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RESEARCH ARTICLE

Development of a Sensory-Based Play Protocol to Improve Play in Children with Sensory Processing Difficulties

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Abstract: Play is a primary occupation of childhood and essential for motor, cognitive, social, and emotional development, yet children with sensory processing difficulties often struggle to participate meaningfully in play. This study aimed to develop and validate a sensory-based play protocol designed to enhance play participation among children with sensory processing difficulties. A structured eight-week protocol comprising multi-sensory play activities targeting tactile, proprioceptive, vestibular, auditory, and visual systems was developed based on literature review and clinical insights. An evaluation form with 28 items covering content, quality, and benefits was created and administered to four pediatric occupational therapy experts. Quantitative feedback was analyzed descriptively, while qualitative suggestions were thematically reviewed. Experts rated the protocol positively for clarity, creativity, organization, and clinical applicability, while also suggesting simplification of instructions, age-appropriate modifications, and clarification of facilitator roles. Based on their feedback, refinements were made, and the title was revised to "Gaming Ideas for Occupational Therapists to Improve Sensory Processing among Children." The final version demonstrated face and content validity, and experts confirmed its feasibility and clinical relevance. The protocol provides occupational therapists and caregivers with a structured, creative resource to promote play among children with sensory processing difficulties. Future research should focus on field testing the protocol with children, measuring outcomes using standardized play assessments, and evaluating its effectiveness in larger clinical populations.

Keywords: Play, Sensory Processing Difficulties, Occupational Therapy, Protocol Development, Pediatric Rehabilitation.

INTRODUCTION

"Play is the work of childhood "-Jean Piaget Play refers to activities that are carried out for pleasure. Children are intrinsically motivated to play and they spend most of their time 'playing'. Play is one of the most common therapeutic interventions. Play is the Occupation of children. Play refers to activities that are carried out for pleasure or entertainment. Children are naturally inclined to explore their environments and to create play situations. Play can be conceptualised as activities that are chosen by the child, that are identified by the child as play and the child engages in them playfully. The various types of play include sensorimotor, constructional, imaginary and group play .Play is first and foremost a powerful medium for children. Play not only reflects a child's development and inner world, but contributes to his or her development as an active, dynamic and open-ended process that continually challenges and facilitates growth, development and individual competence. Infants, toddlers and preschool children spend most of their waking hours playing. A child's access to a variety of play materials, opportunities to make play choices and to engage in play with other children. Play involves various purposeful activities that are fun. Children learn through play. Play requires interaction between the individual and the environment. Play is one of the broad based occupational performance outcomes of sensory integration. Play is used therapeutically is to facilitate playfulness in the child. Facilitating playful interactions is important for any age child with or without a disability. Facilitating playfulness in the child can be important goal of therapy.

NEED FOR THE STUDY

Sensory input, being one of the fundamental components of the Central Nervous System when combined with play, the primary occupation of the child will definitely create a more meaningful and productive output. This has led to the formulation of this study. Also availability of similar Sensory Based Play Protocols are few.

METHODOLOGY AND RESULTS

Study Design: Descriptive study involving development of a protocol and validation by expert reviewers.

Protocol Development: Based on literature review and clinical experience, an eight-week protocol was designed. Each week included three play activities stimulating tactile, proprioceptive, vestibular, auditory, and visual sensory systems. Activities were designed to be playful, engaging, and progressively challenging. Examples included fruit matching, marble race, bubble bursting, swinging kicker, and indoor soccer.

Validation Tool: An evaluation form was created with:

Section I: 28 items across three domains—content, quality, and benefits—rated on a 4-point Likert scale (1

= Strongly Disagree; 4 = Strongly Agree). **Section II**: Open-ended questions for feedback and suggestions.

Participants: Four pediatric occupational therapists with >5 years of experience in sensory integration participated as expert validators.

Procedure: Experts reviewed the protocol and evaluation form. Feedback was obtained over two weeks.

Data Analysis: Descriptive statistics (percentage agreement) were used for quantitative data. Qualitative feedback was analyzed thematically and integrated into revisions

Quantitative Findings: Experts rated the protocol positively in most domains.

Table 1. Expert Ratings on Protocol Domains

Domain	Key Findings	Agreement (%)	Disagreement (%)
Content	Clear and simple content (100% agreement). Activities accurate for play improvement (50% agreement, 50% mixed).	75–100	0–50
Quality	Clear technical terms (75%). Creativity/originality of activities (75%). Well-organized sequence (100%).	75–100	0–25
Benefits	Useful for therapists and parents (100%). Increases awareness of sensory play (100%). Applicability beyond target population (75%).	75–100	0–25

Qualitative Feedback:

- Instructions needed simplification for parent/caregiver use.
- Some activities required facilitator guidance.
- Modifications recommended for different age groups.
- Overall impression: “well-planned, creative, and beneficial.”
- Protocol Refinement:
- Instructions simplified and made parent-friendly.
- Activity sequence reorganized for clarity.
- Final title revised to “Gaming Ideas for Occupational Therapists to Improve Sensory Processing among Children.”

CONCLUSION

The sensory-based play protocol was systematically developed and validated by expert occupational therapists. Results confirmed its clarity, creativity, and clinical relevance. It provides a structured resource for therapists and caregivers to promote play participation in children with sensory processing difficulties. Further research is required to establish its effectiveness in real-world clinical practice.

LIMITATIONS AND RECOMMENDATIONS

Limitations:

- Validation limited to four experts.
- No direct testing with children in this phase.

Recommendations:

- Pilot testing with children with SPD, outcome measurement using standardized play assessments, and large-scale clinical trials

DECLARATION: The authors have no conflict of interest

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