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Updating Evidence-Based Patient Education Resources for Sleep: Sleep Hygiene and Benzodiazepine Discontinuation

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Updating evidence-based patient education resources for sleep: sleep hygiene and benzodiazepine discontinuation

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Problem Identification

- There is a major need for **patient education** around the topics of **sleep hygiene** and **benzodiazepine sleep aid discontinuation** in the **family medicine clinic setting**.
- Current patient-focused educational materials on these topics need **updating**. Doctors have indicated that current materials are **not comprehensive enough**.
- The **medications** used for insomnia treatment are often **habit-forming** and carry significant **side effect profiles**. **Behavioral modifications**, including sleep hygiene practices, should be the **first line** treatment.
- Insomnia is especially prevalent in the **elderly**. Benzodiazepine sleep aids are sometimes prescribed, despite the significant side effect profile.
 - In a 2015 study, 8.7% of those aged 65-80 years old in the US were on a benzodiazepine ⁶
 - American Board of Internal Medicine Choosing Wisely Campaign recommends against benzodiazepine use for adults 65 and older ⁷
 - Beers criteria for benzodiazepines: avoid (any type) for treatment of insomnia, agitation or delirium ⁴
 - Increases risk of cognitive impairment, delirium, falls, fractures and motor vehicle accidents

Public Health Cost

- According to the 2014 census, between **24.9% - 32.5%** of all **Vermont adults** (≥ 18 years old) experienced **short sleep duration** (under 7 hours of sleep).¹
- The CDC reports that **28.7%** of adults in **Chittenden County** have a **short sleep duration**.²
- Insomnia is a predictor of **mental health problems**: depression, anxiety, substance abuse, suicide.³
 - This can create a vicious cycle, as poor sleep quality has been found to decrease the effectiveness of some mental health treatments such as cognitive behavioral therapy for anxiety disorders
- Sleep medication usage is predictive of **mortality**.³
- Adults who sleep less than 7 hours per day are more likely to suffer from cardiovascular disease, COPD, cancer, arthritis, chronic kidney disease, and diabetes.¹

Community Perspective – Sleep Hygiene

Whitney Calkins, MD - South Burlington Family Medicine Physician

- Q: Do you find that sleep hygiene is a prevalent problem in the community?

“Yes I do, I think that one of the biggest challenges is that people take their electronic device to bed and keep engaging their brain - and that doesn’t allow them to relax when it’s time to sleep.”

“Sleep is one of the main pillars of our health, so it’s worth having a conversation about quality and quantity of sleep with every patient.”

- Q: Have you noticed any particularly vulnerable populations for insomnia?

“The elderly and those with mental health disorders have the most trouble.”

Anja Jokela, MD - South Burlington Family Medicine Physician

- Dr. Jokela agreed that many patients would likely benefit from comprehensive sleep hygiene education.

“I would estimate that I discuss sleep hygiene in at least a brief way once every 1-2 days. Usually it’s not the chief complaint, but comes up when I ask, often in a visit related to depression, anxiety, ADHD, stress, or fatigue.”

- She also mentioned that a smartphrase in the after-visit summary is her preferred method of disseminating educational material to patients.

“I think an interactive approach with goal-setting is the most effective way to encourage change. Most folks know the good techniques, but find it’s really very hard to reduce screen time before bed, in particular, but also exercise regularly, minimize caffeine and alcohol, and practice mindfulness.”

Community Perspective – Benzodiazepines

Amelia Gennari, MD - Geriatrician, currently practicing in Williston

- Dr. Gennari emphasized the importance of patients understanding that sleep medications overall are not nearly as helpful as good sleep hygiene:

“ I will often talk to patients about [the fact that] there are no good drugs for sleep. None of the sleep agents work very well. I think if you start with that premise with patients, it does help them understand a little bit better”.

Sara Pawlowski, MD - Psychiatrist at South Burlington Family Practice

- Dr. Pawlowski comments on counseling patients about coming off benzodiazepines:

“Review long term effects and data on cognitive decline...Note that benzodiazepines are not standard of care for any condition, that tolerance builds and that rebound anxiety is a form of withdrawal. Note also [the] evidence base for CBT-I (cognitive behavioral therapy for insomnia) and non-medicated sleep”.

Intervention and Methodology

- We have created two educational documents on **sleep hygiene** practices and **benzodiazepine discontinuation**. We intend for these to be a **freely accessible** compilation of recommendations which may be used by anyone. They are evidence-based and written in **patient-friendly language** below a **6th grade reading level**.
 - The benzodiazepine discontinuation information includes questions to assess a patient's knowledge of the medication, as well as self-assessment questions. These questions are based on the EMPOWER trial, which found that *"Direct-to-consumer education effectively elicits shared decision making around the overuse of medications that increase the risk of harm in older adults"*.⁶
- Most doctors in this community disseminate patient education by **inserting documents** into the patient's **after-visit summary**. We therefore created two **smartphrases** which can easily be entered into the patient's electronic medical record.
- In addition to smartphrases that integrate into the electronic medical record, we are also publishing **standalone pdf handouts** for anyone who prefers to print their own.

SLEEP HYGIENE

What is Sleep Hygiene?

Sleep hygiene is the idea that you can have control over how well you sleep. Changing some of your behaviors and the conditions in your bedroom may help you get better sleep at night.

Good Sleep Hygiene Habits

Aim for 7-9 hours of sleep each night. Research shows that adults who get less than 7 hours of sleep are more likely to suffer from heart attack, stroke, cancer, and diabetes¹. Insomnia is also a predictor of mental health problems like depression, anxiety, substance abuse, and suicide².

Stick to a routine bedtime and wake time every day of the week, including weekends. This helps your body's internal clock (circadian rhythm) stay on track.

Sleep in a dark, quiet room. A dark room helps signal to your brain that it is nighttime and therefore time for sleep. Consider blackout curtains to decrease the amount of light coming through your windows. If you live in a loud environment, run a fan or a white noise machine to disguise sounds.

Give yourself enough time to sleep. Create a large enough sleep opportunity for yourself. When you decide your bedtime, take into account how long it takes you to fall asleep. If you want to sleep 8 hours each night but you take 30 minutes to fall asleep, your sleep window should be 8 ½ hours spent in bed.

Relax before bed. Don't take the worries of your day to bed with you. Calming down your nervous system can help signal to your body that it is time to sleep. Try meditation, deep breathing, light stretching, or reading right before bed to get your body into relaxation mode. If you find your thoughts racing, try writing down your worries in a journal and addressing them the next day.

Exercise. Regular exercise may help you fall asleep faster. Although it is likely best to exercise no later than 4-6 hours before bed, exercise at any time of day is better than nothing and will likely contribute to healthy sleep.

Things to Avoid

Bright lights from electronic devices around bedtime. Bright lights from cell phones, laptops, tablets, and televisions send a signal to the part of the brain that regulates

day/night cycles. When you use bright lights before bed, your brain thinks it is daytime and you may have trouble falling asleep.

Caffeine. Try to stop consuming caffeine by noon each day. This way, most of the caffeine will be out of your system by the time you lay down to sleep at night. The more obvious caffeine sources are coffee, tea, and energy drinks, but sometimes people overlook the less obvious ones like soda and chocolate.

Alcohol. Alcohol can make you sleepy initially, but ultimately leads to light sleep and can cause you to wake up throughout the night.

Nicotine and other stimulants. These chemicals can activate your brain and body at the exact time you are trying to shut it down for the night.

Other Resources

Websites with high-quality sleep hygiene information:

<https://www.sleepfoundation.org/sleep-hygiene>

www.sleepassociation.org/about-sleep/sleep-hygiene-tips

https://www.cdc.gov/sleep/about_sleep/sleep_hygiene.html

www.sleepeducation.org/essentials-in-sleep/healthy-sleep-habits

Phone apps for meditation and relaxation:

Mindfulness coach (entirely free)

Calm (free trial available)

Headspace (free trial available)

References

¹CDC - data and statistics - sleep and sleep disorders.

https://www.cdc.gov/sleep/data_statistics.html. Published May 2, 2017. Accessed February 8, 2021.

²Daniel J. Taylor, Kenneth L. Lichstein & H. Heith Durrence (2003) Insomnia as a Health Risk Factor, Behavioral Sleep Medicine, 1:4, 227-247, DOI: 10.1207/S15402010BSM0104_5

To access the smartphrase in UVMCC Epic*:

Smartphrases > Manage Phrases > Search User Carolyn Geraci > SLEEPHYGIENE

*currently working on adding smartphrase to the UVMCC facility list

For a copy of the pdf handout:

Email
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Benzodiazepines (“Benzos”) for Insomnia in older adults: What you should know

What is a benzodiazepine?

- Class of medications that are known as sedative-hypnotics
- Prescribed for conditions such as anxiety or panic attacks, seizures and sometimes for sleep
- Examples: Alprazolam (Xanax), Diazepam (Valium), Clonazepam (Klonopin)
- *The American Board of Internal Medicine Foundation Choosing Wisely Campaign recommends against use of benzodiazepines for those 65 years or older*

Test your knowledge (true or false):

- 1) This medication is the best option to treat my insomnia
 - a) True
 - b) False
- 2) This medication has only mild side effects
 - a) True
 - b) False
- 3) Without this medication, I will likely have a lot of difficulty sleeping
 - a) True
 - b) False
- 4) This medication can be addictive
 - a) True
 - b) False
- 5) My body does not change in the way it processes medications throughout my life
 - a) True
 - b) False

Answers:

- 1) False, there are many other ways to address insomnia
- 2) False, there are many side effects (listed below)
- 3) True, as your body is probably dependent on it. However, this can be overcome by slowly coming off the medication.
- 4) True, benzodiazepines have significant risk of addiction
- 5) False, as we age, our body changes how it processes medications. This can mean that we are more prone to side effects

Questions to ask yourself:

- Do you feel tired or groggy during the day?
- Do you ever feel “hungover” in the morning, even though you have not been drinking?
- Do you ever have problems with your balance?
- Do you ever have problems with your memory?

If you answered yes to any of these questions, your benzodiazepine may be contributing.

Benzodiazepines have many **side effects**, including:

- Addiction or dependence
- Cognitive deficits
- Increased risk of falls and fractures
- Increased risk of car crashes
- Feeling “hungover” the next day

So, what can you do to come off your benzodiazepine?

- Do not abruptly stop taking your medication
- **Talk to your doctor about a safe way to slowly reduce your dose**
- There are many other ways to help with insomnia
 - See “Sleep Hygiene” handout for more information

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ABIM Foundation (2019, September 17). Geriatrics - benzodiazepines in older insomniac adults: Choosing wisely. Retrieved February 17, 2021, from <https://www.choosingwisely.org/clinician-lists/american-geriatrics-society-benzodiazepines-sedative-hypnotics-for-insomnia-in-older-adults/>

Beers MH, Ouslander JG, Rollinger I, Reuben DB, Brooks J, Beck JC. Explicit criteria for determining inappropriate medication use in nursing home residents. UCLA Division of Geriatric Medicine. Arch Intern Med. 1991 Sep;151(9):1825-32. PMID: 1888249. doi:10.1001/jamapsychiatry.2014.1763

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Tannenbaum C, Martin P, Tamblyn R, Benedetti A, Ahmed S. Reduction of Inappropriate Benzodiazepine Prescriptions Among Older Adults Through Direct Patient Education: The EMPOWER Cluster Randomized Trial. JAMA Intern Med. 2014;174(6):890–898. doi:10.1001/jamainternmed.2014.949

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Smartphrases > Manage Phrases > Search User Madeline Fritz > BENZODISCONTINUATION

*currently working on adding smartphrase to the UVMCC facility list

For a copy of the pdf handout:

Email madeline.fritz@med.uvm.edu

Limitations and Evaluation of Effectiveness

Limitations

- Some patients do not actually take their after visit summary when checking out.
- Especially in the 21st century, many people prefer internet-based means of communication. Luckily, the after-visit summary is also uploaded to the MyChart patient portal in the Epic ecosystem.
- Evaluation of efficacy is deferred due to time constraints.
- Sleep disorders are multifactorial and complex, so patient education is only one piece of the puzzle.

Evaluation of effectiveness

- Survey patients at their next visit to see if they have changed their mind regarding benzodiazepines, implemented any new sleep hygiene practices, or if they report longer sleep duration
- May also compare the patients who did read their after-visit summary to those who did not to assess differences in mental health status, sleep quality, rates of healthcare utilization

Recommendations for Future Interventions

Future projects could focus on the following:

- Evaluate the effectiveness of this intervention as measured by patient-reported sleep quality or benzodiazepine discontinuation rate
- Continue in this theme of updating patient education materials for other common topics
- Better integrate these educational materials into the Epic ecosystem or another online platform

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- 1) CDC - data and statistics - sleep and sleep disorders. https://www.cdc.gov/sleep/data_statistics.html. Published May 2, 2017. Accessed February 8, 2021.
- 2) PLACES Project. Centers for Disease Control and Prevention. Accessed 2/6/2021. <https://www.cdc.gov/places>
- 3) Daniel J. Taylor, Kenneth L. Lichstein & H. Heith Durrence (2003) Insomnia as a Health Risk Factor, Behavioral Sleep Medicine, 1:4, 227-247, DOI: 10.1207/S15402010BSM0104_5
- 4) Beers MH, Ouslander JG, Rollingher I, Reuben DB, Brooks J, Beck JC. Explicit criteria for determining inappropriate medication use in nursing home residents. UCLA Division of Geriatric Medicine. Arch Intern Med. 1991 Sep;151(9):1825-32. PMID: 1888249.
- 5) Olfson M, King M, Schoenbaum M. Benzodiazepine Use in the United States. JAMA Psychiatry. 2015;72(2):136–142. doi:10.1001/jamapsychiatry.2014.1763
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