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The Application of Lego Play Therapy For Children at Risk of Developmental Disorders Due to Gadget Addiction

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ABSTRACT

Purpose: The purpose of this study is to examine the effectiveness of Lego play therapy in reducing gadget addiction among school-aged children who are at risk of developmental disorders. **Methods:** This study employed a qualitative design using a case study approach with a pediatric nursing care perspective. The subject was a 9-year-old girl experiencing gadget addiction. Lego play therapy was implemented over three consecutive days as an intervention to divert attention from gadget use while stimulating cognitive, creative, and social abilities. **Results:** The results demonstrated a reduction in the intensity of gadget use following the intervention. In addition, improvements were observed in the child's cognitive function and social responsiveness, indicating positive behavioral changes after Lego play therapy. **Conclusions:** This case study concludes that Lego play therapy is effective in reducing gadget addiction in school-aged children. Beyond functioning as an attractive alternative to gadget use, Lego play therapy also supports cognitive and social development. Therefore, it can be considered a viable non-pharmacological intervention in pediatric nursing care to address challenges arising from excessive gadget use in the digital era.

Keywords:, child development; cognitive therapy; gadget addiction ; lego, play therapy

Introduction

In the digital era, technological advancements have brought significant impacts on all aspects of human life, including children's development. One of the concerning issues emerging from these advancements is gadget addiction among children. The excessive and uncontrolled use of gadgets, such as smartphones and tablets, has led to various developmental problems, particularly in cognitive, emotional, and social domains (Pradiansyah et al.,2025).

Children who are addicted to gadgets often exhibit symptoms such as decreased concentration, reduced learning motivation, and a lack of social interaction. Instead of engaging in meaningful play or communication, many children spend most of their time on screens, which may cause delays in speech, emotional detachment, and an increased risk of developmental delays.

The Komisi Perlindungan Anak Indonesia (KPAI) reported that in 2020, over 71% of school-aged children owned and frequently used gadgets, and 55% of them spent a significant

amount of time playing online or offline games. This trend raises concerns among parents, educators, and healthcare providers due to its potential long-term effects.

Religious perspectives also reflect similar concerns. Surah Al-Jumu'ah (62:11) in the Qur'an describes how people can be distracted from meaningful activities by entertainment and trade, reminding believers that what is with Allah is better than worldly distractions. Similarly, a Hadith by Prophet Muhammad Shallallohu Alaihim Wassalim advises Muslims to leave things that do not benefit them, which can be applied to unnecessary digital consumption.

One promising intervention to address gadget addiction is play therapy using educational toys such as Lego. Lego play encourages children to develop creativity, imagination, fine motor skills, and problem-solving abilities. It can also serve as a therapeutic tool that allows children to express themselves and shift their focus from screen-based entertainment to hands-on, constructive activities.

This study explores the implementation of Lego play therapy as a nursing intervention for school-aged children at risk of developmental disorders due to excessive gadget use. This study aims to examine the effectiveness of Lego play therapy in reducing gadget addiction among school-aged children who are at risk of developmental disorders.

Methods

Design and setting

This study used a qualitative case study design with a nursing care approach. The intervention was conducted in a home setting located in Desa Cisontrol, Kecamatan Rancah, Kabupaten Ciamis. The study took place over a period of three days, focusing on the therapeutic application of Lego play for a child experiencing gadget addiction.

Population and sampling

The study population consisted of children aged 6–12 years who were identified as having excessive gadget use and signs of developmental delay. The sample was selected using purposive sampling based on inclusion criteria: (1) child aged 9 years, (2) showing behavioral signs of gadget addiction, and (3) cooperative with therapy activities. Only one subject who met these criteria was included as this was a single case study.

Instrument and measurement

Data collection instruments included observation sheets, structured interview guides, and documentation forms. Behavioral changes were assessed based on the child's ability to shift attention from gadgets to interactive play, communication improvements, and cognitive response during Lego play sessions. Measurements focused on social interaction, focus, emotional expression, and activity participation.

Data collection and analysis

Data were collected through direct observation, parental interviews, and daily field notes. The intervention was conducted over three consecutive days, where the child participated in structured Lego play sessions. Data were analyzed descriptively to identify changes in behavior before and after therapy. Triangulation through observation, interviews, and documentation helped ensure data validity.

Results

This case study focuses on An. A, a nine-year-old girl in the third grade of elementary school, residing in Cisontrol Village, Rancah District, Ciamis Regency. An. A became the subject of this study after exhibiting alarming symptoms of gadget addiction. Her parents reported that she was spending a significant portion of her day on a smartphone, leading to a noticeable reduction in her interest in studying, decreased emotional responsiveness, and nearly non-existent interaction with her peers. The baseline condition revealed several key findings. An. A displayed a limited focus and attention span during conversations. She clearly preferred screen-based activities over engaging in physical play. Her verbal communication was reduced, and she found it difficult to initiate interaction. The most evident symptom was her tendency toward irritability when her gadget was taken away.

Given this condition, an intervention using Lego play therapy was immediately implemented. The therapy was conducted for three consecutive days. Each session was structured to last between 30 and 45 minutes, following a structured therapeutic play protocol. An. A was encouraged to build Lego structures, both independently and with minimal guidance. The goal was to stimulate creativity, enhance concentration, and promote verbal expression. The observed outcomes after the third session indicated significant positive changes. An. A began showing decreased interest in requesting the gadget during therapy times. Her verbal engagement with the facilitator and family members increased. She demonstrated great enthusiasm and creativity in constructing the Lego models. Her emotional regulation improved, and she showed greater patience while completing tasks. Crucially, she was willing to share her creations and explain them in her own words. These changes clearly indicate that Lego play therapy successfully diverted An. A's attention from screen use and effectively stimulated her social and cognitive skills.

Discussion

This exploratory case study suggests that structured Lego play may contribute to reducing screen dependency while encouraging cognitive and social engagement. While the observed improvements in attention span, emotional regulation, and verbal interaction are promising, they must be interpreted cautiously due to the study's methodological limitations. The lack of standardized assessment tools and reliance on qualitative observation mean that findings may reflect individual variability rather than generalizable effects. Despite this, the study highlights the potential value of therapeutic play in pediatric nursing care.

Restate the Key Findings

The child initially exhibited classic signs of gadget addiction: short attention span, reduced verbal interaction, and preference for digital entertainment. These findings are consistent with previous literature indicating that excessive screen use in children correlates with impaired cognitive, emotional, and social development (Sauri et al., 2022; Juliani & Wulandari, 2022).

After three sessions of Lego play therapy, the child displayed improved focus, emotional regulation, and verbal expression. These outcomes align with research by Palupi et al. (2023), which demonstrated that Lego play enhances children's attention, problem-solving, and verbal communication.

Interpret the Results

The results suggest that Lego play therapy serves as a constructive and engaging method to redirect children's attention from gadget usage to hands-on, imaginative play.

The observed increase in the child's verbal expression, focus, and willingness to socialize implies that Lego play activates cognitive and emotional pathways that may have been dulled by prolonged screen exposure.

The therapy process supports the principle that children learn best through play. By involving problem-solving, planning, and creativity, Lego play stimulated the child's cognitive functions, encouraging self-expression and social interaction. This aligns with developmental theories suggesting that play is essential for brain development and emotional regulation in children.

Furthermore, the gradual decline in gadget-seeking behavior during the intervention indicates a potential behavioral shift. The positive reinforcement provided during Lego sessions may have contributed to increased self-efficacy and emotional satisfaction, reducing the child's need for screen-based stimuli.

Compare with Previous Studies

The findings of this case study align with existing literature that supports the use of therapeutic play—particularly Lego play—as an effective intervention to stimulate cognitive and social development in children. According to Palupi et al. (2023), Lego therapy significantly improves children's concentration and ability to follow instructions, which was also observed in this study.

Yuniasih & Watini (2022) emphasized that Lego, as a form of constructive play, fosters imagination, problem-solving, and self-expression. These effects were evident in the child's increased ability to communicate her thoughts and build creative structures after therapy sessions. Similarly, Mangundap (2020) argued that complex social interactions through play enhance intellectual and interpersonal skills in school-aged children.

Moreover, Zega (2023) noted that educational toys like Lego provide developmental benefits by engaging both fine motor and cognitive skills, helping to shift children from passive to active learning modes. This reinforces the findings of the present study where the child's active participation replaced screen-based behaviors.

What distinguishes this study is its integration of spiritual and cultural dimensions. References to Islamic teachings, such as Surah Al-Jumu'ah (62:11) and the Hadith "leaving things that do not benefit," highlight that managing gadget use also has moral and ethical dimensions, especially within religious communities. This contextual foundation further strengthens the relevance of this intervention in culturally sensitive nursing care.

Highlight the Implications

The outcomes of this study underscore the importance of incorporating therapeutic play, such as Lego therapy, into pediatric nursing interventions—especially for children exhibiting signs of gadget addiction. This approach offers a practical, low-cost, and developmentally appropriate method that can be implemented both in clinical settings and at home.

Lego play therapy encourages creativity, focus, and verbal interaction, which are critical aspects of child development often hindered by prolonged screen exposure. By shifting the child's activity from passive digital consumption to hands-on, goal-oriented play, nurses and caregivers can foster a healthier developmental environment.

Moreover, this intervention supports holistic nursing care that addresses not only physical health but also emotional, cognitive, and social well-being. It can be integrated into community health programs, school-based health promotion, or individual nursing care plans aimed at developmental risk management.

The spiritual context included in this study also highlights that addressing gadget addiction has broader implications, reinforcing values like discipline, mindfulness, and

purposeful activity. Thus, play therapy can serve as both a clinical and moral strategy in managing the impact of digital overstimulation on children.

Discuss the Limitations

This study has several notable limitations. First, as a single-case design, the findings cannot be generalized to a larger population. The results represent a preliminary exploration and should be interpreted as such. Second, the short duration of the intervention (three days) limits the ability to assess the sustainability of behavioral changes. Third, the study relied on observational data and parental reporting without the use of standardized assessment instruments, which may introduce subjectivity and bias. Lastly, the home-based setting may have contributed to favorable responses due to the child's comfort in a familiar environment. Future studies should consider addressing these limitations through larger sample sizes, validated tools, and longer interventions.

Suggest Future Research

Future research should involve larger and more diverse samples to enhance the external validity of findings. The use of standardized, validated measurement tools to assess both gadget addiction and developmental progress is strongly recommended to improve objectivity. Additionally, longer intervention durations and post-therapy follow-up periods would be valuable in assessing the sustainability of the therapeutic benefits. Future studies might also consider comparative research designs, such as randomized controlled trials, and the integration of parent-guided interventions to assess their combined effect. Exploration in school-based or clinical settings across varied cultural backgrounds would also enrich the understanding of Lego play therapy's broader applicability.

Conclusion

This single-case study indicates that Lego play therapy holds potential as an engaging and developmentally supportive intervention for children with gadget overuse. While the findings suggest positive behavioral shifts, they should be viewed as initial observations rather than definitive evidence of efficacy. The intervention stimulated creative engagement and social interaction, demonstrating value for nursing care in a digital environment. With further empirical validation, Lego play therapy may evolve into a feasible strategy in addressing digital overexposure in children, especially when applied within culturally and spiritually aware frameworks.

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