Addressing Problematic Bedtime & Sleep Behaviors Using a Behavioral Approach

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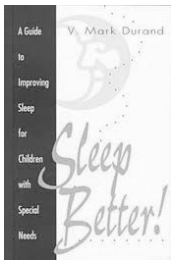
Agenda

- How common are sleep problems?
- What problems do sleep problems pose?
- Types of sleep problems
- Assessment of sleep problems
- Behavior analytic solutions to sleep problems!

Primary References

- CPSY 597 Practicum in Behavior Analysis: Behavioral Interventions for Pediatric Sleep Disturbance
- Sleep Better: A Guide to Improving Sleep for Children with Special Needs by V. Mark Durand
- Dr. Beth Ann Malow: IMFAR Sleep SIG



The "Walk on Water" Trifecta

- If you are:

1. The clinician who solves **eating** problems
2. The clinician who solves **toileting** problems
3. The clinician who solves **sleeping** problems

Then…

YOU WALK ON WATER

And these successes are "good press" for our field!

What's the Problem?

- 30% of **all** children may experience sleep deprivation – typically gets better with age though
  Jan et al., 2008
- Estimated as high as 45-83% for children with disabilities including autism
  Jan et al., 2008; Malow et al., 2006

Normal Sleep Requires A Normal CNS

- Is a complex neurological function
- Requires a normal central nervous system
- Often disrupted in children with neuro-developmental disabilities including autism… **kids who do NOT have a normal CNS**

Nasty Cycle! Nasty Cycle!

- Sleep problems pre-disposes to mood, behavioral, and cognitive impairments and also physical health (which in turn will impact sleep!)
- Sleep problems exacerbate core symptoms of ASD (Adams et al., 2014)
- Sleep problems appear to increase challenging behavior(s) in children with ASD (Adams, Matson, & Jang, 2014)

video

- Autism Never Sleeps http://www.youtube.com/watch?v=sCPFkbejzbY
- Sleep Bed
- http://www.youtube.com/watch?v=XNQN58aGdMg&feature=related

Noah's Beds

OPEN

SHUT!
He's safe!
(He's trapped!)

Types of Sleep Problems in ASD

- Prolonged time to sleep onset
- Later bedtime
- Decreased sleep duration & continuity (e.g., the previous video)

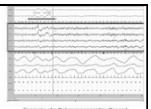
Types of Sleep Problems in ASD

- Increased arousal & awakenings
- Early morning waking
- Bed wetting
- Teeth Grinding (nocturnal bruxism)

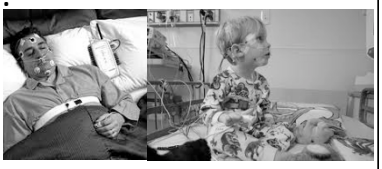
More Concerns

- Nocturnal seizures
- Parasomnias: night terrors, sleep walking
- Obstructive sleep apnea
- Daytime sleepiness

How to Assess



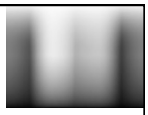
- Polysomnography (sleep study) is best way to detect these conditions:
  - Seizures
  - Parasomnias
  - Apnea
  - Daytime sleepiness



So… What Are Some Of The Causes of Poor Sleep?

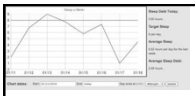
- Biological: neurotransmitters
- Medical (GI) & Neurological (e.g. epilepsy)
- Psychiatric (e.g., anxiety)
- Medications
- Sleep disorders
- **BEHAVIORAL (e.g., "sleep hygiene")**

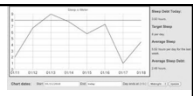
Not Universal



- Remember, ASD is a spectrum and there are huge individual differences across the spectrum.
- While some have very disordered sleep, others have excellent sleep (**and their parents should be grateful!**)

Assessment





- As good Behavior Analysts, we start with some baseline data!
- This data should help inform you re: what is occurring. Patterns may help lead to intervention plans.
- Now… remember that your interviewee is likely sleep deprived and may be grumpy… so no stupid questions please!
- **Start with a structured interview.**

Structured Interview

Sleep Interview

- Does he have a regular bedtime and awakening time?
- Is bedtime routine same each evening?
- Does he work or play in bed before falling asleep?
- Does he sleep better away from his bed than in it?

Sleep Interview

- Does he have any caffeine?
- Does he engage in vigorous activity prior to bed time?
- Does he resist going to bed?
- Does he take more than an hour to fall asleep?
- Does he awaken during night but remain quietly in bed?

Sleep Interview

- Does he awaken in the night and engage in disruptive behaviors?
- Does he take daytime naps?
- Does he take any drugs (prescription)?
- Does he go to bed too early and wake too early?
- Does he awaken in the night upset?
  If so, can he be easily calmed? If yes, than likely nightmares.

Sleep Interview

- Does he scream loudly when not fully awake? If so, is he hard to comfort? If yes, then likely night terrors.
- Does he experience daytime sleep attacks (narcolepsy)?
- Does the person snore? Is it apnea or breathing related?
- Are the blankets in disarray? Does the person wake because of kicking legs (restless leg syndrome)?

Sleep Interview

- Does he wet the bed? This is considered a problem if occurring after age 5.
- Does he grind his teeth? Nocturnal Bruxism!
- Does the person experience anxiety preparing for bed?
- Is the person worried about tomorrow?
- Are there any signs indicating anxiety or depression?

Sleep Interview

- Does the person have problem behaviors at other times aside from bedtime or waking?
- When did the primary problem with sleep begin?

Time for some DATA!

Sleep Diary

- Provides info on sleep-wake cycle
- Do nightly, not retrospectively (or it is likely to be inaccurate)

Child: _____ Week of: _____

Day	Time put to bed	Time fell asleep	Nighttime waking (time/how long)	Describe nighttime waking	Time awoke	Describe any naps
Sun						
Mon						
Tues						
Wed						

Behavior Log

- Provides behavioral data
  - –Topographies
  - –Consequences

Behavior Log

Date	Time	Bedtime Behavior	What did you do?	Night Behavior	What did you do?
3/11	9:00 PM	Asleep 5 min	Lay with him		
3/11	12:37 AM			Singing in bed	Lay with him until asleep
3/11	3:57 AM			Singing in bed	Went back to his room and lay with him until asleep

INTERVENTION

Good Sleep Habits

- The place to start (or be preventative) is with sleep habits.
- In some fields (e.g., medicine) this is referred to as "sleep hygiene".
- We all know that kids thrive on structure and this holds true for bedtime too.

Good Sleep Habits Checklist

- Establish a set bedtime routine
- Develop regular sleep and wake times (7days/wk)
- No caffeine 6 hrs before bed
- No booze or tobacco (especially for the kids!)
- Try drinking (warm) milk before bed
- Balanced diet; low in fat
- No exercise in hours before bed (4 hrs); Get regular exercise

Good Sleep Habits Checklist

- Restrict activities in bed to those that help induce sleep (no gymnastic flips for 10 min before bed)
- Reduce noise
- Reduce lighting
- Avoid temperature extremes

*** Ensure conditions present for falling asleep remain in effect through the night ***

Dos & Don'ts

- Make the last 30 min of the day a regular routine
  - Include bathing, dressing, reading
- Keep order and timing of activities consistent
- Do not choose activities that might cause conflict (discuss unfinished homework, etc.)
- Avoid iPad, iPod, iMac… basically anything created by Steve Jobs
- Avoid extending bedtime ("just 1 more story please")
- *But feel free to customize to individual needs*

Routines in ASD

- A word of caution!
- While routines are important for bedtime, we need to be careful of routines that become "rigid" in kids with ASD and potential consequences.
- E.G. Fred takes 15 minutes every night to carefully arrange his stuffies before bedtime. But, when he wakes in the night and they are in disarray, he tantrums.

2 Types of Problems

1. Going to bed (by himself!!!)

1. Staying asleep

The rest of our time will focus on these two broad areas of challenge

Bedtime Resistance

- Imagine, you have had a long day at work and a busy evening having a family dinner and getting the kids ready for bed.
- You are ready to relax… but first.. THE BEDTIME BATTLE must be fought!
- This can be very disruptive for the rest of the family as they desire a quiet transition to sleep time.

Going to Bed Problems

SOME EXAMPLES

- Avery will only fall asleep if Dad (and only Dad) rocks her in his arms sitting on the bottom right side of parents bed
- Sara will only fall asleep if Mom is in room and she can touch some part of Mom (must be skin-to-skin contact)
- Emily will only fall asleep on couch while parents watch CTV nightly news

Created By Richard Stock, M.S., BCBA

1. Graduated Extinction

- GOAL: To teach the child to learn how to fall asleep on his own
- It is easy for a parent to fall into the trap of being present for their child falling asleep but ultimately, they must learn to do so independently.
- In the meantime, you are conditioning powerful **stimulus control** that must eventually be overcome/"fixed"/corrected

1. Graduated Extinction

- Establish a bedtime routine
- Establish and be firm with a set bedtime
- Determine how long you can wait without checking on your child
- Pick the night to start (e.g., Friday of a long weekend)
- Say "Good night".. and leave. Wait agreed upon time (e.g., 4 min). If after 4 min still crying, go back in and tell to go to bed (no physical interaction) and leave again for 4 min.

1. Graduated Extinction

- If still crying go back and repeat and leave again for 4 minutes.
- Continue the pattern until he falls asleep
- On each subsequent night, extend the time between visits by 2-3 minutes.
- Continue the same procedure when entering the room.

1. Graduated Extinction

- This may work **IF** your child stays in his or her bed when you are out of the room
- This may work **IF** you can tolerate listening to crying
- This may work **IF** the environment allows crying (other children in home, apartments, etc.)
- That's a lot of "IFs", eh!

2. Bedtime Fading

- Graduated extinction works very well for some parents
- Others, however, can not tolerate hearing their child cry and will not be successful with a procedure like graduated extinction that may include periods of crying.
- For these parents/children, bedtime fading is an alternative option.
- **This procedure involves actually keeping them up later!**

2. Bedtime Fading

- Select bedtime when your child is likely to fall asleep with little difficulty within 15 minutes. Use the sleep diary to help determine this (e.g., 1 AM)
- Add 30 minutes to this time (e.g., 1:30 AM)
- If he falls asleep with in 15 minutes of being put to bed at the new later time and without resistance for 2 nights in a row, move bedtime back 15 minutes (e.g., 1:15 AM)
- Keep him awake before the new bedtime even if he seems to want to fall asleep

2. Bedtime Fading

- If he does not fall asleep within 15 minutes, have him leave his bed and room and extend the bedtime for 1 hr (2:30 AM)
- Continue to move back the bedtime (e.g., from 1:15 AM to 1:00 AM to 12:45 AM) until you achieve the desired bedtime (e.g., 9 PM).

Comparison

- **Graduated Extinction** involves letting him get upset and waiting for progressively longer periods of time before checking on him
- **Bedtime Fading** involves keeping him up much later than usual so that he falls asleep without incident and then gradually moving the bedtime back to the desired time
- **Both have demonstrated success (supporting research)**
- Both have pros and cons

Graduated Extinction

PROs

- Used at regular bedtime, check on him for reassurance, usually effective within 1 week

CONs

- Requires listening to crying
- Can result in increased problem behaviors
- Some behaviors (like SIB) can not be ignored

Faded Bedtime

PROs

- Often seen as "errorless" with no increase in behavior problems, often prevents long bouts of crying

CONs

- Requires someone to wait up at night
- Can take weeks to achieve desired bedtime
- Effortful

Richard's Clinical Experience

- What do I do when a parent comes to me and tells me they want help dealing with problems of going to bed?
  I lay out these options and tell them I can help guide them re: what to do but they must do it.
- Can NOT "tell" parents to implement strategies – it is their choice and they must be sufficiently motivated!
- Sometimes in-vivo implementation support IS needed

BONUS

- For many kids, they have problems going to bed AND staying asleep. That is, they wake in the night as well.
- Research indicates that for as many as 80% of kids, intervention to improve the bedtime falling asleep behavior leads to spontaneous reduction of night wakings.
- **So the punch line is "begin with bedtime problems if possible"**.
- Consider this from a stimulus control perspective and the sleep cycle
- CLINICAL ANECDOTE

Medication

- Melatonin is often prescribed to kids to help them fall asleep
- Natural hormone that regulates sleep-wake cycle
- 2 types: fast and slow release
- Few or no side-effects
- Should be used under physicians care… but often not
- May habituate and require increased doses

Disruptive Night Wakings

- GRADUATED EXTINCTION
- Decide how long you can wait
- Go in and tell to go to sleep and leave (no attention)
- Wait set interval and repeat as necessary until he falls back asleep
- After 2-3 consecutive nights, increase interval length

Disruptive Night Wakings

- Using graduated extinction during disruptive night wakings is reactive in essence.
- If you'd rather not have to deal with it at all (i.e., implement extinction), there are other options available to you...although not likely easier to do!

Scheduled Awakening

- Is an "errorless" approach
- Use sleep diary to determine consistent waking time
- Awaken 30 min before usual time – only partially rouse (if awakens fully, do 15 min earlier next night)
- Do for 7 nights in a row with no awakenings
- Then skip 1 night
- Then fade out additional nights over time

- Guess how many parents jump at the chance to implement *this* procedure?!

Scheduled Awakening

- What do you think parents report as greatest road block to doing this procedure?

Comparison

GRADUATED EXTINCTION

- **Pros**: can check on him for reassurance and usually works within 1 week
- **Cons**: requires allowing some crying, can result in increase in problem behaviors, can not ignore more severe PBs (e.g., SIB)

Comparison

SCHEDULED AWAKENINGS

- **Pros**: errorless, often successful in 1 night, prevents crying
- **Cons**: requires someone be up to do it, requires regular and predictable waking time

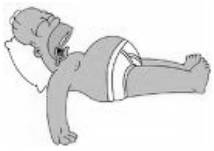
FRAGILE

- Even with most successful plans, problems can resurface
- Sickness, weekend away in strange house or hotel room, flying across time zones, day-light savings time and other exceptional events can cause rapid/ immediate relapses
- The good news is that what worked before is likely to work again… and even more quickly (booster sessions)
- Be prepared for setbacks and don't be discouraged

Context

- The content of this presentation has not been exhaustive
- Sleep problems and interventions is a broad subject area (see IMFAR sleep SIG)
- Even researchers who devote careers to the topic only explore small sections of the overall picture.
- We have not covered naps, sleep terrors, night mares, or sleep walking/talking
- SEE DURANDS BOOK FOR AN EXCELLENT REFERNCE

Good Night! Sleep tight!



PRACTICE

Let's look at a few vignettes

Vignette #1

- **Presenting Problem**: Ally, a girl with autism, has always slept in her parent's bed. Now that she is 4 yrs old and getting bigger, Mom and Dad are tired of having her in their bed and feel that she should start to sleep in her own bed in her own room. She has never actually slept a night in her own bed/room! Yikes!
- **Question:** What should her parents do? Where should they start re: changing this behavior?

Vignette #2

- **Presenting Problem:** Andy, a boy with autism in grade 2, has usually had good sleep behaviors but he has started getting up around 2 AM each morning and he fully wakes up, which disrupts his family.
- **Question:** What should you do? More specifically, what types of questions should be start asking?

Suggestions for **YOUR** Better sleep

- Sleep only as much as you need to feel rested
- Excessively long times in bed leads to fragmented and shallow sleep
- Get up at the same time each day; 7 days/week
- Daily exercise helps to deepen sleep; stop before 7 PM
- Keep area quiet
- Keep temperature moderate; too hot or cold is disruptive
- Hunger disrupts sleep but avoid greasy or heavy foods

Suggestions for **YOUR** Better sleep

- Avoid caffeine in evenings
- Avoid alcohol; helps tense people fall asleep but leads to fragmented sleep
- Using tobacco disrupts sleep

Suggestions for **YOUR** Better sleep

- Don't take your problems to bed
- Establish stimulus control – no reading, eating or watching TV in bed

- If you are angry or frustrated at not falling asleep, do not stay in bed. Get up and do something boring! Don't look at clock either!

Good Night! Sleep tight!