Sleeping for Two !

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Faculty/Presenter Disclosure

- **Faculty/Presenter: Dr. Sanjeev Bhatla**
- **Relationships with commercial interests: None**
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Presentation Agenda

- Treating Insomnia in Pregnancy
  - Cognitive Behaviour Therapy for Insomnia
  - Pharmacotherapy
- Treating Infant Sleep Problems
- Discussion

Cognitive Behavioural Therapy For Insomnia In Pregnancy

Sleep is Important

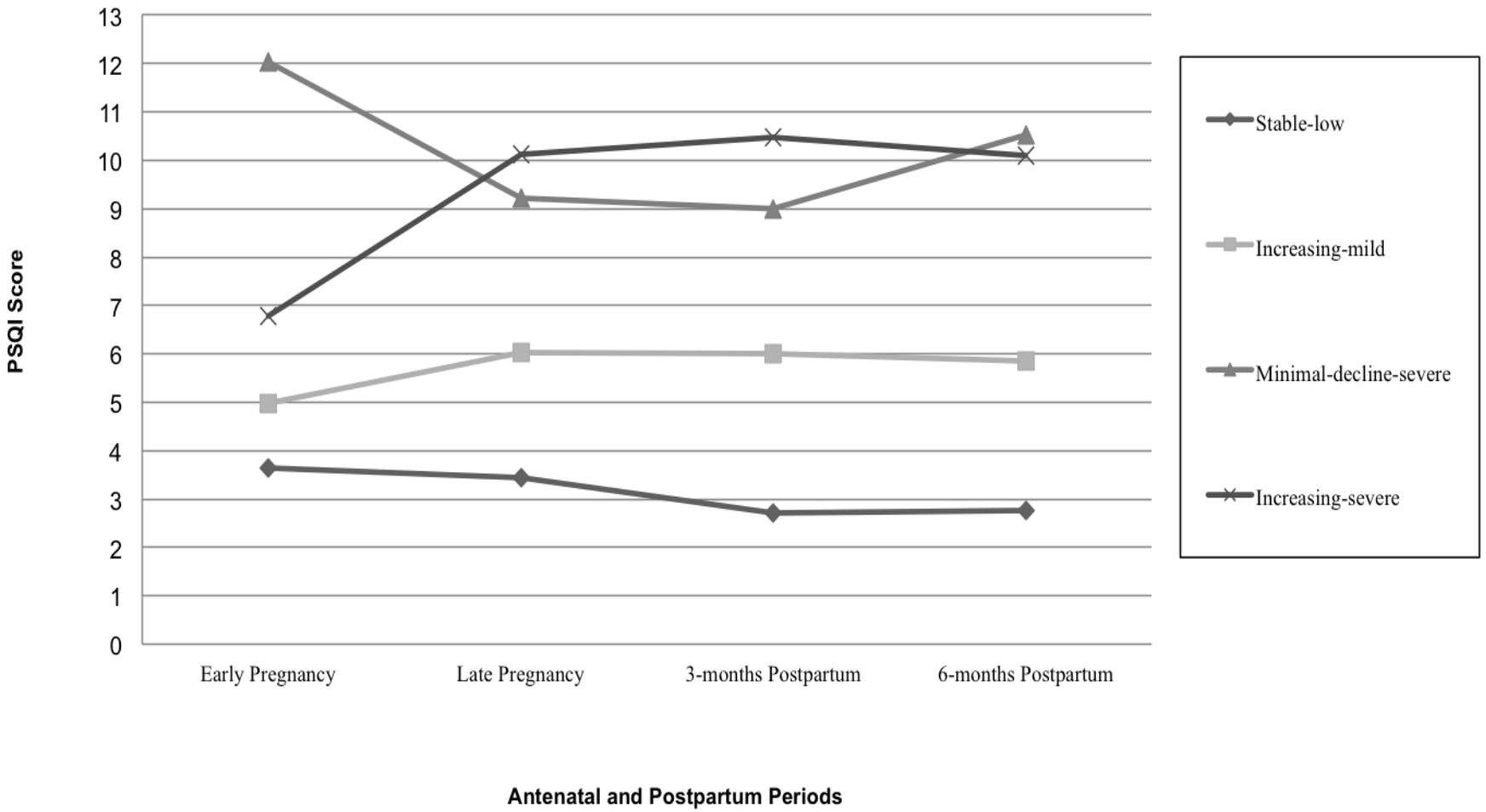
- Learning
- Memory
- Attention
- Emotion regulation
- Physical repair from injury

Sleep in Pregnancy

- Sleep disturbances are common in pregnancy and worsen as pregnancy progresses[1,2]
- Poor sleep in pregnancy is associated with [3,4]
  - Preterm labour
  - Longer labour
  - Increased risk of cesearean delivery
  - Postpartum depression
  - Maternal sleep patterns appear to entrain infant sleep patterns

1. Parry BL, et al.. Sleep Medicine Reviews. 2006(2):129; 2. D⊘rheim SK, et al. Behavioral Sleep Medicine. 2012 07;10(3):152-66; 3. Chang JJ, et al Sleep Medicine Reviews. 2010(2):107; 4. Field T,. Et al. Infant Behav Dev. 2007 02;30(1):127-33.

Sleep Quality in Pregnancy



1. Tomfohr, et al.. Sleep. In press

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Canadian Births Per Year

Births, estimates, by province and territory

	2008/2009	2009/2010	2010/2011	2011/2012	2012/2013
	number				
Canada	**379,290**	**379,373**	**376,951**	**378,762**	**383,822**
Newfoundland and Labrador	4,925	4,945	4,775	4,460	4,420
Prince Edward Island	1,471	1,407	1,428	1,442	1,440
Nova Scotia	8,930	9,096	8,818	8,859	8,824
New Brunswick	7,440	7,390	7,140	7,101	7,021
Quebec	88,676	88,433	88,611	88,311	89,050
Ontario	140,326	139,771	139,448	140,932	142,462
Manitoba	15,731	15,952	15,614	15,764	16,026
Saskatchewan	13,897	14,239	14,438	14,466	14,918
Alberta	51,308	51,522	50,853	51,685	53,585
British Columbia	44,690	44,641	43,908	43,781	44,113
Yukon	400	370	404	434	440
Northwest Territories	696	737	676	686	677
Nunavut	800	870	838	841	846

72,000 Cases of Disrupted Sleep in Pregnancy/year
11,000 Cases of PPD Linked to Poor Sleep Quality

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What's The Solution?

- Taking a sleep medication to treat insomnia in pregnancy is associated with improvements in sleep and reductions in symptoms of PPD[1]
- BUT, many pregnant women are hesitant to take sleeping medications during pregnancy[2]

1. Tahmansian, et al., (2013). Sleep Medicine, 14(1), e39;
2. Sedov, I. et al. (in review)

Sleeping for Two!

- Cognitive behavioural therapy for insomnia (CBT-I) is the most effective long-term treatment for insomnia[1]

- Recently shown to work in pregnancy[2]

1. Okajima et al. Sleep and Biological Rhythms, 2011, 9(1), 24-34.
2. Tomfohr et al., (in review)

Principle 1 – Monitoring!

Day #1

Complete the diary each morning. Day 1 will be your first morning. Don't worry too much about giving exact answers, an estimate will do.

1. At what time did you go to bed last night? _____
2. After settling down, how long did it take you to fall asleep? _____
3. After falling asleep, how many times did you wake up in the middle of the night? _____
4. After falling asleep, for about how long were you awake during the night in total? _____
5. At what time did you finally wake up? _____
6. At what time did you get up? _____
7. How long did you spend in bed last night (from first getting in, to finally getting up?) _____
8. Took a nap? If yes, for how long? _____
9. How would you rate the quality of your sleep last night?

1	2	3	4	5
Very Poor				Very Good

Principle 2 – Sleep Consolidation

- **Sleep Efficiency**
  - (amount of time sleeping) / (amount of time in bed)
  - Goal is 85% or higher
- **Sleep Consolidation**
  - Only in bed when sleeping!
  - Create new sleep window (only be in bed amount of time able to sleep)
  - Don’t restrict to less than 5 hours
  - Discuss how to implement

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Principle 2 – Sleep Consolidation

- The reward!
- Based on an average of 7 nights' sleep efficiency, increase sleep time by 15 minutes if efficiency > 85%

Principle 3 – Stimulus Control

- Go to bed only when sleepy
- Use the bed only for sleeping
- If unable to sleep, move to another room
- Return to bed only when sleepy
- Repeat the above as often as necessary
- Get up at the same time every morning
- Do not nap

Principle 4 – Sleep Cognitions

1. Identify common sleep misconceptions

   "If I don't sleep 8 hours my day will be ruined"

2. Challenge the accuracy of the belief

   "Ruined is a strong word! Will you be sleepy?"

3. Substitute with a more realistic thought

   "If I don't sleep 8 hours tonight, I might be sleepy tomorrow"

Principle 5 - Maintenance

- How will these principles apply with a new baby?
- Make a plan in case relapse occurs.
  - Start at the beginning and try again!

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Sleep Medications in Pregnancy

NB: Most do not have approved indication for insomnia

Antidepressants

"A growing body of evidence attests to the fetal safety of antidepressants commonly used during pregnancy. Various prospective controlled studies have examined the physical and neurodevelopmental safety of tricyclic antidepressants, as well as selective serotonin reuptake inhibitor (SSRI) and selective norepinephrine reuptake inhibitor (SNRI) medications during the first trimester and throughout pregnancy"[6]

Trazodone

- One study that has compared rates of miscarriage: although slightly more miscarriages in the trazodone group, they were still within the expected rates of miscarriages for the general population[7]
- No increase in birth defects above the normal 3-5% risk for the general population (but numbers small)[7]
- No studies of effect on behavior or development of infants[7]
- FDA Category C

Buproprion

- One study that has compared rates of miscarriage: although slightly more miscarriages in the buproprion group, they were still within the expected rates of miscarriages for the general population[7]
- Unlikely that using bupropion during pregnancy would increase the risk for birth defects over a background risk[7]
- One study has suggested an association between prenatal exposure to bupropion and attention deficit hyperactivity disorder (ADHD). There are many factors that contribute to ADHD and further study is needed before a conclusion can be made[7]
- FDA Category C

Benzodiazepines

- "Some early studies in animals and humans suggested a slight increase in the risk for cleft lip and/or cleft palate if a benzodiazepine was taken during the first trimester. Since these early reports, there have been studies and reviews that have not supported those earlier results or birth defects in general. It is generally felt that exposure to a benzodiazepine does not increase the risk for birth defects"[7]
- Increased risk PTB?, LBW?, SGA?[9]
- FDA Category D, TGA Category B3 or C

Hypnotic Benzodiazepine Receptor Agonists

- Zolpidem: FDA Category C, TGA Category B3
- Zoplicone: FDA Category C, TGA Category C

Antihistamines

- “First-generation antihistamines are considered safe to use during pregnancy. There are relatively fewer data on the non sedating second-generation antihistamines; however, published studies are reassuring. All antihistamines are considered safe to use during breastfeeding, as minimal amounts are excreted in the breast milk and would not cause any adverse effects on a breastfeeding infant”[6]
- FDA Category A-C, TGA Category A[9]

Melatonin

- “As is the case with most supplements, we know very little about the impact these high levels of hormones may have on the developing fetus. Thus, we typically advise women with sleep problems to use medications with a better characterized reproductive safety profile”[8]
- Therapeutic role by reducing oxidative stress?

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Behavioral Techniques for Infant Sleep Training

(age 6 months)

Does it Matter?

1. Infant sleep problems reported by up to 45% of mothers in the second 6 months of life[1]

2. Doubles the risk of maternal depression[2]

Does it Work?

1. 2006 systematic review: clinically significant reduction in night awakening 3-6 months later

   Secondary benefits on parental sleep, mental health, child-parent relationships[4]

   American Academy of Sleep. 2006;29(10):1263–1276

2. 2008 RCT 328 families: reduction in infant sleep problems and associated maternal depression in the short- to medium-term (4-16 months post intervention)[3]

   Pediatrics. 2008;122(3)

Is it Safe?

5 year Follow-up of the 2008 RCT showed no long lasting harms or benefits to:[5]

- The child
- The mother
- The child-parent relationship

Pediatrics 2012;130;643

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Does Everyone Agree?

NO

How can we see the big picture?

Harvard Centre for the Developing Child:

The most effective prevention (for “toxic stress”) is to reduce exposure of young children to extremely stressful conditions, such as recurrent abuse, chronic neglect, caregiver mental illness or substance abuse, and/or violence or repeated conflict.

The Big Picture

Harvard Centre for the Developing Child:

There is no evidence that, in a secure and stable home, allowing an infant to cry for 20 to 30 minutes while learning to sleep through the night will elicit a toxic stress response. However, there is ample evidence that chaotic or unstable circumstances, such as placing children in a succession of foster homes or displacement due to economic instability or a natural disaster, can result in a sustained, extreme activation of the stress response system.

My Approach

1. **Individualized and family-centered:**
   - Beliefs/culture/autonomy
   - Non-judgmental
   - Ability
   - Is it part of a clinical intervention?
2. **Is there mental illness/exhaustion?**
   - Known risks vs. unknown potential risks
3. **Provide information, guidance, support**
   - Reassurance if needed

…often cannot be done effectively as a classroom course

“Plant the Seeds” at every visit

1. Discuss mother’s and baby’s sleep at every visit
2. Information sheet at 3 month check
3. Detailed discussion at 5 month check
4. Plan follow-up visit or telephone call if necessary

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Discussion at age 5 months

- Routine, routine, routine (3 Bs)
- Plan ahead and be resolved
- Start on a Friday evening!
- Abandon if baby is sick
- Buy lots of chocolate..

Step-by-Step at bedtime

1. Bath, books**,** breast/bottle, **BED (crib)**
2. Place on back, awake but sleepy
3. Leave the room
4. And pray!...

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Step-by-Step at bedtime

5. Return to the room at progressively longer intervals, typically 5-15 minutes (many variations of “controlled comfort”)
6. **Do not pick up the baby**
7. Do not turn on mobile (or transitional)
8. Do not give pacifier (or transitional)
9. Soothing words or gentle pat and leave
10. Repeat until falls asleep (the baby!)

Step-by-Step when awakens

1. For each awakening during the night, wait a few minutes and then repeat steps 5-10 until “pick up time”, typically 5:30/6:00 a.m. (determined ahead of time, based on several factors)
2. Sigh of relief at “pick-up time”
3. Repeat the same next night
4. Usually achieved in 3 nights
5. Set your next goal if necessary

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But my Child is Hungry..

YES

But:

- Will easily and quickly “catch -up” in the day
- Feeding at night is just a habit that the baby has had no “motivation” to change
- Letting your child experience hunger is not starving your child (even though it feels that way) = a parenting milestone

Will it Scar my Child?..

- No evidence
- Discuss concepts of tolerable stress (an instrument of learning) vs toxic stress and concept of resiliency.
- Math matters: Compare number of hours of sleep training with all the hours of attentive responses and bonding time

Will it Scar My Child?..

- Does the child appear traumatized after the first night? Behavior changes? (other than being better rested)
- Would it make sense that 3 nights of sleep training would leave long lasting effects? (suggests a very fragile human race)…

And what about the scarring from parental mental health problems?

Heads-up Guidance

- May need to re-institute
  - After child illness
  - After routine disruption (eg vacation)
- May still need to do, at a later date, in babies that started to sleep through the night on their own
- Will be quicker second time around ☺

The Real World

- Acknowledge that there are limitations of the goals we wish to set (such is life)
- Some improvement is better than none
- Maybe later..
- **Take care to ensure your patient does not feel like a failure and does not feel judged**

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Helpful Tips for parents

- Infants are creatures of habit (routine, routine, routine)
- Behavior is shaped by reinforcement
- Infant brain is “learning” to fall asleep, to self-comfort
- Good sleep hygiene is a “life skill” that some studies suggest is learnt best early in life

Helpful Tips for Parents

- Physiologic importance of sleep protection (or restoration)
- A parenting milestone:
  - my child will be OK even if he/she does not always get an immediate response from the environment
  - the difference between tolerable vs toxic stress
  - The beginnings of realizing that your child has resilience
  - to be the “good enough mother”
  - Life has to be practical
  - Life can be enjoyable

Take home messages

We CAN help women sleep in pregnancy

And

We CAN help them keep sleeping during motherhood

And as a result we CAN end up with…

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3 Unscarred Young Adults

..and 2
well-rested
happily married parents

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Touch our future

ALBERTA CENTRE FOR CHILD, FAMILY & COMMUNITY RESEARCH

Alberta Children's HOSPITAL FOUNDATION

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6. Motherisk:

   www.motherisk.org
7. Organization of Teratology Specialists:

   www.OTISpregnancy.com
8. MGH Center for Women's Health:

   www.womensmentalhealth.org

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