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Developmental Psychodrama Therapy: Effect on Social Anxiety and Self-Esteem among Children who Stutter

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Abstract

Stuttering in children considers a common health problem associated with social anxiety and low self-esteem. Psychodrama therapy is approved as one of the most advanced management for many psychosocial health problems. Studies have shown that psychodrama therapy is highly effective in decreasing social anxiety and improving self-esteem among children who stutter. The purpose of the present study is to evaluate the effect of developmental psychodrama therapy on social anxiety and self-esteem among children who stutter. This quasi-experimental research study was conducted at the two governmental speech clinics in Menoufia governorate and Elgharbia governorate, Egypt. Using a convenience sampling method was used for enrolled 57 children aged 8-15 years with a stuttering disorder. Three tools were used for this study, 1-a structured interview questionnaire about characteristics of studied children. 2-A Standardized Social Anxiety scale for children 3-A self-esteem scale for children. The mean anxiety score and its symptoms among the children decreased considerably after intervention (35.2 6.09 *vs*. 67.45.90, P value= 0.001). The results: the mean score of the children's self-esteem and its dimensions significantly improved after psychodrama therapy (79.7 ± 2.59 *vs*. 56.4 ± 3.70, respectively; P value = 0.001). Conclusion: Developmental psychodrama therapy has significant effect on social anxiety and self-esteem among children who stutter. It is greatly recommended to utilize developmental psychodrama therapy for children who stutter due to its beneficial effect in decreasing social anxiety and enhancing children's self - esteem.

Keywords: Stuttering • Social anxiety • Self-esteem • Psychodrama therapy

Introduction

Stuttering considers one of the most common health problems among children and a phenomenon of interest that requires urgent and appropriate management. Stuttering is a speech disorder characterized by involuntary disruptions of speech flow. Children who stutter tend to repeat and prolong sounds, syllables, or words, impeding their capacity to effectively communicate in social and performance-based situations [1]. This disorder is accompanied by many negative consequences along the child's life span that may increase vulnerability to social and psychological complications [2].

Stuttering can occur in people of all ages, but it is very common among young children who are growing and learning language and speech. It occurs approximately 5%–10% of preschool-age children [3]. Most children who stutter recover spontaneously within 2–3 years after onset [4]. Stuttering resolves in approximately 80% of stuttering children who reach adulthood [5]. Studies indicate that the prevalence rate of this disorder is almost equal in different social, economic, cultural, and ethnic groups [6].

Children who stutter frequently experienced bullying, rejection, and negative peer reactions, and it might make them less accepted than their non-stuttering peers. These negative effects of stuttering can potentially result shame social, anxiety, low self-esteem, social isolation, and poor school performance [7,8]. Social anxiety considered a serious complication of stuttering [9]. There is strong evidence that children who stutter demonstrate increased social anxiety. Social anxiety disorder (SAD) also known as social phobia, it involves an excessive fear of embarrassment in social situations as well as persistent fear of poor achievements in social or performance-based situations [10].

According to the Diagnostic and Statistical Manual of Mental Disorders (DSM5): American Psychiatric Association (2013), Social anxiety disorder is characterized by increase fear of performance-based situations involving potential scrutiny or evaluation by others [11]. Fear-inducing situations often include speaking in public, dealing with new people, and talking with authority figures. Physical and motor symptoms associated with this disorder include blushing, trembling, sweating, block of speech, distress, and avoidance [12].

SAD usually develops during childhood or adolescence and it corresponding with increased the important of social and peer relationships 13]. There is greater evidence that these features of Social anxiety disorder may play a major role in the development of stuttering and that stuttering may in turn lead to Social anxiety disorder. For example, people who stutter are tend to avoid socially threatening situations to reduce anxiety and embarrassment, and they are more liable to experience social harm [14].

Children who stutter and have Social anxiety disorders typically avoid social education; this can critically hinder educational achievement, social interaction, and development of healthy relationships, leading to low self-esteem. Children who stutter are often exposed to negative social experiences with their friends as well as families. These problems negatively interfere with self-esteem enhancement [15].

Self-esteem refers to a person's overall perception of their worth. Among children, this worth involves various dimensions, such as social self-esteem that refers to the child's perceptions of the quality of their peer relationships; academic- or school-related self-esteem indicating the child's perception of people's evaluation of their ability to succeed in school; and parent-related self-esteem, which refers to the child's perception of their status at home and involves subjective perceptions of how their parents

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view them [16]. The relationship between self-esteem and stuttering has been the topic of interest in many studies [17-19] support the fact that stuttering negatively affects self-esteem [20,21] and self-esteem is an crucial factor in the understanding and management of stuttering [22].

Identifying heightened levels of anxiety and low self-esteem among children who stutter helps in the planning and management of their condition. Unfortunately, pharmacologic therapy has not been effective in improving stuttering. Meanwhile, encouraging patients to talk slowly and using fluency-shaping mechanisms, such as delayed auditory feedback and slowing speech rate, can help in minimizing or eliminating stuttering[23]. Psychodrama therapy is currently approved as one of the most advanced management options for many psychosocial health problems and has been applied across various mental health conditions [24].

Psychodrama therapy is a method of practicing to live without being punished for making mistakes within a group. It is a method of analyzing what happened and what did not happen in a specific situation [25]. The historical premise of psychodrama was that all people are born actors and play different roles in their daily lives. By focusing into their spontaneity, recreating scenes from life, and acting out past traumas on a therapeutic stage, individuals can achieve catharsis and balance in their lives [26]. The purpose of psychodrama therapy is to resolve conflicts and gain insight through actions rather than talk alone. Through role-play in psychodrama, individuals are simulated to express their repressed thoughts, feelings, and behaviors [27] (Figure 1).

Psychodrama therapy is effective in decreasing stuttering and anxiety as well as improving self-esteem among children. This is because psychodrama allows the therapist to provide clients with the space to explore and deal with their inner conflicts. Through movement, role-play, catharsis, interaction, and sharing ideas and emotions, the child will be able to develop skills needed to build positive social relationships. Previous researches have had significant implications and have urged for a greater focus on the use of psychodrama as a nursing intervention for children who stutter. [28-30].

Speech is the mean source of communication among humans. Effective communications occur when people speak efficiently, fluently, and using the proper tone of voice [31,32]. Drama techniques improve speech, language, and communication skills by nature. It can be used to develop both productive and receptive skills and can also be successful in mastering speech and language systems for children during their development cycle [33].

Main concept of psychodrama therapy

Drama is a creative activity involving movements, language, imagination, emotions, and social interactions to represent a story, situation, or an act. Dramatic elements can be used in therapy because of their similarity to everyday communication. In the context of therapy, drama is not used as a form of play or a theater performance. Drama therapy uses the same tools employed by actors in theater. However, everything is focused on the benefits of the audience in theater, whereas everything is focused on the benefits of learners in drama therapy [34].

Drama activities do not involve performing in front of a passive audience. The value of these activities does not lie in what they lead up to, but in what they are and what they bring out among the participants. Psychodrama therapy concentrates on the personal and social development of the participants [35]. It is assumed to improve children' imagination and encourage them to act and promote their human experiences [31].

Psychodrama therapy gives children a chance to submerge into their imagination, take on different roles, try out new things on their own, learn through imagination, and thus form their perspective and attitude toward the reality surrounding them. Accordingly, therapists can link the therapy experience with the children own life experience; this can be motivational and beneficial for effective speech therapy. Given that drama contain a wide range of stimulus (visual, auditory, and kinesthetic), it encourages children to develop intellect through active exploration of reality and problem solving. Therefore, it can be a beneficial form of therapy [25].

Psychodrama therapy is a combination of concepts, including spontaneity, catharsis, and insight, to modify behavior, and produce positive changes of group behaviors. It is preferable to conduct a dramatic action in the “here and now” to achieve acting from the inside out rather than reacting to the outside world [35].

Drama represents a good opportunity for children to display their behavioral problems and gain an alternative means of expression in dramatic scenes. In a psychodrama session, the personal representation of reality by a group member can be eye opening for the watching audience. Indeed, psychodrama has three phases: warm-up, enactment, and sharing. A fourth element, known as processing, it is used for training purposes. The warm-up serves produces an atmosphere in which the individual can trust the director, group, and methods used. Group members undergo a shift in role bound-arise by playing another role during enactment and role reversal. Sharing is a time for group catharsis and integration that improves insight about the problem, motivates finding solutions, and leads to the learning of adaptive behaviors [36-37].

Significance of the study

Although various physiological explanations for stuttering continued to be expounded and still are beginning in the early eighteenth century there were non-organic theories to the effect that stuttering was viewed as a "vicious habit", or due to imitation, or the result of the collision of any ideas flowing simultaneously from the brain. Treatment usually consisted of tongue exercises, practice in speaking and reading aloud slowly, softening the initial consonants of words, and similar activities [38].Stuttering had extremely detrimental effects on the school life of children and long-term negative effects on their social and emotional functioning. Stuttering is also associated with adverse listener reactions, negative stereotypes, and significant educational disadvantages. Several studies have confirmed the presence of heightened anxiety in people who stutter, and there is growing evidence indicating that anxiety leads to low self-esteem and social isolation [38]. It is apparent that a great diversity of opinion has existed, and still exists, with regard to the most effective way to treat stuttering. This is not surprising in view of the fact that the precise nature and causes of stuttering are still being debated. There are two commonly held ideas about stuttering therapy, based on clinical experience and on many attempts to measure the degree of success and the permanence of various types of therapy. One is that stuttering is extremely difficult to eradicate completely and permanently, especially in adults who have been stuttering for years, and the other is that almost any kind of therapy is likely to produce some degree of beneficial results for varying length of time.

The latter fact has misled more than a few sincere but naive theorists and clinicians into making spectacular claims for the success of this or that type of therapy. Long term follow-up of their cases by disinterested observers all too often reveals that many of their clients began to stutter again at some later time [29].

It is interesting that contemporary behaviour modification has resurrected several of the older therapy procedures that had fallen largely in disuse, and occasionally into disrepute, since the advent of the "anti-avoidance" school of therapy just described, Nowadays, however, the procedures of relaxation, speaking in time to an imposed rhythm, breath control, deliberate prolongation of vowel sounds, and other fluency-inducing techniques, are investigated more systematically than before, quantitative measures of their effects are taken, and where possible they are discussed in the language of conditioning and learning all of which conveys an

impression of scientific rigor missing in earlier years. Psychodrama therapy was viewed that it produces such benefits especially for young children and adolescents [29].

Psychodrama is a branch of art therapy that provides a different view in the field of psychotherapy. Psychodrama therapy is an interesting intervention for children who stutter. Earlier researches indicate that, it is an intervention which effectively alleviates anxiety and promote self-esteem for children who stutter [39]. Consequently, the current study utilizes

psychodrama therapy to proven its beneficial effects to reduce the level of anxiety, improve self-esteem, and make an effective contribution to the welfare of children who stutter.

Aim of the study and research hypotheses

The current study aimed to investigate the effect of developmental psychodrama therapy on social anxiety and self-esteem among children who stutter.

Research hypothesis: Children who undergo developmental psychodrama therapy will experience reduced social anxiety and increased self-esteem.

Materials and Methods

Research design

A quasi-experimental research design (one group pre /posttest) was used.

Research settings

The present study was conducted at two sites: speech clinic (phonetics clinic) at Menoufia University, Menoufia Governorate, and Tanta University Hospitals, Tanta, Al-Gharbia Governorate, Egypt.

Research sample

A Convenience sample consisting of 57 children with stuttering disorders, aged 8 to 15 years, was included. Overall, 25 children were selected from the phonetics clinic at Menoufia University, and 32 children were selected from the phonetics clinic at Tanta University Hospitals. The sample size was calculated using Epi-Info software statistical package created by the World Health Organization and Center for Disease Control and Prevention, Atlanta, Georgia, USA version 2002. The criteria used for sample size calculation were as follow: confidence level was 95%, error proportion was 0.05%, and expected outcome relationship between the studied variables was 70%.

Inclusion criteria

- Children who have psychological or emotional stuttering.

Exclusion criteria

- Children who stutter due to any biological disorders.
- Children who have others physical and mental illness.

Study tools

Three tools were utilized by the researchers as follows:

Tool I (A structured interview questionnaire about characteristics of studied children): It was constructed by the researchers and used to obtain data about the children's sex, age, and school achievement level, parents' education, levels of family income and residence, and the type stuttering problems, which were obtained from children's medical records.

Tool II (A standardized Social Anxiety Scale (SAS) for children): SAS was developed by La Greca AM & Stone WL (1993). It consisted of 18 items to assess social anxiety among children. It divided into three subscales, fear of negative evaluation (FNE- 8 items), social avoidance and distress specific to new situations or unfamiliar peers (SAD-New- 6 items), and social avoidance and distress that is experienced more generally with peers (SAD-General- 4 items). Each item is rated on a 5-point Likert scale ranging from 1 (not at all) to 5 (all the time). The total score of this scale is summited and ranged from 1 to 90, and each subscale score is summited and ranges as follows:- FNE subscale (1 to 40), SAD-New subscale (1 to 30), and SAD-General subscale (1–20). High scores indicate a higher social anxiety level [40,41].

Tool III (Self-esteem assessment scale for children): This scale was developed by Hare BR (1975). It was modified by the researchers to assess self-esteem in school-aged children across three domains (peer, school, home). These three areas are the major points of interaction for a child though which self-esteem is developed. The tool consisted of 30 items divided in three subscales covering these three domains. Each subscale has 10 items, and the rating ranges from 1 (strongly disagree) to 4 (strongly agree). The sum of the three subscales provides a score for general self-esteem; it ranged from 30 to 120. Higher scores indicate higher self-esteem. Three items are negatively worded and are reversed coded [42].

Validity and reliability of tools

The tools were translated into Arabic language and reviewed by seven experts (two experts in pediatric nursing, one expert in pediatric medicine, two experts in psychiatric mental health nursing, and two experts in psychiatric medicine). This revision was performed to test the content validity, relevance, and clarity of the tools, and modifications were performed accordingly. The reliability of tools was tested using Cronbach's alpha test and the result was highly reliable (0.84 & 0.89 respectively for tools 2 & 3).

Administrative design

Official permission to conduct the study was obtained from the directors of the two mentioned hospitals after submitting an official letter from the Deans of the Faculty of Nursing of Menoufia University and Tanta Egypt, to obtain the official approval for data collection. The letter explained the purposes of the study and the methods of data collection.

Ethical considerations

The study protocol has approval from ethical committee in Faculty of Nursing , Menoufia University. Regarding the protection of human rights, informed written and oral consent was obtained from parents and their children, respectively, to obtain their permission to participate in the study. This study was conducted in accordance with The Code of Ethics of the World Medical Association (Declaration of Helsinki) for experiments involving humans. Therefore, the nature of the study, objectives, its importance, safety, and confidentiality were explained.

All subjects were informed that participation in the study is voluntary; no name was included in the questionnaire sheet and confidentiality was ensured for each participant by the allocation of a code number to the questionnaire sheet. The subjects were informed that their responses would be used for the research purpose only.

Pilot study

It was carried out on 10% of the total sample to test the clarity and applicability of the tools and the feasibility of the research process. No modifications were performed. Therefore, the pilot study sample was included in the total sample of the study.

Data collection procedure

This study involved four phases (Initial, Assessment, implementation, and evaluation phase).

Preparatory phase: The researchers had a training course on the methods of utilization of psychodrama techniques and psychodrama therapy. The program of psychodrama therapy was developed after review of related literature. A comfortable, private room in the previously mentioned sites was prepared for data collection and the application of the psychodrama therapy.

Assessment phase: Study sample was selected based on previous criteria, and consent was taken from parents and their children after providing information about the study and its purpose. Before the intervention, each child completed the study tools.

Implementation phase: The study sample was divided into small groups (6-8). Each group attended ten sessions, in two sessions per week for five weeks. The duration of each session was one hour and half. Data was collected from the July 2019 to the end of January 2020.

Stages of the psychodrama therapy program

Session 1 (Introduction): The researchers introduced themselves to the participants and asked the children to introduce themselves to others

to know each other and break the ice of the atmosphere. The researchers clarified the aim of the study, scheduled interventions sessions, and gave instructions and activities that would be performed during these sessions. The researchers reassured about the importance of smiling in all program sessions, and a fragrant picture with a smiley face was the first object to be seen in the training room.

Session 2 (Characterizes of a child with high self-esteem): The aim of this session was acquired children knowledge about high self-esteem, including its important and characteristics. The researchers began the session by narrating a story about a confident child, displaying his characteristics, and exploring how the child dealt with various social situations (e.g., with his teachers, peers in school, parents, sisters, brothers, friends, pets). When telling the story, the researchers presented PowerPoint pictures of the child communicating with other, focusing on his facial expression and body language. In a thorough open discussion, the researcher simulated the children to explore the most important characteristics of high esteem.

The researchers also presented pictures about six main emotions (happiness, fear, sadness, anger, disgust, and surprise), and asked the children to select the face that corresponded to the same emotion as the child in the story and explain why the child was happy. Through interaction, they concluded that the important characteristics of high self-esteem are satisfaction and happiness. The researcher gave a homework consisting of two questions: write the most common characteristics that make you feel self-confident and list one characteristic that you would like to have to make you feel more self-confident. The researcher reassured that there was no need to write the child's name on the homework paper.

Session 3 (Social anxiety and its manifestations): This session was aimed to enable children to recognize signs and symptoms of social anxiety. At the beginning, the researchers collected the previous homework from the children, read each homework in front of them, asked them to summarize the most important characteristics of self-esteem in their homework, and wrote these characteristics on the black board. Then, the researcher began to tell a story about a stuttering child who experienced social anxiety. They explained how this child complained when facing social situations such as oral exams, communicating with unfamiliar people, defending himself when he made a mistake, and expressing negative feeling including fear and anxiety. The researcher also explored the reaction of people to this child, such as rejection, insult, mockery, and laughing.

After the telling story, the researcher presented colorful pictures about manifestations of social anxiety and asked the children to select the most important symptoms noted in the actor of the story. In addition, he presented pictures of faces with six mains emotions. An open discussion was simulated to encourage children to recognize the emotions of the actor of the story, and how these social situations impact his self-esteem. At the end of this session, the researcher summarized the most common signs and symptoms of social anxiety as recognized by the children and their impact on self-esteem. Finally, the researcher gave a homework consisting of one question; "what are the social situations that make you feel anxious or impressed? The researcher asked children to complete the assignment without mentioning their name.

Session 4 (stress management): The purpose of this session was to enable children to apply ways to decrease their anxiety in stressful stations. The researcher started the session by asking the children to smile and pointing to a happy destination image in the front of the room. Then, the researcher collected the pervious assignment, read it in front of children and summarized the most common social situations that simulated anxiety as listed by the children.

The researcher then taught the children deep breathing exercises using the following instructions: Sit in a comfortable chair; focus on your own breathing; inhale through the nose, hold your breath for 1 second, and exhale slowly from the mouth; observe your abdomen expand with each breath; practice deep breathing for a few minutes; and imagine that your tension and anxiety is leaving with each exhaling breath. The researchers encourage children to follow this procedure when feeling anxious or stressed.

In the second part of this session, the researchers read out paragraph about a child with high self-esteem and asked each child to repeat it. The stuttering words were ignored, and each child was instructed to repeat the paragraph while remaining calm, with encouragement to continue to say the correct answer. The researcher encouraged children to take deep breaths before speaking and remain calm.

Sessions 5, 6, 7, 8, 9, and 10 (applied psychodrama therapy): The aim of these sessions was to enable children to speak without stuttering or feeling anxious and to improve their self-esteem.

Session 5: At this session the researcher focuses on explaining a social situation about a stuttering child giving an oral exam and asked the children to create a scenario about this situation and distributed the roles. The children took turns to explore the problem, and after each drama enactment, an open discussion was encouraged to express child's feelings and spontaneity reactions to share their opinions and thoughts to strengthen the role of the hero in the story by using role model and re-demonstration. The children continue imitating, reversing, and rereading the scene and improving it through group cohesion until the hero of the story can pass the oral exam.

Session 6: After the researcher welcomed with children, they spoke about a new social situation where a new student who stutter met unfamiliar peers and teacher on the first day of a new academic year. The children were asked to talk on the most common questions this student asked his peers and teacher. The children were encouraged to choose the roles of the stuttering student, their peers, and the teacher once the scenario was finished through discussion. The role plays were demonstrated and re-demonstrated on several occasions. After each enactment, the most common problems faced by the student and how effectively cope with it were discussed. The children came up with answers and the researcher gave positive feedback to help children speak and listen to each other continuously till the scene was played effectively wherein the hero was able to cope with his peers and teacher and obtain the required information.

Session 7: The researcher began this session with the question “what would your response be if you make a mistake?” This question was asked to encourage children to engage in conversation and come up with the best answer. Following this, the researcher encouraged children to enact a scenario wherein a child makes a mistake, leading to his mother getting angry. The hero, mother, and other siblings were all assigned to different people. This scene demonstrated and re-demonstrated until the hero was able to deal with the challenge effectively.

The aim of sessions 8–10 was to enable children to talk effortlessly in front of strangers. The researchers included the following behavioral therapy techniques:

➢ **Systematic desensitization:** a classical conditioning technique that combines relaxation techniques with gradual exposure to fearful situation starting from the least fearful exposure.

➢ **Modeling:** This technique was used by the child as he or she observed other stuttering peers who were able to cope effectively with social settings and attempted to imitate them.

➢ **Positive reinforcement:** It is a positive reward that the child obtained from facing social situations.

➢ **Positive self-talk:** Positive words were learned to calm the children when facing stressful social situations.

➢ **Deep breathing exercise:** This exercise was applied to control anxiety when the child was facing social situations.

Session 8: The researchers explored the new psychodrama session in which each child had the duty of speaking in front of others. Each child

spoke about their own self-confidence and future goals. The researcher herself took the lead and spoke about her self-confidence and the goals that she aspires to achieve; she then asked all the children to prepare five statements expressing their self-confidence, future aspirations, and their determination to achieve it. After this preparation, the psychodrama was started, during which each child used a simulated microphone for five minutes and talked in front of the others, with each child applying the deep breathing exercise before talking. Once the child finished, all the other children applauded. At the end of this session, the researcher thanked all the children.

Session 9: The researcher invited the children's parents to attend the session. The duty of the children was to repeat their talks of the previous session in front of all the audience. The researcher and parents supported every child at the start and end of the talk, and all the audience applauded after each child's presentation.

Session 10: This last psychodrama session was a party, and all the children in the study and their parents were invited. In this session each child had a chance to speak in front of the other children for five minutes, after which the child received flowers and a round of applause from everyone.

Evaluation phase: Reassessment was done for the study sample using the same instruments (posttest).

Teaching methods and educational materials

Teaching methods included storytelling, open questions, brain storming, group discussions, role plays, positive feedback.

Educational materials: PowerPoint, paper and pencils, board, simulated microphone, simulated theater, flowers.

Statistical analysis

Data were collected, tabulated,and statistically analyzed using an IBM personal computer with Statistical Package of Social Science (SPSS) version 22 (SPSS, Inc, Chicago, Illinois, USA).where the following statistics were applied.

Descriptive statistics: In which quantitative data were presented in the form of mean and standard deviation (SD), range, and qualitative data were presented in the form numbers and percentages.

Analytical statistics: used to find out the possible association between studied factors and the targeted disease. The used tests of significance included:

• Shapiro Wilk test of normality was done to asses distribution of data

• Student t-test is a test of significance used for comparison between two groups having quantitative variables.

• Wilcoxon test is a test of significance used for comparison between two related groups having quantitative variables and not normally distributed.

• ANOVA (f) test is a test of significance used for comparison between three or more groups having quantitative variables.

• Pearson's correlation (r) is a test used to measure the association between quantitative variables.

• P value of >0.05 was considered statistically non-significant.

• P value of <0.05 was considered statistically significant.

• P value of <0.001 was considered statistically highly significant.

Results

Table 1 is indicates that the mean age of the studied children was 10.2 ± 2.08. 75.4% of them aged from 8 < 12 years old. Approximately half of the studied children (52.6%) were males. 54.4% and 45.6% were from urban and rural areas respectively. Regarding the parents' level of education, approximately one-third of the fathers and mothers read and write (38.6% & 35.0%, respectively. Approximately half of the studied children had enough income level (50.9 %). In addition, approximately two thirds of the studied children (64.91%) had poor level of academic achievement.

Table 1. Characteristics of studied sample (N=57).

Studied variables	Studied children (N=57)	
	No.	%
Age/years		
8<12	43	75.4
12 to 15	14	24.6
Mean ± SD	10.2 ± 2.08	
Range	8 to 15	
Gender		
Male	30	52.6
Female	27	47.4
Residence		
Rural	26	45.6
Urban	31	54.4
Father education		
Illiterate	8	14
Read and write	22	38.6
Moderate	14	24.6
High	13	22.8
Mother education		
Illiterate	7	12.2
Read and write	20	35
Moderate	18	31.5
High	12	21
Income level		
Not enough	10	17.5
enough	29	50.9
enough and safe	18	31.6
School achievement level		
poor	37	64.91
Moderate	15	26.31
Excellent	5	8.77

Forms of stuttering among the studied children; the most frequent form among children who stutter was Prolongation (40.0%), following by Repetition (33.3%), and Blocking (26.3%), respectively (Table 2).

Table 2. Frequency distribution of stuttering forms among studied children (N=57).

Studied variable	Studied children (N=57)	
	No.	%
Forms of stuttering		
Prolongation	23	40.4
Repetition	19	33.3
Blocking	15	26.3

Correlation between total mean score of anxiety and self-esteem with characteristics of the studied sample post intervention. There was a statistical significant relationship between total mean score of anxiety and income level. The total means score of social anxiety was higher with low income level than in high and moderate income levels post intervention. On the contarary, the total means score of self- esteem was higher in high and moderate income levels than in in low income level post intervention (Table 3).

Correlation between social anxiety and self-esteem among the studied children before and after implementation of psychodrama therapy. This table indicates that, a statically negative correlation between social anxiety and self-esteem was found. Before the intervention, self-esteem was decreased while social anxiety was increased (−0.265, P = 0.046).On the other hand and after the implementation of the psychodrama therapy, social anxiety was decreased whereas self-esteem was increased (−0.302, P = 0.023) (Table 4).

Table 3. Relation between Total mean score of anxiety and self-esteem post intervention with characteristics of studied sample.

Studied variables	Total anxiety	Test of sig	Total self esteem	Test of sig
	Mean ± SD	P value	Mean ± SD	P value
Age/years		t-test		t-test
8–11	35.7 ± 5.62	1.07	79.6 ± 2.63	0.587
12–15	33.7 ± 7.36	0.362	80.1 ± 2.40	0.56
Gender		t-test		t-test
Male	36.6 ± 6.44	1.77	79.5 ± 2.63	0.573
Female	33.8 ± 5.40	0.081	79.9 ± 2.52	0.569
Residence		t-test		t-test
Rural	36.6 ± 6.60	1.6	79.6 ± 2.47	0.072
Urban	34.1 ± 5.45	0.114	79.7 ± 2.68	0.943
Father education				
Illiterate	38.0 ± 7.09	F	79.8 ± 2.69	F
Read and write	35.4 ± 6.50	0.781	79.5 ± 2.48	0.433
Moderate	34.9 ± 4.90	0.51	79.3 ± 2.09	0.73
High	33.8 ± 5.98		80.3 ± 3.20	
Mother education				
Illiterate	32.5 ± 3.53	F	79.2 ± 2.39	F
Read and write	37.1 ± 6.58	1.56	79.7 ± 2.00	1.39
Moderate	35.1 ± 5.31	0.21	83.0 ± 1.42	0.256
High	32.8 ± 6.12		80.0 ± 3.46	
Income level		F		F
Low	38.6 ± 4.00	3.43	78.6 ± 1.71	5.42
Moderate	35.7 ± 6.45	0.039*	79.2 ± 2.03	0.007**
High	32.7 ± 5.60		81.2 ± 3.11	
School achievement level				
Low	36.8 ± 6.47	F	79.9 ± 2.16	F
Moderate	35.0 ± 5.68	2.1	79.6 ± 3.07	0.136
High	32.4 ± 5.33	0.131	79.4 ± 2.46	0.873

Table 4. Correlation between symptoms of social anxiety and self- esteem pre/post implementation of psychodrama therapy (N0=57).

Symptoms of Social Anxiety	Before		After	
	r	p	r	p
Fear from negative evaluation	-0.062	0.469	0.037	0.785
Social avoidance in new situation and unfamiliar peer	-0.248	0.062	-0.306	0.021*
Social avoidance and distress that experienced generally with peers	-0.129	0.338	-0.261	0.049*
Total score of anxiety	-0.265	0.046*	-0.302	0.023*

Note: *Statistically significant at ≤ 0.05.

Comparison between anxiety and its clinical manifestation among studied children before and after implementation of the psychodrama therapy. This table shows that the mean anxiety score of children before intervention (67.4 ± 5.90) was decreased after intervention to (35.2 ± 6.09). The mean score of fear of negative evaluation from others was (28.9 ± 3.22). The mean score of social avoidance in new situations and in the presence of unfamiliar peers was (22.7 ± 3.64). The mean score of social avoidance and distress in general was (15.7 ± 2.18). As noticed, all symptoms of anxiety were decreased after the psychodrama therapy. There was a highly statistically significant difference regarding anxiety and its' symptoms among the studied children (P value=0.001) (Table 5).

Comparison between self-esteem of children who stutter before and after implementation of the psychodrama therapy. The total mean score of self-esteem before the intervention was 56.4 ± 3.70 compared with 79.7 ± 2.57 after the intervention. A highly statistically significant improvement of self-esteem was found after the implementation of psychodrama therapy (P value=0.001). The mean score self-esteem domains before the interventions and during interactions with teachers was 21.2 ± 1.97. During interactions with peers was 18.1 ± 2.67. During interactions with parents was 17.1 ± 1.97 respectively. Meanwhile, after the implementation of the psychodrama therapy, the mean score of self-esteem domains were 27.4 ± 1.80, 28.2 ± 1.29, and 24.1 ± 1.51, respectively. There was a highly statistically significant difference before and after the intervention regarding those domains (P value = 0.001) (Table 6).

Correlation between total mean score of social anxiety and total mean score of self-esteem among children who stutter. This figure illustrates that, there was a negative relationship between self-esteem and social anxiety of children who stutter. When self-esteem decreases intern the anxiety level increases r-equals (-0.302) (Figure 1 and 2).

Effect size of psychodrama therapy on the self-esteem and social anxiety levels among children who stutter. This figure indicates that the psychodrama therapy was highly effective in increasing children's self-esteem and decreasing their level of anxiety. While Cohen’s D for the Effect of the intervention on self-esteem was 0.870 (large effect), Cohen’s D for the effect of the intervention on anxiety was 0.872 (large effect) (Figure 3).

Cohen d= $\frac{z}{\sqrt{n}}$

Effect size of the intervention:

1. Cohen’s D for Effect of intervention on anxiety =0.872 (large effect).

2. Cohen’s D for Effect of intervention on self-esteem=0.870 (large effect).

Table 5. Comparison between mean scores of social anxiety symptoms among children who stutter pre/post implementation of psychodrama therapy (No= 57).

Social anxiety symptoms	Before therapy		After therapy			
	range	Mean+SD	range	Mean+SD	Wilcoxon test	P-value
Fear from negative evaluation	23-36	28.9 ± 3.22	10-22	16.6 ± 3.16	6.56	0.001**
Social avoidance in new situation and unfamiliar peer	15-30	22.7 ± 3.64	10-22	10.7 ± 2.61	6.58	0.001**
Social avoidance and distress that experienced generally with peers	15-20	15.7 ± 2.18	4-14	0.98 ± 1.97	6.59	0.001**
Total score of social anxiety	57-83	67.4 ± 5.90	23-53	35.2 ± 6.09	6.58	0.001**

Note: *Statistically significant at ≤ 0.05;** highly statically significant at ≤ 0.001.

Table 6. Comparison between mean scores of self- esteem domains among children who stutter before and after psychodrama therapy (No=57).

Domains of self-esteem	Before therapy		After therapy			
	range	Mean+SD	range	Mean+SD	Wilcoxon test	P-value
Self-esteem during interaction with teachers	18-25	21.2 ± 1.97	23-30	27.4 ± 1.80	6.6	0.001**
Self-esteem during interaction with peers	14-23	18.1 ± 2.67	26-30	28.2 ± 1.29	6.58	0.001**
Self-esteem during interaction with parents	13-21	17.1 ± 1.97	20-27	24.1 ± 1.51	6.61	0.001**
Total score of self-esteem	50-65	56.4 ± 3.70	75-86	79.7 ± 2.57	6.57	0.001**

Note: *Statistically significant at ≤ 0.05; **staticallysignificant at ≤ 0.001.

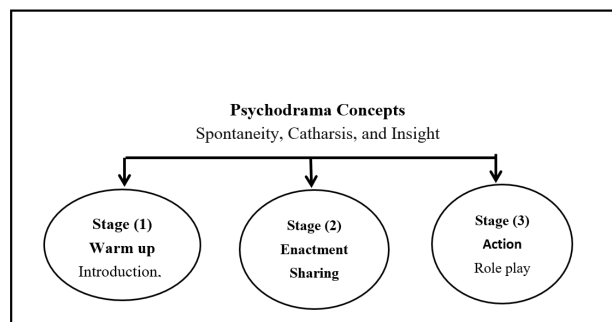

Figure 1. Concepts and Stages of Psychodrama Therapy.

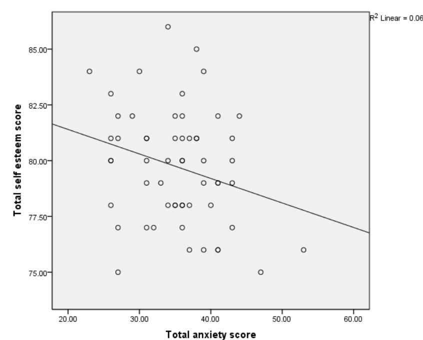

Figure 2. Correlation between total mean score of social anxiety levels and total mean score of self-esteem among children who stutter.

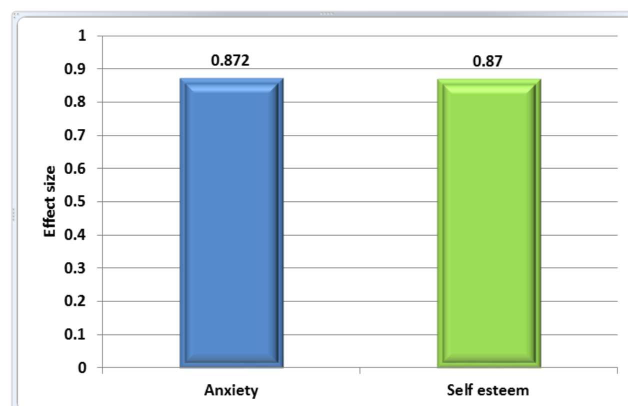

Figure 3. Effect size of psychodrama therapy on self-esteem and social anxiety levels among children who stutter.

Discussion

Stuttering is a common problem during childhood period that may persist into adulthood if it is not treated in the early stages of life. Stuttering could disturb healthy speech as well as effective verbal communication with others [43]. The present study was conducted on 57 children who are stuttering, aged 8-15 years with approximately equal numbers of boys and girls. The study indicated that the forms of stuttering among the children were prolongation, repetition of words, and blocking during conversation. However, stuttering problems are not limited to speech disorders because they exert negative effects on a child's mental health. Social anxiety was observed, and this complication could not be ignored. The study found a higher mean score of social anxiety and its symptoms among children who stutter. They showed Fear from negative evaluation, avoidance of new social situations or unfamiliar peers, as well as generally distress and social avoidance.

A growing body of evidence has confirmed present levels of social anxiety disorders among children who stutter. They evaluated anxiety levels among children who stutter compared to a control group and found a higher level of anxiety and anxiety traits Cherif. [22]. Moreover, Ahmed and Mohammed. [44], assessed the prevalence rate of anxiety disorders among 120 participants in Egypt with stuttering disorders. The purpose of their study was to determine the effect of stuttering on psychosocial development throughout life. They found that 7% of children who stutter had symptoms of anxiety, specifically social anxiety.

Along the same lines, Ortega, and Ambrose [45], measured cortisol levels in a sample of nine children who stutter and found that these children had higher cortisol levels when awake. In addition, Davis et al. [46], used trait anxiety inventory for children who stutter and aged between 10 and 16 years and showed that the children who stutter group had higher anxiety levels compared with the recovered and control groups during social situations, except when talking with friends. However, Crag and Tran [47], stated that the chronicity of stuttering is considered a main factor in the development of anxiety disorders (mostly social anxiety).

Previously, Morris & Rappee [48,49], reported that the development of social anxiety among children who stutter makes them more susceptible to negative peer experiences, such as rejection, exclusion, and teasing, which may reduce peer interaction, decrease acquisition of social skills, and increase social anxiety.

Iverach et al. [50], who studied the prevalence of anxiety disorders among 75 children who stutter and aged 7 to 12 years, 50 non-stuttering control children. They found that the stuttering group had six-fold increased odds for social anxiety disorders, and concluded that stuttering during childhood is associated with a significant heightened rate of anxiety disorders. This contradicted the result of Craig and Hancock. [51], who investigated anxiety disorders among 96 stutter children compared with 104 non-stutter children at a younger age and found that those in the stuttering group were not more anxious than the controls.

Accordingly, Iverach [52] stated that increase level of social anxiety in stutterers indicates that the diagnosis and treatment of such disorders during childhood and adolescence periods have not been fully emphasized. Accordingly, it could be useful to diagnose and treat these psychological disorders associated with stuttering during childhood to improve mental health in adulthood.

On the other hand, the present study showed that the studied children who stutter had a lower mean score of self-esteem during interaction with parents, peers, and teachers, and their self-esteem negatively correlated with their social anxiety. In this context, Adriaensen [17] argued that self-esteem is enhanced based on social interactions and experiences. This consisted with Pearson [20] who indicated on their study that children who stutter experience negative social interactions, which have a negative impact on self-esteem.

In the study conducted by Al-Khaledi et al. [53] in Kuwait on 424 parents of children who stutter to investigate their attitude toward stuttering, they found that the most frequent attitudes were looking away from the child (72%) and filing in the child's words (44%), and these had a negative impact of the child's self-esteem. Sertan et al. [54] in Turkey showed that negative parent attitude may cause children who stutter to try to hide their stuttering [54]. This explains the diminished mean score of self-esteem among children who stutter during interaction with their parents in the present study.

The earlier study by De NilL & Brutten [55] reported that children who stuttered had a negative attitude regarding their communication than those who did not stutterer. The negative perception of the child of his own ability to communicate may have an impact on their self-esteem [55]. In this context, Yovetich et al [19], indicated that self-esteem is an important factor in the understanding and clinical treatment of stuttering.

Accordingly the present study used psychodrama therapy to decreased social anxiety and strengths self-esteem among children who stutter. The results of the present study showed that, the mean anxiety score was decreased and a significant improvement in self - esteem was shown (35.2 ± 6.0), (79.7 ± 2.5) respectively. In addition, a negative correlation was found between social anxiety & self- esteem. The improved self- esteem lead to decreased social anxiety (r-0.302, P=0.023). So, the psychodrama therapy in the present study focused on doing action rather than talk alone thoroughly group interaction, role play, expression of thoughts, and feelings, to enable children acquired new perception about their problems when facing social situations.

The psychodrama intervention of present study was influenced by the approach of Moreno. [56], who was a father of group therapy and the first psychiatrist who developed group therapy to treat people rather than exclusively in one to one sitting. Moreno believed that "acting out" in a safe and controlled environment was helpful for resolving psychological problems. In this context, Aichinger [57] stated that group therapy is suitable for treating children until puberty, and it is very beneficial in the management of anxiety. Psychodrama therapy can only be applied as a comprehensive process for treating a wide variety of psychological disorders among children.

Lioyed. [58], reported that, dramatic play was a fundamental tool in supporting a child development, health, happiness and well- being. Play is a crucial part of a child's learning process that allows them to explore humanity and it's surrounding within a safe environment. It gives the child a place to develop their knowledge and understanding of world, organize their thoughts in to secure language and social practices. Psychodrama that played in this study promoted children expression of their inner feelings. Children learn to communicate their own desire and also wishes of the characteristics or roles have embodied during play.

It is worth noting that, the role play that conducted in the psychodrama intervention in the present study promoted imagination, and motivated children to take action within the group. The scenarios that presented in psychodrama sessions and played by children helped them to gain insight about common social situations which responsible on their anxiety. Also, it enhanced their self - esteem, especially when every child has a chance to play and talk about his / her personal experiences. Previous research from Corsini [59] who indicated that, in the real life, persons may not attempt new ways of doing things if they fail and the results was harmful. In the therapeutic role playing persons have the intention to demonstrate their functioning, no matter how inadequately is a success. So, those persons are not embarrassed by a poor performance. The same hold true for stuttering children, if they fail to communicate life , the results can be embarrassing or even harmful , But through role play in this study, children demonstrated better communication and they didn't embarrassed by poor performance .

Moreover, it is important to mention that warm –up exercise that applied in the psychodrama therapy in the present study through telling a story and encouraging group discussion has a better effect in stimulating children to develop sense of spontaneous confidence. Hend & Toon [60] reported that, the use of telling a story is a vital tool to support children's learning and development. Hearing stories gives a child the opportunity to

listen, to speak language and to learn about intonation.

In this context Altirnay [61] reported that, a good warm - up exercise can lead to a successful enactment, and promote people's feelings to trust the group and present their problems in an atmosphere of love, care and creativity. Previous research by Mann [62] stated that spontaneity that occurred during the psychodrama was a key of the successful of therapy which child generally forget the existence of the audiences and concerned about their reactions.

Stern & Susan [63] defined spontaneity as natural, rapid, enforced self- generated behaviour in new situations. He reported that, people are frequently placed in new situations in which they have to improve, to do something, to react, to reach a degree that the response is good, it helps one adjust, and tends to become part of one's repertoire. This spontaneity leads to loss of sensitivity from rejection and improve self- esteem which also appear to be significant key in speech improvement.

Besides, the researchers in this study used some techniques of behaviours therapy such as: systematic desensitization, modelling, and positive reinforcement, positive self-talk, deep breathing exercise to encourage children to gradually faced stressful social situations and supported them to cope effectively. These techniques are commonly used to treat social anxiety. A recent literature supported the effectiveness of cognitive behaviours therapy for anxiety disorders including social phobia. Herbert et al [64] used three types of treatments: groups, an individualized cognitive-behaviour therapy (CBT), and psycho-educational-supportive therapy for the management of social anxiety disorders among adolescents. Their results revealed that all of these treatments were very beneficial in reducing symptoms of distress and in enhancing psychosocial functioning. But the cognitive-behaviour therapy demonstrated greater gains on behavioural measures.

Telmane [65] examine the effectiveness of a modulated CBT for children aged from 8 to17 years who suffer from social anxiety, their results showed that, clinically meaningful improvement of children from pre-test among almost of cases .Total anxiety score was decreased. In the same line, Melfsen [66] selected randomly forty children aged from 8-14years old who diagnosed with social phobia. He utilized CBT program for the study group and waited other as a control group. The primary outcome was decreased anxiety and improved coping among study group post the intervention than control. The findings of the present study explained that utilization of (CBT) therapy in psychodrama program was more effective on decreasing social anxiety and improving self -esteem among children who stutter.

Conclusion

The present study concluded that a developmental psychodrama therapy has significant effect on social anxiety and self-esteem among children who stutter. Psychodrama therapy is a proper intervention for children with stuttering. It considers a therapeutic intervention that effectively reduces stuttering, as found in many past studies. This is because psychodrama therapy allows the therapist to provide children with space to explore and deal with their inner conflict through movement, role-play, and exercise. Also, the child was able to develop skills needed for positive social relationships, understanding self-strengths and weaknesses, which are the main keys for raising self-esteem and decreasing social anxiety that reflect the beneficial impact of psychodrama therapy.

Recommendations

1. Psychodrama therapy should be properly utilized for children who have psychological and emotional stuttering due to its greater effect in reducing social anxiety and enhancing self-esteem.

2. Further researches should be conducted where psychodrama action can be used as part of the school play, to promote mental health

3. Longitudinal studies are required to evaluate the effect of psychodrama as a therapeutic intervention for various psychosocial problems among children.

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Author Contributions

Conceptualization, JRY and SMA; methodology, SMA; software, GAA,HMA.; validation, GAA,HMA and SIS.; formal analysis and data curation, SIS, HMA,SMA; Validation, JRY and SMA , writing—original draft preparation, SMA, JRY; writing—review and editing SMA and JRY. All authors have read and agreed to the published version of the manuscript."

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Institutional Review Board Statement

This study was carried out in accordance with The Code of Ethics of the World Medical Association (Declaration of Helsinki) for experiments involving humans Also, an ethical approval was obtained from ethical committee of faculty of nursing Menoufia University and the faculty of nursing Tanta University in the first of January 2020.

Informed Consent Statement

"Informed consent was obtained from the parents, and oral consent was taken from their children to participate in the study. Written informed consent for publication was obtained from parents of children to publish this paper.

Data Availability Statement

The data that support the findings of this study are available from the Corresponding author, upon reasonable request.

Acknowledgments

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Conflicts of Interest

The authors declare no conflict of interest.

References

1. Iverach, Lisa, Ronald M Rapee, Quincy JJ Wong and Robyn Lowe. "Maintenance of Social Anxiety in Stuttering: A Cognitive-behavioral Model." *Am J Speech Lang Pathol* 26(2017): 540-556.
2. Andrews, Gavin, Caroline Bell, Philip Boyce and Christopher Gale, et al. "Royal Australian and New Zealand College of Psychiatrists Clinical Practice Guidelines for the Treatment of Panic Disorder, Social Anxiety Disorder and Generalised Anxiety Disorder." *Aust N Z J Psychiatry* 52(2018): 1109-1172.
3. Koenraads, SPC, MP van der Schroeff, G van Ingen and S Lamballais, et al. "Structural Brain Differences in Pre-adolescents Who Persist in and Recover from Stuttering." *NeuroImage Clinical* 27 (2020): 102334.
4. Yairi, Ehud, and Nicoline Ambrose. "Epidemiology of Stuttering: 21st Century Advances." *J Commun Disord* 38(2013): 66-87.

5. Craig, Ashley, Karen Hancock, Yvonne Tran and Magali Craig, et al. "Epidemiology of Stuttering in the Community Across the Entire Life Span." *J Speech Lang Hear Res* 45(2002): 1097-1105.
6. Wittke-Thompson, Jacqueline K, Nicoline Ambrose and Ehud Yairi, et al. "Genetic Studies of Stuttering in a Founder Population." *J Fluency Disord* 32(2007): 33-50.
7. Robichaud, Melisa, Naomi Koerner and Michel J Dugas. Cognitive Behavioral Treatment for Generalized Anxiety Disorder: From Science to Practice. Routledge, New York (2019).
8. Connery, Amy, Arlene McCurtin, and Katie Robinson. "The Lived Experience of Stuttering: A Synthesis of Qualitative Studies with Implications for Rehabilitation." *Disabil Rehabil* 42(2020): 2232-2242.
9. Cherif, L, J Boudabous, K Khmakhem and SKammoun, et al. "Self-esteem and Anxiety in Stuttering Children and Attitude of Their Parents. Health Edu Care (2018): 1-5.
10. Gunn, Anthony, Ross G Menzies, Sue O'Brian and Mark Onslow, et al. "Axis I Anxiety and Mental Health Disorders among Stuttering Adolescents." *J Fluency Disord* 40 (2014): 58-68.
11. American Psychiatric Association. "Diagnostic and Statistical Manual of Mental Disorders." APA Publishing, Washington DC, United States of America. 2013.
12. Bögels, Susan M, Lynn Alden, Deborah C Beidel and Lee Anna Clark, et al. "Social Anxiety Disorder: Questions and Answers for the DSM-V." *Depress Anxiety* 27(2010): 168-189.
13. Iverach, Lisa and Ronald M Rapee. "Social Anxiety Disorder and Stuttering: Current Status and Future Directions." *J Fluency Disord* 40(2014): 69-82.
14. Richey, John A, Judson A Brewer, Holly Sullivan-Toole and Marlene V Strege, et al. "Sensitivity Shift Theory: A Developmental Model of Positive Affect and Motivational Deficits in Social Anxiety Disorder." *Clin Psychol Rev* 72(2019): 101756.
15. Stein, Murray B, and Yin M Kean. "Disability and Quality of Life in Social Phobia: Epidemiologic Findings." *Am J Psychiatry* 157(2000): 1606-1613.
16. Yovetich, WM S, Alan W Leschied, and Jason Flicht. "Self-esteem of School-age Children Who Stutter." *J Fluency Disord* 25(2000): 143-153.
17. Adriaensens, Stefanie, Wim Beyers and Elke Struyf. "Impact of Stuttering Severity on Adolescents' Domain-specific and General Self-esteem Through Cognitive and Emotional Mediating Processes." *J Commun Disord* 58(2015): 43-57.
18. Blood, Gordon W, and Ingrid M Blood. "Bullying in Adolescents Who Stutter: Communicative Competence and Self-esteem." *Contemp issues commun sci disord* 31(2004): 69-79.
19. Yovetich, WM S, Alan W Leschied and Jason Flicht. "Self-esteem of School-age Children Who Stutter." *J Fluency Disord* 25(2000): 143-153.
20. Pearson, Judy C, Jeffrey T Child, Becky L DeGreeff and Julie L Semlak, et al. "The Influence of Biological Sex, Self-esteem, and Communication Apprehension on Unwillingness to Communicate." *Atl J Commun* 19(2011): 216-227.
21. Zückner, H. "Self-esteem of Children and Adolescents Who Stutter–impact on Speech Behaviour and Stuttering Experience." *Sprache Stimme Gehor* 35(2011): e77-e86.
22. Cherif, L, J Boudabous, K Khmakhem and S Kammoun, et al. "Self-esteem and Anxiety in Stuttering Children and Attitude of Their Parents." *Health Edu Care* 3(2018): 1-5.
23. Kraft, Shelly Jo, Emily Lowther, and Janet Beilby. "The Role of Effortful Control in Stuttering Severity in Children: Replication Study." *Am J Speech Lang Pathol* 28(2019): 14-28.
24. Sang, Zhi-qin, Hao-ming Huang, Anastasiia Benko, and Yin Wu. "The Spread and Development of Psychodrama in Mainland China." *Front Psychol* 9(2018): 1368.
25. Hercigonja Salamoni, Darija, and Ana Rendulić. "Drama Techniques as Part of Cluttering Therapy According to the Verbotonal Method." *Logopedija* 7(2017): 24-29.
26. Rogers, Carolyn A and Kosowicz Diana. "Psychodrama: Conception, Evolution, Evidence and Applications." *Aust J Rehabil Couns* (2019): 30-35.
27. Robins, Kendella. "The Effectiveness of Group and Psychodrama Therapies with Female Survivors of Sexual Trauma." ProQuest Dissertations Publishing, Michigan, USA. 2018.
28. Somov, Pavel G. "A Psychodrama Group for Substance Use Relapse Prevention Training." *Arts Psychother* 35(2008): 151-161.
29. Hamamci, Zeynep. "Integrating Psychodrama and Cognitive Behavioral Therapy to Treat Moderate Depression." *Arts Psychother* 33(2006): 199-207.
30. Treadwell, Thomas and Deborah Dartnell. "Cognitive Behavioral Psychodrama Group Therapy." *Int J Group Psychother* 67(2017): S182-S193.
31. Ulas, Abdulhak H. "Effects of Creative, Educational Drama Activities on Developing Oral Skills in Primary School Children." *Am J Appl Sci* 5(2008): 876-880.
32. Healey, Kearston T, Sarah Nelson and Kathleen Scaler Scott. "A Case Study of Cluttering Treatment Outcomes in a Teen." *Procedia Soc Behav Sci* 193 (2015): 141-146.
33. Maley, Duff A. "Drama Techniques in Language Learning." Cambridge University Press, Cambridge, United Kingdom. 1979.
34. Salamoni , Darija Hercigonja and Ana Rendulic. "Drama Techniques as Part of Cluttering Therapy According to the Verbotonal Method". *Logopedija* 7(2017): 24-29.
35. Moreno, JL. "Comments on Goethe and psychodrama." *psychother psychodrama* 24(1971): 14-16.
36. Karp, Marcia. An Introduction to Psychodrama. In: Karp, Marcia, Paul Holmes and Kate Bradshaw Tauvon (eds). The Handbook of Psychodrama. Taylor & Francis E-Library, London, UK. (1998): 3-14.
37. Kipper, David A and Jasdeep Hundal. "A Survey of Clinical Reports on the Application of Psychodrama." *J group psychother psychodrama sociom* 55(2003): 141-158.
38. Croft, Robyn L and Jennifer Watson. "Student Clinicians' and Clients' Perceptions of the Therapeutic Alliance and Outcomes in Stuttering Treatment." *J Fluency Disord* 61(2019): 105709.
39. Nolte, John JL Moreno and the psychodramatic method. Routledge, England, UK.2019.
40. La Greca, Annette M and Wendy L Stone. "Social Anxiety Scale for Children-revised: Factor Structure and Concurrent Validity." *J Clin Child Psychol* 22(1993): 17-27.
41. Storch, Eric A, Philip S Eisenberg, Jonathan W Roberti and Mitchell E Barlas. "Reliability and Validity of the Social Anxiety Scale for Children—revised for Hispanic Children." *Hisp J Behav Sci* 25(2003): 410-422.
42. Hare, BR. The HARE General and Area-Specific (School, Peer, and Home) Self-Esteem Scale. Stony Brook, New York, USA. 1975.
43. Rezaeian, Mohsen, Moslem Akbari, Amir Hossein Shirpoor and Zahra Moghadasi, et al. "Anxiety, Social Phobia, Depression, and Suicide among People Who Stutter; A Review Study." *J Occup Health* 92 (2020): 98-109.
44. Ahmed, Hanan H and Hassnaa O Mohammed. "Social Anxiety Disorders among Stutterers: Effects of Different Variants." *Egyptian J Otolaryngol* 34(2018): 155-164.
45. Ortega, Aishah Y and Nicoline G Ambrose. "Developing Physiologic Stress Profiles for School-age Children Who Stutter." *J Fluency Disord* 36(2011): 268-273.
46. Davis, Stephen, Daniella Shisca and Peter Howell. "Anxiety in Speakers Who Persist and Recover from Stuttering." *J Commun Disord* 40(2007): 398-417.
47. Craig, Ashley and Yvonne Tran. "Fear of Speaking: Chronic Anxiety and Stammering."*Adv Psychiatr Treat* 12(2006): 63-68.
48. Morris, Michael A. Social phobia. In: Vasey, MW, Dadds MR (eds). The Development Psychopathology of Anxiety. Oxford University press, New York, USA. (2001): 435-458.
49. Rapee, Ronald M and Susan H Spence. "The Etiology of Social Phobia: Empirical Evidence and an Initial Model." *Clin Psychol Rev* 24(2004): 737-767.
50. Iverach, Lisa, Mark Jones, Lauren F McLellan and Heidi J Lyneham, et al. "Prevalence of Anxiety Disorders among Children Who Stutter." *J Fluency Disord* 49 (2016): 13-28.
51. Craig, Ashley and Karen Hancock. "Anxiety in Children and Young Adolescents Who Stutter." *Australian J Hum Commun Disord* 24(1996): 28-38.
52. Iverach, Lisa and Ronald M Rapee. "Social Anxiety Disorder and Stuttering: Current Status and Future Directions." *J Fluency Disord* 40 (2014): 69-82.

53. Al-Khaledi, Maram, Michelle Lincoln, Patricia McCabe and Ann Packman, et al. "The Attitudes, Knowledge and Beliefs of Arab Parents in Kuwait about Stuttering." *J Fluency Disord* 34(2009): 44-59.
54. Ozdemir, R Sertan, Kenneth O St Louis and Seyhun Topbaş. "Stuttering Attitudes among Turkish Family Generations and Neighbors from Representative Samples." *J Fluency Disord* 36(2011): 318-333.
55. Nil, Luc F De and Gene J Brutten. "Speech-associated Attitudes of Stuttering and Nonstuttering Children." *J Speech Lang Hear Res* 34(1991): 60-66.
56. Moreno J. The Essential Moreo, Writings on Psychodrama , Group Method , and Spontaneity , Library of Congress Gatoging . USA. 1987.
57. Aichinger, Alfons and Walter Holl. Group Therapy with Children. Springer, Germany, UK. 2017.
58. Lioyed, MA. An Explanation into Dramatic Play and Story Drama as a Tool for Supporting Children from a Socio- Disadvantaged Back Ground with Speech, Language and Communication Needs. 2014.
59. Stern, Susan L. "Drama in Second Language Learning from a Psycholinguistic Perspective." *Lang Learn* 30(1980): 77-100.
60. Lucy, Hendy , Toon, Lesley. Supporting Drama and Imaginative Play in the Early Years. Buckingham: Open University Press, England, UK. 2001.
61. Altınay, D. Psychodrama: 400 Warm-up Plays and Auxiliary Techniques. 2003
62. Mann. Methods that Work: A Smorgasbord of Ideas for Language Teachers. Rowley, Newbury House, UK. 1983: 207-225.
63. Stern, S and Susan, L. Why Drama Works: A Psycholinguistic Perspective. In: Oller, John W.; Richard-Amato (eds). Methods that Work: A Smorgasbord of Ideas for Language Teachers. Rowley, Newbury House, UK. 1983: 207-225.
64. Herbert, James D, Brandon A Gaudiano, Alyssa A Rheingold and Ethan Moitra, et al. "Cognitive Behavior Therapy for Generalized Social Anxiety Disorder in Adolescents: A Randomized Controlled Trial." *J Anxiety Disord* 23(2009): 167-177.
65. Telman, Liesbeth GE, Francisca JA Van Steensel, Ariënne JC Verveen and Susan M. Bögels, et al. "Modular Cbt for Youth Social Anxiety Disorder: A Case Series Examining Initial Effectiveness." *Evid based pract child adolesc ment health* 5(2020): 16-27.
66. Melfsen, Siebke, Martina Kühnemund, Judith Schwieger and Andreas Warnke, et al. "Cognitive Behavioral Therapy of Socially Phobic Children Focusing on Cognition: A Randomised Wait-list Control Study." *Child Adolesc Psychiatry Ment Health* 5(2011): 1-12.

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