



Effectiveness Evaluation Of Play-Group Therapy On Challenging Behaviours In Autistic Children

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Abstract

Background and Aim: The main feature in diagnosing autism spectrum disorder is the existence of challenging behavioural patterns, tendencies or behaviours. Challenging behaviours are behaviours that endanger or alienate the child from social relationships; Therefore, the aim of this study was to evaluate the effectiveness of group play-therapy on challenging behaviours in children with autism.

Analyses Methods: This study was applied in terms of purpose and quasi-experimental in terms of method with pre-test-post-test design with control group. The statistical population of this study consisted of all boys aged 7 to 14 years old with autism in Tehran medical centers in 1400. In this study, 30 autistic boys were selected as the sample size using the available sampling method based on the autism spectrum amplitude questionnaire and were randomly assigned to the experimental (n = 8) and control (n = 8) groups.

Revised Scale of Buddhist Challenging Behaviors, Simmons, Parker, and Louise (2000) were used to evaluate challenging behaviors. The experimental group received cognitive-behavioral therapy in 10 sessions of 45 minutes during one month, while the control group did not receive such intervention. In the end, both groups were evaluated again. Data were analysed using covariance analysis.

Finding

The results showed that the research hypothesis on the effectiveness of group play therapy on challenging behaviors of autistic children has been confirmed. Children with

autism in the experimental group had significantly less challenging behaviors than children with autism in the post-test group ($p < 0.01$).

Conclusion: Therefore, it can be concluded that the use of play therapy program based on cognitive-behavioral approach can reduce the challenging behaviors of children with autism.

Keywords: play therapy, challenging behaviors, children with autism.

1.Introduction

Autism is a neurodevelopmental disorder characterized by severe impairment of social interactions and communication skills, as well as stereotyped behaviors, interests, and activities (American Psychiatric Association, 2013). The prevalence of this disorder is between 1 and 2 out of every 100 people (Pascoe, 2018). The diagnosis of this disorder is estimated at the age of 2, but this issue is affected by a number of factors such as the severity of symptoms, family circumstances, etc. (Pascoe, 2018).

Symptoms of autism spectrum disorder include: Verbal and non-verbal communication deficits, eye contact abnormalities, inability to participate in imaginative games, sensory processing problems, unusual and unusual attachment to objects, repetitive games, stereotyped movements, inflexibility, day-to-day flexibility, Mutual emotional and social relationships and self-harm (Murray, 2017).

Children with autism spectrum disorder have defects in the processing of sensory information and therefore show abnormal responses to sensory stimuli such as avoidant responses and overreactions to them (Jasman, QT, McKinley, Reed, Fombon, & Gisell, 2009). Emotional disorders (Rapin and Tuchman, 2008), motor abilities; Especially fine group movements, daily life and play activities (Karun, Briob and Rakiot, 2017), learning natural language and speech (McDonald, Valentino and Dahl, 2017), challenging behaviors (Rezaei et al., 2017) and problems in imitation from others is seen in these children. It can be said that these children have a wide range of psychological and physical disorders (Chiogani et al., 2016).

The main feature in diagnosing autism spectrum disorder is the existence of behavioral patterns, tendencies with challenging behaviors. Challenging behaviors are behaviors that endanger or exclude the child from social relationships (Maston, Sips, Foodstad, FitzGrald, 2011). Challenging behaviors are ubiquitous, occur in different forms, exist in different populations, and exist in the spectrum of children with autism and even in children with normal development (Singer, 2009).

Many of these challenging movements are benign habits that are considered part of the natural process of developmental stages and often become disrupted when they cause problems in children's physical movements and social behavior (Dalton and Boris, 2004). The type, frequency, and severity of challenging behaviors in children with autism

spectrum disorder vary widely, but most of them will persist over time and they are the strongest predictors of early detection of autism spectrum disorder (King et al., 2009).

Different intervention approaches have been used to treat challenging behaviors in children with autism spectrum disorder. One of the new approaches in reducing the challenging behaviors of children with autism spectrum is the play therapy approach. Using games and different methods of playing games is one of the educational activities that has many applications in the treatment of these children (Mehrjoo, 2011).

Play-related interventions in children with autism change their challenging behaviors. The consequence is that the challenging behaviors stop and change direction toward other behaviors (Martinez and Benz, 2013).

Findings also show that acquiring play skills early in life may prevent an increase in challenging behaviors in children with autism (Long, 2014). In addition, improving the quality and frequency of appropriate play reduces the challenging behaviors of children with autism and it is an effective method in preventing and treating such behaviors (Long, 2010; quoted by Hossein Khanzadeh and Aymankhah, 2016).

Play causes learning and behavioral changes, ie through it, wrong behaviors can be eliminated and correct behaviors can be replaced (Sharifi Daramadi, 2006). Today, the most important method for the treatment of mental and emotional disorders in children is play therapy, which even causes the treatment of many mental disorders in adults (Karami et al., 2015). Play therapy is one of the most prominent and practical methods that many psychologists and researchers have used for decades to treat many mental disorders and have proven its effectiveness (Bratone, 2005).

The method used in this study is play-therapy based on cognitive-behavioral approach. In behavioral therapy based on cognitive-behavioral approach, multiple behavioral and cognitive interventions are used. These behavioral interventions include regular desensitization, stimulating mental imagery, positive reinforcement dependency management, shaping, silencing, and modelling; On the other hand, behavioral cognition methods that are commonly used in play therapy based on cognitive-behavioral approach, deal with changing behavior and cognitive methods deal with changing thoughts.

In this method, it is assumed that a change in thoughts leads to a change in behavior. The therapist helps the child identify, correct, or construct cognitions. In addition to helping the child identify his or her cognitive distortions, he or she teaches him or her to replace this maladaptive thinking with adaptive thinking (Gallagher et al., 2004; quoted by Azarniushan et al., 2012).

Given the research background, it is likely that the use of play therapy based on cognitive-behavioral approach is effective on challenging behaviors in autistic children, which is one of the main problems of these children.

What highlights the present research that it is not possible to find a study that has determined the effectiveness of play therapy based on cognitive-behavioral approach on challenging behaviors in autistic children, and most research on play therapy based on cognitive-behavioral approaches has been conducted on another group.

Therefore, the present study is necessary due to filling the research gap in this area and the applicability of the results obtained in the field of rehabilitation of children with autism; so, according to the aim of the present study, which is to determine the effectiveness of play therapy based on cognitive-behavioral approach on challenging behaviors in autistic children, and the hypothesis that play therapy is effective on challenging behaviors in autistic children, can be developed.

2. Review method

This study was applied in terms of purpose and quasi-experimental in terms of method with pre-test and post-test design with control group.

The statistical population of this study consisted of all boys aged 7 to 14 years old with autism in Tehran medical centers in 1400. In this study, 30 autistic boys were selected as the sample size using the available sampling method based on the autism spectrum amplitude questionnaire and were randomly assigned to the experimental (n = 8) and control (n = 8) groups.

Inclusion criteria for receiving diagnosis of autism, being a boy and being in the age range of 7 to 14 and exclusion criteria for sensory impairment (hearing impairment, visual impairment), physical and motor disability and consecutive absence in more than 2 sessions of play therapy sessions based on Cognitive-behavioral approach. In order to observe the ethical principles in this study, permission was obtained from the management of autism treatment centers in Tehran, autistic children and their parents.

To conduct the research in the first stage, a revised scale of challenging behaviors was completed as a pre-test by parents of children with autism. The experimental group was performed, while the control group did not receive any intervention in the field of play therapy based on cognitive-behavioral approach. After the last session, both groups (experimental group and control group) were evaluated by a revised scale of challenging behaviors as a post-test completed by parents of children with autism. In this study, the following tools were used to collect data.

Autism Spectrum Scale Questionnaire: In this questionnaire, which is completed by parents and teachers, there are 23 items with a score of 0-2 for each item. Children with a total score of 22 (if completed by the therapist) and 19 (if completed by the parents) are selected as children with high-functioning autism. This questionnaire measures the problems of people with autism in three areas: social interactions, language and speech delays, behavioral problems, and abnormal symbolic games.

The Autism Spectrum Scale Questionnaire in the country has been standardized by Kasechi (2011). To estimate the convergence validity of this questionnaire, its correlation with Rutter and 4-CSI questionnaires was calculated. In the parent group, the correlation coefficient of this questionnaire and Rutter questionnaire (0.715) and the correlation coefficient of this questionnaire and 4-CSI (1.486)), And in the group of teachers, the correlation coefficient of this questionnaire and Rutter questionnaire (1.495), and the correlation coefficient of this questionnaire and 4-CSI (0.411), were obtained and were significant.

The Cronbach's alpha coefficient obtained in the group of parents and teachers of normal children and autism spectrum indicates that the items of the autism spectrum assessment questionnaire are suitable for screening high-performance autism children (Kasechi, 2011).

Revised Challenge Behaviors Scale: The revised Challenge Behaviors Scale was used to measure challenging behaviors in this study. This scale is designed to measure challenging behaviors. The scale has six subscales of stereotyped behavior, self-harming behavior, obsessive behavior, ritual behavior, monotonous behavior and limited behavior (Budfish et al., 2000; quoted by Rezaei and Lari Lavasani, 2017).

Lam and Aman (2007) reported the validity of the revised scale of challenging behaviors using the internal consistency method for its subscales from 0.78 to 0.91 (quoted in Khamoushi and Mir Mehdi, 2015). In addition, obtain the validity of the scale using an internal correlation between 0.57 and 0.73. The validity of the revised scale using Cronbakh's alpha for the whole scale is 0.92 and its construct validity is calculated by calculating the correlation of the whole scale and its subscales between 0.68 and 0.98. (Hemmati, Rezaei Dehnavi, Gholami and Gharghani, 2013).

3.Finding

To analyze the data in the descriptive statistics section, the central indicators and dispersion (mean and standard deviation) and in the inferential statistics section, analysis of covariance and SPSS-24 software were used. This section presents descriptive and inferential findings. Table 1 shows the descriptive statistics related to the mean and standard deviation of the scores of challenging behaviors separately for the children in the experimental and control groups in two stages of assessment (pre-test and post-test).

Table 1. Mean and standard deviation of challenge behavior scores in two stages of measurement separately for experimental and control groups

standard deviation Mean →Post-test standard deviation -→pre-test Variable
group

پس آزمون		پیش آزمون		متغیر	گروه
انحراف استاندارد	میانگین	انحراف استاندارد	میانگین		
۲/۹۷	۱۶/۹۰	۳/۱۱	۱۷/۵۱	رفتار کلیشه‌ای	کنترل
۳/۰۸	۱۵/۰۱	۳/۳۵	۱۵/۳۲	رفتار خودآزاری	
۳/۲۴	۱۵/۷۲	۳/۴۲	۱۶/۴۲	رفتار وسواسی	
۳/۳۹	۱۴/۹۳	۳/۸۲	۱۵/۸۷	رفتار آیینی	
۲/۱۲	۱۰/۸۰	۲/۲۷	۱۱/۳۹	رفتار یکنواختی	
۲/۱۵	۱۳/۷۴	۲/۴۲	۱۴/۵۵	رفتار محدود	
۲/۷۶	۱۵/۴۲	۳/۲۸	۱۷/۸۹	رفتار کلیشه‌ای	آزمایش
۳/۲۱	۱۳/۲۴	۳/۵۲	۱۶/۴۲	رفتار خودآزاری	
۳/۱۹	۱۲/۵۳	۳/۶۴	۱۵/۱۶	رفتار وسواسی	
۳/۴۵	۱۳/۴۱	۳/۹۳	۱۶/۲۱	رفتار آیینی	
۲/۸۹	۱۱/۱۳	۳/۳۰	۱۳/۴۲	رفتار یکنواختی	
۱/۹۴	۱۱/۳۷	۲/۳۵	۱۳/۸۸	رفتار محدود	

Control (1. stereotypical behavior 2. self-harming behavior 3. obsessive behavior 4. ritual behavior 5. monotonous behavior 6. limited behavior)

Experiment (1. stereotypical behavior 2. self-harming behavior 3. obsessive behavior 4. ritual behavior 5. monotonous behavior 6. limited behavior)

As can be seen, in the control group, the mean scores in the pre-test and post-test stages do not show much change, but in the experimental group, we see a greater decrease in scores in the post-test than in the pre-test.

Multivariate analysis of covariance (MANCOVA) tests were used to evaluate the effectiveness of play therapy based on cognitive-behavioral approach on challenging behaviors in children with autism. Prior to this test, the statistical assumptions of the normality of the distribution of scores using Kolmogorov-Smirnov test, the homogeneity of the matrix of covariance were tested using the Hombox test and the homogeneity of the variances were tested using the Levin test. Multivariate is unobstructed.

Table 2 - Results of multivariate analysis of covariance to compare the challenging behaviors of children in the experimental and control groups.

Effect size Significance level Degree of error freedom Degree of effect freedom F
Amounts exams effect

اندازه اثر	سطح معناداری	درجه آزادی خطا	درجه آزادی اثر	F	مقادیر	آزمون‌ها	اثر
۰/۴۶۳	۰/۰۰۷	۳	۶	۵/۳۲۲	۰/۴۶۳	اثر بیلابیلی	گروه
۰/۴۶۳	۰/۰۰۷	۳	۶	۵/۳۲۲	۰/۴۱۳	لامبدای ویلکز	
۰/۴۶۳	۰/۰۰۷	۳	۶	۵/۳۲۲	۱/۴۱۹	اثر هتلینگ	
۰/۴۶۳	۰/۰۰۷	۳	۶	۵/۳۲۲	۱/۴۱۶	بزرگترین ریشه روی	

As can be seen, the significance level of all four relevant multivariate statistics, namely Pillay effect, Wilkes lambda, hoteling effect and largest zinc root, is less than 0.05). Challenging behaviors of experimental and control groups, there is a significant difference after the test, therefore, it can be said that play therapy based on cognitive-behavioral approach has been effective in reducing children 's challenging behaviors. Inter-subject effects were used and the results are presented below.

Table 3 .The inter-subject test effects to compare the challenging behaviors of the experimental and control groups in the post-test

Effect size Significance level F Average squares Degrees of freedom Total squares source variables

اندازه اثر	سطح معناداری	F	میانگین مجنورات	درجه آزادی	مجموع مجنورات	منبع	متغیر
۰/۲۵۳	۰/۰۳۸	۵/۷۶۰	۶/۰۶۴	۱	۶/۰۶۴	بین گروهی	رفتار کلیشه‌ای
			۱/۰۵۳	۸	۸/۴۲۴	درون گروهی	
۰/۲۳۴	۰/۰۳۶	۵/۱۹۴	۱۲/۱۱۵	۱	۱۲/۱۱۵	بین گروهی	رفتار خودآزاری
			۲/۳۳۲	۸	۱۸/۶۵۶	درون گروهی	
۰/۲۳۲	۰/۰۳۷	۵/۱۲۲	۱۹/۴۶۰	۱	۱۹/۴۶۰	بین گروهی	رفتار وسواسی
			۳/۷۹۹	۸	۳۰/۳۹۲	درون گروهی	
۰/۲۲۵	۰/۰۳۸	۵/۰۳۳	۷/۸۹۶	۱	۷/۸۹۶	بین گروهی	رفتار آیینی
			۱/۵۶۹	۸	۱۲/۵۵۲	درون گروهی	
۰/۳۹۲	۰/۰۰۴	۱۰/۹۴۱	۲۲/۱۲۶	۱	۲۲/۱۲۶	بین گروهی	رفتار یکنواختی
			۲/۰۲۲	۸	۱۶/۱۷۶	درون گروهی	
۰/۲۹۴	۰/۰۱۶	۷/۰۸۱	۹/۲۲۱	۱	۹/۲۲۱	بین گروهی	رفتار محدود
			۱/۳۰۲	۸	۱۰/۴۱۶	درون گروهی	

1. Stereotypical behavior (between groups and within groups)
2. Self-harming behaviors (between groups and within groups)
3. Obsessive behaviors (between groups and within groups)
4. Ritual behaviors (between groups and within groups)
5. Uniform behavior (Intragroup and intragroup)
6. Limited behavior (intergroup and intragroup)

Table 3 shows the inter-subject effects test for comparing challenging behaviors in children in the experimental and control groups in the post-test phase. According to the presented results, the obtained F value is significant for all behaviors at the level of 0.05; Therefore, the null hypothesis is rejected and the research hypothesis is confirmed. Due to the lower mean scores of the experimental group in the post-test phase, it is concluded that play therapy based on cognitive-behavioral approach is effective and reduces children's challenging behaviours.

4. Discussion and conclusion

The aim of this study was to evaluate the effectiveness of play-group therapy on challenging behaviors in children with autism. This study showed that play therapy based on cognitive-behavioral approach reduces the challenging behaviors of autistic children.

These results are based on the findings of Malek et al. (2012) entitled The effectiveness of cognitive-behavioral group play therapy on reducing behavioral problems in children with reading disorders. Azarnioshan et al. (2012) entitled The effectiveness of play-therapy with cognitive-behavioral approach on behavioral problems of students with mental retardation in primary school, Karami et al. (2015) entitled The effectiveness of play-group cognitive-behavioral therapy in correcting social maladaptation of female students with mental disabilities, Najafi et al. (2015) entitled The effectiveness of play, cognitive-behavioral therapy on aggression and spelling disorder in primary school children, Afaghi et al. (2017) on the effectiveness of cognitive-behavioral play therapy on behavioral problems in children with Down syndrome, Nell (1999) on the effectiveness of play, cognitive-behavioral therapy with empathy techniques, Exposure and Interpretation of Child Aggression and Gallagher, Rabian and McCluskey (2004) The effectiveness of group therapy based on cognitive-behavioral approach on reducing social panic and emotional problems in children is consistent.

Explaining these results, it can be said that play-related interventions in autistic children change their challenging behaviors and the most important consequence is that the challenging behaviors stop and change its direction towards other behaviors (Martinez et al., 2013).

In addition, the findings show that acquiring play skills early in life may prevent an increase in challenging behaviors in children with autism (Long, 2014). Another explanation for this finding is that challenging behaviors include a pattern without changing daily behaviors such as unchanging diet, dress and grooming etiquette.

If the child is focused and involved in a particular game, he should first be released from paying attention to that game and then turn his attention to a new game. Together, these two actions are commonly referred to as attention deficit disorders, in which children with autism have difficulty demonstrating challenging behaviors (Patten and Watson, 2011).

Also, children with autism are unable to express their emotions and feelings due to low levels of abstract thinking. Suppression and lack of skills in expressing emotions, especially negative ones, endanger the child's mental health, which autism children themselves, family, school and community. They face a variety of issues and difficulties and make them vulnerable to the psychosocial disorders of adolescence and even adulthood.

Therapists teach more adaptive behaviors to children with autism who have poor social or emotional skills through play. In general, the findings of the present study showed that

play therapy based on cognitive-behavioral approach reduces the challenging behaviors of children with autism.

Considering that one of the important goals of rehabilitation of autistic children is to reduce behavioral problems, in the meantime, the use of play-intervention therapy based on cognitive-behavioral approach will be very useful for these children.

Overall, the results of this study emphasize the importance of using play therapy based on cognitive-behavioral approach to reduce challenging behaviors in children with autism; Therefore, informing parents, teachers, educators and therapists of autism, providing practical solutions to the authorities of special schools for autism, informing the experts of the Exceptional Education and Welfare Organization, psychologists and specialists about the role and importance of play therapy based on cognitive-behavioral approach, significantly reduces the challenging behaviors of children with autism.

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