



# Decreasing benzodiazepine use in community-dwelling older adults

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# Disclosures

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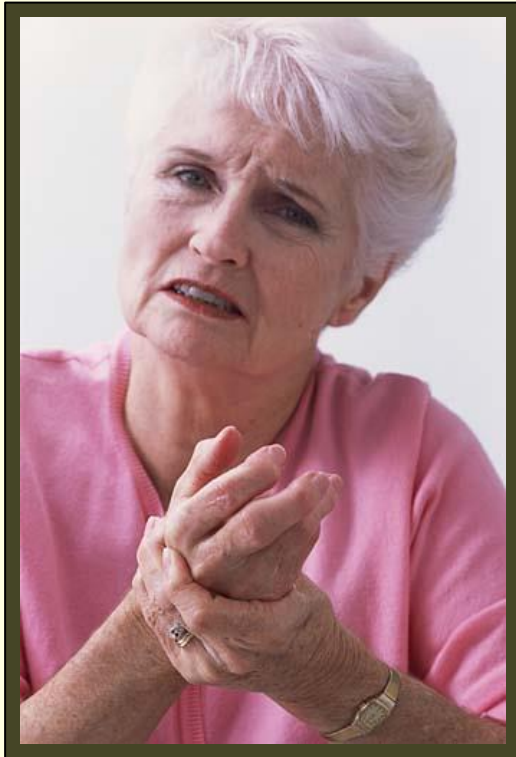
- Consultation and honoraria from Pfizer in 2014
- There is generally no conflict of interest with pharma when I talk about deprescribing...
- The views and opinions expressed in this presentation reflect my work as a geriatrician and researcher, and are not related to my appointment at CIHR as Scientific Director of the Institute of Gender and Health

# Objectives

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1. To critically appraise up-to-date evidence of the harms associated with sedative-hypnotic use in older adults
2. To share the results of the EMPOWER trial
1. To equip clinicians with strategies to better manage insomnia and overcome practical barriers to tapering benzos in community-dwelling older adults

# Mrs. S., 74 years old



## Multiple chronic conditions

Hypertension

Type 2 diabetes

Dyslipidemia

Insomnia

Chronic pain due to osteoarthritis

## Medications

Monopril 10 mg po daily

Metformin 500 mg tid

Rosuvastatin 10 mg daily

Lorazepam 0.5 mg po qhs

Acetaminophen 650 mg tid

# Which statement is true regarding sedative-hypnotics?

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- 1) Benzodiazepines elicit physical and psychological dependence; it is a waste of time to try to implement a tapering protocol in older patients
- 2) Only the long-acting benzodiazepines are associated with falls in the elderly
- 3) Episodic use of benzodiazepines incurs less harm than chronic use
- 4) The Z-drugs (zopiclone, zolpidem) confer the same risk of fractures as classic benzodiazepines, so are not a safer alternative for older people

# When the risks of a drug outweigh the benefits...

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...and safer alternatives exist, these drugs are considered Inappropriate

- 1980's - Mark Beers reports observations linking the use of psychoactive medication (**benzodiazepines**, tricyclic antidepressants, antihistamines) to the potential for harm (confusion, sedation) in American nursing home patients (JAMA 1988)

- 1991 – the first Beers List of Drugs to Avoid in the Elderly



Mark H. Beers  
1954-2009

# Geriatric medicine specialists are concerned about medication safety

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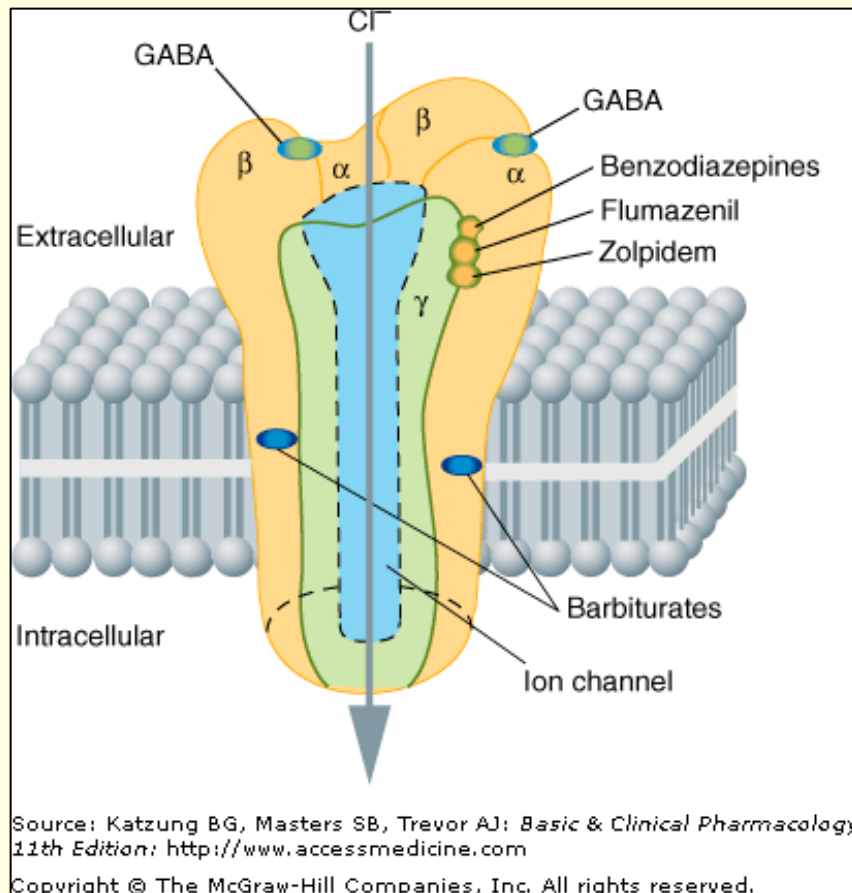
# Sedative Hypnotics are Inappropriate in the Elderly



- American Geriatrics Society and Choosing Wisely Canada® recommend against all sedative-hypnotics (all benzodiazepine and Z-drugs) as first line therapy for insomnia.
- 1-in-5 emergency department visits attributable to psychiatric medication in adults 65+ are caused by sedative hypnotics (confusion, falls, head injuries)



# Several binding sites on the GABA (gamma-aminobutyric acid) receptor



- GABA = major inhibitory neurotransmitter in the brain
- Two distinct classes of GABA receptors
  - GABA-A : bind benzodiazepines and non-benzodiazepine drugs, which are GABA agonists
  - All GABA-A agonists inhibit neuronal firing and reduce anxiety/produce sedation

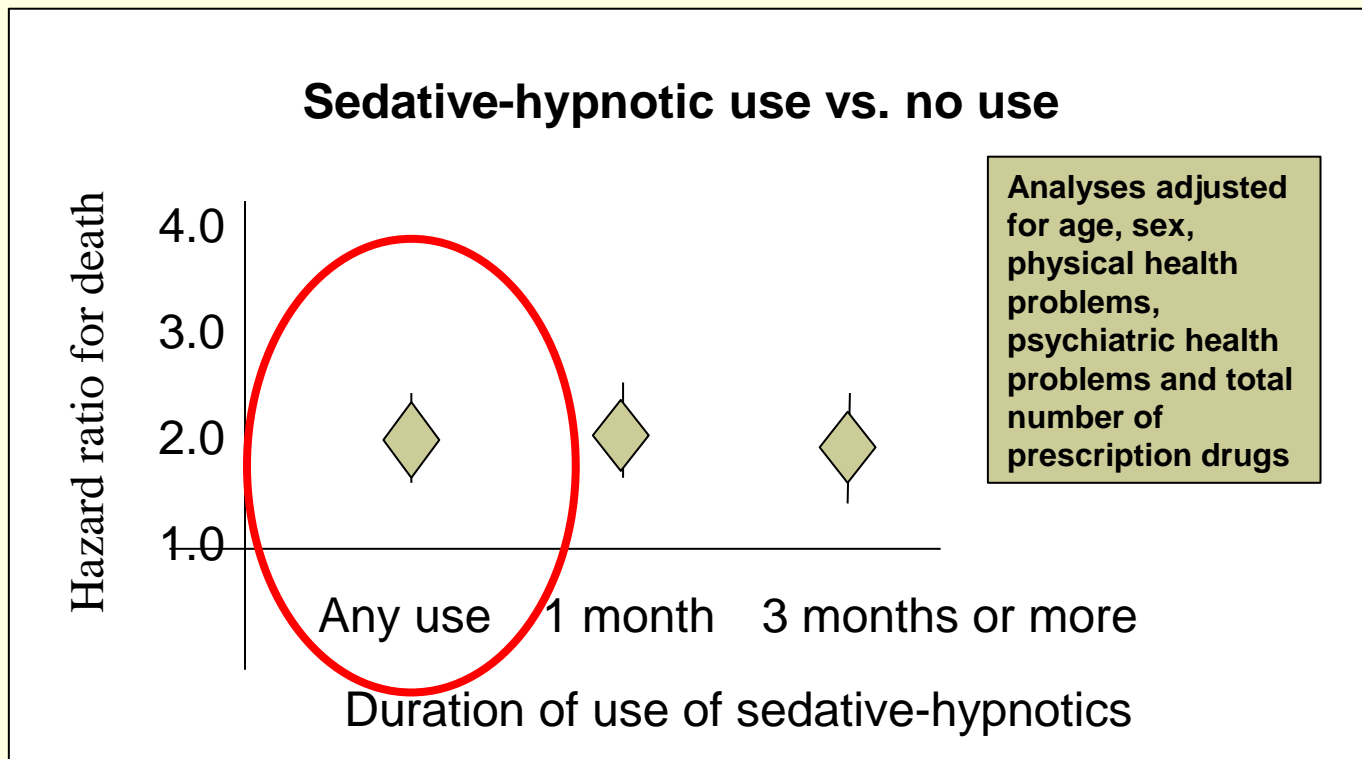
# Benefits vs. harms

- Meta-analysis of 24 studies (2417 participants) aged 60+ with insomnia and otherwise free of psychiatric or psychological disorders
  - Benzodiazepines and non-benzodiazepine drugs
    - Total sleep time improved by a mean of 25 minutes vs placebo
    - Night time awakenings decreased by 0.63 compared to placebo
  - Adverse cognitive events 4.8 times more common (95% CI 1.5-15.5)
  - Adverse psychomotor events 2.6 times more common (95% CI 1.1 – 6.1)
  - Reports of daytime fatigue 3.8 times more common (95% CI 1.9-7.8)

# Increased risk of mortality

34,727 sedative-hypnotic users versus 69,418 non-users

- Retrospective matched cohort study of GP practices in the UK
- Incident users, followed for up to 13 years



# Safer alternative: cognitive behavioural therapy for chronic insomnia

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Efficacy similar to benzodiazepines/Z-drugs

Meta-analyses suggest:

- CBT increases total sleep time by 35 minutes compared to control (mean 6.5 hours sleep per night)
- Decreases time awake after sleep onset from 60-70 minutes to 30 minutes
- Achieves a clinical response in 70-80% of patients
- NO SIDE EFFECTS

## THE ROLE OF THE SLEEP DIARY IN CBT

	Example	Monday	Tuesday	Wed	Thursday	Friday	Saturday	Sunday
1. Yesterday, I took a nap from ____ to _____. (Record all naps.)	1:50 pm to 2:30 pm							
2. Yesterday, I took ____ mg of medication and/or ____ oz of alcohol to help me sleep.	Immovane 3.75 mg							
3. (a) I went to bed at ____ h and (b) I turned off the lights at ____ h.	10:45 pm 11:15 pm							
4. After turning off the lights, I fell asleep after ____ minutes.	60 min							
5. I woke up ____ times during the night. (Indicate the number of times)	3							
6. I stayed awake ____ min each time. (Indicate how many minutes you stayed awake each time.)	10, 5, 45							
7. This morning, I woke up at ____ h. (Record the last time you woke up.)	6:20 am							
8. This morning I got out of bed at ____ h.	6:40 am							
9. When I got up, I felt: 1 = exhausted, 2 = tired, 3 = average, 4 = rested, 5 = very well rested	2							
10. Overall, my sleep last night was: 1=very restless, 2=restless, 3=average, 4=deep, 5=very deep	3							

Sleep efficiency =  $\frac{\text{Total time asleep}}{\text{Total time in bed}}$

Sleep efficiency = 65%

# Why does benzodiazepine prescribing persist for older adults ?

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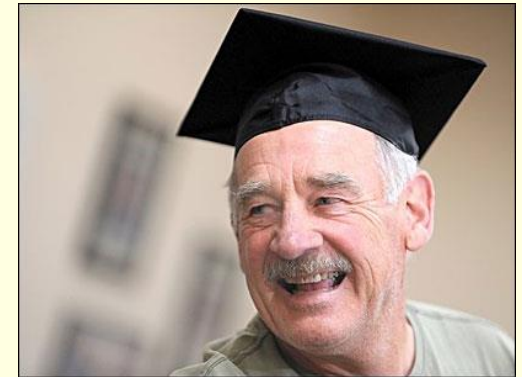
Some physicians say:

- Helps patients deal with common anxieties/difficulties associated with aging (death of loved ones, loss of friends, relocation, decreased health status)
- No side effects/survivor bias in long-term users
- Scepticism regarding nonpharmacologic alternatives; takes time to discuss
- This is a public health problem. Solutions are beyond the scope of the individual physician
- Patients do not want to taper

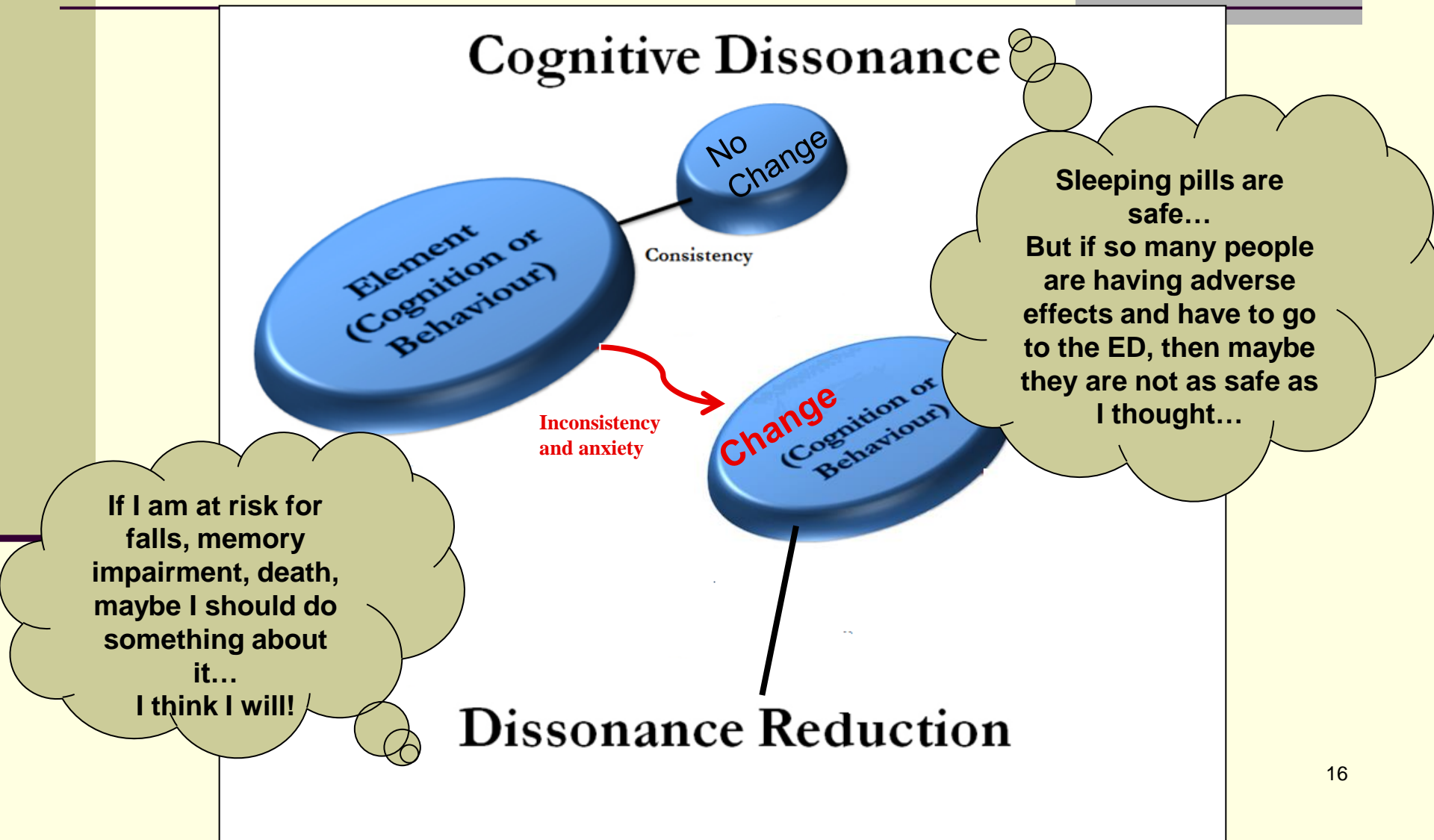


# How to quickly convince your patients to taper

- Many patients will be scared, reluctant to initiate tapering
  - Psychological, physiological dependence
    - Fear of withdrawal symptoms
- Something needs to change to break the conviction that sleeping pills are OK
  - New information on the risks of sedative-hypnotic use
    - “A new study just came out....that makes me concerned about you...”
  - Elicitation of cognitive dissonance to get buy-in



# Elicitation of Cognitive Dissonance





# Using cognitive dissonance and risk perception using a brochure

Can we elicit cognitive dissonance about sleeping pills with a brochure?

Are you a poor sleeper?

Oh yes, just terrible! I need my pills

Really? How many times do you wake up each night?

At least 3 or 4 times!

Oh my! I guess the pills are not really working then...

Huh!

You May Be at Risk.



Perceived threat

You are currently taking  
Ativan® (Lorazepam)



## You may be at risk IF

You are taking one of the following  
sedative-hypnotic medications:

- |   |  |  |
|---|--|--|
| <input type="checkbox"/> Alprazolam (Xanax®)                  | <input type="checkbox"/> Diazepam (Valium®)  | <input type="checkbox"/> Quazepam  |
| <input type="checkbox"/> Chlorazepate                         | <input type="checkbox"/> Estazolam           | <input type="checkbox"/> Temazepam (Restoril®)   |
| <input type="checkbox"/> Chlordiazepoxide                     | <input type="checkbox"/> Flurazepam          | <input type="checkbox"/> Triazolam (Halcion®)  |
| <input type="checkbox"/> Chlordiazepoxide-<br>amitriptyline   | <input type="checkbox"/> Loprazolam          | <input type="checkbox"/> Eszopiclone (Lunesta®)  |
| <input type="checkbox"/> Clidinium-<br>Chlordiazepoxide       | <input type="checkbox"/> Lorazepam (Ativan®) | <input type="checkbox"/> Zaleplon (Sonata®)  |
| <input type="checkbox"/> Clobazam                             | <input type="checkbox"/> Lormetazepam        | <input type="checkbox"/> Zolpidem (Ambien®,<br>Intermezzo®, Edluar®,<br>Sublinox®, Zolpimist®) |
| <input type="checkbox"/> Clonazepam (Rivotril®,<br>Klonopin®) | <input type="checkbox"/> Nitrazepam          | <input type="checkbox"/> Zopiclone (Imovane®)  |
|   | <input type="checkbox"/> Oxazepam (Serax®)   |  |



## TEST YOUR KNOWLEDGE about the medication you are taking

### 2 You May Be at Risk

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### TEST YOUR KNOWLEDGE ABOUT A SEDATIVE-HYPNOTIC DRUG

- 1 The medication you are taking is a mild tranquilizer that is safe when taken for long periods of time. ☐ TRUE ☐ FALSE
- 2 The dose that I am taking causes no side effects. ☐ TRUE ☐ FALSE
- 3 Without this medication I will be unable to sleep or will experience unwanted anxiety. ☐ TRUE ☐ FALSE
- 4 This medication is the best available option to treat my symptoms. ☐ TRUE ☐ FALSE



### You May Be at Risk 3

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## ANSWERS

## ANSWERS

### 1 FALSE

It is no longer recommended to take a **sedative-hypnotic drug** to treat insomnia or anxiety. People who take it are putting themselves at a:

- 5-fold higher risk of memory and concentration problems
- 4-fold increased risk of daytime fatigue
- 2-fold increased risk of falls and fractures (hip, wrist)
- 2-fold increased risk of having a motor vehicle accident while driving
- Problems with urine loss

### 2 FALSE

Even if you think that you have no side effects, and even if you take only a small dose, a **sedative-hypnotic drug** worsens your brain performance and slows your reflexes.

### TRUE

### 3

Your body has probably developed a physical addiction to **this medication**. If you stop it abruptly, you may have trouble sleeping and feel greater anxiety. Millions of people have succeeded in slowly cutting this drug out of their lives and finding alternatives to help their problem.

### FALSE

### 4

Although it is effective over the short term, studies show that **sedative-hypnotic drugs** are not the best long-term treatment for your anxiety or insomnia. **Sedative-hypnotic medication** covers up the symptoms without actually solving the problem. Please keep on reading to learn more about developing healthier sleep patterns and diminishing stress.



### 4 You May Be at Risk

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### You May Be at Risk 5

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# ALTERNATIVES

## If you are taking this sedative-hypnotic drug to help you sleep:

There are lifestyle changes that can help.

- Do not read or watch TV in bed. Do so in a chair or on your couch.
- Try to get up in the morning and go to bed at night at the same time every day.
- Before going to bed, practice deep breathing or relaxation exercises.
- Get exercise during the day, but not during the last three hours before you go to bed.
- Avoid consuming nicotine, caffeine and alcohol as they are stimulants and might keep you awake.

## If you are taking this sedative-hypnotic drug to help reduce your anxiety:

There are other solutions to deal with your stress and anxiety.

- Talking to a therapist is a good way to help you work out stressful situations and talk about what makes you anxious.
- Support groups help to relieve your stress and make you feel you are not alone.
- Try relaxation techniques like stretching, yoga, massage, meditation or tai chi that can help relieve you of everyday stress and help you work through your anxiety.
- Talk to your doctor about other anti-anxiety medications that have less serious side effects.



## MRS. ROBINSON'S STORY

She has been taking **Lorazepam**, a sedative-hypnotic drug just like yours.

"I am 65 years old and took **Lorazepam** for 10 years. A few months ago, I fell in the middle of the night on my way to the bathroom and had to go to the hospital. I was lucky and, except for some bruises, I did not hurt myself. I read that **Lorazepam** puts me at risk for falls. I did not know if I could live without **Lorazepam** as I always have trouble falling asleep and sometimes wake up in the middle of the night.
































































I spoke to my doctor who told me that my body needs less sleep at my age – 6 hours of sleep per night is enough. That's when I decided to try to taper off **Lorazepam**. I spoke to my pharmacist who suggested I follow the step-by-step tapering program (on the next page).

I also applied some new sleeping habits I had discussed with my doctor. First I stopped exercising before bed; then I stopped reading in bed, and finally, I got out of bed every morning at the same time whether or not I had a good night's sleep.

I succeeded in getting off **Lorazepam**. I now realize that for the past 10 years I had not been living to my full potential. Stopping **Lorazepam** has lifted a veil, like I had been semi-sleeping my life. I have more energy and I don't have so many ups and downs anymore. I am more alert: I don't always sleep well at night, but I don't feel as groggy in the morning. It was my decision! I am so proud of what I have accomplished. If I can do it, so can you!"

# STEP-BY-STEP TAPERING-OFF PROGRAM

We recommend that you follow this schedule under the supervision of your doctor or pharmacist to taper off **your sedative-hypnotic medication**.

WEEKS	TAPERING SCHEDULE							✓
	MO	TU	WE	TH	FR	SA	SU	
1 and 2								
3 and 4								
5 and 6								
7 and 8								
9 and 10								
11 and 12								
13 and 14								
15 and 16								
17 and 18								

## EXPLANATIONS

 Full dose
  Half dose
  Quarter of a dose
  No dose

# The EMPOWER study

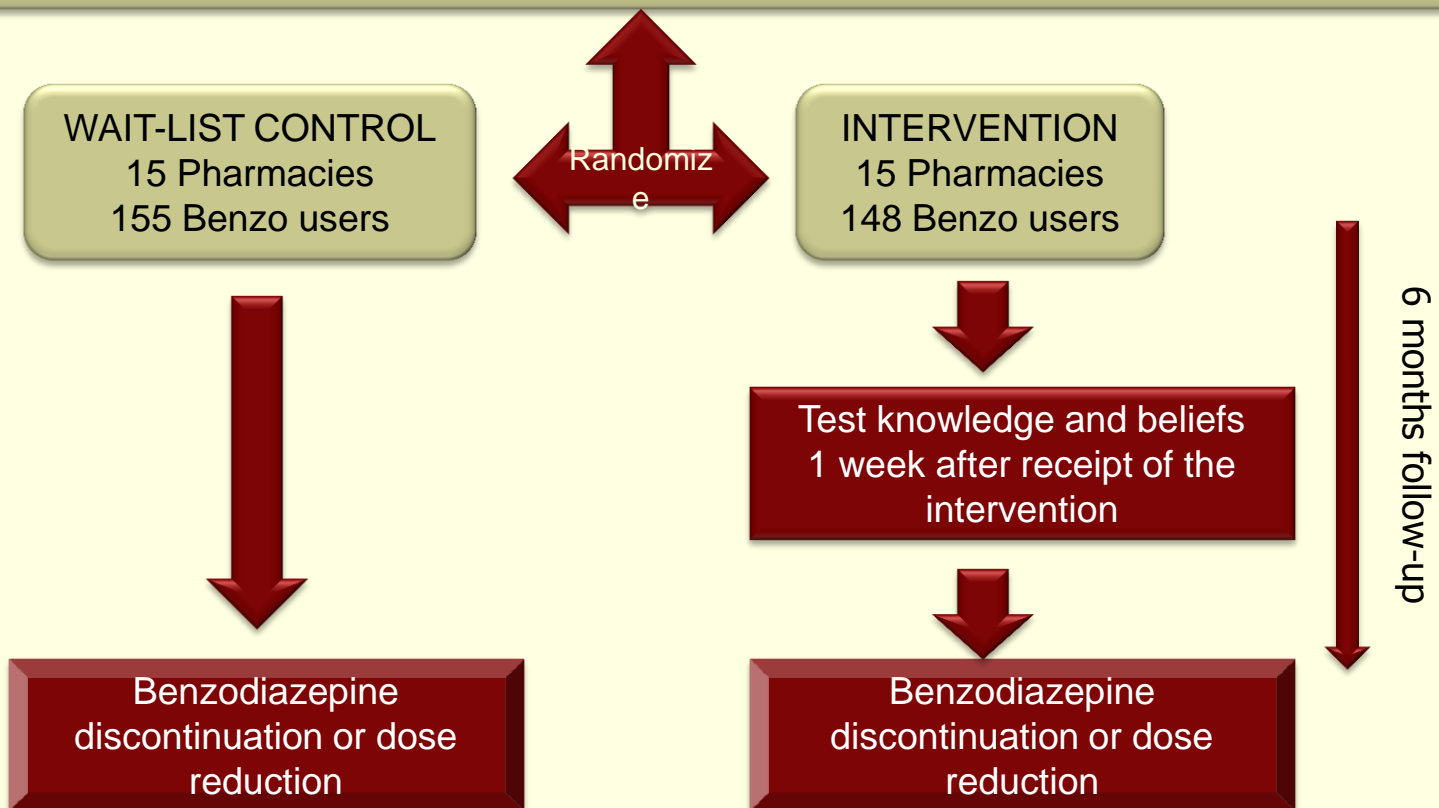
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- ✓ Tests whether the direct-to-consumer educational brochure is effective at reducing benzos, compared to usual care
- ✓ Cluster randomized trial where:
  - ✓ The cluster is the community pharmacy from whence patients are recruited
  - ✓ Randomization is whether the patient gets the **mailed brochure** immediately or after a 6-month waiting period
  - ✓ Inclusion criteria = benzo use for 3 months+, aged 65+

# The EMPOWER study

“Eliminating medications through patient ownership of end results”

30 community pharmacies around Montreal 2,716 chronic benzo users 65+,  
303 participants, benzo users 3 months+, aged 65 years and older  
no dementia, not on antipsychotics  
query baseline knowledge and beliefs at baseline





# Knowledge questionnaire

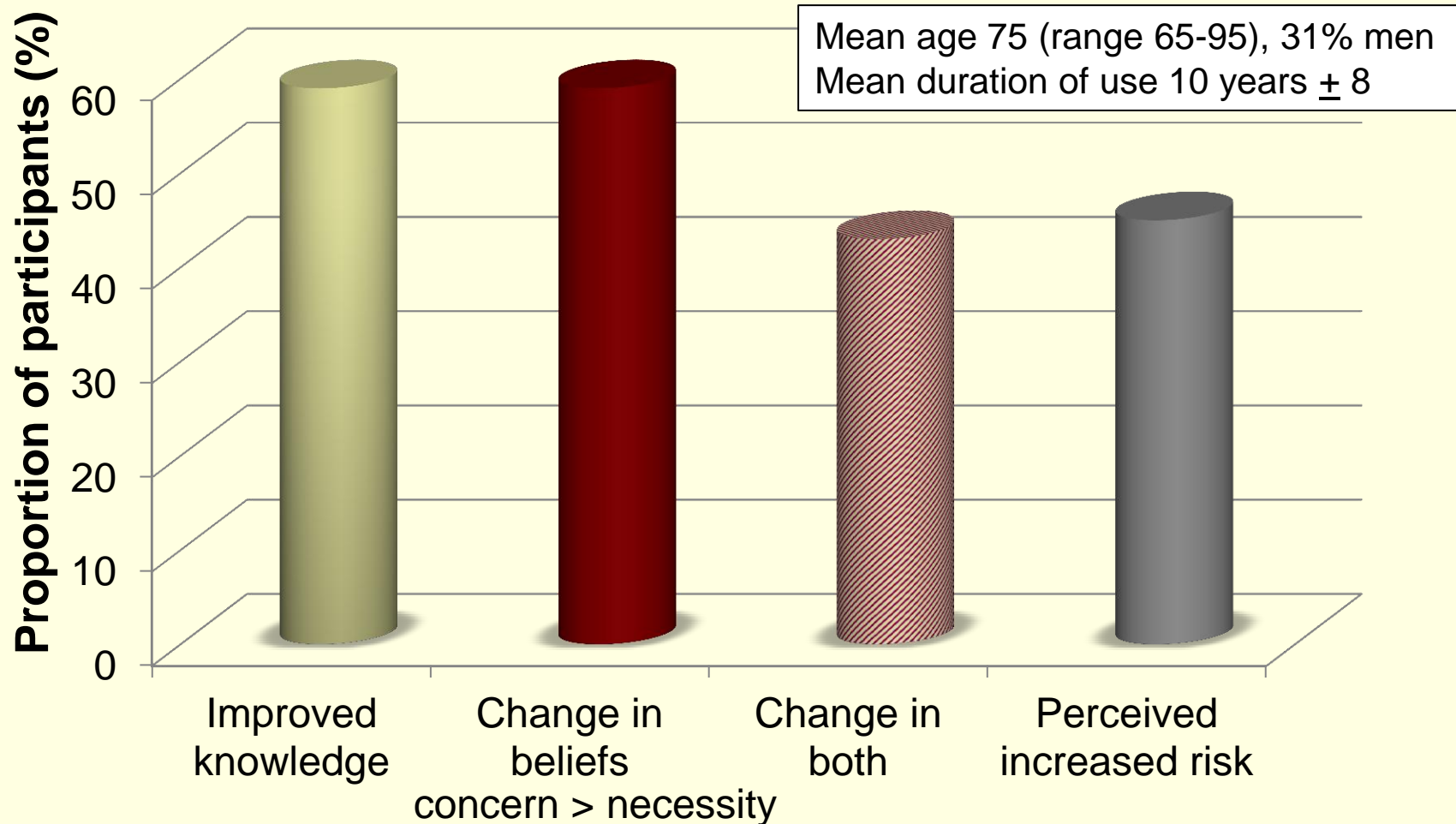
## TRUE OR FALSE

1. Ativan® is a mild tranquilizer that is safe when taken for long periods of time.
2. The dose of Ativan® that I am taking causes no side effects.
3. Without Ativan® I will be unable to sleep or will experience unwanted anxiety.
4. Ativan® is the best available option to treat my symptoms.

# Beliefs (necessity vs. concern)

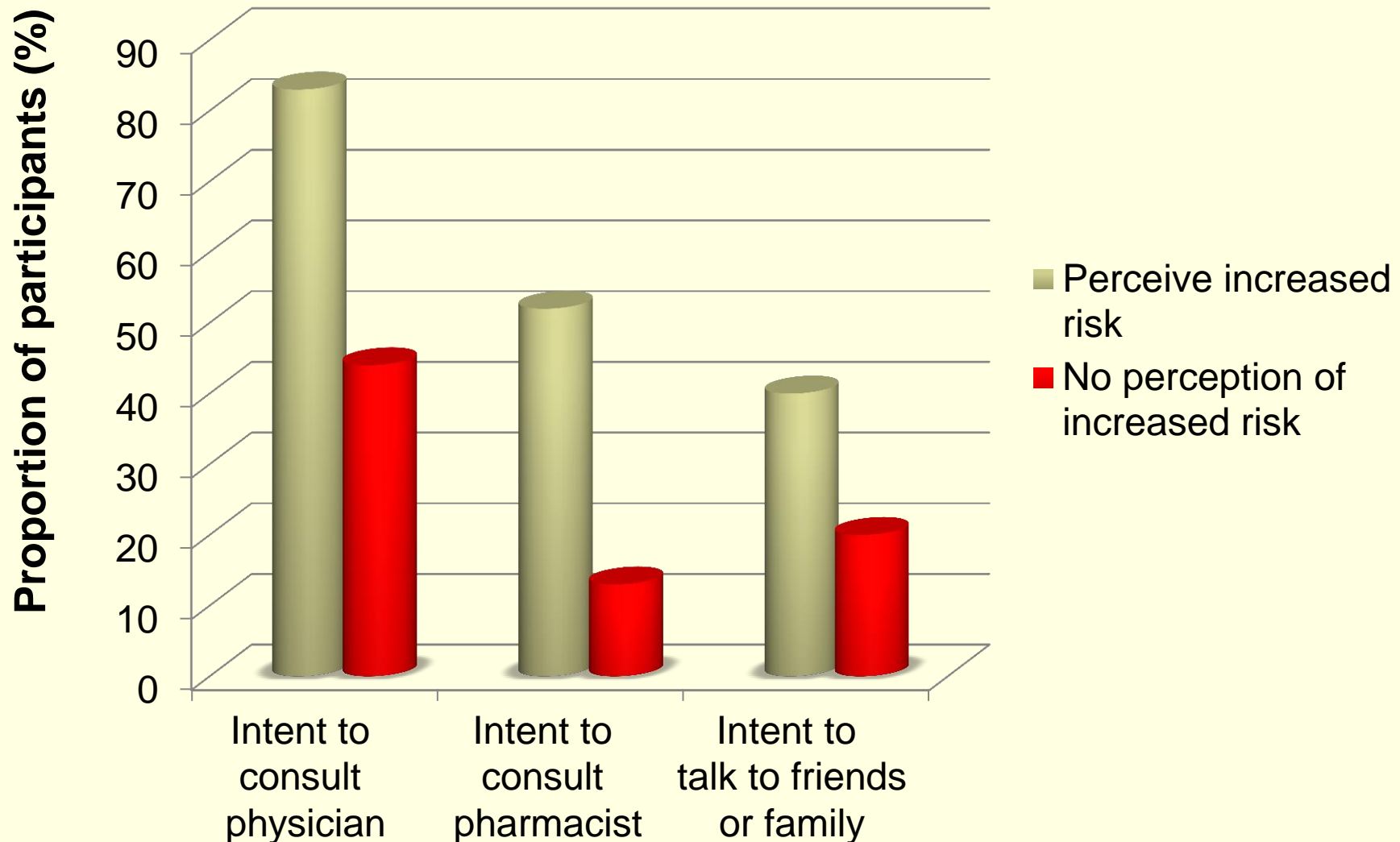
1. My health, at present, depends on my benzodiazepines.
2. **Having to take benzodiazepines worries me.**
3. My life would be impossible without my benzodiazepines.
4. Without my benzodiazepines I would be very ill.
5. **I sometimes worry about long-term effects of my benzodiazepines.**
6. **My benzodiazepines are a mystery to me.**
7. My health in the future will depend on my benzodiazepines.
8. **My benzodiazepines disrupt my life.**
9. **I sometimes worry about becoming too dependent on my benzodiazepines.**
10. My benzodiazepines protect me from becoming worse.

# The EMPOWER brochure changes knowledge and beliefs

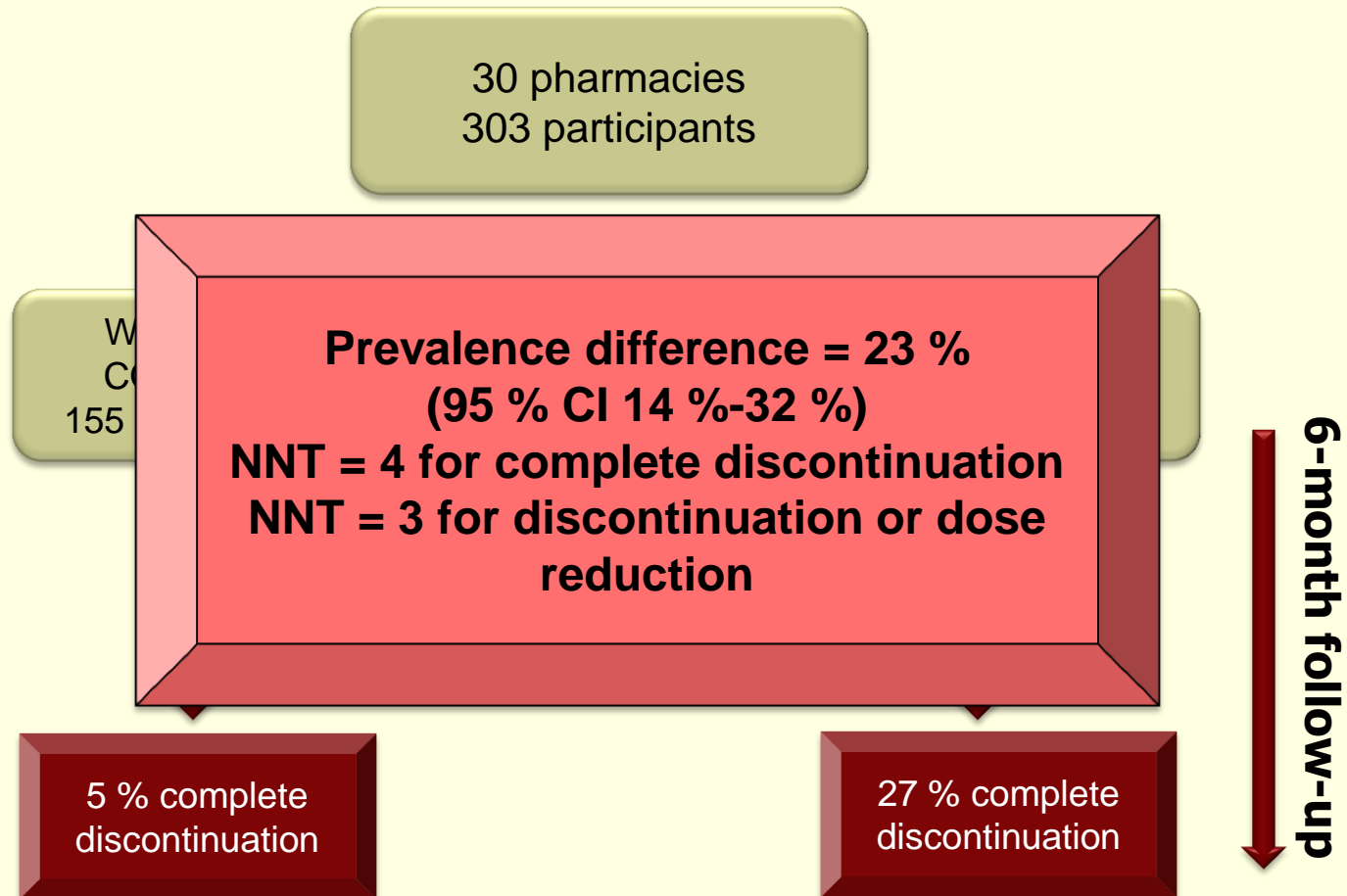


*Martin P et al. A drug education tool developed for older adults changes knowledge, beliefs and risk perceptions about inappropriate benzodiazepine prescriptions in the elderly. Patient Educ Couns 2013; 92:81-87*

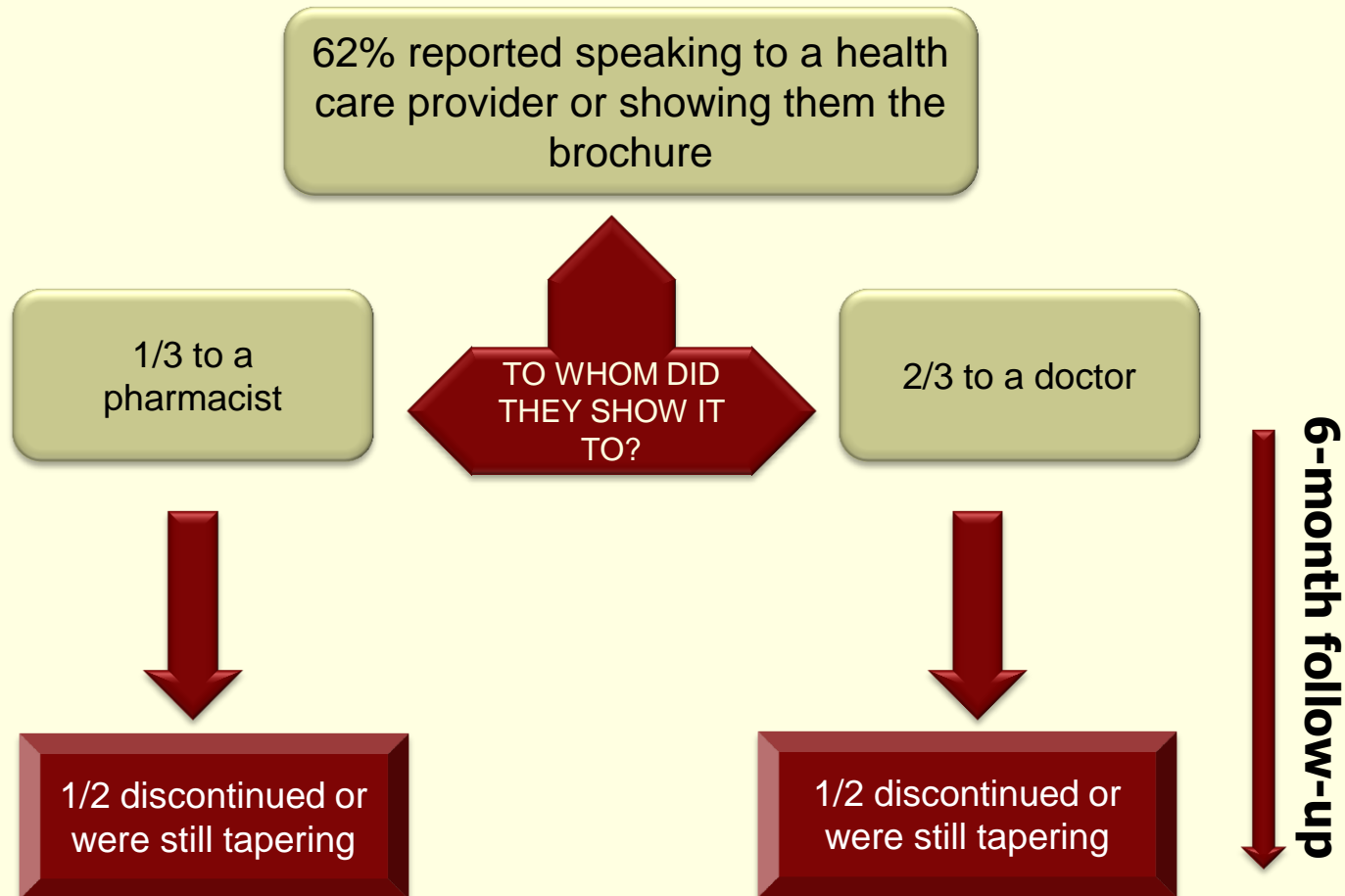
# Perception of increased risk is association with intent to discuss tapering



# Do intentions translate into action?



# Did participants speak to a health care professional after receiving the mailed brochure?



# Barriers to de-prescribing sedative-hypnotics

## 42% of patients did not attempt discontinuation

- 33% were discouraged by their health provider
- 25% reported fear of withdrawal symptoms
- 23% believed that they were not at risk of adverse effects
- 12% said life was too difficult at the moment

## Among the 58% that attempted, only half succeeded

- Withdrawal symptoms were reported by 42%
  - Rebound insomnia
  - Anxiety
- 13% of patients received substitutions (trazodone, paroxetine)
- Their physician told them to stop the taper

# How can we, as health care professionals, help to de-prescribe benzos?

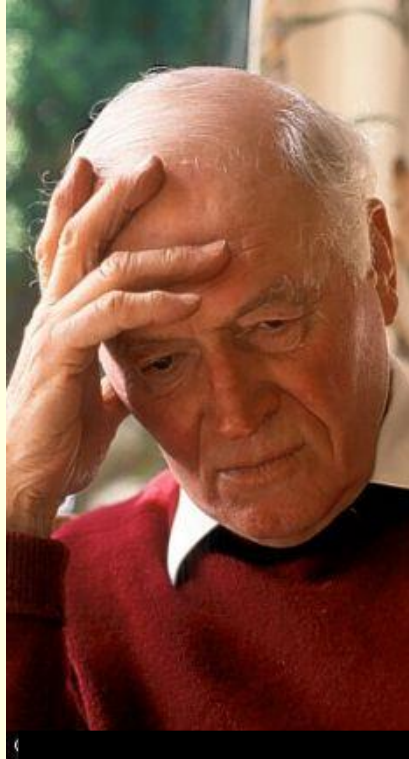
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"You miss 100% of the shots you never take"

Wayne Gretzky  
Canadian hockey player  
(1961- )

# Mr. C. – Depression 2° Chronic Heart Failure



Mr C. 75 years old

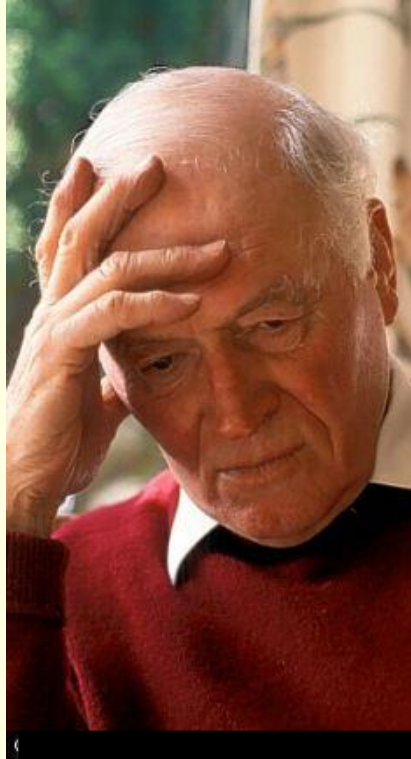
- Candesartan 8 mg po daily
- Metoprolol 50 mg po bid
- Furosemide 40 mg po bid
- Spironolactone 25 mg po bid
- Atorvastatin 10 mg po daily
- Zolpidem tartrate 10 mg po qhs
- Citalopram 20 mg po daily x 6 weeks
- OTC Ibuprofen 400 mg po tid prn

**MR C. WAS REFERRED TO THE GERIATRIC CLINIC  
FOR URINARY INCONTINENCE  
WOULD YOU DISCUSS TAPERING ZOLPIDEM AT  
THIS TIME?**



# Discussing benzodiazepine discontinuation with Mr. C.

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Mr C. 75 years old

Step 1: I asked why he was taking a sleeping pill

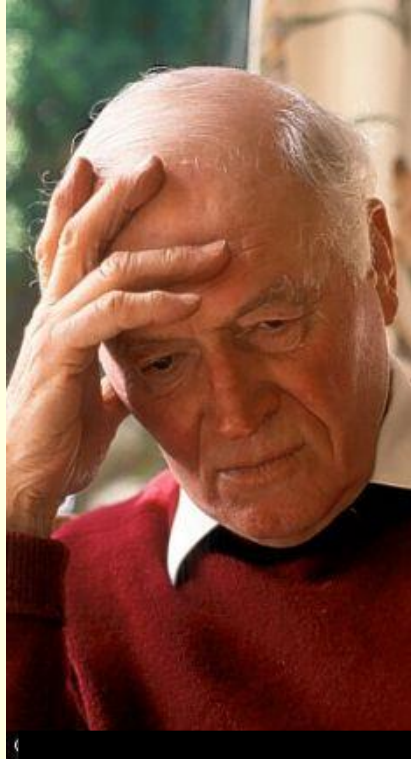
- He answered, “which one is the sleeping pill...”

Step 2: I linked it to current health concerns

- In this case it could have been contributing to urine leakage at night
- In other cases, I ask about fear of falling, memory problems, car accidents...

# Discussing benzodiazepine discontinuation with Mr. C.

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Mr C. 75 years old

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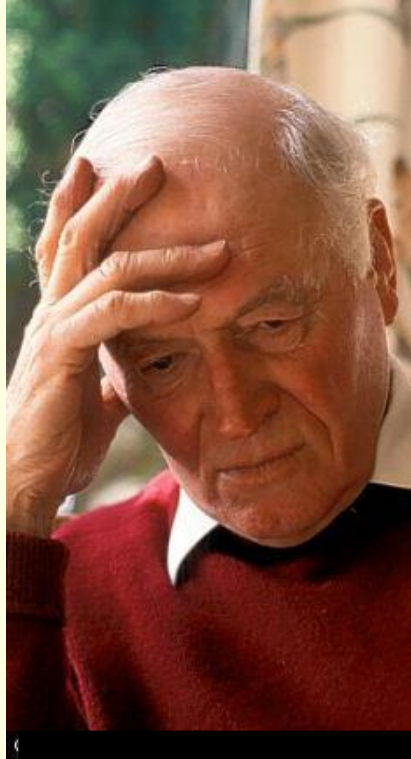
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# Discussing benzodiazepine discontinuation with Mr. C.

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Mr C. 75 years old

Step 3: I asked if he would be willing to attempt getting off the sleeping pill VERY SLOWLY

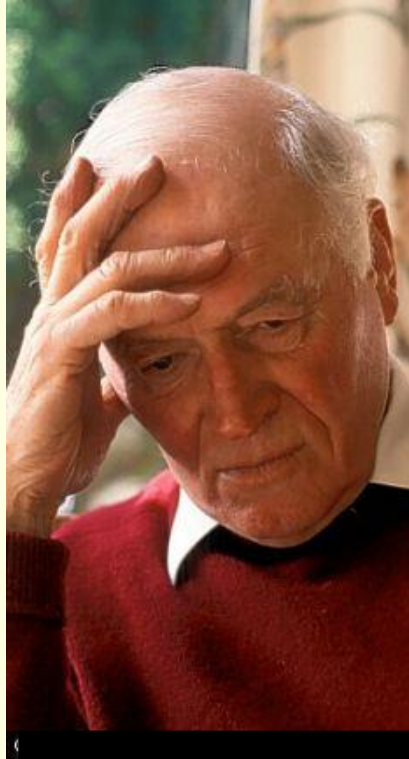
- He answered, “yes, I suppose I could try...”

Step 4: I gave him the brochure with the picture of the 16 week tapering program

- I wrote out a tapering schedule for his pharmacist, since his pills were delivered in a pill-box
- I warned that he may have rebound effects : Go figure, he had diarrhea for 3 weeks...which resolved on its own

# 6 months later

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Mr C. 75 years old

Zolpidem is completely discontinued

Spironolactone also discontinued

Self-management techniques being used to monitor heart failure symptoms

No longer using ibuprophen OTC

Incontinence resolved

Depression resolved – taper citalopram

# Cognitive behavioural therapy as an alternative to treat chronic insomnia

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- More than sleep hygiene
  - Don't drink caffeinated beverages before bed
  - Don't exercise before bed
  - Use relaxation tapes, warm bath, to de-stress before bed
- Combats myths: e.g. unrealistic to expect to sleep 8-10 hours per night
- Sleep restriction: Fixed bedtime (11 p.m.) and wake time (6 a.m.)
- Stimulus control: If you are lying in bed and not sleeping – get up and go write down your worries, read a book in a chair until you feel tired, above all don't panic
- Maximizes sleep efficiency = time asleep/total time in bed

# Tapering schedules

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- There is no evidence that substitution with diazepam or the actual duration of the tapering schedule significantly changes the outcome
- Substitution with diazepam has been suggested in the past for pills that cannot be cut in 4. Another option is to skip or alternate doses over the course of the week.
- Most tapering schedules decrease the dose by 25% every 2 weeks.
  - I personally think this is too fast, especially during the last 50% of the taper, which is the most difficult for patients

# How to handle withdrawal symptoms

- Common withdrawal symptoms include:
  - Sleeplessness, anxiety/irritability, nightmares, depression, depersonalisation, hallucinations, irritable bowel symptoms, muscle tension
- Should the patient be “up dosed” during withdrawal?
  - NO. This will only exacerbate withdrawal symptoms.
  - If patients hit a "sticky patch" during the course of withdrawal, staying on the same dose for a longer period (not more than a few weeks) before resuming the withdrawal schedule allows them to overcome this obstacle. This is the “grit your teeth” and carry on approach.

- The use of SSRIs for anxiety?

# Take home messages

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- Do not initiate NEW prescriptions of sedative-hypnotics
  - hospitalized patients are twice as likely to have a new prescription on discharge than outpatients
  
- Speak to ALL patients about tapering sedative-hypnotics
  - Distribute the EMPOWER brochure
  - Profile patients into those with and without psychiatric comorbidity – the approach may be different
  - Elicit cognitive dissonance
  - Offer non-pharmacologic alternatives for anxiety and insomnia, i.e. CBT
  - Be supportive and firm – you are probably preventing hip fractures!



# Be unreasonable

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“The reasonable man adapts himself to the world; the unreasonable one persists in trying to adapt the world to himself. Therefore, all progress depends on the unreasonable man.”

George Bernard Shaw  
(1903)

## DARE TO DE-PRESCRIBE

“It is an art of no little importance to administer medicines properly; but it is an art of much greater and more difficult acquisition to know when to suspend or altogether omit them.”

Philippe Pinel (1745-1826)<sup>41</sup>

# Thank you



**“Don’t take any of these red pills, and  
if that doesn’t work, don’t take  
any of the blue ones.”**

*contact: cara.tannenbaum@umontreal.ca*