Childhood Maltreatment, Emotional Dysregulation, and Psychiatric Comorbidities (poster)

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**Objectives**
- Developmental effects of childhood maltreatment on emotional dysregulation and psychiatric sequelae
- Emotion regulation and its developmental neuroscience
- Research evidence for associations between childhood traumatization, emotional dysregulation, and psychiatric comorbidity in children, adolescents, and adults

**Emotion Dysregulation & Childhood Trauma**
ED: “The impaired ability to regulate and/or tolerate negative emotional states. Placed in many psychiatric conditions including anxiety and mood disorders

- CT: associated with interpersonal trauma and post-traumatic stress associated with a wide range of psychosocial, developmental, and medical impairments in children, adolescents and adults

ED is a core feature that may help account for this heightened risk

**Emotion Regulation**
Interplay between emotional and cognitive processes
- Selecting/modyfying situations with emotional significance
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Some emotions are generated automatically/regulated automatically

Other emotions require “meaning analysis” and are regulated with effortful cognitive processing

Condition of physiological reactions, memory, cognitive appraisals, and behavior

Control over:
- How and when
- Intensity
- Positive/negative valence (felt, experienced, expressed)

Occur continuously over time

May include changes in all three domains (behavior, experience, and physiology)

Both emotional states and goal-directed behavior can be modulated by:
- Decreasing negative behavior
- Increasing positive expressive behavior

Address the physiological responses (behavioral therapy or medications)

Emotional Awareness and Social Cognition are key elements in the ability to regulate emotional states, and are impaired in a number of psychiatric conditions

**Neurobiology of Emotion Regulation**
The generation of emotion occurs as an interaction/series of actions:
- Bottom-up brain stimuli and limbic system to higher cortical regions
- Frontal cortex to brain and brainstem areas via the amygdala

- Responses to emotional task are widely distributed throughout the brain
- Higher cortical areas are not limited to emotional regulation

**Childhood Trauma & Psychiatric Comorbidities**
The consequences of trauma vary from individual to individual and over time for the same individual

Many traumatized children do not develop PTSD or any other disorder

Youth who experience interpersonal trauma in childhood are at increased risk for a number of psychiatric disorders including:
- Attachment insecurity
- PTSD
- Depression and anxiety disorders
- Substance use disorders
- Eating disorders
- Bulimia
- Borderline personality disorder
- Traumatized children also are at risk for

- Self-harm and sexualized behavior
- Anger
- Poor impulse control
- Attention difficulties

Re-experiencing, reenacting, or reactivating any custom of maltreated children and adolescents is associated with increased risk for PTSD and other comorbidities, such as depressive and substance use disorder

A number of terms have been used to describe children who have experienced early, recurrent, and severe interpersonal trauma:
- Developmental Trauma Disorder
- Comorbid Trauma

These children often present with extreme dysregulation in the physical, affective, behavioral, cognitive and interpersonal domains

Developmental Trauma Diagnosis is being evaluated for clinical utility and in a national field trial study

**Maturation**
The maturation of neural and neurotransmitter systems associated with emotion can explain changes in emotional liability and increase in self-control throughout childhood and adolescence

These processes include:
- Maturation of parasympathetic regulation in early childhood
- Developmental changes in hypothalamic-pituitary-adrenal axis

Maturation of these systems is shaped by early experiences and care-giver responsiveness

Developmental influences promoting enhanced emotion regulation as children grow older include:
- Acquisition of language (understand/communicate emotions)
- Maturation of other cognitive functions including attentional system
- Having a secure attachment with caregivers

It is possible that early life adversity changes the threshold of limbic reactivity, or changes perceptual and cognitive appraisals related to threat

Children growing up in adversity are more likely to be emotionally reactive to stress and also less capable of emotion regulation

In a series of imaging studies in those who experienced childhood maltreatment point to fronto-limbic circuits as the most affected brain regions

**Psychiatric Comorbidities**
Adults who experienced early life trauma continue to be at risk for:
- Anxiety and affective disorders
- Addictions
- Psychiatric illnesses
- Personality disorders
- Dissociative identity disorder
- Sexual violence
- Recidivism
- Multiple medical problems, including diabetes, heart disease, immune disorders, and chronic obstructive pulmonary disease

**Childhood Trauma & Emotional Dysregulation**
Early life maltreatment in childhood:
- Secure attachments
- Responsive caregiving

Caregivers provide not only for their children's basic survival needs, but also interactions with caregivers are necessary for the development of bodily self-regulation

In humans, childhood maltreatment/repeated trauma, disrupts acquisition of appropriate emotional regulation and interpersonal skills

Disruption of skill acquisition, a result of psychological experiences

Sign of the neurological effects of maltreatment:
- Molecular alterations to stress hormone response systems

In turn affects:
- Inflammation
- Neuronal morphology
- Neurogenesis
- Synaptogenesis

Functional changes:
- Left hemisphere development
- Decreased L/H hemisphere integration
- Increased limbic electrical activity
- Diminished cerebro-vermis functional activity

**Emotional Development**
Maltreated children (sexual trauma, neglect):
- Deficits in delays in understanding and regulating emotions

Anticipate a negative reaction to display of negative emotions (shame/shame/anger to parents and peers)

These deficits can be taught as part of clinical interventions (Shimpan 2000 & 2005)

Caregiver representations in maltreated children:
- Disorganized, vagar, and negatively-toned internal representations of caregivers
- Problems with emotional dysregulation
- Depression
- Aggression
- Decreased social competence (peer rejection) (Shields & Stifter 1998)

Neglected preschool children had more difficulty discriminating emotional expressions and identifying discrete emotions

Physically abused children displayed a response bias for angry faces

Physically abused 8-11 year olds had difficulties disengaging attention from angry facial cues

In contrast, physically abused children were more accurately able to recognize early facial expression of anger, when few physiological cues were available (Hiltak 2000, 2005 & 2009)

**Borderline Personality Disorder Precursor?**
Conceptualization/emotional/behavioral dysregulation as potential precursors to BPD in children:
- Affective instability
- Impulsivity
- Irritability
- Preoccupation with self-harm behavior

Found consistent evidence of a relationship between maltreatment and all of the features of dysregulation (Rogosh 2005)

**Re-victimization**
ED underlying mechanism for risky sexual behavior and sexual re-victimization among young adult victims of child sexual and physical abuse

A history of childhood physical and sexual abuse was highly associated with increased risk for adult/adult rape

More than 50% of women sexually re-victimized

Emotional dysregulation appearing to be a mediating factor

Other sexually risky behaviors (higher lifetime number of sexual partners including strangers) predicted by measures of emotional dysregulation

The severity of physical and sexual re-victimization is predicted by childhood sexual abuse

Victims with a history of sexual abuse in their own childhoods: risk for impairment in their internal attachment representations and attachment behavior with their daughters

Daughters showed impairment in emotional-regulation, risk for exposure to sexual abuse (Min 2010, 2011, Hall 2009)

**Conclusions**
Complex and bi-directional relationship between childhood trauma and emotional dysregulation

Childhood trauma is associated with:
- Reduced ability to understand and regulate emotions mediated by relational/attachment difficulties with caregivers and peers
- Heightened levels of internalizing and externalizing psychopathology
- Impaired social functioning beginning in childhood and continuing into adulthood

**References**
Childhood maltreatment, emotional dysregulation, and psychiatric comorbidities: Yael Dvir, Julian D. Ford, Michael Hill, and Jean A. Fraser, Harvard review of psychiatry (2014)

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