Children, Brains and Drugs:
Uses and Misuses

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Outline

- Concerns about misuse
- Legitimate use
- How to do it right

Cause for concern

- Increased use of drugs for behavioral and emotional problems
  - More drugs
  - Broader use
  - Younger treatment

More drugs

- For ADHD: stimulants and non-stimulants
- For depression and anxiety: SSRIs and SNRIs
- For irritability, explosiveness; neuroleptics and mood stabilizers
- For everything: naturopathy/ homeopathy

Broader use

- More diagnoses that lead to medication
- Broader diagnostic categories
- More doctors prescribing
- More public awareness

Younger treatment

- Preschool treatment of ADHD
- Pediatric anxiety, depression, bipolar and temper dysregulation
- Conditions associated with Autism

Med worries

- Validity of diagnostic categories in children
- Possible med side-effects; short-term and long-term
- Reluctance to seriously consider psychosocial interventions even when possibly safer and more effective than medication
- Tendency to think in terms of “one diagnosis-one treatment” rather than comprehensive assessment/comprehensive management of coexisting or underlying problems

Cause for action

- Brain basis for behavioral-emotional disorders
- Real impairment/real distress
- Growing evidence base for effectiveness
- Real long-term developmental benefits

Brain basis for behavioral-emotional disorders

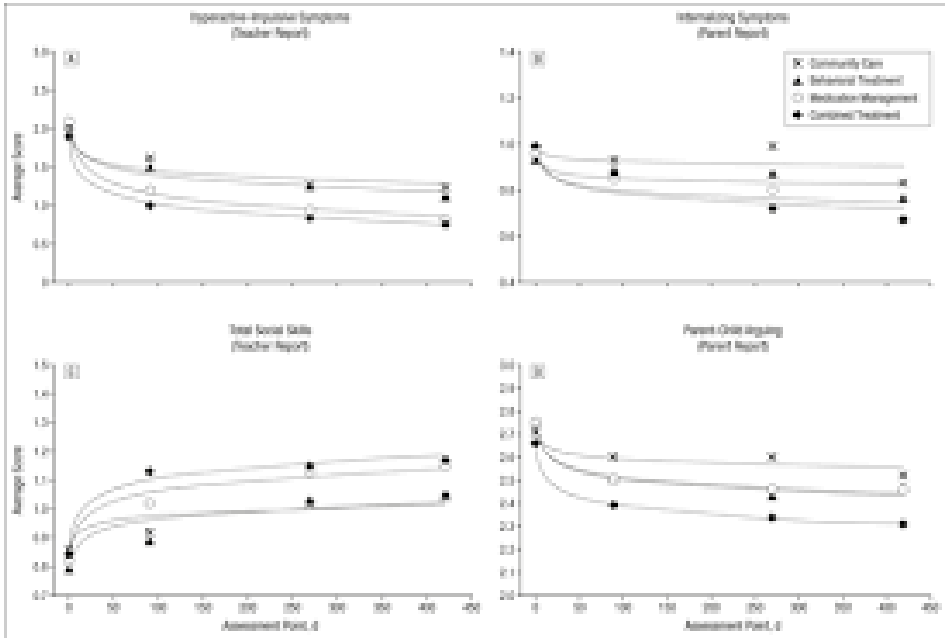
- Neuroimaging
- Neurochemistry
- Neurogenetics

Real impairment/real distress

- *ADHD:* impulsivity, distractibility, hyperactivity
- *Mood disorders*: behavioral and mood instability, aggression, fears, excessive anxiety, depression
- *Autism*: anxiety, compulsions, perseveration, inflexibility, impulsivity, distractibility, explosiveness, depression, aggression, self-injury

Growing evidence of effectiveness

- More good placebo-controlled, randomized, prospective, peer-reviewed studies
- More clinical experience



Real benefits

- Relieve current distress
- Improve availability for learning
- Lesson psychosocial impairment

Long-term benefits: Improve adult outcomes?

- Prevent secondary depression, suicide, accidental injury
- Prevent secondary problems with friends, family, marriage, work
- Possibly modify natural course of disease
  - normalization
  - minimize “kindling”
  - “nerves that fire together, wire together”

Nonpharmacologic malpractice

Regarding ADHD:

"…in any other medical or psychiatric condition where the evidence for drug efficacy is this substantial and for drug side effects is this benign, the failure of a physician to consider medication treatment for the disorder would be considered tantamount to malpractice."

– Dr. John Weery

Nonpharmacologic malpractice

"The idea that human self-control is largely self-determined and largely instilled by one's parents during childhood should be discarded on history's conceptual scrap heap. Until such time as more effective treatments having even fewer side effects have been scientifically identified, the use of stimulant medication as part of a larger treatment package for the management of ADHD should be a first-line and mainstay treatment, without apology."

– Dr. Russell Barkley

How to do a medication trial

- Choose a target
- Choose a medication
- Establish baseline measures for targets and possible side effects
- Establish observation intervals
- Observe
- Evaluate and reevaluate

Medication Trial Form

0=no problem; 1=little problem; 2=medium problem; 3=big problem

medication:	**Date baseline**	**date**	**date**	**date**
Targets				
Possible Side Effects				

Choose a target

- Do not try to solve more than one problem at a time.
- Set priorities. What needs to change? What are your child's greatest sources of impairment?
- Select outcome measures.

Choose a medication

- Consult experts
- Refer to best available scientific information.
- Avoid speculation, bias and fad.
- Objectively weigh relative risks and benefits.

Medications currently available for treatment of ADHD

Short acting/ Immediate release

- Ritalin/ Methylin tablets 5,10,20
- Focalin tablets 2.5,5,10
- Dexedrine tablets 5,10 / Procentra 5/5ml liquid
- Methylin solution 5, 10/5ml liquid; chewtabs 2.5,5,10
- Adderall tablets 5,7.5,10,12.5,15,20,30
- Evekeo 5, 10 and Zenzedi 2.5,5.7.5,10,15,20,30

Long acting/ Extended release (mg)

- Dexedrine spansule (caps) 5,10,15
- Methylin ER 10,20
- Metadate CD caps 10,20,30,40,50,60
- Ritalin LA caps 10,20,30,40
- Focalin XR caps 5,10,15,20, 25, 30, 35, 40
- Adderall XR caps 5,10,15,20,25,30
- Concerta tabs 18,27,36,54
- Daytrana *patch* 10,15,20,30
- Vyvanse caps (powder) 10,20,30,40,50,60,70
- Quillivant XR 25mg/5ml liquid
- Aptensio XR 10,15,20,30,40,50,60

Non-stimulants

- Strattera 10,18,25,40,60, 80, 100 mg capsules
- Clonidine tab or patch 0.1, 0.2, 0.3; Kapvay 0.1
- Guanfacine: Tenex 1, 2 mg tabs; 1 mg/ ml ; Intuniv 1,2,3,4

Establish baseline

- Before starting medication, rate targets *and* possible side effects.
- *Possible* side effect symptoms may be present at baseline, before any medication.

Establish observation intervals

- How long will it take for this medication to work?
- Be patient. Give it a fair chance.
- But don't overlook early changes, positive or negative.
  - Don't miss low dose responders.
  - Don't miss early signs of trouble.

Observe

- Describe changes in everyday life
- Pool observations; different observers, settings and tasks
- “Blind” (partial or total) some observers to minimize bias
- Include the child as an important member of the assessment team
  - Value his/her observations.
  - Promote self-monitoring, self-regulation and self-advocacy

Evaluate and reevaluate

- Compare baseline and treatment observations:
  - *Promising:* targets better, possible side effects not worse
  - *Disappointing or even harmful:* targets no better, side effects worse
  - *Inconclusive:* no change or confusing data.
    - Change dose
    - Gather more data
    - ABAB design experiment

Medication Trial Form

0=no problem; 1=little problem; 2=medium problem; 3=big problem

medication:	**Date baseline**	**date**	**date**	**date**
Targets				
Possible Side Effects				

Special situations

- Insomnia
  - Benadryl, melatonin
  - If associated with poor appetite/anxiety, Remeron
  - If associated with ADHD, guanfacine or clonidine
  - If associated with severe mood dysregulation, neuroleptic
- Poor appetite
  - Cyproheptadine
  - If associated with insomnia/ anxiety, Remeron
- Other coexisting conditions
  - Anxiety (balance SSRI and stimulant; or Strattera)
  - Autism (consider non-stimulant for ADHD)
  - Severe Mood Dysregulation (SSRI vs. neuroleptic)

If meds are not working…

- Look for coexisting conditions
- Think about non-pharm interventions
  - Behavior management
  - Other therapies
  - School placement and educational care
  - Parent support

references

- NIMH Multimodal Treatment Study of Children with ADHD (MTA)
- NIMH Preschool Attention-Deficit/Hyperactivity Disorder Treatment Study (PATS)
- Timothy Wilens, Straight Talk About Psychiatric Medications for Kids
- Russell Barkley, Taking Charge of ADHD
- Harold Koplowicz, More Than Moody