



Collaborative Role of Physical Therapy in an Occupational Therapy Sensory Integrative Intensive Program: A Case Study

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INTRODUCTION

Sensory Integration Intensives are designed specifically to identify delays in sensory processing and to further determine the optimal form of sensory integration that may be most effective for those particular deficits. Once delays are identified in a patient, therapists are able to design a highly individualized sensory program that carefully balances support and challenge to address the deficits most affecting daily life. Utilization of an intensive system could potentially expedite patient progress to occur over a course of several weeks rather than months of therapy. The intensives draw from evidence based sensory integration strategies that come together to form the STAR Model, a model developed at the Sensory Therapies and Research Center. This model is used to retrain the neural pathways and focal areas of the brain related to sensory processing to appropriately process information coming into the brain that is currently resulting in maladaptive responses.

OBJECTIVE

Children with sensory processing deficits may encounter difficulty managing daily activities and environments including physical therapy. The purpose of this study was to describe the collaborative role of the physical therapist during and following a six week occupational therapy (OT) intensive program centered on improved sensory integration.

CASE DESCRIPTION

One six year old male, "S", with a diagnosis of chromosomal abnormality and attention deficit hyperactivity disorder participated in the intensive. He presented with delays in self-help skills as well as significant concerns related to behavior and sensory processing as determined by the Sensory Processing Measure for home and school (SPM Home, SPM school).

INTERVENTION

The participant received four, 60-minute, highly individualized, parent-involved OT sessions per week for six weeks. The plan followed the STAR Model and combined sensory integration, DIRFloortime®, and parent education components.

Domain	Observation with limited participation	Single home strategy project
Goal 1	Increased parent participation with parent watching from observing the sensory activities during the session	1 hour long meeting to discuss home programming, concerns, progress, and feedback
Goal 2	Continue parent participation and provide opportunities for other caregivers to participate	Continue home programming with adjustments from previous week's meeting
Goal 3	Continue parent and caregiver involvement opportunities	1 hour long meeting to discuss home programming, concerns, progress, and feedback
Goal 4	Continue parent and caregiver involvement opportunities	Continue home programming
Goal 5	Continue parent participation with an additional 1 hour long meeting with parents perform post tests	Finalize most effective home sensory therapy

Table 1 Six Week Intensive Program Parent Involvement and Home Programming

Physical Therapy Collaboration

Individualized physical therapy involvement, with support from other caregivers, included:

- regular collaborations with OT and other care providers to understand appropriate supports to assist with generalizability of the program,
- adjustments as necessary to the patient's environment,
- encouraging the utilization of favored toys and equipment across all environments to promote success,
- monitoring of consistency of response to behaviors across all caregivers, and
- maintaining consistency in schedule to promote success of the program.

OUTCOME MEASURES

- Goal Attainment Scale (GAS)- See Figure 1
- Sensory Processing Measure for Home and School (SPM Home, SPM School)

Testing occurred at baseline prior to implementation of the OT intensive program, end of the program (6 weeks), and follow-up (1.5 months) post program.

-2	-1	0	+1	+2
Redirection results in hitting or scratching the medicator as the closest person	I hit only when an object is removed from him. He does not hit when verbally told "no".	I hit only 25% of the time when object is removed or physically redirected (ouch how to prevent something)	I hit only when I provoked him by touching his brother's clothes or outside.	I does not hit or scratch at all when redirected.
Goal 3: I will sit in pajamas when mom places/jarvis articles correctly for use in positioning.				
-2	-1	0	+1	+2
I sits in pajamas with minimal assistance	I sits in pajamas with minimal assistance (pushes arm down most of the way)	I sits in pajamas with minimal assistance (pushes arm down most of the way and requires but 5 complete sit)	I sits in pajamas with minimal assistance (pushes arm down most of the way and completes them but still may need some help from mom)	I requires verbal only for movements to sit in pajamas independently
Goal 4: I will have grandparents' house following a goodbye routine.				
-2	-1	0	+1	+2
I runs away and avoids down with minimal aggressive acts.	I tolerates down taking him through the routine with moderate coaxing and minimal aggression	I performs 50% of the routine with parent facilitation to initiate and complete.	I completes the goodbye routine with consistent verbal cues and facilitation.	I takes the routine and performs it free without facilitation (once initiated)
Goal 5: I will stay in my church until dismissed for Children's Church program.				
-2	-1	0	+1	+2
I stays 5-10 minutes before fleeing a "legitimate reason" to leave.	I stays 10-15 minutes	I stays through offering portion of the service.	I stays until prayer time.	I stays the full time in the family's faith with minimal redirects.

Legend: Each of S's four goals were ranked and scaled according to the following scale: -2 = current level, -1 = some improvement, 0 = sufficient improvement, +1 = exceeding expectations, and +2 = amazing improvement.

Figure 1. Goals and goal attainment scale for S.

OUTCOMES

Post-program

- GAS: "Some improvement" to "exceeding expectations" was met on all objectives
- SPM-Home: 6/8 domains showed improvements
- SPM-School: No improvement shown, with regression in 2/8 domains.

Follow-up (1.5 months post-study)

- SPM-Home: 3/8 domains showed further improvements, with no regressions noted.
- SPM-School: 3/8 domains showed further improvements, with no regressions noted.
- No difference shown in sensory processing between home and school.

DISCUSSION

Based on post-program outcomes, the physical therapist, along with other team members, made necessary adjustments to the patient's plan and care to continue to build upon the successes of the program. Continued physical therapy intervention ensured consistency in the child's schedule and in the structure within the child's environments. Follow-up outcomes 1.5 months post program showed further improvements in both home and school assessments, with no difference between the two areas. Results also indicated improved consistency throughout the child's full day. The further support by the physical therapist and other health care providers promoted the continued success of the program past completion and allowed for maximum results.

CONCLUSIONS

The six-week, sensory-based OT intensive helped a six year old child with sensory processing deficits through improved sensory processing, praxis, and social participation in the home. Continued collaborative efforts between the physical therapist, speech language pathologist, pre-school teachers, parents, and the occupational therapist assisted in identifying and implementing successful plans to address those issues.

CLINICAL SIGNIFICANCE

Physical therapists are integral partners in serving children with sensory processing deficits working toward generalized benefits of sensory-based OT.

REFERENCES

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