

THE RISK OF POLYPHARMACY IN TREATING INSOMNIA

S. Golboo, T. Gurvich, L. Gibbs, S. Sehgal.

Family Medicine, University of California, Irvine, Orange, CA, United States.

Definition

The use of unnecessary medications which is independent of the number of medications being taken.

Background and Significance

- Polypharmacy is a growing concern for older Americans.
- Polypharmacy impacts almost 50% of older adults.
- Americans spend \$3 billion annually on prescription medications.
- Most take an average of 3-5 RX and 3-4 OTC medications.
- Specific interventions designed to reduce numbers of prescribed and over the counter medications have been shown to improve and prevent negative consequences in all care settings.
- This case highlights the use of multiple medications to treat insomnia and the potential for adverse health outcomes

Medication Related Problems

- Multiple disease states
- Multiple chronic conditions
- Altered response to medications
- Drug-drug interactions
- Adverse drug reactions

Case

A 71-year-old male came to a Geriatric Medicine clinic to establish care and discuss ongoing issues with sleep difficulty. He reported insomnia, present for at least 5 years, for which he had seen multiple providers of various specialties.

On presentation to clinic, patient was taking the following medications all used to induce and maintain sleep: ramelteon, temazepam, amitriptyline, quetiapine, hydrocortisone, anastrozole, progesterone, tryptophan, melatonin (30mg), and DHEA. He also reported seeing a naturopathic provider who was prescribing additional supplements- the active ingredients of which were unknown. In addition, he would consume large quantities of alcohol nightly to aid with sleep.

After evaluation by a geriatrician and clinical geriatric pharmacist consultant the patient was advised to taper off and discontinue ramelteon, temazepam, amitriptyline, melatonin and quetiapine. An endocrine evaluation was completed and found no hormonal abnormality. He was advised to discontinue hydrocortisone, anastrozole, testosterone, progesterone and DHEA. Patient was counselled extensively on sleep hygiene practices.

At a subsequent primary care visit the patient was taking only quetiapine. He reported insomnia had significantly improved. Alcohol use had diminished, but was still an issue. He was advised to follow up with a psychiatrist for evaluation of quetiapine and resources were given for alcohol cessation.

Contributing Factors

- Time constraints during a visit
- Multiple providers
- Lack of communication among providers
- Use of nonprescription medications and herbs
- Patient driven prescribing

Non Pharmacological

- Create a stable sleep pattern
- Non-disruptive sleep environment
- Reduce pre-sleep tension
- Dietary and Lifestyle Modification:
 - Avoid alcohol
 - Avoid or minimize caffeine

Pharmacological

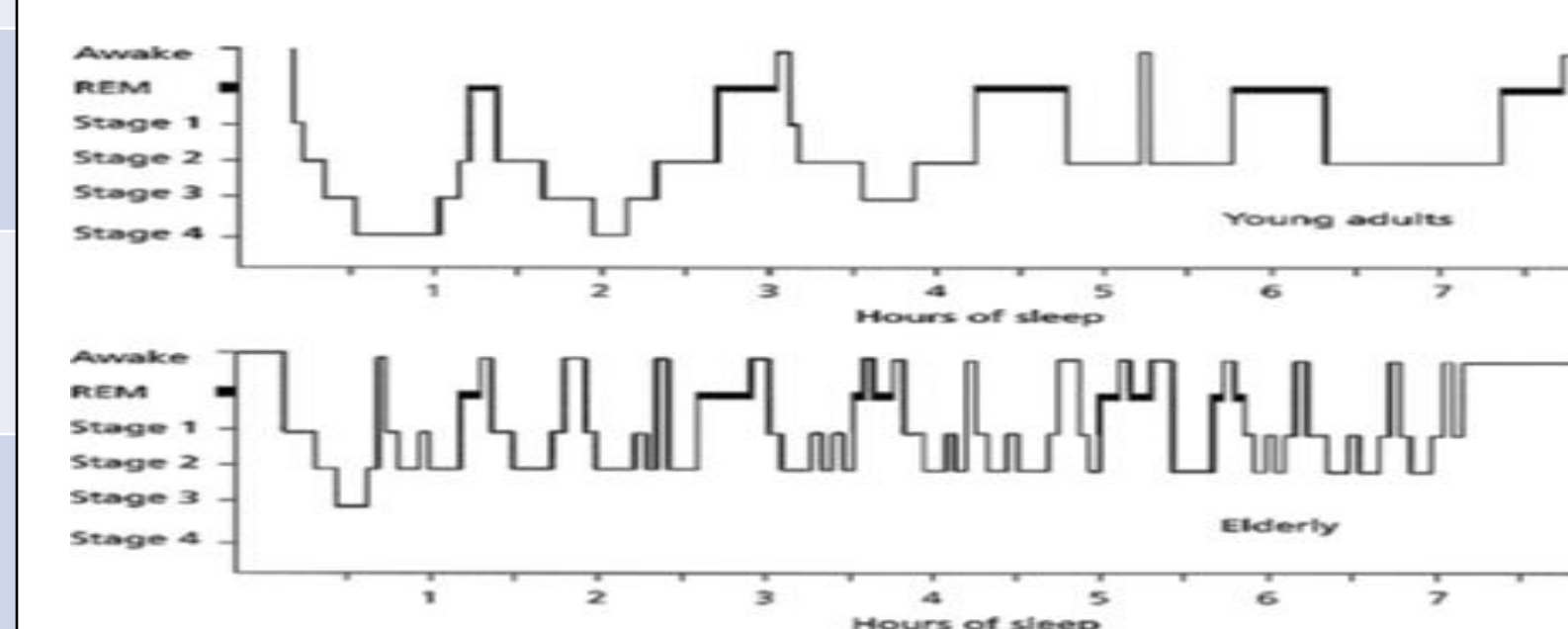
- Benzodiazepines (Beers list)
- Z Drugs (Beers list)
- Melatonin (1mg-10mg)
- Antidepressants:
 - Trazadone (25mg-150mg)
 - Mirtazapine (7.5mg)

Evidence of Polypharmacy

- No apparent indication
- Duplicative medications
- Use of interacting drugs
- Contraindicated drugs
- Inappropriate doses
- Adverse drug reactions
- Prescribing cascade

Sleep changes in elderly

- Stage 1: Takes longer to fall asleep
- Stage 2: Impaired, easily awakened
- Stage 3 and 4: Shorter
- REM: Shorter



Conclusion

- Inappropriate and unnecessary use of medications with potentially adverse effects to treat insomnia.
- Medications without FDA approval for the treatment of insomnia.
- Most cases of insomnia can be improved by discussing sleep hygiene.
- Treatment should be targeted with minimum numbers of medicines at the lowest effective doses to prevent adverse effects.

References

- Glass J, et al. BMJ. 2005;331(7526):1169.
- Journal of American Geriatric Society, 2012 Archives of Internal Medicine.
- Nabil S. Kamel, MD, Julie K. Gammack MD, Insomnia in the Elderly: Cause, Approach, and Treatment, The American Journal of Medicine, (2006) 119, 463-469.