendencies are particularly important because they occasionally take on the form of primitive and simplistic schemas (6). Their cognitive limitations, especially in early ages, on the one hand, and their low motivation to participate in therapeutic processes, on the other, make the use of direct therapies, such as cognitive-behavioral therapy, particularly challenging for children.

The use of the story approach, since it can be viewed as a therapeutic game (7), is a teaching method for changing children's way of thinking and behavior and reducing the noted limitations in their psychotherapy and adding to the effectiveness of the treatment process for them (8).

Depression and dysfunctional attitude are characterized by self-devaluation; that is, when the individual performs a creative task, he values himself as a person in those moments (9). The statistical analysis in this study provided substantive support for the primary hypotheses posed in the study, i.e. the effectiveness of narrative therapy in reducing depression and dysfunctional attitude, and this research thus offers new findings in psychotherapy literature. Some scientists have sought to identify key narrative processes that can help provide an in-depth understanding of how narrative therapy affects significant positive changes in patients (10).

Some studies (11, 12, 13, 14), including case studies (15, 13, 16, 17, 18), have suggested that the creativity embedded in narrative therapy has a significant correlation with therapeutic change in different therapy models (9, 19). In a study (20), significant differences were found in terms of hope, positive and negative emotions and depression between the experimental and control groups. The present study thus seeks to investigate to what extent teaching to avoid cognitive errors through narrative therapy can decrease depression and dysfunctional attitudes in children.

## *Methods*

This experimental study was conducted with an experimental group, a control group and a placebo group in three phases, namely the pretest, posttest and follow-up.

The sample population of the study consisted of all the female students in the fourth and fifth grades of primary school in Shiraz in the academic year of 2015-2016.. 215 participants were selected prior to the beginning of the study through convenience sampling. For this purpose, one primary school in Shiraz was selected and evaluated using the DSRS and DAS-C.

Then, students whose scores were higher than the cut-off point were identified and interviewed for the diagnosis of depression.

Ultimately, 36 students were chosen as the study subjects and were randomly divided into the experimental (n=12), control (n=12) and placebo (n=12) groups. The experimental group was given narrative therapy for six weeks, the placebo group was given selective stories (without the educational content of avoiding cognitive errors) for six weeks and the control group received no psychological interventions.

**Instruments**

**Depression Self-Rating Scale (DSRS):** The DSRS was first proposed by Birleson in 1981 (22). The validity and reliability of this scale were assessed in this study using the test-retest, internal consistency and two-sectionalization methods (22). The validity of the DSRS was confirmed with correlation coefficients of 0.72, 0.61 and 0.79 for all the subjects. The reliability with test-retest (with a four-week interval) was calculated as 0.74, 0.75 and 0.72 for all the subjects. Using Cronbach's alpha coefficient, the internal reliability of the scale was calculated as 0.81, 0.82 and 0.77 for all the subjects, the female subjects and the male subjects.

**Dysfunctional Attitude Scale for Children (DAS-C): The DAS-C** is a 22-item on a Likert-point scale, that has been proposed by Alessandro and Burton (2006) based on Beck's depression cognitive theory and using the Dysfunctional Attitudes Scale. Alessandro and Burton (2006) reported the reliability of the scale as 87% using Cronbach's alpha coefficient and 80% using the test-retest method. The concurrent

construct validity of the scale with DSRS was confirmed as desirable (r=0.37, P≤0.01). In the studied sample, the reliability of the DAS-C was calculated as 0.80, 0.76, 0.76 and 0.61 using Cronbach's alpha coefficient, Spearman-Brown bisection, the Gutmann method and test-retest with a ten-day interval (23).

**The experimental group:** This group received 12 therapy sessions over six weeks as a method of treatment. Therapeutic sessions are as follow:

**Session 1** (Introduction): Introductory notes, welcoming and introducing the members of the group, briefing on the group rules and discussing the group expectations.

**Session 2:** Learning to avoid the "selective abstraction" cognitive error by telling a story and discussing it and giving as homework to explain the story for two people at home.

**Session 3:** Learning to avoid the "arbitrary inference" cognitive error by telling a story and discussing it and giving as homework to draw a picture for the story.

**Session 4:** Learning to avoid the "overgeneralization" cognitive error by telling a story and discussing it and giving as homework to explain the story for two people at home.

**Session 5:** Learning to avoid the "personalizing" cognitive error by telling a story and discussing it and giving as homework to draw a picture for the story.

**Session 6**: Learning to avoid the "magnification and minimization" cognitive error by telling a story and discussing it and giving as homework to explain the story for two people at home.

**Session 7:** Learning to avoid the "should's" cognitive error by telling a story and discussing it and giving as homework to draw a picture for the story.

**Session 8:** Learning to avoid the "black and white thinking" cognitive error by telling a story and discussing it and giving as homework to explain the story for two people at home.

**Session 9:** Learning to avoid the "catastrophizing" cognitive error by telling a story and discussing it and giving as homework to draw a picture for the story.

**Session 10:** Learning to avoid the "filtering terms" cognitive error by telling a story and discussing it and giving as homework to explain the story for two people at home.

**Session 11:** Avoiding the "unfair comparisons" cognitive error by telling a story and discussing it and giving as homework to draw a picture for the story.

**Session 12** (Review and Final Notes): A review of the program implemented over the previous sessions, closing ceremony, administering the posttest and coordination for the follow-up session.

**The placebo group:** In the placebo group, storytelling consisted of 12, one-hour sessions over six weeks, twice a week. In the first stage, age-appropriate books without a therapeutic content and not teaching how to avoid cognitive errors were given to the children by the therapist and the Children's Literature Circle of Shiraz with the sole purpose of entertainment, and some stories were selected for them to read. In the second stage, of the selected stories, ten were randomly selected for the purpose of discussion (without teaching to avoid cognitive errors). The same special task was then determined for all the sessions, which consisted of explaining the story for two people at home or drawing a picture for the story.

**The control group:** Just like in the experimental and placebo groups, the pretest, posttest and follow-up were administered for the children in the control group.

## *Results*

The one-way ANCOVA was used to investigate the significance of differences between the three groups in terms of depression and dysfunctional attitude in the pretest, posttest and follow-up. The lack of significant differences using Levene's test was established as the default for the ANCOVA.

Investigating the significance hypothesis using the ANCOVA revealed no significant differences in terms of depression and dysfunctional attitude between the three groups in the posttest (F=2.36, P=0.11; Table 1). Meanwhile, a significant difference was observed between the three groups in terms of depression in the follow-up (F=5.53, P=0.009).(table 1)

Table 1. The ANCOVA results in terms of depression in the posttest and follow-up

| | | Mean Squared | df | F | *P* | Partial Eta Squared |
|---|---|---|---|---|---|---|
| Group | Posttest | 97.25 | 2 | 2.36 | 0.11 | 0.12 |
| Group | Follow-Up | 52.11 | 2 | 5.53 | 0.009 | 0.25 |

To investigate the effect of the presence of the therapist and the process of storytelling, the differences between the experimental and placebo groups was measured in terms of depression in the posttest using the ANCOVA. The results confirmed the effect of the therapist and the process of storytelling on depression in the posttest (F=4.52, P=0.04; Table 2).

Table 2. The ANCOVA results in terms of overall depression in the narrative therapy and placebo groups combined

| | | Mean Squared | df | F | *P* | Partial Eta Squared |
|---|---|---|---|---|---|---|
| Group | Posttest Depression | 90.97 | 1 | 4.52 | 0.04 | 0.12 |

According to the LSD test, there was a significant difference between the experimental and control groups (P=0.03) and also between the experimental and placebo groups (P=0.003) in terms of depression in the follow-up. The difference in the means showed that the depression score decreased significantly in the experimental group in the follow-up (Table 3).

Table 3. The results of the comparison of the study groups in terms of depression using the LSD test

| Group | | SD | *P* |
|---|---|---|---|
| Narrative | Control | 1.25 | 0.03 |
| Therapy | Placebo | 1.33 | 0.003 |
| Control | Placebo | 1.34 | 0.26 |

As the findings revealed, there was a significant difference between the three groups in terms of dysfunctional attitude in the posttest (F=4.84, P=0.001; Table 4).

Moreover, no significant differences were found between the three groups in terms of dysfunctional attitude in the follow-up (F=12.08, P=0.0001). According to the LSD test, there was a significant difference between the experimental and control groups (P=0.0001) and the experimental and placebo groups (P=0.0001) in terms of dysfunctional attitude in the follow-up. Again, the difference in the means showed that the dysfunctional attitude score decreased significantly in the experimental group in the follow-up (Table 4).

Table 4. The ANCOVA results for dysfunctional attitude in the posttest and follow-up

| | | Mean Squared | df | F | *P* | Partial Eta Squared |
|---|---|---|---|---|---|---|
| Group | Posttest | 1414.50 | 2 | 4.84 | 0.001 | 0.23 |
| Group | Follow-Up | 2060.45 | 2 | 12.08 | 0.0001 | 0.43 |

The LSD test showed differences between the experimental and control groups (P=0.02) and the experimental and placebo groups (P=0.006) in terms of dysfunctional attitude in the posttest. Moreover, the difference in the means showed that the dysfunctional attitude score decreased significantly in the experimental group in the posttest (Table 5)

Table 5. The results of the comparison of the study groups in terms of dysfunctional attitude in the posttest using the LSD test

| Group | | SD | *P* |
|---|---|---|---|
| Narrative | Control | 7.07 | 0.02 |
| Therapy | Placebo | 6.99 | 0.006 |
| Control | Placebo | 7.17 | 0.55 |

## *Conclusion*:

The present study was conducted to investigate the effect of teaching strategies to avoid cognitive errors through narrative therapy on depression and dysfunctional attitudes among fourth and fifth-grade female students in Shiraz, Iran. The results showed that avoiding cognitive errors through narrative therapy reduces depression and dysfunctional attitude in children, which is consistent with the results obtained in many other studies (24-29).

Using cognitive behavior therapy, the therapist helps the child to overcome her cognitive distortions and attempts to cognitively reconstruct her by teaching her to consider more pleasant events and emotions, formulate reasonable objectives and criteria for herself, fight negative attributions and learn to have more compatible thoughts.

Also, by this form of intervention, children learn to have more positive thoughts and emotions and change their negative thoughts using their internal voices. For example, instead of saying "I'm not the right person to do this work", they learn to say "I should do my best", which is a self-instructional strategy (6).

It can be concluded that, in narrative therapy, stories are useful as references for conveying fundamental concepts and comprise the main components of treatment. For example, a good story can explain how thinking errors are basically developed, how they are generalized, abstracted and distorted and how they arouse a familiar reaction pattern to all new events (30).

The results obtained in the study can be explained differently. In the first stage of the present research, attempts were made to apply storytelling to understanding cognitive errors and their sources and identifying their negative aspects; that is, the storytelling device was used to stimulate change in the children. In the second stage of storytelling, the hero acted as a model and the children learned new thoughts during the storytelling process or self-identified with the story's hero and selected his/her thinking style (31).
This finding is also consistent with the results obtained by Shapiro (32) in relation to the importance of discussion, exploration and questioning after a storytelling session. The ambivalent nature of stories and literature can explain this finding, as everyone can interpret the events in a story based on their own understanding. In truth, every child's interpretation of a story is completely individual. It should also be noted that the information transferred to the reader or audience may be wrongly understood or even distorted and changed through individual experiences (33), particularly when the method is applied for clinically-ill children. When the stories are discussed in a group, however, the therapist helps the child understand what she cannot understand on her own, while simultaneously providing a safe place for active teaching (34).
Teaching to avoid cognitive errors by way of storytelling helps depressed children learn how to re-evaluate events and see them from different and more positive angles. This form of therapy also helps children replace more logical and optimistic patterns with their former self-destructive patterns, and this achievement can help change the children's behaviors and feelings.
The limitations of this study include the examination of a female-only population; consequently, the results should be generalized with caution. Therapists and pediatricians are recommended to use narrative therapy along with their routine medical treatments to reduce children's behavioral problems. Future studies are recommended to examine a combination of play therapy and narrative therapy.

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