

The effects of group psychodrama on the ruminative thinking style, dysfunctional attitudes, anxiety and depressive symptoms: a quasi-experimental study

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Abstract

Aim of the study: The aim of this study was to investigate the effect of psychodrama on symptoms of ruminative thinking style and dysfunctional attitudes as well as the anxiety and depression.

Subject or material and methods: This study included 16 adults including 8 individuals in the psychodrama and 8 individuals in the control group. A group therapy was conducted with the psychodrama group for 12 sessions during 6 weeks; the control group was observed without any intervention.

Results: The psychodrama group scale scores were significantly lower in end tests in the intra-group analysis; there was not any difference in the control group.

Discussion: With psychodramatic techniques, increasing and maintaining attention; reduce or replace ruminations by concretizing and be able to reprocess death, mourning, uncertain loss and trauma through staging; have the opportunity to experience functional attitudes in the sur-plus reality scene and develop functional beliefs and attitudes may have contributed to our results.

Conclusions: Our results reveal that psychodrama techniques are useful in ruminative thinking and dysfunctional attitudes which play a role in the cognitive aspects of anxiety and depression.

ruminative thinking; dysfunctional attitudes; psychodrama; anxiety; depression

INTRODUCTION

Anxiety and depression affect approximately 10% of the global population every year, leading to loss of manpower [1]. The depression prevalence and burden are detected as preserved despite the developments in treatments and increased treatment compliance [2]. One of the

reasons is indicated higher prevalence of simultaneous diagnosis [3]. The lifelong depression comorbidity in anxiety disorders was reported between 20% and 70% in social anxiety disorder; 50% in panic disorder, and 43% in disseminated anxiety disorder. In major depressive disorder, 45.7% of the patient have a lifetime history of one or more anxiety disorders [4]. Furthermore, both anxiety and depressive disorders were reported to be more common as 2:1 in women [5].

Automatic thoughts, dysfunctional attitudes, and ruminative thinking were associated with

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depression and anxiety symptoms in studies investigating cognitive factors [6]. The interaction of ruminative thinking style and dysfunctional attitudes increases the susceptibility to depression and anxiety [7, 8]. Although the factors playing a role in such interaction were discussed in studies, they were not clarified yet.

Dysfunctional attitudes which have been specifically researched in depression but also associated with anxiety are all negative beliefs about oneself, others, and the world that are formed in the process of interacting with the environment of the individual [9]. Dysfunctional attitudes associated with depression, anxiety, stress and early experiences may affect the performance of the individual by causing extremes in emotions and behaviors and cause problematic coping skills [10]. Individuals with dysfunctional attitudes have higher levels of anxiety, negative cognitive evaluations and ruminations, and they may perceive life as more threatening and negative [11]. Rumination which is another important cognitive component is defined as passive and repetitive thinking about distress symptoms, causes, meanings, and consequences [12]. Rumination prolongs the negative effect by increasing negative thoughts and behaviors, and decreases the desire of participation in activities that would cause effective problem solving and positive results. Furthermore, it may contribute to onset of psychopathology [13]. Ruminative thinking has been associated with depression [14] and anxiety [15] in the past. Rumination in adults has been reported as a partial mediator of concurrent associations between anxiety and depression [16]. In particular, the effects of cognitive behavioral therapies on ruminative thinking and dysfunctional attitudes have been investigated before [7, 17]. There is limited number of studies on the effects of psychodrama on rumination [18].

Psychodrama is an action-based psychotherapeutic and socio-therapeutic method developed by Moreno [19]. The multidimensional and interactive process of psychodrama is used to improve cognitive, emotional and behavioral integrity, personal development, emotional intelligence and insight [20, 21]. Dysfluency in spontaneity or hunger for action may appear in a mental illness. Moreno argues that early intervention in the action hunger state of the indi-

vidual will enable him to clear his obstacles and support personality development [20].

Psychodrama is considered as a powerful method in relieving anxiety and depression symptoms in people. Studies have found psychodrama effective in terms of self-understanding, focusing and making sense of problems, increasing the level of awareness, improving self-esteem and empathy, reducing social anxiety and test anxiety [22, 23]. The aim of this study was to investigate the effects of group psychodrama on ruminative thinking and dysfunctional attitudes, which play a role in the cognitive aspects of anxiety and depression, and to determine the psychodramatic techniques that can play a role in this effect.

METHODS

Sample

In our study conducted in Elazig in 2018, a quasi-experimental design with pre-posttest and control groups was used in order to test the effectiveness of psychodrama. Participants who were reached through the group therapy advertisement posted on the hospitals' board. Individuals who voluntarily applied to the outpatient clinic and were diagnosed with generalized anxiety disorder and/or depressive disorder according to DSM-5 (Diagnostic and Statistical Manual of Mental Disorders) criteria during the examination by the same psychiatrist were included in the study. Inclusion criteria were defined as being literate, having the intelligence capacity to fill in the scales, not having a psychiatric (including severe personality disorder), neurological or chronic disease that may cause insufficiency in cognitive functions other than depression or anxiety disorder and prevent the continuation of therapy. There was only one volunteer application in male gender, this person was added to the future group therapy list to make the group homogeneous, and the study was carried out with 16 female individuals.

Study Design

The participants were divided into two groups including 8 individuals; psychodrama-based group therapy was performed in one group; the

other group was the control group without any intervention. The psychodrama intervention included a total of 6 weeks of group therapy, consisting of twelve consecutive sessions (120 minutes each) in two days a week. The contents of the psychodrama sessions are available in Appendix A.1. At the beginning of therapy, the participants filled out the sociodemographic information form (age, marital status, employment status, education level, family history, therapy history, disease duration). Then, Beck depression scale (Beck-D), Hamilton Anxiety Scale (HAM-A), Ruminative Thinking Style Scale (RTS), and Dysfunctional Attitudes Scale (DAS-R) were applied in order to measure the effectiveness of the therapy with a pre-posttest design. The study data were obtained by examining the scales and information forms retrospectively. Parameters such as the age, educational status, marital status which are believed to affect the expected results were detected as independent variables and the scale scores of the participants were detected as the dependent variables. The study data exposed to the statistical analysis were compared.

The researcher is a medical doctor specialized in psychiatry; she also completed psychotherapy and psychodrama training. A consultant specializing in clinical psychology and group therapy supervised all phases of psychodrama in this study. Psychodrama techniques such as role playing, matching, role switching, mirroring and general group therapy principles were applied in the sessions. Individual and group games in general were used depending on the group needs (here and now). The group psychodrama included general group processes and techniques (24), (Appendix A.1).

Scales

Beck Depression Inventory (Beck-D) is a self-report scale that evaluates depression symptoms in 3 areas: physical, emotional and cognitive areas including a total of 21 questions used to assess the presence and severity of depressive symptoms. The scale was developed by Beck et al.; the validity and reliability studies in our country were performed by Hisli et al. [25, 26]. The cut-off score of the scale was 17; it shows presence of clinically significant symptoms [26].

The Hamilton Anxiety Scale (HAM-A) was developed by Hamilton (1959) in order to determine the level of anxiety and symptom distribution in individuals and to measure the change in severity [27]. The scale includes 14 items; the presence and severity of the symptom depend on the decision of the interviewer. Total score over 14 indicates presence of anxiety symptoms. The validity and reliability study in Turkish was performed by Yazıcı et al. [28].

The Dysfunctional Attitudes Scale Short Form (DAS-R) is a 40-item scale designed to evaluate dysfunctional assumptions and beliefs by Weissman and Beck [29]. The short form was created in Turkey; validity and reliability studies were performed [30].

The Ruminative Thought Style Questionnaire [RTSQ] was developed against evaluation of rumination concept in the literature [31]. The scale which aims to evaluate ruminative thinking styles consists of seven-point Likert type and 20 items. The Cronbach Alpha internal consistency coefficient for the whole scale was detected 0.90.

Statistical Analysis

SPSS (Statistical Package for Social Sciences) Version 22.0 package program was used for statistical evaluation of the data. Quantitative data were determined as mean and standard deviation. The homogeneity value between the groups was determined through the chi-square test (Fisher's exact test). The difference between two independent groups was analyzed with Mann-Whitney U test, and the pre-posttests of the dependent groups were analyzed with the Wilcoxon Signed Ranks test, since the number of measurement variables was less than 20, and it did not conform to the normal distribution. Results are arranged as median, interquartile range (Q1-Q3). Any p value below 0.05 was accepted as statistically significant.

The approval of the Ethical Committee of Dr. Abdurrahman Yurtaslan Oncology Hospital was obtained with board approval number of 2021-02/1024 on February, 24, 2021. Participants were informed about the purpose and duration of the study by the researcher, and they were assured that their personal information would be kept confidential, and a written consent form was obtained from the participants.

RESULTS

Demographic characteristics

The average age of the psychodrama group was 33 ± 8.41 years and 37.62 ± 11.21 years was the control group ($p=0.382$). The disease dura-

tion of the psychodrama and the control groups are 65.25 ± 84.23 months and 9.87 ± 7.21 months respectively ($p=0.065$). The psychodrama and control groups were found homogenous for demographic and clinical characteristics ($p\geq 0.05$) (Table 1).

Table 1. Demographic and Clinical Characteristics of Groups

Variable		Psychodrama N (%)	Control N (%)	χ^2	P
Marital Status	Single	3 (37.5)	3 (37.5)	0.00	1.0
	Married	5 (62.5)	5 (62.5)		
Working status	Working	4 (50)	5 (62.5)	2.28	0.31
	Not working	4 (50)	3 (37.5)		
Cohabitation status	Alone	2 (25)	2 (25)	1.33	0.51
	With family	6 (75)	6 (75)		
Education level	Elementary	1 (12.5)	0 (0)	4.66	0.09
	High school	6 (75)	3 (37.5)		
	University	1 (12.5)	5 (62.5)		
Family history	Yes	2 (25)	2 (25)	0.00	1.0
	No	6 (75)	6 (75)		
Psychotherapy history	Yes	3 (37.5)	0 (0)	3.69	0.2
	No	5 (62.5)	8 (100)		

N: number ; χ^2 : chi square value, * $p<0.05$: significance level

The comparisons of intra-group pre-test and post-test

Since the number of group psychotherapy cases was below 20 and the homogeneity of variance could not be achieved in the analysis with Bartlett and Levene tests ($p\geq 0.05$), Wilcoxon

analysis was used in the pre-test and post-test analyses. The Beck-D, HAM-A, RSTQ and DAS-R scale scores in the psychodrama group were significantly lower in the post-tests intra-group analysis; however, no significant difference was found in the control group (Table 2).

Table 2. Comparison of Intra-Group Pre-Posttest Scores

Scales	Groups	Pretest (median [Q1-Q3])	Posttest (median [Q1-Q3])	Wilcoxon Test Value	Z	p
Beck-D	Psychodrama	17 [10.25 – 23.25]	7 [2.5 – 9.75]	0.0	-2.371	0.018*
	Control	20 [24 – 26.25]	20 [24 – 26.25]	1.5	0.0	0.99
DAS-R	Psychodrama	43.5 [21.75 – 54.75]	29.5 [14.0 – 47.25]	0.0	-2.207	0.027*
	Control	58 [38.25 – 64.25]	56.5 [37.5 – 61.75]	0.0	-2.232	0.26
HAM-A	Psychodrama	30.0 [21.0 – 35.75]	17.0 [14.0 – 22.25]	0.0	-2.527	0.012*

	Control	28.0 [20.25 – 40.0]	27.5 [19.5 – 39.25]	2.5	-1.414	0.157
RSTQ	Psychodrama	100.5 [84.25 – 122.75]	85.5 [68.25 – 95.0]	0.0	-2.524	0.012*
	Control	87.5 [85.25 – 92.0]	87.0 [86.0 – 90.75]	2.0	-1.823	0.68

Beck-D: Beck Depression Inventory, DAS-R: Dysfunctional Attitudes Scale, HAM-A: Hamilton Anxiety Scale, RTSQ: Ruminative Thought Style Questionnaire, *p<0.05 significance level.

DISCUSSION

In this study, it was determined that group psychodrama application significantly reduced ruminative thinking, dysfunctional attitudes, anxiety and depression scale scores.

The effects of psychotherapies on ruminative thinking which is an important cognitive component of anxiety and depression is a subject of curiosity. The common aim in therapies is to reduce the rumination or convert it into a beneficial form. It was reported in cognitive-behavioral therapy studies that directing to specific and concrete thinking reduces rumination [32]. In the psychodrama scene, physical expression is given to real elements of the counselee's life such as objects, characters, places and times, and concretization is provided [33]. Moreno has suggested a number of ways including role-playing, the helping ego, and the social atom in order to help members to explore and embody their internal and interpersonal problems [34]. The concretization and reprocessing provided by psychodrama techniques may play a role in the reduction of ruminative thinking with a restorative effect [35].

Dysfunctional attitudes are another cognitive component that is tried to be reduced in the treatment of depressive symptoms [29]. By creating an active learning environment for the participants, psychodrama provides the opportunity to directly participate in "real life" situations that reveal and correct their dysfunctional perceptions [36]. The psychodrama may have enabled the members to realize their own strengths and talents, make more positive evaluations and ignore their weaknesses, and reduce dysfunctional attitudes accordingly. Another reason may be the effect of the increase in spontaneity. Trying out new roles stimulates the spontaneity and creativity by breaking atrophied, underdeveloped roles and depressive patterns. Ac-

ording to Moreno, spontaneity is the invisible energy that pushes the individual to "a new reaction against an old situation or an adequate response against a new situation" [37]. Lack of spontaneity is associated with mental disorders, and anxiety decreases along with the spontaneity increase [38, 39]. The increased spontaneity through psychodrama may have eliminated the hunger for action and contributed to the improvement in ruminative thinking and dysfunctional attitudes in this study. In order to measure the effectiveness of psychodrama on dysfunctional attitudes, "the neighborhood game", which is a sociodramatic method, was replayed to the psychodrama group in the following sessions (respectively sessions 5 and 11), it was observed that the members chose active and extrovert roles and showed high functionality in the advanced sessions [40], (Appendix A.2).

In anxiety disorders, emotions such as anxiety, fear and sadness are triggered without a real threat, the sympathetic nervous system is stimulated and the individual's realistic assessment of the situation is affected [42]. Reprocessing through psychodrama helps to control the internal dialogues that stimulate anxiety. With the participation of the group, psychoeducation could occur and cognitive distortions related to anxiety could be regulated. In our study, it has been observed that our group members exhibit rigid and stereotyped roles in their environment and relationships, as may be the case with individuals with depressive symptoms. Psychodrama aims to work with these disabling relationship patterns and roles. Group work can increase cohesion, sharing and self-esteem, encourage learning and help to improve feelings of isolation [43]. In addition, anxiety which is added to depression characterized by cognitive slowing and a decrease in behavioral rhythm and speed causes distraction, weakening in per-

ception and recall, and difficulty in learning new information [44]. It was observed that psychodrama group members had attention and memory problems. Therefore, various psychodrama interventions [games such as snowball catching, word-of-mouth communication] were used to increase and maintain attention [45]. It was considered in the present study that the slow warming up, unwillingness to take a role, difficulty in adapting to the role and the tendency to be more verbal may be avoiding behaviors observed in the group members. This situation was intervened with nonverbal and more action-packed group games that would enable the explanation of cognitive concepts through action [46]. It was observed in the further sessions that the participation and harmony of the members increased. This can be explained by the fact that psychodrama allows individuals to test the threat that causes anxiety and reduce the anxiety and avoidance through a realistic assessment [41]. Furthermore, the increase in group and social interactions and the triggering of interpersonal experiences with the effect of psychodrama may have contributed to the lower anxiety and depression scores in our study [47]. Another intervention that contributes to our results was studying death, mourning, loss themes with psychodrama. In our study, the "Döşelek" game where the objects representing the remnants were buried by burying the obvious or ambiguous loss and mourning of the members was used. Revealing the feelings associated with these themes may have an improving effect by causing catharsis and reducing isolation. Experiencing mourning and loss in a group process also helps to build new relationships, strengthen the relationship network and may reduce depressive and anxiety symptoms [48]. Another remarkable aspect of our study is the study of implicit trauma through psychodrama. In the "Group Newspaper" play structured, "S" transformed her traumatic life into a 3rd page news in the newspaper through pictures and shared and worked with the group by expressing it as much as she wanted. In the next session, "S" stopped shaking her right leg which she has been shaking since the first session and could not stop. Like our study, an opportunity to experience the action in a scene from the future or the past may be created for everybody through

plus reality in psychodrama. The therapist offers the ways to represent open and secret lives of the counselees in psychodrama [33]. The psychodramatists use surplus reality to enable restorative development with a scene of experience that the emotional needs of the hero whose emotional needs were neglected in the past may be met in the trauma study [49]. The surplus reality of psychodrama allows traumatic memory to be reconsidered by creating a new, corrective memory consisting of explicit, procedural memory content and implicit, bodily memory content [50]. Concretizing the trauma and working with the group through psychodrama may be a factor that reduces anxiety; furthermore, it may also have provided an insight to the member and caused disappearance of somatic symptoms [51].

Nowadays, the literature on the effects of psychotherapeutic approaches on neuroplasticity is not clear, and the effects of group psychotherapy on neuroplasticity are still being investigated [49, 52]. Psychodrama stimulates the body and extra-cortical levels of functioning through action. It has been argued that psychodrama provides an opportunity to elicit and integrate information from the limbic system, including implicit memory, such as attachment schemas, traumatic experiences and affect regulation processes [53]. However, the effect of the 12-week group therapy experience on neuroplasticity in our study is unknown, and future studies supported by imaging methods are needed.

One of the limitations of our study is the sample consists of only female gender and it is limited to 16 individuals limits the generalization of the results to the whole population. Another limitation is management of the group by a single therapist according to the conditions. It was considered that therapist/co-therapist work would be more productive in groups with mental disorders. Furthermore, it is important that a sociodramatic game was used to measure the effectiveness of psychodrama in this quasi-experimental study. It was considered that this game would help the therapist and supervisor to realize the clinical change, to increase the awareness of the members, and to provide development of insight.

As a result, psychodrama with its multidimensional and expressive interventions was found to

be effective for ruminative thinking and dysfunctional attitudes as well as anxiety and depressive symptoms. Psychodrama techniques potentially contribute to cognition and behavior. There is a need to increase evidence-based research on psychodrama with its rich application techniques and high therapeutic effectiveness.

Appendix A.1

Psychodrama Sessions

Session 1. Warming up, meeting with the group and psychodrama techniques. Group activity: The “Story of my name” game. “Being a seed” game to provide motivation and to instill hope

Session 2. Group activity: Recognizing the group; the “Our Similarities” game on the family relationships that S had difficulty with in the protagonist scene

Session 3. Group activity: Group rules; the “Court” game, setting the rules, transforming in a closed group, A studying the difficulties with her spouse in the protagonist scene

Session 4. Group activity: Revealing differences, experiencing new roles, providing group cohesion with the “journey” game. “Z” who played the role of the driver in the game, stated in her feedback that although she had a license in her life, she could not use this skill due to cultural restrictions, and that the “driver” way felt good. Revealing of the member’s need for spontaneity was assessed.

Session 5. Attention and memory problems of the members were noticed during the warm-up in the “Word of mouth” game.

Group activity: The group which was considered to have the need of role flexibility was allowed to experience new roles with the “Neighborhood” game. To repeat the same game at the end of group therapy as a psychodramatic measurement tool to measure functional attitudes was planned during the supervision interview.

Session 6. Group activity; The group name was determined as “Greening Hopes”. It was considered in this session that the active participation of the group increased with the formation of group identity, and they were motivated to play a role and play, made us think that anxiety decreased.

Session 7. Group Activity; “After Years” and “Hospitality” games were played in order to train aging and death which can be triggers in anxiety disorders. The group members who developed a trust relationship shared that they were worried about the passage of time and that they had difficulty in leaving and leaving. The feelings of guilt and regret were studied in the protagonist scenes of Z and S.

Session 8. Warm-up; the aim of the “Snowball catching” game played with the members was to increase the anxiety and to re-focus attention simultaneously. Group Activity; “Stops of My Life” game, many of the members described their lives as stressful, they were coping difficulties. The effort of survive through faith was expressed by the members. S was constantly shaking her same leg during the game, although she noticed this situation that attracted the attention of the members; she said that she could not stop voluntarily.

Session 9. Group Activity; the “Wall newspaper” game was planned during the supervision phase in order to cover traumatic experiences. Members wrote news for the newspaper as much and as they wanted. In the “3. Page News” which is a part of the game, S implicitly brought her traumatic life to the stage. Members have taken and shared similar experiences to the game. It was observed at the end of the game that S has stopped swinging her leg.

Session 10. Group Activity; the “Döşelek” game which was played with the aim of studying the uncertainty and ambiguous loss that may play a role in the formation and continuity of anxiety in the group that is close to the end, the members continued on their way by burying the uncertain burdens they brought from the past. Then, it was aimed to pave the way for post-traumatic growth and to lead to the development of functional attitudes by realizing the remaining time in the “Melting Clock” game. In the “Melting Clock” game, A stated that he did not like the melting of the clock and wanted to stay and stop. In her own words, “the passing of time despite everything” helped her to stay away from anxiety and stay in the moment.

Session 11. Group Activity; the “Neighborhood” game was used to measure the changes developed through psychodrama. It was observed that the members chose roles with more

interactive, positive, useful and fun features with the group; the members were motivated to increase their functional attitudes and their anxiety decreased.

Session 12. Group activity; “My Limits” and “Goodbye” games were played with the end result to share the feelings about the members who left the group and the desire of the members to work on the agenda of “not being able to say no, optimism... limits”. The psychodrama process was completed by saying goodbye to the group, instilling hope, and setting goals with the “Gift Giving” game.

Appendix A.2

Roles in the “Neighborhood” game

Members	Session 5.	Session 11.
F	street lamp →	a yellow unwritten bench
B	plane tree →	Store
N	a young local fountain →	Hammock
M	a historical fountain with healing water →	greengrocer in the neighborhood
S	a door of an apartment →	a historical and restored window
C	milk truck of the milkman →	The sun of the neighborhood
A	treaded grass →	daisy

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