Effectiveness puppet play therapy on adaptive behavior and social skills in boy children with intellectual disability

Original Article

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Abstract

Background: Intellectual disability influences social skills and adaptive behavior in children. Therefore, the aim of this study was to investigate the influence of puppet play therapy on adaptive behavior and social skills in boy children with intellectual disability.

Methods: This quasi-experimental study with pre/post-test design was conducted on 30 intellectual disability boy children (9-11 aged) selected through the criteria from Nor-Islam School of Varamin City in 2017. They were randomly divided into the control and intervention groups. The intervention group received puppet play therapy for eight treatment sessions. The research tools were Vineland Social Maturity Scales (VSMS) and Adaptive Behavior Index of Limbert (ABIC). Data were statistically analyzed using ANCOVA.

Results: Findings indicated that the mean scores of six subscales of adaptive behavior including violent and disruptive behavior ($P<0.001$), antisocial behavior ($p<0.001$), rebellious behavior ($p<0.01$), untrustworthy behavior ($p<0.001$), stereotyped behavior ($p<0.01$), unacceptable of eccentric habit ($p<0.01$) and Vineland social maturity ($p<0.05$) after intervention, in research groups were significantly different. In addition, the results of ANCOVA showed that there was no significant difference between five subscales of adaptive behavior including withdrawal behavior ($p<0.05$), inappropriate social behavior ($p<0.01$), unacceptable vocal habits ($p<0.05$), hyperactive tendencies ($p>0.05$) and psychological disturbance ($p<0.05$).

Conclusions: The findings indicated that play therapy brought the positive impact on social coping behaviors in children Intellectual disability. It is necessary that child counselors and psychologists to utilize the play therapy to decrease social skills deficits and promote social adjustment in children via intellectual disability at schools and rehabilitation centers.

Keywords: Adaptation, Child, Intellectual Disability, Play Therapy, Social Skills

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Introduction

Social skills are a set of competencies (knowledge and skills) used daily by an individual to interact with others. In general, social skills are integrated by individuals who are not being aware of having learned the repertoire of behaviors including a combination of elements such as eye contact, posture, gestures and level of language [1, 2]. Social skills are an individual's ability in response to the environment, leading to generate, maintain and increase the positive effects in interpersonal relationship [3].

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Therefore, social skills allow the individual to adapt to the environments and events in accordance with the codes of society and culture in which s/he evolves [4]. Social skills rely heavily on intellectual functions such as imitation, joint attention, memory, comprehension, verbal expression and logical reasoning [5, 6].

Social skills are defined based on six essential characteristics including 1) social skills are mainly developed through observation, imitation, modeling, 2) social skills include specific verbal and nonverbal behaviors, 3) social skills consist of appropriate and effective initiations and responses, 4) social skills maximize the social reinforcements, 5) social skills have interactive nature and involve effective and adaptive responses, and 6) social skills are defined as social functioning which may represent the target of interventions [1].

Moreover, "adaptive behavior refers to the effectiveness and degree to which the individual meets the standards of personal independence and social responsibilities expected for his and her cultural group" [7]. Thus, the relation between social skills and adaptive behavior is evident. As a result, social skills and adaptive behavior are more affected, if individual is diagnosed with intellectual disability as some studies have shown [8, 9, 10]. The researchers employed diverse methods such as cognitive behavioral training [11], cognitive remediation [12, 13] and PEERS program as a variety of cognitive-behavioral therapy) [14, 15] to improve the ability of children with mental disability in social skills. Play therapy, especially puppet paly therapy, has been considered an effective method of enhancing the social skills and adaptive behavior [16, 17]. In fact, play therapy is a method by which the child can be released from all environmental pressures and can balance his/her behavior [13, 18]. Play therapy has a different variety like logo and puppetry therapies.

The use of puppetry is an ancient technique in children's therapy [13]. Juteau et al. (2015) cited that Anna Freud made an important contribution to this subject with the proposal of a psychoanalytic method based on play. She insists that "the play weakens censorship" so "dramatization" would be an effective method to cure an infantile neurosis [19]. The puppet has been integrated into clinical intervention such as gestalt [20], cognitive behavior [21] and family therapy [22]. The puppet has been utilized for different purposes including diagnosis, assessment and treatment of specific clinical problems, especially a certain type of disorder in children [13]. The puppet is applied in order to enhance the apprehension of child who is diagnosed as disabled, autistic and psychotic children or who has multiple disabilities, in which the possibilities of verbal expression are actually very limited or non-existent [13, 14, 15]. Most researchers use puppets mainly as a motivational factor because of their expressive possibilities and facilitation of contact with the children [13, 20]. Concerning adaptive behavior impaired in children with behavioral disability, the puppet is used for the purpose of socialization [19, 20, 23].

It promotes communication and expressiveness, allows the use of a highly developed gestural language and tactile contacts. The puppet play therapy improves social skills through facilitators in the development of the relationship between the child and therapist, increases the intimacy and self-disclosure as well as explores the strengths and weaknesses of children [19, 20, 23]. Children with intellectual disability try to imitate the behavior of their puppet through puppet play therapy and this will have a great educational effect. As the imitation technique gradually turns into a normal way, it is possible to educate the desired social behaviors and promote cooperation with the group through the puppetry play [19, 20]. Given that the increasing social development of intellectual disability children is imperative and the skills are important in intellectual disability children, the use of low-cost and easy-to-use methods for helping families and intervention specialists has become increasingly important. Thus, the current research was performed to investigate the effect of puppet play therapy on adaptive behavior and social skills in boy children with intellectual disability so that these children could learn the adaptive behavior and social skills and use them in different real situations.

Methods

This quasi-experimental study with pre/post-test design was conducted on intellectual disability boy students of mescaline Nor Islam School of Varamin City in 2017. Firstly, boy children (9-11 aged) were selected through convenience sampling method according to inclusion criteria. The inclusion criteria were as follow: children must have 1) without any severe behavioral and psychological disorder, 2) ability to read and write and 3) no chronic physical illness. Then, they completed Vineland Social Maturity Scale (VSMS) and Adaptive Behavior Index of Limbert (ABIC). Exclusion criteria were as follow: 1) divorced families or single parent families, 2) the sibling with

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mentally retarded and 3) non-compliant and uncontrollable behavior.

Finally, 30 children with mentally retarded, who had one score above the mean scores of two test were selected.

To respect the rights of participants, some information was given to the children and their parents and teachers about the performance of program. The researcher emphasized the principal of the confidentiality of personal information. Informed consent was obtained from parents before starting the training. The selected children were randomly assigned to the intervention (n=15) and control (n=15) groups. The intervention group received puppet paly therapy in eight sessions (25 minutes for each session, twice a week), but the control group did not receive any intervention.

The researchers accurately followed the standardized procedures and techniques of the training program. To minimize the confounding effect of environmental difference between intervention and control groups, a research coordinator instructed the groups and the sessions were held at the same place. The assignment of the next therapy session was given at the end of the session. The post-test was taken from both groups 48 hours after the last intervention session. All questions were described by researcher in order to help the teachers to correctly respond the questionnaires. All of questionnaires were filled at school and by the aid of researchers.

The researchers utilized three puppets including puppet of boy (the symbol of true), puppet of crow (the symbol of mistake) and puppet of grandmother. The researcher had been trained by drama school in Institute for the Intellectual Development of Children and Young Adults, branch of Tehran. The contents of the sessions were role-playing such as a) awareness of different types of emotions like sadness and happiness, b) improving the verbal and nonverbal skills as speaking clearly, listening, questioning, expressing emotions, social compliments and greetings, c) familiarity with personal rights and non-infringement of the rights of others d) recognizing money and its counting and how to go shopping, as well as e) using a variety of phones and public transport. It should be noted that the subject of sessions was selected after reviewing the questionnaires and meeting with parents and teachers.

Data were collected using two questionnaires including VSMS and ABIC. The VSMS was used to measure the social maturity or social competence in individuals from birth to adulthood. It was published by Edgar Arnold Doll in 1953. It comprises 297 items that measure the personal skills containing communication skills, general self-help ability, locomotion skills, occupation skills, self-direction, self-help eating, self-help dressing, socialization skills. Moreover, it evaluates the maladaptive behaviors with 36 items in two parts. Participants responded to items on a six-point Likert-type scale. In the Persian study, the internal consistency reliabilities (Cronbach's alpha) were reported 0.85 and 0.90 in principal domains and maladaptive behaviors, respectively [24].

In order to assess the adaptive behavior, the ABIC made by Limbert et.al (1974, quoted by Shahni Yaylaq, 1991) was used [25]. This index is composed of two parts. The first part assesses the problems of development, skills and developments of habits. The second one evaluates the maladaptive behaviors related to personality and behavioral disorders. It comprises 38 items and 11 subscales including violent and disruptive behavior, antisocial behavior, rebellious behavior, untrustworthy behavior, inappropriate social behavior, unacceptable vocal habits, withdrawal behavior, stereotyped behavior, unacceptable of eccentric habit, hyperactive tendencies and psychological disturbance [26]. In the present research, Cronbach's alpha was 0.87.

The collected data were analyzed using SPSS 21. Data were compared between these two groups using ANCOVA.

Results

Based on the children's demographic characteristics, two groups were from first grade to sixth grade of elementary school. The parents' highest education level was elementary school with 60% in intervention and 53% in control group. In both groups, mothers were almost housewives. Other demographic information is shown in table 1.

In addition, the Leven Test was used to verify the equal variances (homogeneity of variance) and normal distribution. The variance analysis was performed to compare the means of these two groups by eliminating the effectiveness of pre-test. According to these findings (table 2), there was a significant difference between the score of pretest and posttest in six subscales of adaptive behavior including violent and disruptive behavior (F=2.61, p=0.007), antisocial behavior (F=3.41, p=0.016), rebellious behavior (F=2.41, p=0.011), untrustworthy behavior (F= 8.20, p= 0.008), stereotyped behavior (F=0.87, p=0.039),

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unacceptable of eccentric habit (F= 5.51, p= 0.026) and Vineland social maturity (F=1.09, p= 0.305). In addition, the results of variance indicated that there was no significant difference between withdrawal behavior (F=0.93, p=0.34), inappropriate social behavior (F=4.23, p= 0.069), unacceptable vocal habits (F=4.77, p= 0.078), hyperactive tendencies (F=1.55, p=0.223) and psychological disturbance (F=3.69, p=0.065) as five subscales of adaptive behavior.

Table 1- Demographic information of participants in research

variable	Experimental group	Control group
Mother's Education N (%)		
Elementary	9 (60)	8 (53)
High school	4 (26.7)	5 (33.7)
Diploma	2 (13.3)	2 (13.3)
Father's Education N (%)		
Elementary	8 (53)	8 (53)
High school	4 (27)	5 (33.7)
Diploma	3 (20)	2 (13.3)
Father's Job N (%)		
worker	12(80)	13(86.67)
government's employee	3(20)	2(13.3)

Table 2- Results of covariance analysis of subscales of adaptive behavior and Vineland social maturity

variable	Group	SS*	Df*	MS*	F	P value
Violent and disruptive behavior	Pre test	3802.50	1	3802.50	19.13	0.001
	Group	1363.26	1	1363.26	11.30	0.002
	Error	5564.22	27	198.72		
Antisocial behavior	Pre test	4927.900	1	4927.900	50.85	0.001
	Group	3850	1	3850	41.62	0.001
	Error	2737.82	27	97.79		
Rebellious behavior	Pre test	32.764.54	1	320764.54	1042.67	0.000
	Group	743.93	1	743.93	2.418	0.011
	Error	8307.21	27	307.63		
Untrustworthy behavior	Pre test	78345.63	1	78345.63	709.02	0.000
	Group	906.21	1	906.21	8.20	0.008
	Error	2983.43	27	110.49		
Withdrawal behavior	Pre test	196112.96	1	196112.96	95.47	0.000
	Group	1923.84	1	1923.84	0.93	0.432
	Error	55463.00	27	2054.18		
Stereotyped behavior	Pre test	83711.23	1	83711.23	1125.17	0.000
	Group	64.91	1	64.91	0.87	0.039
	Error	2008.75	27	74.39		
Inappropriate social behavior	Pre test	16823.41	1	16823.41	1154.634	0.000
	Group	61.71	1	61.71	4.23	0.069
	Error	319.399	27	14.57		
Unacceptable vocal habits	Pre test	33844.37	1	33844.37	2546.95	0.00110
	Group	63.48	1	63.48	4.77	0.78
	Error	358.78	27	13.288		
Unacceptable of eccentric habit	Pre test	331238.99	1	331238.99	1492.62	0.0010
	Group	1224.792	1	1224.792	5.51	0.026
	Error	5991.75	27	221.719		
Hyperactive tendencies	Pre test	17953.82	1	17953.82	1884.338	0.000
	Group	14.80	1	14.80	1.55	0.22
	Error	257.25	27	9.52		
Psychological disturbance	Pre test	666.89.26	1	666.89.26	1842.91	0.000
	Group	13334.63	1	13334.63	3.69	0.065
	Error	9758.67	27	361.43		
Vineland social maturity	Pre test	2.378	1	2.378	390423.02	0.000
	Group	6.650E-006	1	6.650E-006	1.09	0.305
	Error	0.000	27	6.091E-006		

* Abbreviations: df, degree of freedom; SS, Sum of Square; MS, Means of Square P<0.01

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Discussion

Current study was performed to investigate the effect of puppet play therapy on adaptive behavior and social skills for boy children with intellectual disability. The findings suggested that puppet play therapy had a critical role in increasing social skills and adaptive behavior in boy children with intellectual disability. This result is consistent with previous studies [23, 26, 27, 28]. Foadodidini et al. evaluated the effect of behavior-based drama therapy on females with intellectual disability and concluded that the scores of adjusting behavior were significantly different in comparing the pre- and post-test and this difference was positive [27]. Also, Gharaeni et al. emphasized the influence of puppet play therapy on improving the social skills of preschool children with Down syndrome [28]. One of the behavioral problems that can be seen in varying degrees among the children with intellectual disability is the stereotypical behavior [29]. The result of the present study demonstrated that the puppet play therapy had the influence on stereotypical behavior. It could be argued that with the use of puppet, the therapist tries to motivate and activate the children, communicate with them and guide their behaviors. Therefore, learning new behaviors reduce the stereotypical behaviors. In addition, the puppet play therapy is effective in building mutual trust in these children and it helps the child to accept and succeed in the group [28]. Through the play therapy, children with intellectual disability learn to utilize their abilities and how to use the skills of others by building trust to meet their own needs and others [23]. Furthermore, puppet play therapy influences the violence, unacceptable of eccentric habit, antisocial behavior and rebellious behavior [30, 31, 32]. The behavior violent in children with intellectual disability is the results of domination, neglect, blaming and suppressing of their unacceptable social behaviors [33]. Based on the social learning theory and its components consisting the attention, retention, reproduction and motivation, this type of learning (modeling) had a greater impact on children with intellectual disability. In addition, puppet play therapy did not affect inappropriate social behavior, unacceptable vocal habits, psychological disturbance, hyperactive tendencies and withdrawal behavior. The reason for these results could be the disruptions that were most common among the children of this research. It also seems that the mentioned disorders require more training and the researcher cannot accomplish these performances during a one-month period.

In general, previous study represented that children with intellectual disability had a critical problem with generalizability of learned skills to natural environment in the traditional training and social skills. However, social skills consist raining, presenting pattern, practicing, feedback, and reinforcement [23]. Accordingly, it seems that using indirect methods such as play can be effective. Puppet play permits children to communicate with others, learn the roles and desirable behavior and behave compatibility with the group based on social criteria [19, 20].

Obviously, this research faced some limitations. First, the results of the present study should be warily generalized since the sample size was small, and the second one was related to limiting the sample to boys. Because children with mentally retarded needed special caring, the absence and delay of participants in puppet play therapy sessions were the key problems which took place during the study. This research sought to implement a kind of play therapy intervention, aiming to facilitate the communication and enhance the communication skills in order to be used alone or in combination with educational and rehabilitation programs and interventions. It is recommended that the diverse kinds of play therapy should be applied to improve the level of social skills and adaptive behavior in children with mentally retarded.

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