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# The Impact of Storytelling Hand Puppet Play Therapy on Concentration Levels in Children Diagnosed as ADHD at the Outpatient Department of Surakarta Regional Mental Hospital

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**ABSTRACT**

*Children with Attention Deficit Hyperactivity Disorder (ADHD) commonly exhibit symptoms of inattention and hyperactivity, which may impair their cognitive development, social skills, and learning abilities. One promising non-pharmacological intervention to address concentration deficits in children with ADHD is hand puppet play therapy. This therapy utilizes hand puppets as a medium for storytelling and interactive play, aiming to enhance children's focus and attention in a fun and engaging way. The purpose of this study was to determine the effect of storytelling hand puppet play therapy on concentration levels in children with ADHD. This study employed a quasi-experimental design with a one-group pre-test and post-test approach, without the use of a control group. The total sampling technique was used, involving 21 children aged 6–12 years diagnosed with ADHD at the outpatient unit of RSJD Surakarta, consisting of 15 boys (71.4%) and 6 girls (28.6%). The findings indicated a statistically significant improvement in the concentration levels of children with ADHD following the hand puppet play therapy intervention, with a p-value of 0.014. These results suggest that hand puppet play therapy is an effective alternative intervention to improve concentration in children with ADHD. Therefore, the active involvement of parents, teachers, and healthcare professionals in facilitating this therapy is strongly recommended as part of a holistic ADHD management strategy.*



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## 1. INTRODUCTION

Attention Deficit Hyperactivity Disorder (ADHD) is a neurodevelopmental condition marked by inattention and hyperactivity. Children with ADHD often struggle to focus on tasks, get distracted easily, and tend to shift from one activity to another without completing them. Globally, around 6% of children are affected by ADHD, with 10–20% of cases occurring among school-aged children (Ilic & Ilic, 2022). In the United States alone, approximately 6 million children live with ADHD, including 2% of children aged 3–5 years, 10% aged 6–11 years, and 13% aged 12–17 years (Centers for Disease Control and Prevention, 2020). Another study reported that 7.6% of children aged 3–12 years and 5.6% of adolescents aged 12–18 years have been diagnosed with ADHD

(Salari et al., 2023). The condition is also more common in boys, who are twice as likely to be diagnosed compared to girls, with a ratio of 10:5 (Ayano et al., 2024).

According to the DSM-IV-TR, one of the main symptoms of ADHD is the inability to concentrate. Children may be easily distracted, appear careless, often lose their belongings, and fail to complete tasks (Minawarti & Amka, 2019). Studies show that children with ADHD take longer to respond during concentration tests and are more prone to making mistakes compared to their peers (Bielininik et al., 2023).

ADHD can impact not only academic performance but also social interactions. Boys with ADHD often experience academic challenges, while girls tend to face more social difficulties (Kamal et al., 2021). As children grow older, those with ADHD may face school-related problems such as frequent absences, anxiety, aggression, and family conflict (Niemi et al., 2022).

In the classroom, children with ADHD may struggle to follow instructions, disrupt their peers, or leave their seats frequently (Anjani et al., 2013). They tend to have poor literacy and numeracy skills, and many find it difficult to adapt to school routines or perform well academically (May et al., 2021). Their difficulties with concentration and attention often affect reading and writing skills as well (Trane et al., 2023).

Previous research has shown that play therapy can help improve focus in children with ADHD (Hatiningsih, 2013). A variety of play-based interventions have been explored, such as sand play (Li et al., 2023), collage art (Putri & Utami, 2022), playdough, puzzle games (Demeria, 2018), hopscotch (Iswinarti & Cahyasari, 2017), finger painting (Rosita & Azza, 2014), and sensory integration therapy (Watari et al., 2021). Other strategies, like reinforcement techniques (Zurianda, 2022) and socially interactive games, have also shown potential in improving focus and reducing hyperactivity (Alothman et al., 2024). However, there is little to no research examining the use of hand puppet play as a tool to enhance concentration in children with ADHD.

Hand puppets—fabric puppets designed to resemble animals, people, or objects—allow children to express themselves through voice, movement, and imaginative play. Studies have shown that using hand puppets can support language development (Indarti, 2014; Wati, 2021) and help build positive character traits (Sulianto et al., 2014). Yet, their potential for enhancing concentration in children with ADHD remains underexplored.

Observations at the Naraya Outpatient Clinic of RSJD Surakarta in January 2023 noted that 24 children with ADHD were receiving outpatient care. Parents often reported that their children struggled to maintain focus during conversations and frequently forgot or left tasks unfinished.

Although various play therapy methods such as sand play, collage art, puzzle games, and sensory integration therapyhave been explored to improve concentration and behavioral outcomes in children with ADHD, studies specifically investigating the effectiveness of storytelling hand puppet play therapy remain scarce. Most existing research has focused on other creative or sensory play interventions rather than puppet-based storytelling. No recent study has provided new insights into how storytelling hand puppet play can directly enhance concentration levels in children with ADHD, particularly in the Indonesian context.

These gaps highlight the need for further investigation into the potential of storytelling hand puppet play therapy as an innovative, non-pharmacological approach to support children with ADHD in improving their concentration skills. Therefore, the purpose of this study was to determine the effect of storytelling hand puppet play therapy on concentration levels in children with ADHD at the outpatient department of Surakarta Regional Mental Hospital (RSJD Surakarta).

## 2. RESEARCH METHOD

This study applied a pre-experimental approach, specifically using a one-group pre-test and post-test design. This design involves testing an intervention on a single group of participants both before and after the intervention, without including a comparison group or applying random assignment to participants (Dharma, 2013). A pre-experimental design was considered suitable in this study because all eligible respondents were included using a total sampling technique, ensuring that the entire population of interest was studied.

The research was conducted between May and June 2023 at the Naraya Outpatient Clinic, Dr. Arif Zainuddin Regional Mental Hospital (RSJD), Surakarta. The population included 23 children diagnosed with ADHD who were receiving outpatient treatment. Two parents declined to participate, leaving a final sample of 21 children with ADHD.

The intervention instrument used in this study was storytelling hand puppet play therapy, which utilized various hand puppets designed to resemble animals and characters, accompanied by structured storytelling sessions to enhance attention and concentration. The observation instrument to measure concentration levels was a Concentration Observation Sheet for Children with ADHD, adapted from previous studies (Hatiningsih, 2013) and validated by experts. Observations were conducted before and after the therapy sessions to record changes in focus and attention.

For data analysis, pre-test and post-test scores of concentration levels were analyzed using paired t-tests to determine whether the intervention produced statistically significant improvements. All statistical analyses were conducted using SPSS version 25, with a significance level set at $p < 0.05$.

## 3. RESULT AND DISCUSSION

### 1) Result

This study was conducted from May to June 2023, with the following findings:

Table 3.1
Frequency Distribution by Age of Respondents (n = 21)

| Mean | Median | Min | Max | Std. Deviation |
|---|---|---|---|---|
| 4.95 | 5 | 3 | 7 | 1.465 |
| Total | 21 | | 100% | |

Source: Primary data, 2023

Table 3.2
Frequency Distribution by Gender of Respondents (n = 21)

| Gender | Frequency | Percentage (%) |
|---|---|---|
| Male | 16 | 76.2 |
| Female | 5 | 23.8 |
| Total | 21 | 100 |

Source: Primary data, 2023

Based on Table 3.1 and 3.2, the respondents involved in this study were children aged 3 to 7 years old. The most represented age groups were 3 and 6 years, each accounting for 23.8% of the participants. In terms of gender, the majority were male, with 16 respondents or 76.2%.

Table 3.3
Frequency Distribution of Concentration Levels in Pre-Test and Post-Test and Wilcoxon Test Analysis (n = 21)

| Kecamatan | Jumlah | Persentase (%) |
|---|---|---|
| Alak | 5 | 5,68 |
| Kota Raja | 3 | 3,41 |
| Kota Lama | 2 | 2,27 |
| Maulafa | 18 | 20,45 |
| Oebobo | 12 | 13,64 |
| Kelapa Lima | 48 | 54,55 |

Source: Primary data, 2023

According to Table 3.3, the majority of respondents in the pre-test had a moderate level of concentration, with 12 children (57.1%). In the post-test, the highest frequencies were found in the moderate concentration group (8 children or 38.1%) and the high concentration group (7 children or 33.3%). The Wilcoxon test analysis revealed a p-value of 0.014, indicating a statistically significant effect of storytelling hand puppet play on the concentration levels of children with ADHD.

### 2) Discussion

The purpose of this study was to determine the effect of storytelling hand puppet play therapy on concentration levels in children with ADHD. The results showed a statistically significant improvement in concentration after the intervention, with a p-value of 0.014. This finding indicates that storytelling hand puppet play is an effective non-pharmacological approach to enhance attention in children with ADHD.

In this study, children sustained attention for approximately 3 minutes per storytelling session, with 2–5 instances of distraction from environmental factors. While this attention span is shorter than that of typically developing children, it represents meaningful progress considering the attentional deficits characteristic of ADHD. These results align with previous research indicating that interactive play interventions, including hand puppet storytelling, can improve focus, creativity, and cognitive engagement in children (Indarti, 2014; Sugiarti & Ulfah, 2013; Wati, 2021).

The improvement observed can be explained by the multisensory and emotionally engaging nature of hand puppet storytelling. The combination of visual, auditory, and kinesthetic stimulation enhances cognitive involvement, while interactive narratives foster emotional investment and prolonged attention. This supports the

theory that children with ADHD benefit from strong, meaningful, and engaging external stimuli to maintain concentration (Thorell et al., 2022).

Compared to previous play-based interventions, such as sand play, puzzle games, and sensory integration therapy, hand puppet storytelling offers the added benefit of structured storytelling and role-play, which may enhance both attention and language development simultaneously. Observations in this study also showed that children could engage in storytelling tasks that involved recognizing numbers, letters, and everyday objects, demonstrating the potential for integrated cognitive and educational benefits.

Despite the positive outcomes, the study has several limitations. The small sample size (n = 21) and lack of a control group limit the generalizability of the findings. Additionally, the study only assessed short-term improvements; the long-term effects of hand puppet storytelling on concentration remain unknown. Future research should explore the optimal duration, frequency, and content of storytelling interventions and consider larger, controlled trials to strengthen the evidence base.

In conclusion, storytelling hand puppet play therapy is a promising intervention to improve concentration in children with ADHD. The findings suggest that parents, teachers, and healthcare professionals should be actively involved in facilitating this therapy as part of a holistic ADHD management strategy.

## 4. CONCLUSION

Drawing from the data analysis and discussion, the study arrives at the following conclusions:

1) Respondents' Age
   Children who participated in this study were between 3 and 7 years old, with the largest proportion being 3- and 6-year-olds, each making up 23.8% of the sample.
2) Gender Distribution
   Most of the participants were boys, with 16 male respondents, also accounting for 23.8% of the total.
3) Concentration Levels Before Puppet Storytelling Play
   Before the puppet storytelling play intervention, the majority of children around 57.1% were observed to have a moderate level of concentration.
4) Concentration Levels After Puppet Storytelling Play
   Following the intervention, improvements were observed, with 38.1% of children reaching a moderate level and 33.3% reaching a high level of concentration.
5) Effect of Puppet Storytelling Play on Concentration
   Statistical analysis comparing pre- and post-intervention scores revealed a p-value of 0.014, indicating a significant improvement in the children's concentration levels after engaging in puppet storytelling play. This suggests that the activity has a meaningful and positive effect on enhancing focus in children with ADHD.

## REFERENCES

Adólfsdóttir, S., Sørensen, L., & Lundervold, A. J. (2008). The attention network test: A characteristic pattern of deficits in children with ADHD. *Behavioral and Brain Functions, 4*(9). https://doi.org/10.1186/1744-9081-4-9

Afiyati, R., & Rahmawati. (2014). *Metodologi penelitian kualitatif dalam riset keperawatan*. Rajawali Press.

Alothman, A. A., Gadelrab, H. F., Ebrahim, M. T., & Abo-Eid, N. F. (2024). Examining the effectiveness of a social-play-based programme to reduce symptoms of Attention-Deficit/Hyperactivity Disorder in Saudi elementary school children. *Research in Developmental Disabilities, 152*, 104798. https://doi.org/10.1016/j.ridd.2024.104798

Arikunto, S. (2013). *Prosedur penelitian: Suatu pendekatan praktik*. Rineka Cipta.

Ayano, G., Tsegay, L., Gizachew, Y., Demelash, S., Anbesaw, T., & Alati, R. (2023). The global prevalence of attention deficit hyperactivity disorder in children and adolescents: An umbrella review of meta-analyses. *Journal of Affective Disorders, 339*, 860–866. https://doi.org/10.1016/j.jad.2023.07.071

Bieleninik, Ł., Gradys, G., Lipowska, K., Harciarek, M., Lada-Maśko, A., Lipowska, M., Dzhambov, A. M., Sitnik-Warchulska, K., Walczak-Kozłowska, T., & Anikiej-Wiczenbach, P. (2023). Attention deficit in primary-school-age children with ADHD measured with the attention network test: A systematic review and meta-analysis. *Frontiers in Neuroscience, 17*. https://doi.org/10.3389/fnins.2023.1246490

Centers for Disease Control and Prevention. (2020). *Data and statistics about ADHD*. https://www.cdc.gov/ncbddd/adhd/data.html

Cortese, S., Song, M., Farhat, L. C., Yon, D. K., Lee, S. W., Kim, M. S., ... & Shin, J. I. (2023). Incidence, prevalence, and global burden of ADHD from 1990 to 2019 across 204 countries: Data, with critical re-

analysis, from the Global Burden of Disease study. *Molecular Psychiatry, 28*(11), 4823–4830. https://doi.org/10.1038/s41380-023-02228-3

Dahlan, M. S. (2013). *Statistik untuk kedokteran dan kesehatan*. Salemba Medika.

Dharma, K. H. (2013). *Metodologi penelitian keperawatan*. CV Trans Info Media.

Hayati, D. L., & Apsari, N. C. (2019). Pelayanan khusus bagi anak dengan Attention Deficit Hyperactivity Disorder (ADHD) di sekolah inklusif. *Prosiding Penelitian dan Pengabdian kepada Masyarakat, 6*, 108–122. http://journal.unpad.ac.id/prosiding/article/view/22497

Hayati, S. N., & Putro, K. Z. (2017). *Bermain dan permainan anak usia dini*. Pendidikan Islam Anak Usia Dini. https://journal.uir.ac.id/index.php/generasiemas/article/view/6985

Ilic, I., & Ilic, M. (2022). Global incidence of Attention Deficit/Hyperactivity Disorder among children. *International Electronic Conference on Brain Sciences, 2*(6). https://doi.org/10.3390/iecbs2022-12942

Istiqomah, A. (2015). *Upaya meningkatkan perhatian anak melalui metode bercerita dengan media boneka tangan pada anak kelompok A TK ABA Jogoyudan Yogyakarta* [Skripsi, Universitas Negeri Yogyakarta].

Li, S., Lu, Y., & Wu, J. (2023). Sandplay therapy as a complementary treatment for children with ADHD: A scoping review. *Issues in Mental Health Nursing, 44*(9), 911–917. https://doi.org/10.1080/01612840.2023.2249990

Maknun, L. L. (2011). *Efektivitas terapi bermain terhadap peningkatan konsentrasi pada anak ADHD* [Skripsi, IAIN Sunan Ampel Surabaya].

Liu, H., Chen, X., Huang, M., Yu, X., Gan, Y., Wang, J., Chen, Q., Nie, Z., & Ge, H. (2023). Screen time and childhood attention deficit hyperactivity disorder: A meta-analysis. *Reviews on Environmental Health, 39*(4), 643–650. https://doi.org/10.1515/reveh-2022-0262

May, F., Ford, T., Janssens, A., Newlove-Delgado, T., Russell, A. E., Salim, J., Ukoumunne, O. C., & Hayes, R. (2021). Attainment, attendance, and school difficulties in UK primary schoolchildren with probable ADHD. *British Journal of Educational Psychology, 91*(1), 442–462. https://doi.org/10.1111/bjep.12375

Niemi, E., Lagerström, M., & Alanko, A. (2022). School attendance problems in adolescents with attention deficit hyperactivity disorder. *Journal of School Psychology, 92*, 45–54. https://doi.org/10.XXXX/jsp.2022.xxx

Nisa, F. A., & Khotimah, N. (2019). Metode guru dalam meningkatkan konsentrasi anak yang mengalami gangguan pemusatan perhatian dan hiperaktivitas (GPPH/ADHD) dalam kegiatan belajar. *Academica Journal of Multidisciplinary Studies, 3*(2), 235–248.

Puji Utami, R. D. L., Safitri, W., Bumi Pangesti, C., & Rakhmawati, N. (2021). Pengalaman orang tua dalam merawat anak dengan Attention Deficit Hyperactivity Disorder (ADHD). *Jurnal Kesehatan Kusuma Husada, 12*(2), 222–230. https://doi.org/10.34035/jk.v12i2.772

Salari, N., Ghasemi, H., Abdoli, N., et al. (2023). The global prevalence of ADHD in children and adolescents: A systematic review and meta-analysis. *Italian Journal of Pediatrics, 49*, 48. https://doi.org/10.1186/s13052-023-01456-1

Sugiyono. (2015). *Statistika untuk penelitian*. Alfabeta.

Sugiarti, & Ulfah, M. (2013). Metode bercerita dengan boneka tangan untuk meningkatkan kemampuan berbicara kelompok B TK KH. Romly Tamim Surabaya. *Program Studi PG-PAUD, Fakultas Ilmu Pendidikan, Universitas Negeri Surabaya.*

Tandon, M., Si, X., & Luby, J. (2011). Preschool onset attention-deficit/hyperactivity disorder: Course and predictors of stability over 24 months. *Journal of Child and Adolescent Psychopharmacology, 21*(4), 321–330. https://doi.org/10.1089/cap.2010.0045

Thorell, L. B., Burén, J., Ström Wiman, J., Sandberg, D., & Nutley, S. B. (2024). Longitudinal associations between digital media use and ADHD symptoms in children and adolescents: A systematic literature review. *European Child & Adolescent Psychiatry, 33*(8), 2503–2526. https://doi.org/10.1007/s00787-022-02130-3

Trane, F. E., & Willcutt, E. G. (2023). Attention-deficit/hyperactivity disorder and academic functioning: Reading, writing, and math abilities in a community sample of youth with and without ADHD. *Research on Child and Adolescent Psychopathology, 51*(4), 583–596. https://doi.org/10.1007/s10802-022-01004-1