The State of the Science in Adolescent Treatment Research: Issues in Blending Research and Practice

Lessons from the Clinical Trials Network

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Adolescent Substance Use Disorder: Developmental Context,Domains of Risk

• Individual
  • Genetic; temperament; behavioral disinhibition
  • Comorbidity
    – Early intervention prevent SUD? (CD, ADHD, Affective, LD, Anxiety)
  • SUD impedes development (poor coping skills; alexithymic)

• Family
  • Attachment disorder; family disruption, abuse/neglect, poor monitoring; parental/sibling SUD

• Peers
  • CD, SUD

• School
  • Poor motivation, achievement, learning disorders, ADHD

• Community
  • Criminal, drug subculture
Emerging Causal Model

- Early behavioral disinhibition /affective dysregulation
- Late childhood/early adolescence
  - Interplay of neurohormonal / comorbidity/ family & other psychosocial factors modulate motivation/SUD vulnerability
    - Change gene expression
    - Receptors & “brain reward” – under construction
- Adolescence
  - Puberty/neuroendocrine changes
    - Greater vulnerability & reactivity to stressors
    - Exacerbates pre-existing dysregulation & risk—predicts progression to SUD after experimentation
Assessment of Adolescents with SUD

- Assessment
  - Comprehensive, multidimensional, lifespan approach/developmental timeline
    - Developmental milestones/ major events
    - Comorbidity-onset, relationship to SUD, diagnostic validity of assessments
  - Family assessment
  - Functional analysis-context, domains of risk, developmental features are different from adults
Evidence-Based Treatments for Adolescents Lag Behind Adult Studies

- Efficacious Treatments for Adolescent SUD
  - Psychotherapies for SUD
    - Family Therapies (eg. structural-strategic; functional; community-based multisystemic; multidimensional FT)
    - Cognitive-Behavioral (individual > group)
    - Behavioral (operant; PMT)
    - Motivational Enhancement/ 12 step-adjunctive
  - Pharmacotherapies for SUD
    - No adequately powered randomized controlled trials in adolescents for substitution, antagonist, aversive, anticraving pharmacotherapies
Adolescent SUD and Comorbidity Efficacy Trials  
Issues for CTN

CD + SUD
- Psychotherapy (behavioral; family-based; community-based-MST)
- Pharmacotherapy—no randomized controlled trials (RCTs) with adequate power

ADHD + SUD
- Psychotherapy –none
- Pharmacotherapy --One RCT; treats ADHD not SUD; use non-abuse potential medications; need safety & efficacy data in adolescents

Affective Disorders + SUD
- Depression + SUD
  - Pharmacotherapy-SSRIs have most empirical support (fluoxetine, paroxetine); One RCT efficacy trial w/ fluoxetine underway (moi)
  - Psychotherapy-IPT and CBT have efficacy for depression/anxiety disorder in non-SUD adolescents
- Bipolar-1 RCT; decreased substance use with mood stabilization
A Good Marriage vs “Shotgun” Wedding

- “Shotgun” Wedding: university-based researchers tell community treatment programs what to do

- Good Marriage: marry “real world” community treatment program priorities to the state of the science; bidirectionally co-develop clinical trials agenda; identify science-based treatments ready for “blending”
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• Community treatment program priorities
  – Interventions should target the most common adolescent substance dependencies—cannabis, alcohol, nicotine
  – Interventions should target the most common comorbidities—depression, ADHD, PTSD and inform how best to integrate treatment of SUD and comorbid disorders
  – Feasible, flexible, acceptable, practical, cost–effective, sustainable training and implementaiton of science-based psychotherapies for adolescent SUD: CBT, family-based, behavioral, motivational, multisystemic, group vs individual
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• Community treatment program priorities (con’t)
  – Interventions improving treatment engagement and retention
  – Enhancing interface with juvenile justice system
  – Develop pharmacotherapies for adolescent SUD and comorbid disorders—practical and low abuse potential; improve SUD/psychiatric treatment interface
  – Other?…..
Conclusion

• Several empirically-based psychotherapies (family-based, CBT, behavioral, motivational) have sufficient scientific readiness for CTN stage trials/blending/transportability

• Marry CTP-identified clinical priorities to treatment modalities with scientific readiness to guide adolescent protocol development in CTN….otherwise it’ll be a “shotgun wedding”

• What else?