INFLUENCE OF COMPLEX TRAUMA AND ATTACHMENT ON PRAXIS AND PLAY CONCERNS IN CHILDREN

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GRATITUDE

- Jane Koomar, PhD, OTR/L, FAOTA, friend, mentor and colleague whose work in trauma and sensory integration I endeavor to continue.

- To the children and adults and their families we have learned so much from and for allowing us to share their stories.

INTRODUCTION TO TRAUMA AND PRAXIS

WHY OT AND TRAUMA/ATTACHMENT

- Occupational therapists with sensory integration training are treating increasing numbers of children who also have trauma and attachment disorders.

WHY MHP AND SENSORY INTEGRATION

- Psychotherapists are treating children and adults with trauma who have sensory sensitivities secondary to trauma and can benefit from knowing how sensory strategies can help with:
  - regulation
  - body awareness
  - motor skills
  - planning and organization.
VULNERABLE POPULATIONS SEEN BY BOTH PROFESSIONS
- Post-institutionalized children from orphanages
- Children who have received foster care
- Premature infants/medically fragile
- Individuals with autism
- Inner city/ lower income

DIAGNOSES ASSOCIATED WITH SENSORY PROCESSING AND TRAUMA DIAGNOSES
- ADHD, Learning Disorders and Developmental Coordination Disorders
- Anxiety Disorders (including Obsessive-Compulsive Disorder, Panic)
- PTSD/Attachment Disorders
- Mood disorders (Major Depressive Disorder, Bipolar Disorder)
- Oppositional Defiant/Conduct Disorder

SOURCES OF TRAUMATIC STRESS
- Environmental:
  - Man-made
  - Natural disasters
- Societal:
  - Terrorism
  - Community/school violence
  - Military Combat

SOURCES OF TRAUMATIC STRESS
- Physical:
  - Accidents
  - Disease
  - Medical procedures
  - Birth trauma
- Relational:
  - Loss of a loved one
  - Domestic violence
  - Neglect
  - Physical abuse
  - Sexual abuse

TRAUMA, PRAXIS AND AROUSAL REGULATION
- Regulation of arousal a primary concern in trauma interventions
- Arousal regulation may be affected by
  - Sensory stimuli
  - Task demands
  - Motor skills
  - Emotional/social demands
- Not all dysregulation of arousal is due to sensory may be due to praxis-related issues

PRAXIS, PLAY AND TRAUMA
- Motor performance problems and developmental delays are recognized in children who demonstrate trauma and attachment concerns
- Praxis allows one to adaptively interact with the world of people and things around them
- Traumatic experiences interfere with the ability to adaptively interact with the world
WHAT IS PRAXIS?

The ability to make an adaptive response to an environmental demand.

PRAXIS, PLAY AND TRAUMA

- Issues that disrupt development of praxis interfere with adaptive behavior like play
- However, the motor implications of trauma is a little discussed area of functioning

PLAY AND TRAUMA

- Play depends on good praxis in typical development and is a mechanism by which children develop more complex praxis skills
- Play is part of development of and regulation of social behaviors...when children cannot play they cannot interact well with others
- Play with caregivers can promote bonding and attachment

PLAY AND TRAUMA

- Traumatic experiences are known to interfere with development of social aspects of play
- Literature focuses on play therapies and child’s recreation or processing of traumatic event with little to no attention paid to other aspects of play from a developmental perspective

WHY TALK ABOUT PRAXIS AND PLAY

- Understand the relationship between praxis, play, adaptive behavior and arousal regulation
- Understand what is known about the relationship between praxis, play, adaptive behavior and trauma and attachment concerns
- Recognize ways to begin to address praxis, play and adaptive behavior in traumatized children.

TRAUMATIC STRESS IMPACTS PRAXIS AND PLAY

- Dysregulates physical functioning
- Interferes with relationships
- Disrupts beliefs about oneself, others and the world
RELATIONSHIP BETWEEN AROUSAL AND PRAXIS IN SENSORY INTEGRATION

WHAT DO WE KNOW ABOUT PRAXIS AND TRAUMA/ATTACHMENT

TRAUMA AND NEURONAL MODELS
- Trauma results in difficulties regulating emotions and behavior
  - Results in decreased attention and increased anxiety
  - Trauma interferes with the formation of neuronal models - needed for development of praxis

ATTACHMENT
- Attachment experiences are an important part of the development of basic motor skills such as holding, eye contact, reaching
- Attachment experiences provide opportunities to engage in sensory exploration
- Early parent-infant play is an important part of attachment bonding

TRAUMA AND MOTOR SKILLS
- Populations that frequently experience trauma are known to have delayed motor skills
  - Van Der Kolk
  - Bruce Perry

CONNECTIONS BETWEEN TRAUMA AND PRAXIS
- Research on specific populations but not general trauma populations
  - Post-institutionalized children - adoptees
    - Deprivation
    - Decreased SIPT scores - PPr, OPr, PVC, SPr
    - Decreased balance and bilateral coordination (cerebellar/vestibular)
- Foster children who experienced trauma or neglect
  - 84% of children had problems with planning and ideas on SPM
  - Males had more “Some problems”; girls had more “definite problems”
**Connections between Trauma and Praxis**

- Premature infants and medically fragile
  - Delayed motor skills
  - High incidence of SI problems
  - Delayed somatosensory processing

- Physically abused children
  - Atypical motor patterns
  - Lack of movement/passivity
  - Delayed motor skills

**Potential Neurobiological Connections between Trauma and Praxis**

- Martin Teichert, et al

  - Limbic irritability
    - Temporal lobe epilepsy, increased EEG (brain wave) abnormalities.

  - Deficient development and differentiation of the left hemisphere
    - Throughout cerebral cortex and the hippocampus (memory retrieval)

**Aspects of Praxis**

- Ideation
- Motor Organization
- Feedback
- Feedforward
- Sequencing/Organization
**IDEATION**

- **Definition:**
  - The process of conceptualizing intentional and purposeful actions, identifying a goal for the action, accessing internal schemas of the action, and motor preparation of the act.
  - Is dependent on the knowledge of action and object affordances.

**MOTOR ORGANIZATION**

- Organizing actions for use
- Motor Planning
- Bilateral Coordination
- Projected Action Sequences

**MOTOR PLANNING**

- **Definition:**
  - The ability to plan, order and sequence a series of intentional motor actions
  - Related to and depends on the ability to sequence
  - Depends primarily on somatosensory inputs

**BILATERAL COORDINATION**

- **Definition:**
  - Involves organization and coordination of various parts of the body
  - Depends primarily on vestibular inputs
  - Develops from primitive postural reflexes

**PROJECTED ACTION SEQUENCES**

- **Definition:**
  - Involves planning and organizing actions that require timing and movement through space
  - Usually performed automatically and planning is largely unconscious
  - Depends primarily on vestibular, proprioceptive, and visual inputs

**ASPECTS OF PLAY DEVELOPMENT**

- **Demonstration of constructs of play**
- **Types of play**
- **Developmental levels**
- **Social stages of play**
- **Playfulness**
- Approach that one takes toward an activity to make it play.
CHARACTERISTICS OF CHILDREN WITH PRAXIS DISORDERS

- Clumsy child
- Problems with sports, dressing, eating, handwriting
- Disorganized
- Longer than average to learn new tasks
- Frustrated
- Does not know what to do
- Maybe socially awkward in a physical sense
- Poor body awareness
- Poor impulse control

DECREASED IDEATION

- Difficulty with novel experiences
- Refusals or avoidance of new physical tasks
- Low frustration tolerance for learning
- Decreased exploration or exploratory play
- May be bossy or controlling to the extent of bullying

DECREASED MOTOR PLANNING

- Decreased ability to plan, organize or complete occupations
- Decreased pride and confidence in abilities
- Decreased perceptions of mastery of environment
- Difficulties planning body movements
- Closely monitors others doing tasks
- Avoidance of or asks assistance for challenging tasks
- Repetition of unworkable plans

DECREASED SEQUENCING AND ANTICIPATION OF ACTION

- Problems following directions
- Difficulty with multi-step activities
- Difficulty anticipating upcoming events

- Motor problems can manifest differently in different clients depending on type of trauma and other factors

CASE: AVIS - MEDICALLY FRAGILE INFANT

- Problems following directions
- Difficulty with multi-step activities
- Difficulty anticipating upcoming events
WHAT ABOUT INTERVENTION?

AYRES' SENSORY INTEGRATION INTERVENTION

The Core Sensory Opportunities Are Body Based: Proprioceptive, Tactile, and Vestibular.

SI INTERVENTION PROMOTES:

- Regulation of the nervous system to decrease hyperarousal.
- Grounding in one’s own body experiences to increase a sense of stability and power.
- Development of foundation skills for postural, motor, social/emotional and cognitive skills to increase resiliency.
- Neuropathways supporting differentiation and integration.
**POSTULATES CONNECTING TRAUMA AND PRAXIS INTERVENTION**

- van der Kolk - Organism can heal when client feels safe and is in a state of joy
- Perry - Organism can heal if sense of safety is enhanced and repetition can occur to develop new neuronal models (Perry & Szalavitz, 2006)
- Ayres - With the optimum-for-growth situation, the child “turns on” with an obvious zest (1972)

**IMPORTANCE OF PARENTAL ROLE**

- Allow the parent to have a greater role in the therapeutic process of OT with a sensory integration focus
- Sessions not only address the sensory processing needs of the child, but also allow the development of attachment to become a key component

Rozelle, Donnis, Koomar

**GENERAL PRINCIPLES FOR PRAXIS INTERVENTION**

- Establish physical and emotional safety
- Child direction
- Active participation in sensory motor experiences
- The just right challenge
- Adaptive response

**ACTIVITIES FOR MOTOR PLANNING**

- Ball pit
- Jello Squishes
- Crawling and Rolling
- Climbing
- Tire Swing

**BALL PIT**

**JELLO SQUISHES**
ROLLING

CRAWLING

CONSIDERATIONS WHEN ADDRESSING PRAXIS WITH TRAUMATIZED CHILDREN
- Trauma triggers
- Dissociation & safety
- Playing with fears
- Competition

CONSIDERATIONS WHEN ADDRESSING PRAXIS WITH TRAUMATIZED CHILDREN
- Superhero play
- Lovies, transitional objects, substitutes
- Storytelling

USING LOVEYS IN PLAY

ACTIVITIES FOR BILATERAL COORDINATION AND SEQUENCING
- Pulling Game
- Block Knock
- Ring Game
- Obstacle Courses
- Scooter Board Challenges
- Net, Tire and Glider Swings
PULLING

TRUNK ROTATION

SCOOTER CHALLENGES

KNOCK BLOCKS

SCOOTER TARGETS

ACTIVITIES FOR PROJECTED ACTION SEQUENCES

- Net Swings and Rings
- Scooter Boards and Targets
- Targeting Games
- Trapeze Games
- Bolster and Glider Swings
Jousting

Reaching

Landing

Balancing and Targeting

Trapezes

Net Swings
ATTACHMENT ORIENTED PROTOCOL
SANDY GLOVAK, OTR
- Delight in the child, allow the child to know how much you enjoy him or her
- Dance with the child
- Focus on parents and help them get a playful rhythm going with the child
- Match the vitality level of emotion
- Create clear verbal and nonverbal communication
- Talk for child and check on your accuracy
- Parent does all comforting and safety monitoring
- Any treats come from parent, not therapist

WHY AN INTERDISCIPLINARY, COLLABORATIVE TEAM MODEL IS NEEDED:
- Repair is needed on several levels
- Individual professionals have limited knowledge & skill
- Trauma treatment requires multiple helpers with myriad skill sets
- Team offers “potential space” for physiological & attachment repair

SAFE PLACE FEASIBILITY PILOT PROGRAM REVIEW

SAFE PLACE PROGRAM
- Dan Hughes and Jane Koomar teamed up to combine the PACE Model with SI principles
- PLACE for parents -Playfulness, Love, Acceptance, Curiosity and Empathy with
- SAFE, sensory attunement focused environments based on SI theory.

PROGRAM FORMAT
- Two 1-hour direct intervention sessions/week for 12 weeks
- One 1-hour consultation session with parent/week
- One 1-hour collaboration treatment planning time for OT and MHP
- Personnel included OT, Psychiatrist, Mother, Child
- Additional sessions with Father and Auntie (nanny caregiver)

Creating a SAFE PLACE for the special children in our lives.
**DESIGN**
- Initial screening for trauma & attachment concerns
- Initial assessment and GAS goal setting
- Baseline - no treatment period 10 weeks
- Post-baseline assessment
- SAFE PLACE Intervention - 12 weeks (actually took 15 due to illnesses, absences, holidays, etc.)
- Post-intervention assessment
- Post-Intervention baseline - began separate SI-OT 1 time weekly and psychotherapy
- Post-baseline assessment

**SINGLE CLIENT**
- **Child:** Liam
  - 4 years old,
  - adopted from Russia at age 14 months
  - Several recent changes in nannies over past year and half
  - Severe anxiety and “behavioral issues”
- **Primary Concerns**
  - Aggression towards mother - hitting, kicking, spitting, etc.
  - Biting other children at school
  - Inability to calm self
  - Inability to express feelings, would not accept hugs
  - Problems with transitions, groups and fine motor skills

**GOALS**
- Recover from a meltdown without physical restraint due to hitting, kicking, spitting, etc.
- When mom joins dinner after work, Liam will continue eating without mom needing to spoon feed him.
- Liam will be able to participate in a group activity like soccer without needing 1:1 adult attention
- Engage in an art/craft activity at home with adult supervision
- Mom will feel relaxed taking Liam to a busy environment like a playground by herself

**OUTCOME MEASUREMENTS**
- **GAS**
- Sensory
  - SPM
- **Motor**
  - M-ABC
  - Ayres Clinical Observations
- **Behavior**
  - BRIEF
  - BASC

**RESULTS - QUANTITATIVE**
- **GAS Goals**
  1) Meltdown Recovery - 1
     - Some weeks no meltdowns, mom handles differently
  2) Feeding self - 2
     - 99% independent, wanting help with dressing
  3) Participate in groups - 0
     - Soccer still hard but able to do parties
  4) Fine motor - .2
     - Doing at school but not home
  5) Mom feel relaxed in public - 0
     - Comfortable 70% of time

**RESULTS**
- **M-ABC**
  - Total score improved 4 points
- **SPM**
  - Total score improved 6 points but 5/7 subscores improved 4 - 10 points
- **BRIEF**
  - 9 subscores improved
- **BASC**
  - 11/18 subscores improved
**IMPLICATIONS FOR PRACTICE**

- Therapists need to attend to motor and praxis problems in children who experience trauma.
- Similarly, therapists working with traumatized children need to be aware of potential impact of trauma triggers.
- Therapists need to look at all aspects of play with children including playfulness, etc.
- More research is needed on the motor and praxis concerns of trauma.

**SAFE PLACE INFORMATION**

- Available on OTA the Koomar Center Website
  - www.otathekoomarcenter.com
- White paper
- Video review results
- Preliminary Program Review results

**RESOURCES**


**FINAL WORDS**

- Our intention is to be fully present to the child’s and family’s needs, fears and hopes. This is key to our intervention.
- Never underestimate the transformative power the belief in the joy and wholeness of the child can have in helping each child and family rewrite the stories of their lives.

**RESOURCES**

RESOURCES


THANK YOU!!!