Sleepy, Dopey, & Grumpy: Behavioral Sleep Disorders of Childhood

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Outline

- Background & Conceptual Model
- Sleep 101: Normal Sleep
- Behavioral Sleep Disorders
- Treatment & When to Refer
Why Sleep?

- Sleep problems are common in early childhood
- When left untreated, sleep problems may persist and become chronic
- Poor sleep can have negative consequences across multiple domains of child, parent, and family functioning
A Conceptual Model

- Excessive Daytime Sleepiness
  - Insufficient Sleep (Sleep Deprivation)
  - Fragmented Sleep (Sleep Disruption)
  - Primary Disorders of EDS
  - Circadian Rhythm Disorders
A Conceptual Model

Daytime Sleepiness/Insufficient Sleep

Problems
- Cognitive
- Behavioral
- Mood

Consequences
- School Performance
- Social/Family Functioning
Impact of sleep problems: Physical

- **Growth**: disruption of normal growth hormone release during sleep
- **Immune function**: sleep deprivation impairs host defenses; infection induces somnogenic cytokines
- **Endocrine system regulation**: cortisol, prolactin, thyroid
- **Metabolic regulation**: obesity/metabolic syndrome linked to sleep deprivation
- **Injuries**: more common in sleepy children
Sleep in the Modern Family

2014 Sleep in America Poll: Sleep in the Modern Family, National Sleep Foundation.

Exhibit 1. Parents’ ratings of the importance of sleep for various outcomes.

Importance of sleep

- Extremely important
- Very important
- Somewhat/not important

<table>
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<tr>
<th>Outcome</th>
<th>Extremely Important</th>
<th>Very Important</th>
<th>Somewhat/Not Important</th>
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<td>Parent's mood</td>
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<td>Parent's performance</td>
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<td>Child's mood</td>
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<td>Child's performance at school</td>
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<td>Child's behavior</td>
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Factors Affecting Sleep in Children

- Sleep Practices (schedules, feeding, napping, cosleeping)
- Sleep Environment (temperature, light, sleep surface)
- Family/Parents (SES, family stress, parental competence)
- Health (illness, medications, reflux)
- Development (sleep, cognitive, separation anxiety)
- Social/Emotional (attachment, temperament, maternal mental health/stress)
- Sociocultural (values, parenting practices)
What’s Normal?
Total sleep duration

What’s Normal

![Chart showing normal sleep patterns by age]
Infants

- **0-2 Months**
  - 10-19 hours per 24 hours
  - Bottle-fed sleep longer periods than breastfed

- **2-12 Months**
  - 9-10 hours at night
  - 3-4 hours napping
Toddlers

- 12 months – 3 years
  - 9.5 to 10.5 hours sleep at night
  - 2-3 hours napping
    - Decreases with age
Preschoolers

- 3 to 5 years
  - 9 to 10 hours of sleep per night
  - Naps decrease from 1 to none
School Age

- 6 to 12 years
  - 9 to 10 hours per night

Adolescents

- 12 to 18 years
  - Normal is not enough!
  - Sleep decreases with increasing age
  - Biologic and environmental shift to later sleep onset
    - Circadian rhythm disorders are very common and often present as EDS or insomnia complaints
  - Electronics, electronics, electronics!
What parents think...

Exhibit 3. Amount of sleep the child needs as estimated by the parent.

2014 Sleep in America Poll: Sleep in the Modern Family, National Sleep Foundation.
What kids actually get...

2014 Sleep in America Poll: Sleep in the Modern Family, National Sleep Foundation.
Behavioral Sleep Problems in Early Childhood
Common Sleep Complaints

- My child refuses to go to sleep
- “Curtain calls”
- He won’t sleep in his own room
- My child has ALWAYS been a terrible sleeper
- She wakes up 5 times every night
- We moved him to a bed and he won’t stay there at bedtime
- I have to lie down with her every night until she falls asleep
Case Example

- 3 ½ year-old with frequent night wakings

Bedtime
- Routine: bath, snack, books, song, TV, lotion, prayers, more books, patted to sleep
- Negotiating
- Time-outs
- Typically falls asleep with mom in his bed

Woke about every 60-90 minutes
- Getting out of bed about 35 times per night
- Running around
- Irritable, arguing with mom
- “I’m scared”
Epidemiology

- **Bedtime Stalling**
  - 52% of preschoolers
  - 42% of school-aged children

- **Bedtime Resistance**
  - 10-30% of toddlers and preschoolers

- 84% of children (15-48mo) continued to have sleep disturbance at 3-year follow up!
Etiology & Risk Factors

- Permissive parenting style
- Conflicting parental discipline styles
- Age
- Temperament
- Oppositional behavior
- Environmental settings
- Circadian timing
Behavioral Insomnia of Childhood

- International Classification of Sleep Disorders - Second Ed. (ICSD-II)
  - Sleep Onset Association Type
  - Limit Setting Type
  - Combined Type
Sleep Onset Association Type

- Complaint = nightwakings

- Nighttime arousals are normal (for all of us)

- What you need to fall asleep is what you need to return to sleep
Sleep Onset Association Type (cont’d)

- 6 months to 3 years
- Involvement of sleep associations prevents returning to sleep independently
- Problematic sleep associations interfere with learning to self-soothe
- Requires parental intervention to sleep
Limit Setting and Combined Type

Limit Setting Type

- Bedtime struggles/bedtime refusal
- Prolonged sleep onset latency
- 2-6 year olds

Combined Type

- Bedtime struggle that ends with negative sleep association
Key Features

Sleep Onset Association Type
✦ Involvement of sleep associations prevents returning to sleep

Limit Setting Type
✦ Bedtime struggles/bedtime refusal

Combined Type
✦ Bedtime struggle that ends with negative sleep association
Assessment of Behavioral Sleep Problems
Screening for Sleep Problems: BEARS

- B = Bedtime problems
- E = Excessive daytime sleepiness
- A = Awakenings during the night
- R = Regularity and duration of sleep
- S = Snoring
Sleep History – Sleep Habits

- Sleep schedule/ patterns
  - Diaries
  - Weekday
  - Weekend
  - Naps
  - Consistency
- Co-sleeping
What’s wrong with this picture?

| Day       | 6p | 7  | 8  | 9  | 10 | 11 | 12 | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 1  | 2  | 3  | 4  | 5  | Comments |
|-----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|     |         |
| Wed, Dec 1|    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |         |
| 2-Dec     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |         |
| 3-Dec     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |         |
| 4-Dec     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |         |
| 5-Dec     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |         |
| 6-Dec     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |         |
| 7-Dec     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |         |
| 8-Dec     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |         |
| 9-Dec     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |         |
| 10-Dec    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |         |
| 11-Dec    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |         |
| 12-Dec    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |         |
| 13-Dec    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |         |
| 14-Dec    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |         |
Sleep History - Bedtime

- Evening activities
- Bedtime routine
- Latency to sleep onset
  - What happens during that time
  - How do parents respond to stalling?
- Sleep onset associations
- Sleep location
  - Where child falls asleep & wakes
  - Who is present, where are they, what are they doing?
Sleep History – Nocturnal Behaviors

- Night wakings
- Night terrors/Sleepwalking
- Sleep-disordered breathing
- Leg movements
Differential Diagnosis

- Delayed sleep phase
- Nighttime fears
- Transient insomnia
- Restless legs syndrome
- Obstructive Sleep Apnea
- Illness or other health issue
- Medication effects
Empirically Supported Treatments
Standards of Practice: American Academy of Sleep Medicine

- Reviewed 52 treatment studies

- “Behavioral therapies produce reliable and durable changes”
  - 80% of children treated demonstrated clinically significant improvement that was maintained for 3 to 6 months

- 94% of behavioral interventions were efficacious

Behavioral Treatments -- Basics

- Working with caregivers to change their sleep-related interactions with their child

- 2 main components
  - Modifying parental/child cognitions
  - Modifying parental behaviors and responses to the child
Behavioral Treatment Cont’d

- Common treatment components
  - Bedtime Routine
  - Extinction
    - Standard/Unmodified or graduated
  - Shaping
  - Reinforcement
Bedtime Routine

- Bedtime routine alone shown to improve problematic sleep behaviors in young children
  - Also improves maternal mood
- Same every night
- “Short, sweet and heading in the same direction”
- Appropriate baby bedtime between 7:30-8:30
- Daytime schedule
  - Wake time
  - Naps

Unmodified Extinction or “Cry it out!”

- Putting the child to bed at designated bedtime and then ignoring child until morning
  - monitor for safety and illness
- No attention for negative behaviors
- Extinction Burst
- Standard recommendation
- *Limited parental acceptance*
  - *Crying is tough!*
Graduated Extinction

- Parents ignoring bedtime crying and tantrums for pre-determined periods before briefly checking on child.
  - A progressive or fixed checking schedule may be used (as long as the parent can tolerate)
  - Minimize attention
- Goal is for child to self-soothe to sleep
- Bedtime only
  - Generalization to night wakings
- More acceptable to parents
Shaping

- Small steps towards big goals
  - Get rid of bottle and just rock to sleep
  - Put in crib and sit next to crib
  - Sit farther and farther away from crib

- Consistency, consistency, consistency
Reinforcement

- Reinforce any and all positive sleep behaviors!
When to refer

- Behavioral sleep problems that do not respond to typical behavioral strategies
  - Children with developmental conditions or medical complications
  - Families who need more support

- Breathing problems with sleep

- Excessive daytime sleepiness that is not explained by insufficient sleep
Resources


Questions?
THANK YOU!

- Please feel free to contact me with any further questions or referrals
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  - dumondpsych@gmail.com