# **Research Paper**

The Effectiveness of Child-Centred Play Therapy on Internalization and Extrapolation Behavioral Problems in Children With Cerebral Palsy





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## Key words:

Play Therapy, Problem behavior, Cerebral Palsy

### **ABSTRACT**

Objectives This study examined the effectiveness of Child-Centered Play Therapy (CCPT) on the internalized and externalized behavioral problems of children with Cerebral Palsy (CP).

Methods This was a quasi-experimental with a pre-test, post-test and a follow-up design. The study population consisted of all 6-8 years old children with CP in Rafideh Rehabilitation center in Tehran, Iran. Thirty children with CP were randomly divided into two groups of control (n=15) and experimental (n=15). Behavioral problems were measured using Child-Behavior Inventory Test in pre-test, post-test and follow-up phases. CCPT was performed for 16 sessions twice a week in the experimental group. After three months of CCPT intervention, the follow-up test was conducted to examine the continuity, consolidation, and generalization of the intervention results. The obtained data were analyzed by repeated-measures Multivariate Analysis of Covariance (MANCOVA).

Results In the post-test phase, CCPT had significant effect on reducing anxiety, depression, offense, and aggression of the children with CP compared to the pre-test scores.

Conclusion Given the significant effect of CCPT on reducing the internalized and externalized behavioral problems of children with CP, the results can be used in the pediatric care centers for these children.

# **Extended Abstract**

# 1. Introduction

he statistics indicate that out of every 1000 children born in the world, about two suffer from Cerebral Palsy (CP). When brain damage occurs, paths and networks assisting emotion regulation may be disrupted. Emotional and behavioral problems are extreme, chronic,

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and deviant behaviors. With normal IQ and psychological and behavioral balance, those are out of the standard of the public community.

Children with behavioral problems display emotional instability. About half of the children with CP have visible behavioral problems. Their physical, neurological problems associated with emotional control and regulation can lead to severe emotional and behavioral disorders. These conditions may negatively affect their performance. Child-

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Centered Play Therapy (CCPT) is a basic approach to the treatment of childhood problems. It is based on the reflection of the child's behavior, "reflexive listening" and has clear principles and specific skills that can be divided into generalizable components. The treatment session is held based on the child's behaviors, needs, and interests, and no efforts are made to control and modify the child. This can positively affect the thoughts and emotions of children with behavioral problems.

Studies reflected the importance of CCPT and the effective role of its results in various exceptional children. The present study aimed to evaluate the effectiveness of CCPT in the internalized and externalized behavioral problems of children with CP.

#### 2. Methods

This was an applied and quasi-experimental study with pre-test, post-test and follow-up design with a control group. The subjects were randomly assigned to experimental and control groups. The study population consisted of all 6-8-year-old children with CP at Rofeideh Rehabilitation Center in Tehran City, Iran. Thirty children aged 6-8 years with an average age of seven and a medical diagnosis of paraplegia and mild to moderate monoplegia were selected as the sample. Then, they were randomly divided into two groups of 15 (control and experimental).

The sampling method was convenience sampling. The experimental groups received 16 sessions (12 individual sessions and four non-individual sessions), for 45 minutes, twice a week. However, the control group received no intervention. The list of child behavioral symptoms was used both for grading and severity of emotional and behavioral problems as well as for the pre-test, post-test comparisons. In the meetings, the children expressed their problems by playing. Furthermore, the therapist helped the children with no intention of imposing a particular subject on them or directing them to a particular path. Thus, the children obtained enough insight on the problem and the solution.

# 3. Results

The achieved results suggested a significant reduction in anxiety, depression, offense, and aggression in the experimental group after the training period (post-test and follow-up phases). However, the control group demonstrated no significant change in almost none of the components in the pre-test, post-test, and follow-up stages. The repeated measures MANCOVA results revealed that in all tests, the obtained F-value was significant with 4 and 19 degrees of freedom. The mean post-test scores of anxiety, depression,

offense, and aggression (after removing the effect of pretest scores), significantly differed in the experimental and control groups.

In addition, the mean scores of the experimental group were significantly lower in these variables compared to the controls; this finding reflects the positive effect of the intervention. Bonferroni posthoc test was used to evaluate the stability of the intervention. There was no significant difference between the mean values of variables in the posttest and follow-up stages. Accordingly, the intervention effect has remained stable at the follow-up stage. Thus, the hypotheses regarding the effectiveness of CCPT in reducing anxiety, depression, offense, and aggression in children with CP were confirmed.

#### 4. Discussion

In CCPT sessions, while managing the sessions, the child feels safe and relaxed with the presence of a therapist who has established a good relationship with him, and reduces the anxiety. The therapist helps the child reach an insight of self. By guiding the meetings and with the help of a therapist, the children understand that feeling sad and sadness are natural phenomena. In the closing and follow-up sessions, success in games that fit the physical condition increased self-efficacy and self-esteem, and reduced depression in children. Given the scales' profile (based on the children's behavioral inventory test), the offensive behavior is a subscale of the externalized behavior; it was one of the dependent variables in this research.

There was no significant difference between the pre-test and post-test scores regarding the externalized offensive behavior. Some offensive behaviors are presumably created over time and institutionalized in the individual; thus, they need more time to reduce or resolve. Additionally, with the continuation of CCPT intervention and its training to caregivers, they might be replaced with healthy behaviors. During the sessions, the child is free to decide on how to start and finish the game; however, the therapist imposes some restrictions if needed, the violations of which after several warnings end in leaving the game room. Thus, to avoid leaving the play-therapy room, the child tries to control his behavior and besides proper externalizing, it causes self-control and reduces aggression in the child.

# 5. Conclusion

Considering the follow-up data, by teaching CCPT to the primary caregivers of the children with CP and based on the principle of practice and repetition in the treatment and education of exceptional children, their internalized and ex-

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ternalized behavioral problems can be reduced. In conclusion, CCPT has been effective in reducing internalized and externalized behavioral problems of the children with CP.

## **Ethical Considerations**

## Compliance with ethical guidelines

This study has an ethical approval (Code: IR.IAU.KAU. REC.1397.029) and is a registered clinical trial (Code: IRCT20181124041742N1). Before collecting data, ethical principles were considered which include: obtaining informed consent from participants, explaining the study objective and method to them, making them assured of the confidentiality of information, and having the right to leave the study at any time.

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#### **Authors contributions**

Conceptualization, validation and project administration by all authors; Methodology, investigation, resources and initial draft preparation by Maryam Davoodi; Data analysis, editing and review by Leila Shameli.

## **Conflicts of interest**

The authors declared no conflicts of interest.

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