Evidence-Based Child Psychiatry

Thomas Paul Tarshis M.D., M.P.H.
Child Psychiatry and Research Fellow
Stanford University

Disclosures

None

Teaching Points I

- At the end of this presentation you should be able to:
  - Discuss prevalence of common psychiatric disorders in children
  - Know which pharmacologic and therapy treatments have evidence to support their use
  - Identify gaps in knowledge for treatment of child psychiatric disorders

Teaching Points II

- This lecture is an overview of a massive topic
- It is based on my review of clinical trials from multiple sources
- It is not possible to be aware of every clinical trial, thus this information should be used just as a starting point for the state of knowledge in 2006

Teaching Points III

- Different treatments will have different efficacies. For example, stimulants have a greater efficacy in treating ADHD than bupropion or atomoxetine. Thus, although several treatments may be "evidence-based", there is often a more appropriate 1st choice, 2nd choice, etc.

Question 1

Which SSRI is FDA approved for treatment of depression in children age 8 and older?

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C. Fluoxetine
D. Paroxetine
E. Citalopram

Question 2

Which of the following SSRI's are not FDA approved for treatment of OCD in children?

A. Fluoxetine
B. Sertraline
C. Paroxetine
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Question 3

Which Mood Stabilizer is FDA approved for use in children age 12 and older?

A. Valproic Acid
B. Lithium
C. Lamotrigine
D. Carbamazepine

Question 4

Which of the following therapies is an appropriate evidence-based treatment for Tourette disorder in Children?

A. Supportive
B. Psychodynamic
C. Interpersonal
D. Habit Reversal

Question 5

Which of the following has sound evidence for use in treating Anorexia Nervosa?

A. Sertraline
B. Fluoxetine
C. Psychodynamic Psychotherapy
D. Olanzapine
E. None of the Above

What is Evidence-Based Medicine?

- EBM is the integration of best research evidence with clinical expertise and patient values
- Term first coined in 1992, huge growth since then including multiple journals devoted to EBM

Limitations to EBM

- Shortage of coherent, consistent, scientific evidence
- Difficulties in applying any evidence to the care of individual patients (Efficacy vs. Effectiveness)
- Barriers to any practice of high-quality medicine (i.e. clinician time, funding)

Different EBM criteria

- Sound theory/plausibility
- Control Group
- Appropriate Measures
- Uniform Procedures
- Positive results
- Independent replication

Evidence Levels in this Talk

- Full EBM criteria
  - At least 2 Randomized Controlled Trials by different groups with positive results
- Potential
  - At least 1 Randomized Controlled Trial with positive results and possibly other investigations with positive results
- Possible
  - Open trials or pilot studies that show positive results. May or may not have control groups.

Cautionary Words

- Many of the medications listed would not be considered "first-line" even if they have Full EBM criteria secondary to concerns over side effects in a vulnerable population.
- A distinction is not made between different age groups (i.e. pre-pubescent versus adolescent) in the studies cited which may have an impact in treatment choice.
- Only published studies are included in this review (there may be "hidden" negative studies that I did not have access too)
- The information is completed to the best of my ability – it is likely that some studies have not been found. However, the most common treatments have hopefully been covered.

Autism

- Prevalence
  - .1% Autism, 4:1 Males
- Social Deficits, Odd behavior, Language Deficits
- Associated Problems:
  - Aggression/Rage/tantrums
  - Hyperactivity
  - Stereotyped Behaviors/ Obsessions

Autism

Pharmacological Treatments

- Full EBM criteria
  - Risperidone
    - Helpful for self-injurious behavior and aggression
  - Haldol
    - Improved stereotypic behavior, tantrums, withdrawal, irritability and hyperactivity
  - Clomipramine
    - Repetitive Behaviors, OCD symptoms

Autism

Pharmacological Treatments Continued

- Potential
  - Fluoxetine
    - For repetitive behaviors
  - Clonidine
    - Hyperactivity
  - Methylphenidate
    - ADHD behaviors

Autism
Therapy Treatments

- Full EBM criteria
  - Nothing
- Potential
  - "Intensive Treatment"
    - Different models which include up to 40 hours per week of intensive social modeling, usually on a 1:1 basis with a trained professional
  - Parent training

Tourette Disorder

- Prevalence
  - .1 - .6%. Males 3:1
- Vocal and Motor Tics
- Frequently occurring for more than a year with no substantial tic-free period

Tourette Disorder

Pharmacological Treatments

- EBM treatments
  - Pimozide*
  - Haloperidol*
  - Risperidone
- Potential
  - Pergolide
  - Clonidine
  - Metoclopraminde
  - Ziprasidone
  - Ondansetron
  - Nicotine

* = FDA approved

Tourette Disorder

Therapy Treatments

- EBM treatments
  - Habit Reversal
- Potential
  - Exposure/ Response Prevention
  - Relaxation Training

Bipolar Disorder

- Prevalence
  - Children .2-.4%
  - Adolescents 1%
  - Male:Female 1:1
- Diagnosis in Kids – look for items in bold on next slide to help distinguish Bipolar vs. ADHD

Mania Symptoms

- A distinct period of abnormally and persistently **elevated, expansive** or irritable mood, lasting at least 1 week (4 days for hypomania)

- During the period of mood disturbance, 3 (or more) of the following symptoms have persisted (4 if the mood is only irritable) and have been present to a significant degree:
  - 1) inflated self-esteem or **grandiosity**
  - 2) **decreased need for sleep** (e.g., feels rested after only 3 hours of sleep)
  - 3) more talkative than usual or pressure to keep talking
  - 4) flight of ideas or subjective experience that **thoughts are racing**
  - 5) distractibility (i.e., attention too easily drawn to unimportant or irrelevant external stimuli)
  - 6) **increase in goal-directed activity** (at work, at school, or **sexually**) or psychomotor agitation
  - 7) excessive involvement in pleasurable activities that have a high potential for painful consequences (e.g., engaging in unrestrained buying sprees, sexual indiscretions, or foolish business investments)

Bipolar Disorder

Pharmacological Treatments

- Full EBM criteria
  - None
- Potential
  - Lithium*
  - Valproic Acid
  - Quetiapine/Valproic Acid
  - Carbamazepine
- Possible
  - Lamotrigine
  - Risperidone + Valproic Acid or Lithium

* = FDA approved

Bipolar Disorder
Therapy Treatments

- EBM criteria
  - None
- Potential
  - None
- Possible
  - Family Focused Therapy for Adolescents
  - Multifamily Psychoeducation Groups

Eating Disorders

- Prevalence
  - 1% Adolescents (10:1 female:male)
- Anorexia Nervosa
  - Weight below 85%, fear of gaining, body image distortion, missing 3 periods
- Bulimia Nervosa
  - Eating large amount of food, loss of control, compensatory behaviors

Eating Disorders

Pharmacological Treatments

- Anorexia Nervosa
  - Full/Potential/Possible
    - None
- Bulimia Nervosa
  - Full/Potential
    - None
  - Possible
    - Fluoxetine

Eating Disorders
Therapy Treatments

- Anorexia Nervosa
  - Full EBM : None
  - Potential: Family Therapy
  - Possible: Individual Therapy
    Family Psychoeducation Groups
- Bulimia Nervosa
  - Full EBM: None
  - Possible: Cognitive Behavioral Therapy

Oppositional Defiant Disorder and Conduct Disorder

- Prevalence
  - ODD 2-10%
  - Conduct Disorder 1-4%
  - Males>Female
- ODD
  - Pattern of arguing, defiance, annoying people, angry, losing temper
- CD
  - More extreme behaviors including fights, weapons, physical cruelty, theft, truancy

ODD/CD

Pharmacological Treatments

- Full EBM
  - Lithium (aggression – CD kids in hospital)
  - Risperidone (For low IQ only)
  - Clonidine (comorbid ADHD)
  - Methylphenidate (comorbid ADHD)
- Potential
  - Valproic Acid
- Possible
  - Atomoxetine (comorbid ADHD)
  - Citalopram
  - Olanzapine
  - Beta-Blockers (low IQ)

ODD/CD
Therapy Treatments

- EBM criteria
  - Parent Skills/Management Training
  - Family Therapy
- Potential
  - CBT/ Social Skills/Problem Solving Training (similar constructs/ treatments)

Depression

- Prevalence
  - Children 2%
  - Adolescents 5%
  - Male:Female 1:1 (until puberty)
- Diagnosis
  - Pattern of irritability/depression with associated signs (sleep, diet, interest, concentration, agitation)

Depression
Pharmacological Treatments

- EBM
  - Fluoxetine*
- Potential
  - Sertraline
  - Citalopram
- Possible
  - Bupropion
  - Paroxetine
  - Escitalopram (Teenage only)
  - Mirtazapine (Teenage only)

Depression
Therapy Treatments

- EBM criteria
  - Cognitive Behavioral Therapy
  - Interpersonal Psychotherapy
- Potential/Possible
  - None

Attention-Deficit/ Hyperactivity Disorder

- Prevalence
  - 8-12%
  - Male > Female
  - 10:1 clinic, 3:1 community
- Diagnosis
  - Pattern of inattentiveness and/or hyperactivity causing functional impairment in more than 1 setting

ADHD

Pharmacological Treatments

- EBM
  - All Stimulants (Methylphenidate, Amphetamine, Dextroamphetamine)*
  - Pemoline* (off market in U.S. since 10/2005)
  - Atomoxetine*
  - Modafinil
  - Desipramine
  - Bupropion
- Potential
  - Clonidine, Guanfacine
  - Nortriptyline

* = FDA approved

ADHD
Therapy Treatments

- EBM criteria
  - Full, therapy alone – controversial
    - Parent training, Classroom Behavioral modification, CBT, Home B-Mod
- EBM
  - Family training/Behavioral treatment with pharmacotherapy

Anxiety Disorders

- Prevalence
  - Panic Disorder .5-5%
  - Social Phobia 1%
  - OCD 1% (2% teens)
  - Separation Anxiety DO 2-5%
  - Generalized Anxiety DO 3-5%
  - PTSD (after trauma) 24-35%

Anxiety Disorder

Pharmacological Treatments – SSRIs Mainstay

- EBM
  - Fluoxetine: EBM: OCD*
    POT: GAD, SAD, Social Phobia
  - Sertraline: EBM: OCD*
    POT: GAD
  - Fluvoxamine: POT: OCD*, GAD, SAD, Social Phobia
  - Paroxetine: POT: OCD, Social Phobia
  - Clomipramine: OCD*

* = FDA approved, POT = Potential

Anxiety Disorders

Therapy Treatments - I

- Individual Cognitive-Behavioral Therapy
  - PTSD, OCD, Social Phobia, SAD, GAD
- Group CBT
  - PTSD, GAD, SAD, Phobias
- Family CBT
  - SAD, Social Phobia, OCD
- Modeling (Live, Symbolic, Participant*)
  - Phobias, SAD, Social Phobia

Anxiety Disorders

Therapy Treatments - II

- Systematic Desensitization
  - Phobias
- Reinforced Exposure (no relaxation)
  - Phobias
- Social Skills Training
  - Social Phobia
- Rational-Emotive Therapy (CBT component)
  - Social Phobia, Specific Phobias

Disorders Not Covered

- Substance Abuse
- Enuresis/Encopresis
- Schizophrenia

Take Home Points

- Child Psychiatric Disorders are common, affecting up to 20% of all children
- Most disorders have at least *some* evidence base for both pharmacologic and therapy interventions, and some have solid evidence.
- Be aware of the evidence-base for treatments, but also look at each patient as an individual when deciding appropriate interventions, and understand that there is a lack of research in child psychiatry
- Be aware that non-pharmacologic interventions can be a first choice in treatment for many disorders

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D. Olanzapine
E. None of the Above

Answers

- 1. C
- 2. C
- 3. B
- 4. D
- 5. E

Reference list

- Autism (Selected references)
  - Risperidone (McCracken 2002, Shea 2004)
  - Haldol (Campbell 1982, Anderson 1989)
  - Clomipramine (Gordon 1993, Remington 2001)
  - Fluoxetine (Hollander 2005)
  - Clonidine (Fankhauser 1992)
  - Methylphenidate (Quintana 1995)
  - “Intensive Treatment” (Sallows 2005)
  - Parent Training (Jocelyn 1998)

Reference list

- Tourette Disorder (Selected References)
  - Haldol (Shapiro 1989, Ross 1978)
  - Pimozide (Sallee 1997,Shapiro 1989, Ross 1978)
  - Risperidone (Scahill 2003, Dion 2002)
  - Pergolide (Gilbert 2003)
  - Clonidine (Leckman 1991)
  - Ziprasidone(Sallee 2000)
  - Ondansetron (Toran 2005)
  - Nicotine(Howson 2004)
  - Habit Reversal(Verdellen 2004, Willhelm 2003)
  - ERP (Verdellen 2004)
  - Relaxation Training (Bergin 1998)

Reference list

- Bipolar Disorder (Selected References)
  - Lithium (Kowatch 2000, Geller 1998, Findling 2005)
  - Valproic Acid (Kowatch 2000, Wagner 2002, Findling 2005)
  - Quetiapine+Valproic Acid (DelBello 2002)
  - Risperidone+Valproic Acid or Lithium (Pavuluri 2004)
  - Carbamazepine(Kowatch 2000)
  - Lamotrigine (Chang 2006)
  - Multifamily Psychoeducation Groups (Fristad 2002)
  - Family-Focused Treatment for Adolescents(Miklowitz 2004)

Reference list

- Eating Disorders (Selected References)
  - Fluoxetine (Kotler 2003)
  - Family Based Therapy (Robin 1999, Geist 2000, Lock 2005)
  - Individual Therapy (Robin 1999)
  - Family Psychoeducation Groups (Geist 2000)
  - Cognitive Behavioral Therapy (Lock 2005)

Reference list

- Disruptive Behavior Disorders (Selected References)
  - Lithium (Malone 2000, Campbell 1995)
  - Risperidone (Aman 2002, Turgay 2002, Findling 2000)
  - Valproic Acid (Donovan 2000, Steiner 2003)
  - Clonidine (Hazell 2004, Connor 1999 - Review)
  - Olanzapine (Potenza 1999)
  - Citalopram (Armenteros 2002)
  - Atomoxetine(Kaplan 2004, Newcom 2005)
  - Beta-Blockers (Conner 1997)
  - Methylphenidate (Steiner 2003 – Review)
  - Parent Skills/Management (Greene 2004, Webster-Stratton 2001, Patterson 1982)
  - CBT/Social Skills/Problem Solving (Lochman 1993, Kazdin 2003)
  - Family Therapy (Wells 1988, Kazdin 1987)

Reference list

- Depression (Selected References)
  - Fluoxetine (March 2005, Emslie 2004)
  - Sertraline (Wagner 2003)
  - Citalopram (Wagner 2004)
  - Bupropion (Glod 2003, Davis 2001)
  - Paroxetine (Keller 2001, Braconnier 2003)
  - Mirtazapine (Haapasalo-Pesu 2004)
  - Escitalopram (Wagner 2006)
  - Cognitive Behavioral Therapy (Lewinsohn 1990, March 2005, Brent 1997)
  - Interpersonal Psychotherapy (Mufson 2004, Rosello 1999)

Reference list

- ADHD (Selected References)
  - Stimulants (Pappadopulos 2004 - Review)
  - Atomoxetine (Kelsey 2004, Weiss 2005)
  - Bupropion (Conners 1996, Barrickman 1995)
  - Clonidine (Connor 1999 – Review)
  - TCA's (Biederman 1989, Gualtieri 1991 Biederman 1993, Prince 2000)
  - Modafinil (Rugino 2003, Biederman 2005)
  - Therapy Interventions (Weisz 2004 – Review)

Reference list

- Anxiety (Selected References)
  - Therapy Interventions (Weisz 2004 – Review)
  - Fluoxetine (Birmaher 2003, Liebowitz 2002, Geller 2001)
  - Paroxetine (Wagner 2004, Geller 2002)
  - Fluvoxamine (RUPP group 2001, Riddle 2001)
  - Sertraline (March 1998, Rynn 2001, POTS group 2004)
  - Clomipramine (Deveaugh-Geiss 1992, Leonard 1989, Greist 1990)