

Purposeful Occupational Therapy Intervention for Behavioural Competencies in Preschoolers for Transit from Home to School: A Randomized Controlled Study

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Abstract

Background: Transits are when children move from one activity to another. Everyday transits include arriving at an educational setting from home, moving from dinner to playtime, finishing playtime and cleaning up, brushing teeth and then taking a bath, and going from bath time to bedtime. Transits can be difficult for some parents, particularly when taking their young children out into the community, picking them up from educational settings, or moving between activities and routines at home. For some children, transits may be frustrating or may provoke anxiety, and it may lead to challenging behaviours.

Objective: The purpose of this study was to assess the impact of occupational therapy intervention on inappropriate behaviour of a child in preschool, while transit.

Study Design: Experimental, randomized, intervention-controlled study design was chosen for the research.

Methods: Preschoolers were divided into two groups based on randomized controlled study design. Control group were given the usual classes as provided by the school, where as experimental group were provided with occupational therapy, and early intervention program. They were assessed using the Preschool Behaviour Questionnaire (PBQ). Behaviours, attitude, signs, languages and amount and type of intermediation of the pre-schoolers and their activities needed for learning, were observed during focused group playing tasks and evaluated by the PBQ.

Result: Sixteen pre-schoolers in control and sixteen pre-schoolers in experimental group were assigned (8 females and 24 males). According to the result the experimental pre-post analysis ($P=0.00$; 95%CI: 18.96, 22.90) were statistically lower than the control group pre-post analysis ($P=0.201$; 95%CI: -8.23,35.98) and showed a significant improvement in behaviour of a pre-schooler while transit from home to school which was the principal focus area of occupational therapy.

Conclusion: The study reflected significant improvement in behavioural and emotional issues in pre-schoolers with occupational therapy and early intervention program.

Key Words: Behaviour, Occupational Therapy, Preschool, Transit

Introduction

What greater stress does a child experience than separating from the adults who love and care for them

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to preschool/kindergarten? The preschool years refer to the period of life between the ages of 3 to 5 years. The transit from home to school environment in initial phase makes the child stressed and enhances his/her emotional and behaviour issues like restlessness, irritability, fussy nature and many more. Transit planning makes these changes narrow and child adaptability to unfamiliar environment.¹ The role of occupational therapy practitioners in the school system is evolving.

Preventive strategies in the school systems are addressed through mechanisms such as early intervening services (EIS) and response to intervention. An individual with Disabilities Education Act (IDEA) allows occupational therapy practitioners to consult with and sometimes provide direct services for students in general education; especially for students struggling with learning or behaviour. This expanded role for practitioners fosters both a consultative and collaborative environment between practitioners and teachers. Occupational therapists have served this group through a variety of programs, in medical and educational settings, for many years.² Intervention for planning for transit factors and provides tips and ideas to parents, teachers, and providers on smoothing the preschool and kindergarten transit process for our children, thus creating a positive experience for our children and setting them up for high.

The study was to assess the impact of occupational therapy intervention on emotional and behaviour issues of a pre-schoolers while transition and determine the effectiveness of occupational therapy intervention on behaviour of children whilst transit activities.^{3,4}

Method

Thirty-two pre-schoolers were selected for the study based on the randomised control trial. The sample was drawn from Bal Bharti Public School. Pre-schoolers of age range 3 to 5 years (both male and females) were assessed and teachers filled the Preschool Behavior Questionnaire (PBQ) scale. After assessment those pre-schoolers who scored more than 17 percentile rank in scale, were recruited in the study. Written permission was obtained from the head of the primary school to conduct convenient randomized intervention study. Verbal consent and written informed consent were obtained from every pre-schooler's guardians and teachers, who picked to participate in the study. The study was conducted adhering to the principles of 'Declaration of Helsinki'.

The Preschool Behaviour Questionnaire

The Preschool Behavior Questionnaire⁵ is a screening tool to identify preschoolers who show symptoms, or constellations of symptoms, that suggest the emergence of emotional and behavioral issues. The PBQ is designed to be a short screening instrument. This instrument not

only shows validity in discriminating between normal and deviant populations, but also both inter-rater and test-retest reliability. To be applicable to all preschoolers, it seemed the scale should be standardized across a range of preschoolers, age three to six. The PBQ is a modification of items in the Children's Behavior Questionnaire, a checklist standardized by Michael Rutter in England in 1967 for use with elementary school-aged boys. The scale has four dimensions of emotional and behavior disturbances; total 'behavior disturbed', scale 1 'hostile-aggression', scale 2 'anxious' and scale 3 'hyperactive-distractible'. It has 30 items to score marked as doesn't apply scored as '0', applies sometimes scored as '1' and certainly applies scored as '2'. Usually, the PBQ is used by professionals who observe a child for a period ranging from 1-2 months.

First, teacher rated the children using the PBQ after a minimum contact of 3 months secondly, the questionnaire was randomly ordered to control for response bias regarding the expected development of behavioural and emotional issues. Third, children aged 5 and above were not included as per exclusion criteria.

Procedure

Pre-schoolers were recruited for the study as per the inclusion criteria (pre-schoolers(age 3-5 years with poor emotional and behavioural issues documented in school files and who scored more than 17 percentile rank) and exclusion criteria (pre-schoolers with visual or hearing loss and mentally retarded due to less percentile rank). They were divided into two groups experimental group (n=16) and control group (n=16). Experimental group was given early intervention protocol such as Fine and gross motor activities, brain game, self help skills⁶ and social skill training⁷ whereas control group continued with the same services provided by the school. Total 12 sessions were offered for 50 minutes/session. After completion of 12 sessions, data were analyzed of both the groups, based on PBQ scores.

Data Analysis

SPSS statistical software was used of 14.0 version and paired *t*-test was used for analysis for within group analysis for control and experimental behaviour scores and unpaired *t*-test was used for analysis of behaviour scores between the groups. Significance level value was

set at $P < 0.05$ at the outset of the study and 95%CI values were computed.

Results

Children in the experimental group were predicted to have significantly higher levels of aggressiveness and distractibility than children in the control group. Mean scores and standard deviations for the PBQ are presented in Table 1 and Table 2. Mean scores across groups are presented graphically in Figure 2. The PBQ scores in the domains of total behaviour disturbed,

hostile aggressive, anxious and hyperactive distractible were compared using a paired t-test to determine group differences. Results indicated significant differences within group analysis ($p \leq .000$, 95% CI= 18.96, 22.90) in all domains of the PBQ (Table 1). Secondary analysis comparing between the groups indicated that children in the experimental group had significantly higher levels of total behaviour disturbed and significantly higher scores on all subscales of the PBQ than control group ($p \leq 0.791$) (Table 2).

Table 1: Comparison of Pre and Post Intervention PBQ Score Analysis in Experimental and Control Group (Within Group Analysis)

Total behavior disturbed	N	PBQ Score Mean \pm SD	t	P (2-tailed)	95%CI Lower Limit	95%CI Upper Limit
Experimental group (pre) Experimental group (post)	16	20.9 \pm 0.9	22.65	0.000	18.96	22.90
Control group (pre) Control group (post)	16	31.8 \pm 41.4	35.98	0.201	-8.23	35.988

PBQ: Preschool behaviour questionnaire

SD: Standard deviation

CI: Confidence interval

Table 2: Comparison of Pre and Post Intervention PBQ Scores in Experimental versus Control Group (Between the Group Analysis)

Total behavior disturbed	N	PBQ Score Mean \pm SD	t	P (2-tailed)	95% CI Lower Upper	95%CI Upper Limit
Experimental group (pre) Control group (pre)	16	-2.93 \pm 43.48	-2.70	0.791	26.11, 20.23	20.23
Experimental group (post) Control group (post)	16	-10 \pm 4.81	-8.30	0.000	-12.56, -7.43	-7.43

Discussion

There is an increasing need to understand the linkage between external (environmental) and internal (individual) factors to understand behavior. Behavioural competencies may contribute to a collective group of early identifiable factors, both within the child and within the environment, which could be used to predict future development of internalizing behaviour disorders, such as anxiousness, hostile aggressive and distractibility across many diagnostic groups. The current study was not predictive in nature, but it demonstrated relationships that lend themselves to future predictive analysis. Although some people may be physiologically predisposed to react to sensations in a certain way (e.g., overresponding to sensation), it will ultimately be a combination of their inherent genetic predisposition and their environmental experiences that determine functional outcomes and potential manifestation of adult and adolescent psychopathology (Kendler & Prescott, 2006). There is still much to learn about intervention for the birth to 3 age group. Social stories were effective in improving coping skills as well as in enabling the strategies application of learned coping skills (performance) during bullying situation.⁸ Myers (2006) possible interventions to support families and children during the transition process were illustrated with an emphasis on occupational therapists' unique contribution to transition planning. The results of this study suggest that occupational therapists are participating in the transition process through strategies that incorporate both these recommended practices and the evidence-based practices identified in the literature, such as conferring with the receiving therapist to provide information about the child (i.e., current goals, participation in the sending environment), attending transition meetings and IEP meetings, and helping to develop IEPs in both early intervention and preschool. In addition, sensory integration theory suggests that the neural mechanisms of sensory modulation are adaptable (Lane, 2002), so that with direct treatment of the child, sensory reactivity may be diminished, potentially blocking causal pathways leading to the development of more severe psychiatric disorders. Chandler 1975 work suggests that a secure child mother attachment predicts competence in problem solving in toddlerhood and in the peer group in preschool and that activity level in preschoolers predicts activity level at school entry^{9,10}.

Despite these limitations, group differences were found. In addition, *p* values for mean group differences were generally moderate. This finding suggests that the groups identified in this study differed meaningfully on parameters of interest. Thus, although these results must be considered preliminary, they warrant additional investigation

Conclusion

Intervention was given to experimental group and analysis of the result reflected improvement in experimental group as compared to control group which reflects decrease in behavioural and emotional issues. The study carried out, can be considered a boon from the perspective of occupational therapy. The results show a significant improvement in behaviour of a child which is the principal focus area of occupational therapy. Hence occupational therapy intervention has proved in creating a positive experience for children while transition to school from home and setting them up for high.

In the end, the more we understand the complexity of children involved in treatment, the more effective treatment can be. Consequently, future research should assess both the effectiveness of and client satisfaction with occupational therapy interventions for children with behavioural competencies. Such studies should further consider the impact of total behaviour disturbed in moderating treatment outcomes.

Conflict of Interest- No conflicts in this work.

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Ethical Clearance- Taken from Jamia Hamdard Institutional Ethics Committee

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