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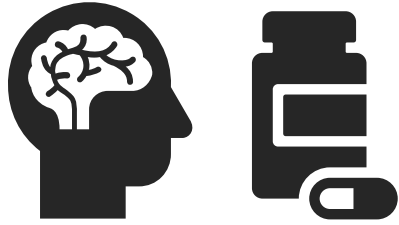


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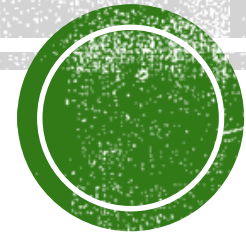
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DISCOURAGING USE OF BENZODIAZEPINES FOR ANXIETY AND INSOMNIA

Jackie Tsao
Brookfield Family Medicine
July 2018
Project Mentors: Cornelius Ferreira, MD
Kathleen McCoy, APRN



PROBLEM IDENTIFICATION

- Benzodiazepines are prescribed for anxiety and insomnia. [1]
- Patients commonly use benzodiazepines for up to 10 years even though these medications are not meant to be used for more than 2 to 4 weeks. [1]
- Doctors are quick to prescribe benzodiazepines because they work very well for anxiety and insomnia and patients respond immediately to them. However, patients soon develop tolerance and experience painful withdrawal symptoms. [2]
- Patients have been harmed by benzodiazepines even though they are using them as prescribed by their doctors. [2]
- 23% of benzodiazepine users become addicted within 3 months. [3]
- Benzodiazepines eventually stop working and actually exacerbate anxiety and insomnia. [4]
- The benzodiazepine epidemic could become as large of a public health crisis as the current opioid epidemic. [5]
- 1999-2015: benzodiazepine overdose increased sevenfold. [4]
- 1996-2003: the number of benzodiazepine prescriptions increased 67% from 8.1 million to 13.5 million. [6]
- 2004-2011: the number of patients treated in the ED for benzodiazepine misuse increased 124%. [7]



PROBLEM IDENTIFICATION (WESTERN CONNECTICUT)

- In 2016, Xanax was the most prescribed drug in the state.
- There is an increasing number of teens experimenting with the benzodiazepine, alprazolam (Xanax).
- Several middle and high school students have been treated in the ED following misuse of Xanax.
- Xanax is the second leading cause of DUI, surpassing marijuana. Alcohol is the first leading cause.
- In 2016, the Connecticut Department of Consumer Protection reported that:
 - 16,000-24,000 Xanax pills were prescribed to patients in Newtown.
 - There were 130,000 more benzodiazepine prescriptions than opioid prescriptions across the state.

[5]



- Patients with generalized anxiety disorder are subject to increased healthcare costs from accidents and other consequences of long-term benzodiazepine use. [8]
- In a study of 866 patients, average healthcare costs increased by \$2334 per patient in a 6 month period following initiation of benzodiazepine treatment.
 - \$1099 of this total covered the cost of accidents and other complications related to benzodiazepines use. [8]
- Another study of 17,588 patients showed that over \$3 million were spent on 297 inpatient injury admissions and 2,977 outpatient injury encounters due to benzodiazepine use. [9]
- Benzodiazepines, themselves are not expensive but complications from their use generate high healthcare costs.

PUBLIC HEALTH COST

Based on interviews, patients in western Connecticut typically spend between \$100-\$300 per year buying benzodiazepines.

“The problem is that benzodiazepines are cheap. Some people can buy a month’s supply for \$10. They’re not costly so they’re easy to get.”

-Cornelius Ferreira, MD

COMMUNITY PERSPECTIVE

Keri Reilly, LCSW

Behavioral Health Consultant, Western Connecticut Medical Group

“Patients use benzodiazepines to escape, just as some people do with heroin, cocaine, or marijuana. They don’t realize that misusing benzodiazepines is a form of substance abuse because they’re prescribed by doctors. Alternative therapies are very effective; based on screening done throughout multiple centers in western Connecticut, there is a 50% reduction in depression and anxiety scores following use of alternative therapies.”

Cornelius Ferreira, MD

Family Medicine, Western Connecticut Medical Group

I don’t think patients should use benzodiazepines as long-term therapy because of the multitude of side effects and other issues such as addiction, tolerance, dependence, and rebound anxiety. These issues add to the problems patients already have. They would benefit more from cognitive behavioral therapy and relaxation techniques. There is also a multitude of other medications, such as SSRIs and hydroxyzine, that are effective for anxiety and insomnia.”

Katherine Michael, MD

Psychiatry, Western Connecticut Medical Group

“Benzodiazepines are good medications for a couple of nights but then they won’t work anymore. They’re not meant to be long-term solutions.”



INTERVENTION & METHODOLOGY

- Patients have a false sense of security regarding use of benzodiazepines because they are so widely prescribed by physicians throughout the country. [5]
- To discourage use of benzodiazepines and inform patients about the dangers associated with benzodiazepines and the availability of safer therapies, a handout was created.
- The handout was distributed to patients interested in benzodiazepine treatment for anxiety or insomnia.
- A 2 question pre-handout survey and 3 question post-handout survey was given to these patients to assess effectiveness of the handout.



BENZODIAZEPINES FOR ANXIETY & INSOMNIA

This handout contains information about the dangers of taking benzodiazepines for anxiety and insomnia. Primary care providers (PCPs) prefer to prescribe safer options that are listed on this handout. Please consult your PCP to determine which options are most suitable for you.

WHAT ARE BENZODIAZEPINES?

Benzodiazepines are agents that have sedative and anxiolytic effects. They are often prescribed to help people cope with anxiety and insomnia.

Examples: alprazolam (Xanax), lorazepam (Ativan), clonazepam (Klonopin), diazepam (Valium)

HOW DO THEY WORK?

Benzodiazepines slow down the nervous system by altering the activity of chemicals in the brain. This influences cognitive function, emotions, memory, and body movements. They can treat muscle spasms, seizures, and alcohol withdrawal.

They are meant to be short-term remedies for anxiety and insomnia.

CONTROLLED SUBSTANCE

Because of their potential for addiction and misuse, benzodiazepines are controlled substances that are tightly regulated.

Those dependent on benzodiazepines are often not "addicts", but people who use their medication as prescribed.

PCPs HESITATE TO PRESCRIBE THEM

Benzodiazepines quickly alleviate anxiety and insomnia but work for only a few days. They cause rebound anxiety and insomnia (occur during withdrawal and are more severe than original symptoms), depression, mood swings, personality changes, impaired memory and cognitive function, and loss of motivation. These are more difficult to treat than the original problem.

ADVERSE EFFECTS

- Abuse, tolerance & dependence
- Impaired physical function and cognition
 - Fatal falls & hip fractures (especially elderly)
 - Higher rates of motor vehicle accidents
 - Do not improve after discontinuation of benzodiazepines

- Delirium (especially elderly)
- Increases mortality
- Increases blood pressure in the elderly
- Increases risk of Alzheimer's disease
- Increases risk of non-Alzheimer type dementia

EFFECTIVE & SAFER ALTERNATIVES

Anxiety

Fluoxetine (Prozac)
Paroxetine (Paxil)
Venlafaxine (Effexor)
Bupirone (Buspar)
Hydroxyzine (Atarax)

Insomnia

Doxepin (Sinequan)
Ramelteon (Rozerem)
Trazodone (Olepro)
Melatonin

Non-medical therapies great for both anxiety and insomnia: psychotherapy, CBT, smartphone apps



Calm



Headspace



Simple Habit



Insight Timer

Benzodiazepines for Anxiety & Insomnia Handout

Before Handout

(1) The side effects of benzodiazepines (e.g. Xanax, Ativan, Klonopin, Valium) discourage me from using them to treat my anxiety or insomnia.

Not discouraged 0 1 2 3 4 5 6 7 8 9 10 Highly discouraged

(2) How likely are you to consider alternative medications or alternative therapies (CBT, smartphone apps) to treat your anxiety or insomnia?

Not likely 0 1 2 3 4 5 6 7 8 9 10 Highly likely

After Handout

(1) The side effects of benzodiazepines (e.g. Xanax, Ativan, Klonopin, Valium) discourage me from using them to treat my anxiety or insomnia.

Not discouraged 0 1 2 3 4 5 6 7 8 9 10 Highly discouraged

(2) How likely are you to consider alternative medications or alternative therapies (CBT, smartphone apps) to treat your anxiety or insomnia?

Not likely 0 1 2 3 4 5 6 7 8 9 10 Highly likely

I would recommend this handout for patients considering benzodiazepines for anxiety or insomnia.

Definitely not 0 1 2 3 4 5 6 7 8 9 10 Definitely

RESULTS

The handout is now being distributed to patients at Brookfield Family Medicine.

Two patients participated in the survey:

Patient 1

10 year history of lorazepam (Ativan) use

Before Handout

(1) The side effects of benzodiazepines (e.g. Xanax, Ativan, Klonopin, Valium) discourage me from using them to treat my anxiety or insomnia.

Not discouraged 0 1 2 3 4 5 6 7 8 9 10 Highly discouraged

(2) How likely are you to consider alternative medications or alternative therapies (CBT, smartphone apps) to treat your anxiety or insomnia?

Not likely 0 1 2 3 4 5 6 7 8 9 10 Highly likely

After Handout

(1) The side effects of benzodiazepines (e.g. Xanax, Ativan, Klonopin, Valium) discourage me from using them to treat my anxiety or insomnia.

Not discouraged 0 1 2 3 4 5 6 7 8 9 10 Highly discouraged

(2) How likely are you to consider alternative medications or alternative therapies (CBT, smartphone apps) to treat your anxiety or insomnia?

Not likely 0 1 2 3 4 5 6 7 8 9 10 Highly likely

I would recommend this handout for patients considering benzodiazepines for anxiety or insomnia.

Definitely not 0 1 2 3 4 5 6 7 8 9 10 Definitely

Patient 2

Recently prescribed diazepam (Valium)

Before Handout

(1) The side effects of benzodiazepines (e.g. Xanax, Ativan, Klonopin, Valium) discourage me from using them to treat my anxiety or insomnia.

Not discouraged 0 1 2 3 4 5 6 7 8 9 10 Highly discouraged

(2) How likely are you to consider alternative medications or alternative therapies (CBT, smartphone apps) to treat your anxiety or insomnia?

Not likely 0 1 2 3 4 5 6 7 8 9 10 Highly likely

After Handout

(1) The side effects of benzodiazepines (e.g. Xanax, Ativan, Klonopin, Valium) discourage me from using them to treat my anxiety or insomnia.

Not discouraged 0 1 2 3 4 5 6 7 8 9 10 Highly discouraged

(2) How likely are you to consider alternative medications or alternative therapies (CBT, smartphone apps) to treat your anxiety or insomnia?

Not likely 0 1 2 3 4 5 6 7 8 9 10 Highly likely

I would recommend this handout for patients considering benzodiazepines for anxiety or insomnia.

Definitely not 0 1 2 3 4 5 6 7 8 9 10 Definitely

EVALUATION OF EFFECTIVENESS

- Patient 1 (10 year benzodiazepine use) did not change response after reading the handout. This patient has been using benzodiazepines long-term and has become dependent on them. Getting this patient to stop benzodiazepine use will require intervention more aggressive than a simple handout. Nevertheless, patient 1 found the handout helpful and would definitely (10/10 rating) recommend the handout to someone who is considering benzodiazepines for anxiety or insomnia.
- Patient 2 (recently prescribed benzodiazepine use) became less inclined to consider benzodiazepines and more interested in trying alternative therapies after reading the handout. Patient 2 would also recommend (8/10 rating) the handout to someone who is considering benzodiazepines for anxiety or insomnia.
- These results suggest that this handout may be effective for patients who have never tried benzodiazepines or patients who just recently started using them. Thus, it is important to educate patients about the dangers of using benzodiazepines before they initiate therapy. It is much easier to dissuade someone who has never tried benzodiazepines than someone who has been using them for a long time.

LIMITATIONS

- Sample size of 2 is very small.
- Limited time to distribute the handout and administer surveys to more patients.
- Handout was not adequate for dissuading patients who have already become dependent on benzodiazepines.



RECOMMENDATIONS FOR FUTURE PROJECTS

- Future projects could involve interviewing patients who have opted for alternative therapies (safer medications, CBT, smartphone apps) and determining their satisfaction with these other options.
- Another useful project would involve creating a guide that explains the pros and cons of various smartphone apps for anxiety and insomnia. This would be helpful because there is a plethora of mental wellness apps and patients struggle to figure out which apps are most suitable for them.
- Targeting a different population, especially middle and high school students, would also be interesting. This would be impactful because the growing benzodiazepine epidemic is prevalent amongst this age group. Future projects could involve giving a presentation to a classroom of students at a middle school or high school.

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