Managing internalizing behaviors in children on the autism spectrum

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Disclosures / References
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Chapter 12: Behavior management and psychopharmacology

• This presentation will include a discussion of off-label drug use

Outline / Basic Premises - 1
• Biologically driven behaviors / traits
  – Cognitive Rigidity
  – Dysregulation of Attention
  – Dysregulation of Arousal
  – Dysregulation of Sleep
  – Dysregulation of Sensory Processing
• Occur irrespective of environmental contingencies
• Do not serve a social function
• Specific behaviors / traits are tied to specific neurotransmitters / brain systems

Outline / Basic Premises - 2
• Socially driven behaviors
  – Occur in response to environmental contingencies
  – Serve a social function
    • Attention
    • Access to desired objects or activities
    • Escape from undesired activities
  – A-B-C Model
    • What is the Antecedent to the behavior?
    • What is the Behavior itself?
    • What are the Consequences for the behavior?

Outline / Basic Premises - 3
• Behavior management needs to take biological and environmental factors into account:
  – Underlying biological traits often provide the child with lots of opportunities to make unfortunate discoveries (viz: Tantrums or SIB are great ways to get attention or escape from tasks)
• Intervention often requires both pharmacologic and behavioral measures
Cognitive Rigidity:
Difficulty changing mental sets
Changes in Routine / Unmet Expectations

Rainman, 1988

Cognitive Rigidity
(Difficulty shifting mental sets)

- "Externalizing Behaviors"
  - Insistently repetitious behavior
  - Difficulty with unmet expectations
  - Compulsions
  - (Aggression, SIB)
- Obsessions
- Perfectionism
- (Anxiety)
- (Depression)
- "Internalizing Behaviors"

Perfectionism

Perfectionism
Compulsions

Joseph F: 15 y.o. boy Asperger Syndrome
MRN: 05-0366

Perseveration

“Draw a picture of your family, with everybody doing something”

Wm W; 10 y.o. male; ASD & Anxiety; MRN 12-0827

Abnormal Regulation of Attention - 1

- Perseveration
  - Inability to “Let go and shift”
  - Gets “stuck”
  - “Overattention Deficit Disorder”
- Compounds the effects of cognitive rigidity
  - Lacks the “insistent” nature of Cognitive Rigidity. Just keeps going & going & going.....

Abnormal Regulation of Sleep

Abnormal Sensory Processing

Abnormal Regulation of Arousal

Abnormal Regulation of Emotion

Abnormal Regulation of Attention

Cognitive Rigidity
(Difficulty shifting mental sets)

“Externalizing Behaviors”
- Insistently repetitious behavior
- Difficulty with unmet expectations
- Compulsions
- (Aggression, SIB)

- Obsessions
- Perfectionism
- (Anxiety)
- (Depression)
  “Internalizing Behaviors”

Perfectionism and Self-Injurious Behavior

A.J.: 9 y.o. girl with ASD (MRN: 06-0227)
Throughout the session, “Alice” delivered a steady stream of self-deprecating comments, calling herself “stupid,” or perseveratively asking if she was “fat.” During the Bender, she anxiously and angrily twisted the eraser off the tip of the pencil, while declaring “Why do I keep making stupid mistakes?” As her stress level rose, she escalated to slapping herself, and then punching herself in the face.
Anxiety

RD. 7 y.o. F, nl IQ, PDD-NOS & Anxiety. Father: GAD
MRN: 07-0427
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Anxiety

“The house is on fire and we are running for our life.”
A.W.: 9 year old boy with PDD-NOS and normal IQ (MRN 11-07710)

Anxiety

“Standing in the Atlantic Ocean. The ocean has a very high surface, up to their mouth, so they can't breathe.” Six year old boy with ASD and Anxiety.

Depression

www.drcoplan.com KO: 10 yr old female, PDD-NOS, normal IQ
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JH, 10 yr old male, PDD-NOS

How do you kill a blue elephant?
Shoot it with a blue elephant gun.

How do you kill a pink elephant?
Hold it by the trunk until it turns blue, then shoot it with a blue elephant gun.

Unaddressed internalizing behavior often comes out as externalizing behavior

“An ounce of prevention is worth a pound of cure”

Positive Behavior Support Plan:
Proactively avert, or identify and dissipate anxiety
The Story of Billy’s Box - 1
(or, why it’s important to ID internalizing behavior)

- 8 y.o. boy with ASD and normal Nonverbal IQ
- Severe tantrums at school
- Antecedents:
  - TRANSITIONS
- Function?
  - Not attention, escape, access
  - “Biological” (i.e. “just part of his ASD”)?

The Story of Billy’s Box - 2
(or, why it’s important to ID internalizing behavior)

Q: “Billy – You're always getting in trouble at school. What’s going on?”

A: “I'm afraid that if I hand in my work, I'll never get a chance to go back and make it perfect.”

The Story of Billy’s Box - 3
(or, why it’s important to ID internalizing behavior)

“Put your papers in the box, and we promise you will be able to go back later and work on them some more, if you want to.”

Positive Behavior Support Plan for Internalizing Behavior

- Staff Awareness
- Visual Schedules
  - What am I supposed to be doing do now?
  - What am I supposed to do next?
- Relaxation Techniques
  - Mental Imagery
  - Isometrics
  - Deep Breathing
  - “Break” cards
- Cognitive Behavioral Therapy (CBT)
- SSRIs

Self-centered
Inconsiderate
Of others
Non-compliant
Willfully
Disobedient
Stubborn
Rude

Unmotivated
Inattentive
Lazy
Disrespectful
Could do better if only he tried harder

SOCIALLY UNAWARE
RIGID
ANXIOUS
PERFECTIONISTIC
“We caution against the use of the word “stubborn” to characterize Ryan’s classroom behavior. Ryan’s task avoidance and non-adherence to teacher instruction reflect cognitive rigidity and anxiety, rather than “stubborn” behavior. Re-framing his actions will lead to more appropriate intervention, placing the focus on anxiety management and cognitive flexibility, rather than “compliance.”

Positive Behavior Support Plan for Internalizing Behavior

- **Staff Awareness**
- **Visual Schedules**
  - What am I supposed to be doing do now?
  - What am I supposed to do next?
- **Relaxation Techniques**
  - Mental Imagery
  - Isometrics
  - Deep Breathing
  - “Break” cards
- **Cognitive Behavioral Therapy (CBT)**
- **SSRIs**

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May 3, 2013

Cognitive Behavioral Therapy

Positive Behavior Support Plan
for Internalizing Behavior

- Staff Awareness
- Visual Schedules
  - What am I supposed to be doing do now?
  - What am I supposed to do next?
- Relaxation Techniques
  - Mental Imagery
  - Isometrics
  - Deep Breathing
  - "Break" cards
- Cognitive Behavioral Therapy (CBT)
- SSRIs

Selective Serotonin Reuptake Inhibitors (SSRIs)

- Primary targets
  - Cognitive Rigidity
  - Anxiety
  - Obsessions (thoughts)
  - Compulsions (behavior)
  - Perfectionism
  - Depression
  - Stereotypies: Probably not
- “Downstream” benefit:
  - Disruptive Behavior
  - Quality of Life
Abnormal regulation of arousal

Abnormal regulation of attention

Cognitive Rigidity

Rigid

Behavioral Stereotypes

Serotonin (5 HT)

Serotonin-promoting (serotoninergic) drugs

Selective Serotonin Reuptake Inhibitors block the re-uptake of Serotonin

SSRIs in ASDs

- Side Effects
  - Activation
    - Hyperactivity
    - Irritability
    - Insomnia
    - Agitation
  - Uncommon or irrelevant
    - GI dysfunction
    - Sexual dysfunction
    - “Black Box” warning (suicidal mention)

Selective Serotonin Reuptake Inhibitors (SSRIs)

<table>
<thead>
<tr>
<th>Generic Name</th>
<th>Brand Name</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluoxetine</td>
<td>Prozac</td>
<td>The first selective SRI</td>
</tr>
<tr>
<td>Fluvoxamine</td>
<td>Luvox</td>
<td></td>
</tr>
<tr>
<td>Sertraline</td>
<td>Zoloft</td>
<td>May be less activating</td>
</tr>
<tr>
<td>Citalopram</td>
<td>Celexa</td>
<td>Prolonged QT interval</td>
</tr>
<tr>
<td>Escitalopram</td>
<td>Lexapro</td>
<td>Prolonged QT interval</td>
</tr>
<tr>
<td>And others...</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Selective serotonin reuptake inhibitors (SSRIs) for autism spectrum disorder (ASD).
Williams, K., et al., Cochrane Database Syst Rev, 2010. 8: p. CD004677

- Studies reviewed: 7 randomized controlled trials / 271 participants
  - Fluoxetine (2), fluvoxamine (2), fenfluramine (2), citalopram (1)
  - Subjects: Children (5); Adults (2)
  - Varying inclusion criteria for Dx of ASD and IQ
  - 17 different outcome measures
- "Data were unsuitable for meta-analysis"

Pharmacotherapy for anxiety disorders in children and adolescents

- Studies reviewed: 22 RCTs/ 2,519 participants
  - Short-term (average 11 wks)
  - Mean age 12 yrs
  - Drugs studied (versus placebo)
    - SSRIs: (fluoxetine 6, fluvoxamine 2, paroxetine 3, sertraline 4)
    - SNRIs: 5, (clomipramine 3), venlafaxine 2)
    - Benzodiazepines: 2: (alprazolam 1, clonazepam 1)
    - Tricyclic antidepressants: 1 (desipramine)
- Meta-analysis
  - Response rate: Medication 59%; Placebo 31%
  - 7.3% of subjects treated with SSRIs withdrew bec/o side effects
  - "The overwhelming majority of evidence of efficacy was for the SSRIs, with the most evidence in paediatric OCD"
After one week on Sertraline

Sent: Thursday, May 31, 2012
To: James Coplan
Subject: amazing shift in A.D.
Importance: High

Dr. Coplan,
I “know” that it takes several weeks for SSRIs to “kick in” but the child I saw in my office today is simply a different child and the improvements are being noted across settings by multiple adults. There was NO self abuse, NO negative self statements, an availability for interventions, just a complete transformation. We “fixed” mistakes, “re-did” errors, told jokes, and played together. The “core” Autistic symptoms are obviously still there - perseveration on bras, drawing, etc - but mood-wise there is no question that A. is already benefitting from the Sertraline... Impossible perhaps but really visibly clear...
Thank you very much.
S.S. Ph.D.
### Internalizing Behaviors in ASD

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May 3, 2013

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**Bipolar D/O, OCD, Anxiety D/O, ASD, “Processing D/O”**

- Bipolar Disorder
- OCD Anxiety
- Asperger Syndrome Anxiety
- Speech Delay “Processing Disorder”

C.A.; MRN 12-0811

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**Bipolar D/O, Alcoholism, Anxiety D/O, ADHD, ASD**

- Bipolar Disorder
- ADHD Anxiety Alcoholism
- ASD

JB; MRN 06-0229

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**Bipolar D/O, Alcoholism, Anxiety D/O, ADHD, ASD**

- Alcohol
- Depression
- Alcohol Anxiety Depression
- Alcohol Depression
- Alcohol OCD
- ASD Anxiety ADHD

S.P.; MRN 10-0676

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**Adults with ASD – Online Survey**

![Graph showing the distribution of responses to the survey](http://www.iancommunity.org/cs/ian_research_reports/adults_on_the_autism_spectrum_september_2009)

- ADHD
- OCD
- Anxiety
- Depression
- Bipolar

Respondents (N=67)

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**The ABC’s of Behavior Analysis**

- What is the Antecedent?
- What is the Behavior?
- What is the Consequence?

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Antecedents

- External:
  - Imposition of a task
  - Change in routine
  - Denial of access to object or activity
  - Other…
  - Or: No apparent external antecedent

- Internal:
  - Hunger
  - Thirst
  - Fatigue
  - Cognitive Rigidity
  - Dysregulation of Attention
  - Dysregulation of Mood / Arousal
  - Dysregulation of Sensory Processing
  - Other biological drivers

Behavior

- What, exactly, is the behavior?
  - “Topography”
    - Verbal
    - Physical
  - Frequency
  - Intensity
  - Duration
  - Timing

Consequences

- Reinforcers
  - Positive
  - Negative
- Aversives

Food Selectivity

Negative and Positive Reinforcement of unwanted behavior

- Parent removes non-preferred food ([−] reinforcement)
- Parent provides child with his/her preferred food ([+] reinforcement)
- Alternatives
  - First … Then (The Premack Principle)
  - Put refusal on extinction
  - The kitchen is closed between meals

Token Economy: The next step beyond Time Out

- Concretely specified behaviors
- Earn and Lose Points
- Points→Access to preferred items
  - Preferred toys, Computer time, etc.
  - NO access to preferred item at other times
  - “Extra” treats not as effective
- Works with children who understand rule-based play (CandyLand, Uno, etc.)
But……

- FBA is generally “blind” to internalizing behavior
- Reinforcers and Aversives don’t reduce internalizing behavior

Summary

- Why this child?
  - Neuropsychological factors?
    - Cognitive Rigidity
    - Dysregulation of attention
    - Dysregulation of arousal
    - Sensory Seeking / Sensory Overload
- Behavioral Intervention – Usually
- Change in classroom setting – sometimes
  - Shift from rote to inferential learning (2nd - 3rd grade): challenge
- Medication: Sometimes

An ounce of prevention….

- Identify internalizing behaviors before they lead to externalizing behaviors
- Behavior Management Plan that proactively seeks to avert or dissipate anxiety

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Progression of Interventions

- IQ
- Social Skills
- Social Stories
- DTT
- VB
- OT
- NET, PRT, DIR
- SLP
- TEACCH

Vocational Support
Educational Support
Community Living Skills
Mental Health Services
Caregiver Support

Summary

Services for adult “survivors” of childhood ASD
- Mental Health
  - Anxiety
  - Depression
  - Mood Disorders
  - Depression
- Vocational
- Workplace Social Skills
- Parent / Caregiver support
- Spouse / Partner support

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Thank You!