

Prevention of Toxic Stress: Impact for Healthy Mothers and Infants

Early Childhood Action Network: Turn the Curve Conference

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From the American Academy of Pediatrics

Policy Statement

**Early Childhood Adversity, Toxic Stress,
and the Role of the Pediatrician:
Translating Developmental Science Into
Lifelong Health**

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Shonda's Story; The ACE curve



1995

Mother used alcohol and smoked marijuana



2002

Shonda neglected and psychologically abused



1998

Her parents used marijuana and alcohol



2009

Shonda witnessed violence against mother

By 17, Shonda had 4 adverse events

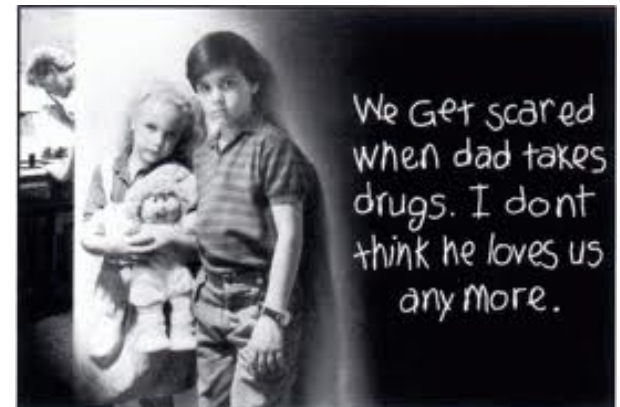
We Knew in 1995 that Shonda Had Risks for Toxic Stress

- Shonda was one of about 5,000 infants exposed to drug use in 1995
- Drug use in a child's home causes adverse childhood experiences
- Prevention of adverse childhood experiences (ACEs) prevents toxic stress
- Investment of funds and time are necessary for prevention



Shonda Needed Developmental Home Visiting Like FOCUS

- Home visiting based early intervention services
 - Model how to understand Shonda's cues for her parents
 - Demonstrate how she expressed needs to her parents
 - Focus on early language development before age 3
 - Emphasize building critical thinking through play with family support
 - Provide ideas on how to praise Shonda, positive attention
- Enroll all eligible kids on Medicaid to improve health
- Fund comprehensive adult drug treatment
- Develop community health workers
- Prevent events in Shonda's story



Shonda's Parents Hid Their Problems from Neighbors and Professionals



- Shonda saw and experienced stresses
- She had no one looking out for her
- Doctors saw her for “stress”
- She had school problems
- Parents were very busy dealing with their stresses
- They were unaware that Shonda suffered
- They directed their anger at Shonda

Children Who Experience Adverse Events (ACEs) Live in Families Where:



- Among adults seen in primary care settings
- Adverse childhood events affected 65%
 - Psychological abuse of child by parent, 11%
 - Physically abused by parent, 11%
 - Sexually abused by anyone 22%
 - 26% had parent as drug abuser/ alcoholic
 - 22% lost a parent
 - 19% had parent with mental illness, depression
 - 13% saw violence against their mother
 - 4% had a parent incarcerated

Shonda's Parents; More Problems as Shonda Grew Up



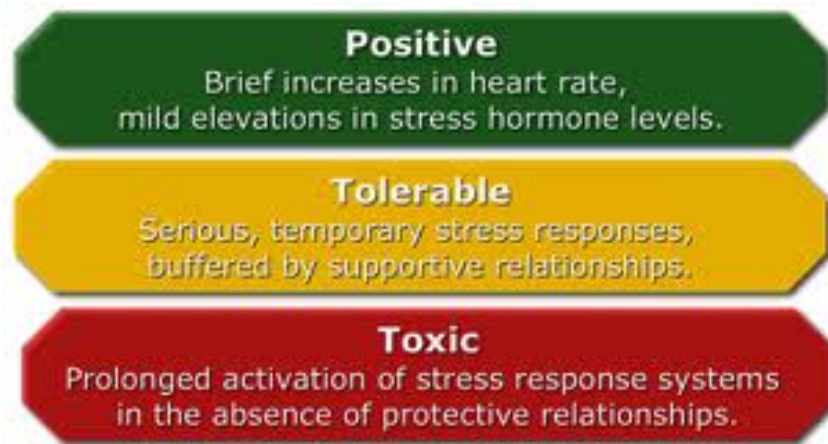
- Parents fought in front of her about:
 - Substance use, addiction problems
 - Responsibility for Shonda and other kids in home
 - Hard to be parents when intoxicated
 - Money, spent almost all on drugs
 - Shonda felt responsible for their conflict
- Not enough positive and focused attention available for Shonda

Toxic Stress Changed the Development of Shonda's Brain

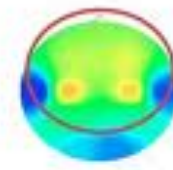


- Emotional and intellectual needs neglected from early childhood
- Areas of brain changed from years of stress, the curve of toxic stress effects
 - Emotional centers constantly turned on, fearful
 - Memories suppressed, too painful to remember
- Memory is essential for learning
- Memories support emotional regulation
- Shonda not ready to achieve in school
- Minimal support from parents to learn

Children Who Have Toxic Stress Have Brain Changes Affecting Learning



Significant Neglect Affects Brain Power



Source: C.A. Nelson (2000); Wang, Fox & BDF (2004)

Center on the Developing Child HARVARD UNIVERSITY

- Shonda had no consistent help to cope with stress
- Parents didn't see how they caused pain for Shonda
- Toxic stress builds up, affects emotional regulation
- Shonda left to do homework by herself, unable to sit still
- School problems, parents not communicating with teachers
- Increases chances for harm to child, starting risky behaviors

More Adverse Events Causes More Toxic Stress



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4 or more Adverse Childhood Events associated with:

4 times greater risk of Intravenous Drug Abuse

4 ½ times greater risk of Alcoholism

9 times greater risk of Depression and Suicide attempts

Toxic stress happens when person not able to cope normally

Shonda got her parents' attention by dangerous partying

Can society blame the child for not taking responsibility?

Shonda Became Pregnant This Year at 17

- Girls with 4 or more life adverse events
 - 4 times more likely than boys
 - Much greater risk for early sex
 - Twice as likely pregnant as teen
 - 2.5 times more unintended pregnancies
 - 4 times more abortions
 - NM ranks 1st; ~10/100 among 15-19yo
- Girls victimized by sexual abuse more often than boys

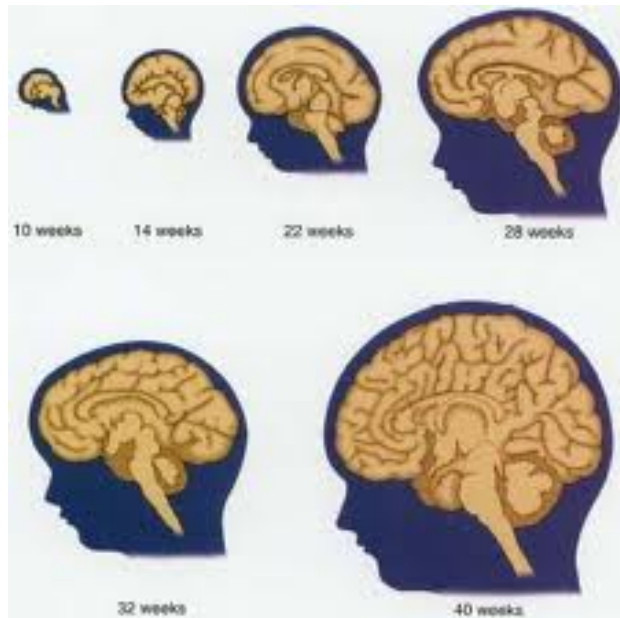


Shonda's Pregnancy Had Health Issues Needing Special Care

- Hurt back in motorcycle crash 2011
- Given prescription for oxycodone
- Able to refill many times, why?
- At prenatal care, excessive use identified
- Kept needing oxycodone, started buying pills from friends
- Referred to Milagro
- Shonda took responsibility for her health
- Started buprenorphine (Subutex)
- FOCUS case manager met Shonda in clinic and started home visits with her
- Home visits prepared her for parenting



Effects of Opioid Drugs on Fetal Brain Development



Fetal brain develops over gestation; cortical structures expand and nerve connections become more complex; drugs alter nerve connections

- Oxycontin exposed in early pregnancy
- Changes brain connections
- Fetal health protected when Shonda started treatment with Subutex
- At birth, Subutex supply cut off
- Infant may withdraw
- Requires medical management
- Infant brain challenged to regulate
 - Attempts to return to normal functions
 - Less ability to pay attention to information
- Needs early intervention, refer to FOCUS home-based early intervention

What We Know in 2012 for Shonda

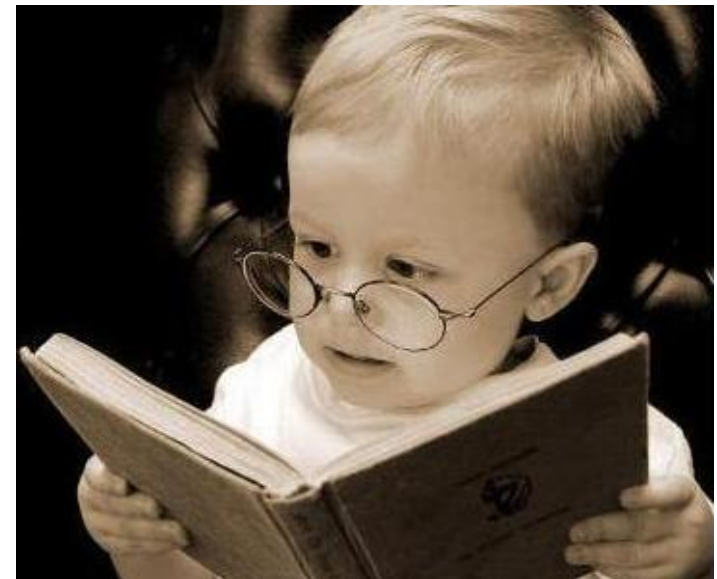
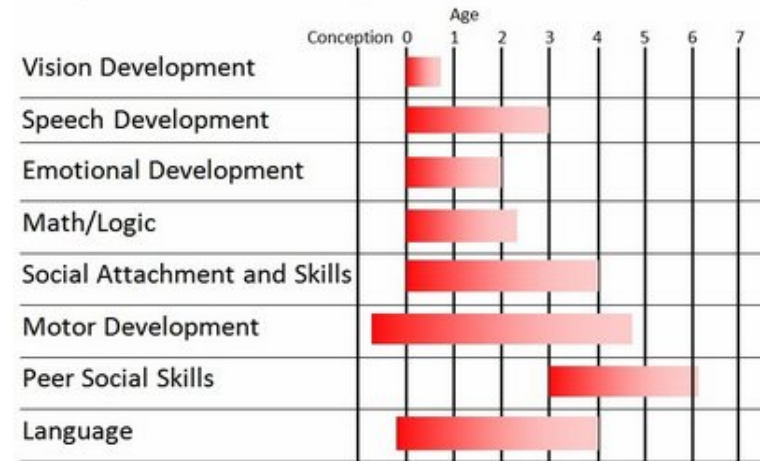


- Want full term delivery
 - Prematurity has big risks for added brain problems
 - Want Shonda to be healthy mentally and physically
- Shonda needs Suboxone after delivery to continue treatment
 - Buprenorphine/naloxone
 - Low overdose risk
 - Blocks effects of opioids like oxycontin
- Counseling is essential
- Addresses “triggers” to relapse

What We Know in 2012 for Shonda's Baby; Change the curve of development

- Her baby needs FOCUS services
- Home based case management
 - Help Shonda in her home
 - Model support for infant development
 - Model emotional regulation
- Development built skill on skill
- Mastery of early skills provide foundation for advanced skills like reading, can't skip steps
- Mastery depends on supportive emotional environment
- “Educating” a parent is good but enough to achieve normal child development

Stages of Brain Development in an Infant



What We Know in 2012 for Shonda's Child Growing Up



Positive focused interaction



NOT THIS!

- Shonda does not want her child to experience what she did.
- She wants to build a life so her child can succeed
- She only wants her parents involved if they get clean
- She needs to finish education

Invest in Services for Parents at Risk; Treatment and Mental Health

- Fund comprehensive prenatal obstetric and drug treatment, Milagro Program model
- Intervene to prevent toxic stress for another generation, home visiting with medical home
- Develop community health workers to address chronic health and mental health problems for adults as parents
- Prioritize sustaining funding for next 10 years

Policy and Legislative Actions: Invest in programs like FOCUS now for children

- Goals for programs changing the developmental curve:
- Prevent adverse childhood experiences and toxic stress
- Accurate identification of children at risk for child neglect
- Screening for substance use and violence in pregnancies
- Identify substance use in children's environment
- Enroll all eligible kids on Medicaid; about 3 to 1 match in \$
- Fund developmental home visiting; 121 million (10:1 return)
 - Model regulation of emotion and positive parent behavior
 - Regulation emotion and behavior is foundation for learning
 - Focus on early expressive language development and problem solving
 - Model floor play by parents to help children develop

Thank you. Questions to ahsi@salud.unm.edu