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## Improving Sleep: Patient Education on Sleep Hygiene Techniques

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# IMPROVING SLEEP: PATIENT EDUCATION ON SLEEP HYGIENE TECHNIQUES

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PORTER MEDICAL CENTER PRIMARY CARE

VERGENNES, VT

FEBRUARY- MARCH 2021

PROJECT MENTOR: CATHERINE AYERS, MD

# PROBLEM IDENTIFICATION

- The American Academy of Sleep Medicine and Sleep Research Society recommends adults to get **7 or more hours of sleep per night**<sup>1</sup>
- Sleep insufficiency is a **national problem** with 35% of US adults in 2014 reported getting less than the recommended amount. **In Vermont, 30.2% of adults reported getting less than 7 hours of sleep.**<sup>2</sup>
- Long-term effects of sleep deprivation and sleep disorders are associated with increase risk of hypertension, diabetes, obesity, depression, myocardial infarction, and stroke<sup>3,4</sup>
- Short duration of sleep is also associated with increased all-cause mortality<sup>5</sup>
- According to the **American Academy of Sleep Medicine, behavioral interventions are effective and recommended in the treatment of chronic primary and comorbid insomnia.** Multicomponent cognitive behavioral therapy for insomnia has Grade A evidence and should be considered in all patients who have insomnia.<sup>6</sup>
- While providers at Porter Primary Care Vergennes counsel on sleep hygiene and behavioral modification, there is no informational handout outlining techniques given to patients

# PUBLIC HEALTH COSTS

- In 1995, the **total direct costs in the United States for insomnia were estimated to be \$13.9 billion.**<sup>7</sup>
- Short and long sleep duration is associated with **higher health care expenditures** than average sleep duration. This is consistent with studies that found associations between unhealthy sleep durations and various chronic diseases.<sup>8</sup>
- Sleep insufficiency also has various indirect costs to the health and safety of society including decreased productivity, more work place accidents, and motor vehicle accidents
  - One study found that workers with more insomnia symptoms reported were at greater risk for work place injury due to decreased compliance with safety requirements<sup>9</sup>
  - The National Highway Traffic Safety Administration reports that in 2017 **91,000 police-reported crashes involved drowsy drivers** and that these crashes led to **estimated 50,000 people injured and 795 deaths**<sup>10</sup>

## COMMUNITY PERSPECTIVE: CATHERINE AYERS, MD

- Family medicine physician at Porter Medical Center Primary Care- Vergennes.
- Reports that sleep comes up very frequently during patient appointments and she sees sleep issues across different age groups. One demographic that stands out in particular is women in early menopause.
- Counsels on sleep hygiene and sometimes recommends mindfulness meditation phone apps
- Tries to avoid pharmacologic intervention where possible due to various side effects, abuse potential, and lack of sustainability in the long run
- Dr.Ayers also notes that in some cases there is an underlying cause to treat like sleep apnea, anxiety, or benign prostatic hyperplasia. Treating these problems first can sometimes help resolve sleep issues.

## COMMUNITY PERSPECTIVE: LAURA ETHIER (BHP)

- Laura Ethier is a Behavioral Health Professional and member of the Community Health Team at Porter Medical Center Primary Care-Vergennes
- Sees patients primarily for anxiety, depression, PTSD but that these patients very frequently are also struggling with insomnia and disrupted sleep.
- **“I find often that inability to sleep goes hand in hand with emotional health struggles. The clients might have difficulty falling asleep, unable to stop ruminating on things they are worried about (they often complain that they can’t shut their brains off), or they might also awaken during the night and have great difficulty falling back to sleep”**
- Reports seeing patients of all ages struggling with sleep- ranging from young adults in their 20s to the elderly
- Does not have a standard handout but recommends sleep hygiene techniques, online CBT programs, talking to their PCP about medical causes like sleep apnea.

# INTERVENTION & METHODOLOGY

- Created a informational handout about sleep hygiene techniques that included:
  - Recommended amount of sleep for an adult
  - Importance of sleep
  - Dos and Don'ts of sleep hygiene
  - Sleep tracker phone apps
  - Mindfulness meditation phone apps to help aid sleep
- Most providers at Primary Care Vergennes distribute information to patients by inserting documents into the patient's after visit summary so that it can be printed when they checkout or accessed through their online patient portal
- As a result, this handout will be turned into a smartphrase on Epic (electronic medical record) so that it can be easily accessed by providers and included in their after visit materials.

# RESULTS & RESPONSES

- Sleep hygiene handout was created and shared with providers at Porter Medical Center Primary Care – Vergennes
- Smartphrase that automatically enters this document was also shared with providers so that they can easily enter information into patient instructions after visit
- Initial response to the informational handout was largely positive as most providers did not previously have a informational sleep hygiene handout
- Received as a useful resource to distribute to patients after counseling on sleep

## SLEEP HYGIENE TECHNIQUES

The American Academy of Sleep Medicine and Sleep Research Society recommends adults should get **7 or more hours of sleep per night** (see table below). Remember that everyone is a bit different and may require a different amount of sleep, but you should be waking up feeling refreshed, well rested, and ready to start your day.

Sleep insufficiency is a very common problem with 35% of Americans in 2014 reporting getting less than 7 hours of sleep a night. Sleep is incredibly important for both mental and physical health. Getting enough sleep can improve your mood and productivity and reduce your risk of chronic medical conditions like diabetes, obesity, and cardiovascular disease.

### What is sleep hygiene?

Sleep hygiene is a set of healthy sleep habits and behaviors that can help improve your sleep quantity and quality. These behavioral modifications are the first line treatment for insomnia and can prevent the need for sleep medications in the future.

### Things to try

- Sleep Diary. Track your sleep hours and quality of sleep to figure out how many hours are ideal for your body.
- Set a sleep schedule. Try to go to bed and wake up at the same time every day including the weekends and holidays
- Increase exercise during the day
- Establish a relaxing bedtime routine
- Make sure your room is dark, quiet, and at a comfortable temperature
- Reduce your fluid intake before bed if you often have to wake up at night to urinate
- Try mindfulness meditation (see apps below)
- Try putting your phone on “night mode” to limit blue light in the evening and before bed

### Things to avoid

- Avoid using screens (tablets, phones, TVs) for at least 30 minutes before bed
- Do not use your bed for things other than sleep and intimacy
- Avoid consuming caffeine in the late afternoon and evening
- Avoid going to bed too hungry or too full
- Do not exercise right before bed
- Do not smoke or use other tobacco products before bed as nicotine can act as a stimulant
- Avoid long naps during the day. If you do need to nap try to limit them to 20-30 min.

### Helpful phone apps

1. *Sleep Cycle*- Can help track your sleep so that you can better understand how much sleep you are getting and what the ideal amount of sleep is for you
2. *Insight Timer*, *Headspace*, or *Calm* – mindfulness apps with countless guided sleep meditations. This works great if you feel like you can't fall asleep because your mind is racing or you're anxious.
3. *Relax Melodies* – a library of relaxing sounds that you can try

# EFFECTIVENESS & LIMITATIONS

## Evaluation of Effectiveness

- While initial response to handout created was positive, unable to fully evaluate effectiveness due to limited time at clinical site
- Create survey that would be distributed to patients at their follow up visit to assess efficacy. This survey could include:
  - Response to handout and how helpful they found it
  - Whether they have implemented some of the lifestyle modifications outlined and which ones were the most helpful
  - If they sleep has improved and by how much (quality and quantity of sleep before and after intervention)

## Limitations

- Limited time at Primary Care Vergennes to assess patient response to handout so unable to evaluate efficacy
- Another major limitation is patient motivation to make these changes in their lifestyle
- While the techniques in this handout may be a useful starting point, many patients sleep problems may require further intervention like CBT and/or pharmacologic management
- Phone apps listed as resources will not be useful for patients who do not have smartphones

# RECOMMENDATIONS FOR FURTHER INVESTIGATION

- Evaluate the response to this intervention and assess efficacy by measuring changes in patient sleep quality and quantity before and after intervention
- Further add to list of sleep resources provided to patients to help support their sleep
- Assess presence and usage of cognitive behavioral therapy in the local community
- Investigate length of time between patient first discussing sleep issues with provider to prescription of pharmacologic sleep aids

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Thank you for agreeing to be interviewed. This project is a requirement for the Family Medicine clerkship. It will be stored on the Dana Library ScholarWorks website. Your name will be attached to your interview and you may be cited directly or indirectly in subsequent unpublished or published work. The interviewer affirms that he/she has explained the nature and purpose of this project. The interviewee affirms that he/she has consented to this interview.

Consented: Yes

Name: Laura Ethier, LICSW, Behavioral Health Professional, Porter Primary Care

Name: Catherine Ayers, MD, Porter Primary Care