Attachment and Biobehavioral Catch-up: An intervention for Young Children in the Child Welfare System

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The importance of developmental issues
• Baby different than toddler
• Toddler different than preschooler
• Preschooler different than school-aged child
• School-aged child different than teen
Primary developmental tasks of infancy
– Attachment and regulatory issues
Primary developmental tasks of toddler and preschool years:

– Demands for self-control

  • Whereas infant is dependent upon caregiver for helping with regulation;
  • Toddler begins to take over some of this regulation
  • Problems:
    – peers, aggression, attention
Primary developmental tasks of school-aged children

– Control over behavior
– Relationships with peers
– Academic performance

• Some of the problems seen:
  – Peer conflict, aggression
  – Academic failure
  – ADHD
Primary developmental tasks of teen-agers

– Autonomy, identity
– Decision making
– Behavioral control

• Some of problems seen:
  – Substance abuse
  – Oppositional
  – Depression
• Historically these issues have often been overlooked by child welfare priorities, practice, and policy
Attachment:
Developmental task 1

• Infancy:
  – Attachment
  – Show video
Attachment

• Infancy:
  – These are “secure attachments”
  – These children knows they can count on mother
  – Comes out of history of experiences when caregiver is “there” when children distressed
  – If they continue to have this kind of relationship, consider later development
Insecure and disorganized attachments

- Child cannot go confidently to caregiver when distressed

- Whether child has secure or insecure attachment matters
  - Child’s sense of self
  - Child’s sense of other
Attachment

• Preschool
  • Children who are secure in infancy are more independent as preschoolers
  • Think of the role that the attachment figure plays here – becomes more verbal (talking about feelings, reassuring)
Attachment

- School-age
  - More competent with peers
  - Fewer behavioral problems
    - Internalizing (sad, anxious)
    - Externalizing (aggressive, in trouble)
    - Dissociative (spacey)
  - Think of caregiver’s role here
    - e.g., child comes home after being picked on, with a bad grade, or worried about birth parent
Attachment

• Teens and early adult
  – Fewer dissociative symptoms
  – Romantic relationships, peers

• Think of role of caregiver here
  – Child will continue to trust if caregiver can listen openly, be there for child unconditionally - examples
Relevance to child welfare system

- Attachment has importance at all ages
  - Role of caregiver changes in some ways, stays similar in others

- Important to keep in mind developmental capacities (e.g., young child can’t keep parent “in mind” for long without contact)
  - Separations, moves, etc. experienced as end of relationship
Self-regulation: A second developmental issue

– What is self-regulation?
  • Behavioral (e.g., able to “do things,” but not be out of control)
  • Emotional (e.g., able to feel, recognize emotion, and not be overwhelmed)
  • Physiological (e.g., mount a response, but not be overwhelmed – fever, heart rate, cortisol)
  • Under-regulated or over-regulated can be problematic
Self-regulation: A second developmental issue

In infancy, dependent on parent to help regulate

• Nearly everything
  – Temperature
  – Neuroendocrine functioning
  – Sense of safety

• Maltreatment and neglect represent failures in this caregiving system
HPA system

• A neuroendocrine system that is vulnerable to effects of separation, maltreatment, etc.

• Studied among non-humans primates, rodents, and humans
HPA Axis

- H: Hypothalamus
- P: Pituitary
- A: Adrenal
- Cortisol: an end-product
Levine and colleagues studied infant squirrel monkeys separated from mothers for 24 hours.
Separated infant monkeys could either hear and smell their mother (in an adjacent cage) or were fully separated from her.
Cries in last 30 minutes of 24 hour period

(Levine et al., 1993)
Plasma cortisol level in last 30 minutes of 24 hour period (µg/dl)

(Levine et al., 1993)
Behavior and physiology tell different stories. Young primates dependent on caregiver for help regulating physiology.

Adversity (maltreatment, separations) is associated with changes in the HPA system (complex picture, depending on development and length of time exposed to stress)
Two independent functions of HPA system

Mounting stress response
Maintaining diurnal rhythm
Diurnal pattern

Diurnal pattern emerges early in life
Typical pattern of daytime production of cortisol
Wake-up, 30-min, mid-am, mid-aft, bedtime
Ne
Neglected, foster
-0.6
-0.4
Value (ug/dl)
Va
Low risk
-1.2
-1
Transformed
-1.4
Wake-up Bedtime
Log-
Sample
Llog-transformed Cortisol Value (ug/dl)
Neglected, birth
Neglected, relative
Low risk
Low-risk
Neglected, foster
Birth
negated C
log-transf
Wk
Wake-up
Bedtime
Sample

Log-transformed Cortisol (ug/dl)
Effects over time

Perturbations to the system

may place child at increased risk for psychiatric disorders and physical illness
Lessons for child welfare system

Early adversity has effects on children’s biology
Biology then affects children’s experience of world
(may make it more likely that they take risks later,
may have more difficulty controlling behavior)

Place children in stable, nurturing homes where parents
can help children develop regulatory capabilities
Control over behavior:
A third developmental task

Sitting still in school, attending to work, not jumping up
Inhibitory control
Stroop Day-Night Task

Say Day
Stroop Day-Night Task

Say Night
Inhibitory control scores

- Never placed
- Stable placement
- Placed twice or more
Inhibitory control (being able to control behavior) affected by adversity

Building block for lots of other things
Early adversity – maltreatment, foster care – has effects on children’s behavior and physiology
What does the Child Welfare system need to do?

- System should be developmentally sensitive, e.g., keeping in mind infant can’t remember birth parent, teen-ager may need to hold onto birth parent.
- Decisions made with developmental needs in mind, e.g., placements, visitation, etc.
- We need to develop interventions/training with these developmental challenges in mind.
Attachment and Biobehavioral Catch-up

An intervention targeting specific needs of infants and toddlers in foster care
These children especially need:

Nurturing caregivers
Help regulating behavior and physiology

Otherwise, at risk for:
- insecure attachments
- difficulties regulating behavior and physiology
These children especially need:

Nurturing caregivers

Obstacles:

Child pushes away

Nurturance may not come “naturally” to parent

Help regulating behavior and physiology
Attachment Diary (Stovall & Dozier, 1997)

Describe a time today when your child was:

- Hurt
- Frightened
- Separated from you

Caregivers asked to fill out diary daily
Diary findings

1. Children placed after about a year of age show avoidant and/or resistant behaviors across two months followed.
   
   (Stovall & Dozier, 2001; Stovall-McClough & Dozier, 2004)
Diary findings

- Contingency analyses reveal that parents respond “in kind”
  
  (Stovall & Dozier, 2001)
First target for intervention

Parents need help in re-interpreting infants’ signals
Intervention Component 1:
Targeting what child brings to relationship

This child needs you even though she may not appear to need you.
Attachment and Biobehavioral Catch-up

10 session intervention

Sessions 1 - 2: Your child needs you even though he may not appear to

Sessions 3-5: Following child’s lead

Session 6: Frightening behavior

Sessions 7-8: What parent brings to relationship

Session 9: Importance of touch

Session 10: Negative emotions; consolidation
First intervention component: Re-interpreting child’s behavioral signals

- Your child may not appear to need you
  But, every child needs his or her caregiver
- Need to understand where he/she is coming from (reflective function)
- Need to re-interpret signals
- Need to provide nurturance
Overview of how implemented

Manualized (follow a manual), but tailored use of videotape
“in the moment” feedback

support parent
emphasize what parent is doing well
emphasize evidence that child needs him or her
Issues to target

These infants need nurturing caregivers:
1. Babies who have experienced early adversity often push parents away.

2. Caregivers’ own issues may make it difficult to provide nurturing care.

3. These babies need help regulating behavior and physiology.
Parents’ issues: Whether nurturing comes naturally

Way parents think about their own attachment experiences
(e.g., comfortable, open vs. push away)
State of mind affects likelihood that parents behave in nurturing ways

Examples of non-nurturing behavior
“you’re not hurt”
“I told you not to…”
“look at the birdie”
Effects of non-nurturing behavior

More problematic consequences for foster children than for others

Places children at increased risk for disorganized attachment
Percentage of disorganized attachment among foster and biological children with secure and insecure mothers
Intervention target 2: Over-riding parents’ own tendencies

Parents of children who have experienced early adversity need to provide nurturing care even if it does not come naturally for them.

We do not attempt to change parents’ state of mind, but to get them to “over-ride,” responding in less automatic fashion.
Second intervention component:
Overriding one’s own issues

- Voices from the past
- Considering one’s own issues that affect parenting
- Over-riding natural propensities (making automatic non-automatic)
- Providing nurturance even though it may not come naturally
Attachment and Biobehavioral Catch-up

10 session intervention

- Sessions 1 - 2: Child needs you even though he may not appear to
- Sessions 3-5: Following child’s lead
- Session 6: Frightening behavior
- Sessions 7-8: What parent brings to relationship
- Session 9: Importance of touch
- Session 10: Negative emotions; consolidation
Issues to target

1. Babies who have experienced early adversity often push caregivers away.

2. Parents may have their own issues that make it difficult for them to be nurturing.

3. These infants have difficulty regulating behavior and physiology.
Cortisol levels among foster children

- Sampled cortisol at wake-up and bedtime for preschool children who were in foster care for at least 2 months and up to 4 years

- Compared with group of children from the community
Assessing cortisol production

Sequestered in saliva; can be sampled non-invasively
Preschoolers and infants/toddlers in foster care and living with birth parents differ from comparison children

The particular types of differences depend on age and other factors
These differences in neuroendocrine production

- May leave children ill-prepared to deal with stressors, and may place them at risk for psychiatric disorders
Young children who have experienced early adversity at risk for:

- Atypical patterns of cortisol production
- Deficient inhibitory control (behavioral)
- Difficulties controlling behavior
Third target for intervention:
Helping children develop better regulatory capacities

- Caregivers need to provide environments that will allow children to develop more typical patterns of cortisol regulation, more adequate inhibitory control, and better behavioral control.
Intervention Component 3:
Helping children develop self-regulatory capabilities

- Following the child’s lead in play; attending to child’s signals (Barnard, 1998; Van den Boom, 1994) while delighting in child
Helping children develop self-regulatory capabilities (continued)

- Touching, holding child (Field, 1994)
Helping children develop self-regulatory capabilities (continued)

- Facilitating expression of emotions (Izard, 2003)
Attachment and Biobehavioral Catch-up

10 session intervention

Sessions 1 - 2: Child needs you even though he may not appear to
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Attachment and Biobehavioral Catch-up

1. Need to re-interpret child’s behavioral messages, providing nurturance even when child does not elicit

2. Need to “over-ride” parent’s automatic response, providing nurturance when it does not come naturally to caregiver

3. Need to follow child’s lead, hold/touch child, and allow emotional expression
Attachment and Biobehavioral Catch-up

Expected to enhance:

Child’s ability to rely on caregiver
Child’s ability to regulate neuroendocrine functioning
Child’s ability to regulate/control behavior
Randomized clinical trial

Children randomly assigned to:
- Attachment and Biobehavioral Catch-up (ABC) or
- Developmental Education for Families (DEF)

DEF targeted cognitive and linguistic abilities

Both 10 session interventions provided in families’ homes weekly
Video examples

- Pre- and post-intervention
- First, mom who doesn’t nurture distressed child
- Fails to follow lead or to take delight in child
Overwhelmed mother
- Neglect (leaves children with 17 year old boys)
- Does not delight in child
Outcome data

Examined:
  children’s attachment (in Strange Situation)
  wake-up and bedtime production of cortisol
  children’s problem behaviors (parent-report)
Attachment quality

Assessed in Strange Situation
lab procedure in which child and mother separated twice

Coded from child’s behavior in reunion

Secure: Able to get reassurance needed
Insecure: Turn away, unsoothable, or lack of strategy
Attachment classifications in Strange Situation

Foster children and children living with their parents who have neglected them showed secure attachments more when in ABC than in DEF intervention.
Attachment quality among neglected children in ABC and DEF interventions
Attachment quality among foster children in ABC and DEF interventions
• Attachment and Biobehavioral Catch-up group shows rates of secure attachment similar to those seen among children from intact dyads.

• We see this both for children in foster care and for children living with parents who have been reported for neglect.
Cortisol levels

Foster children from ABC intervention show significantly lower cortisol than children from control group
Wake-up and bedtime cortisol level for experimental (ABC) and control (DEF) children.
Which pattern most resembles that of typically developing children?

Included data from a comparison group of children who had never been in foster care

104 children from day care center
Wake-up and bedtime cortisol level for Attachment and Biobehavioral Catch-up intervention, control intervention, and comparison children
Attachment and Biobehavioral Catch-up has been shown effective in helping children:

- Develop secure attachments to caregivers
- Develop more normative neuroendocrine production
- Show fewer behavior problems
Changing system to best meet children’s needs

The role of caregiver commitment in the lives of young children
The role of commitment

- Unique to children in foster care
- Love, claiming, commitment (not just investment)
The role of commitment

- How we’ve looked at it:
  - This Is My Baby Interview
    - What would happen if they took child away?
    - What kind of contact do you expect to have long-term?
    - How would you consider this child’s children?
The role of commitment

- Foster parents who have parented many children less likely to be committed
  - e.g., those who fostered 50 less likely to be committed than those who fostered 2

- This is not true for all (group findings)
Why does commitment matter?

- Babies are “designed” to have committed caregiver
- Committed caregivers show more delight in child (sparkle in eye)
- We’ve looked at infants and toddlers – consider also school-aged children and teen-agers
Design a system that supports commitment

Keep relationships stable whenever possible

- Don’t move child when not necessary
  - e.g., mothers in prison with babies, fostering birth mom
  - Biological relationship does not trump stability

Encourage life-long relationships between surrogate caregiver and child when disruption is necessary

- e.g., foster aunt, god mother, etc.
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