Age-Friendly Health Systems
4M Training For Healthcare Practitioners

Module 3: Mentation and Medication

Presenters:
Isabel Rovira, MPH
Raymond Ownby, MD, PhD, MBA
Todd James, MD
Age-Friendly Health Systems
4M Training For Healthcare Practitioners

Series Objectives

By the end of the training, participants will be able to:

1. Understand the need for Age-Friendly Health Systems (AFHS)
2. Communicate the AFHS 4’M model
3. Identify your scope, role, and opportunities to practice the 4Ms in the healthcare setting
Module 1: Introduction to Age-Friendly Health Systems
- Thursday, June 3, 2021 • 10:00 am EST

Module 2: Deep Dives – What Matters Most & Mobility
- Thursday, June 10, 2021 • 10:00 am EST

Module 3: Deep Dives – Mentation & Medication
- Thursday, June 17, 2021 • 10:00 am EST

Module 4: Putting it All Together
- Thursday, June 24, 2021 • 10:00 am EST
Module 3: Mentation and Medication
June 17th, 2021
Module 3:
Mentation and Medication

Welcome & Introduction
Isabel Rovira, MPH

Mentation
Raymond Ownby, MD, PhD, MBA

Medication
Todd James, MD

Q & A
Mentation

Raymond Ownby, MD, PhD, MBA
Professor and Chair, Department of Psychiatry and Behavioral Medicine,
Professor, Public Health and Biomedical Informatics Programs
Nova Southeastern University
Dementia Prevention and Brain Health: Mentation

Ray Ownby, MD, PhD

4M Training for Healthcare Practitioners
June 17, 2021

Dr. Kiran C. Patel College of Osteopathic Medicine
Nova Southeastern University
South Florida Geriatric Workforce Education Program
Disclosures

- Grant support:
  - National Institute on Aging
  - National Institute on Minority Health and Health Disparities
- Stock ownership
  - Enalan Communications, Inc.
Learning Objectives

• After this presentation, participants will be able to:
  • List sources of evidence that cognitive decline may be preventable
  • List three modifiable lifestyle factors related to improved brain health
  • State two strategies for encouraging behavior change for brain health.
Introduction
Why “brain health?”

Question
Can dementia be prevented?

Analysis
Modifiable lifestyle factors

Conclusion
Recommendations
Why brain health?
Treatments
Amyloid-β

Changes in processing this protein are key in the pathology of Alzheimer’s disease and related to cognitive function in persons without a clinical diagnosis of dementia.
Reaction to approval

**F.D.A. Approves Alzheimer’s Drug Despite Fierce Debate Over Whether It Works**

Aducanumab, or Aduhelm, is the first new Alzheimer's treatment in 18 years and the first to attack the disease process. But some experts say there’s not enough evidence it can address cognitive symptoms.

**Landmark Alzheimer’s drug approval confounds research community**

Many scientists say there is not enough evidence that Biogen’s aducanumab is an effective therapy for the disease.

**Three F.D.A. Advisers Resign Over Agency’s Approval of Alzheimer’s Drug**

The drug, Aduhelm, a monthly infusion priced at $56,000 per year, was approved this week despite weak evidence that it helps patients.
Prevention

National Academy of Sciences, June, 2017

Also see: Interventions to prevent age-related cognitive decline, mild cognitive impairment, and clinical Alzheimer-type dementia. Agency for Health Research and Quality, Comparative Effectiveness Report Number 188, March 2017.
Nearly Half of Dementia Cases Could Be Prevented or Delayed

Dementia prevention, intervention, and care: 2020 report of the Lancet Commission

Executive summary
The number of older people, including those living with dementia, is rising, as younger age mortality declines. However, the age-specific incidence of dementia has fallen in many countries, probably because of improvements in education, nutrition, health care, and lifestyle changes. 

Against dementia. Using hearing aids appears to reduce the excess risk from hearing loss. Sustained exercise in midlife, and possibly later life, protects from dementia, perhaps through decreasing obesity, diabetes, and cardiovascular risk. Depression might be a risk for dementia, but in later life dementia might cause
Modifying 12 risk factors might prevent or delay up to 40% of dementias:

- Prevent/treat diabetes
- Treat hypertension
- Prevent head injury
- Stop smoking
- Reduce air pollution
- Reduce midlife obesity
- Exercise
- Reduce occurrence of depression
- Avoid excessive alcohol
- Treat hearing impairment
- Social interaction
- Attain high level of education
Brain Maintenance

“Brain maintenance” is the primary factor in successful cognitive aging.

Genes and lifestyle are keys.

Interventions can promote brain structure and function with increasing age.

Exercise
Meta-analysis of exercise effects on cognition

Figure 1 | Meta-analytic findings of exercise-training effects on cognition in older adults. The

Exercise training increases size of hippocampus and improves memory

Kirk I. Erickson*, Michelle W. Vossb,c, Ruchika Shaurya Prakashd, Chandramallika Basak*, Amanda Szabo†, Laura Chaddockh,c, Jennifer S. Kimb, Susie Heob,c, Heloisa Alvesb,c, Siobhan M. White†, Thomas R. Wojcickib, Emily Mailey†, Victoria J. Vieirab, Stephen A. Martinb, Brandt D. Penc, Jeffrey A. Woodsb, Edward McAuleyb, and Arthur F. Kramerb,c†

*Department of Psychology, University of Pittsburgh, Pittsburgh, PA 15260; †Beckman Institute for Advanced Science and Technology, and ‡Department of Kinesiology and Community Health, University of Illinois, Champaign-Urbana, IL 61801; †Department of Psychology, University of Illinois, Champaign-Urbana, IL 61801; ‡Department of Psychology, Ohio State University, Columbus, OH 43210; and ‡Department of Psychology, Rice University, Houston, TX 77251

Edited* by Fred Gage, Salk Institute, San Diego, CA, and approved December 30, 2010 (received for review October 23, 2010)

Exercise

Diet
The Mediterranean diet emphasizes olive oil, fish, cheese and yogurt, as well as fresh fruits and vegetables. Beans, legumes, and nuts are important. Whole grain breads and pastas.

<table>
<thead>
<tr>
<th>Study or Subgroup</th>
<th>Weight</th>
<th>Risk Ratio</th>
<th>(IV, Random, 95% CI)</th>
<th>Risk Ratio</th>
<th>(IV, Random, 95% CI)</th>
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</thead>
<tbody>
<tr>
<td>MCI</td>
<td></td>
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<tr>
<td>Haring, 2016</td>
<td>10.0%</td>
<td>0.82</td>
<td>[0.59, 1.14]</td>
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<tr>
<td>Olsson, 2015</td>
<td>2.9%</td>
<td>0.64</td>
<td>[0.31, 1.32]</td>
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<tr>
<td>Roberts, 2016</td>
<td>7.3%</td>
<td>0.78</td>
<td>[0.51, 1.11]</td>
<td></td>
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<tr>
<td>Scarmeans, 2009-MCI</td>
<td>11.0%</td>
<td>0.72</td>
<td>[0.52, 1.00]</td>
<td></td>
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<td>Tanghetti, 2013</td>
<td>27.1%</td>
<td>0.97</td>
<td>[0.76, 1.20]</td>
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<tr>
<td>Subtotal (95% CI)</td>
<td>59.1%</td>
<td>0.83</td>
<td>[0.75, 0.93]</td>
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</tr>
<tr>
<td>Heterogeneity: Tau^2 = 0.00; Chi^2 = 1.79, df = 4 (P = 0.70); P = 0.9% Test for overall effect Z = 3.22 (P = 0.001)</td>
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<td>AD</td>
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<tr>
<td>Feart, 2009</td>
<td>2.6%</td>
<td>0.98</td>
<td>[0.39, 1.90]</td>
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<tr>
<td>Morris, 2015</td>
<td>5.1%</td>
<td>0.49</td>
<td>[0.29, 0.80]</td>
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<tr>
<td>Olsson, 2015</td>
<td>2.3%</td>
<td>0.90</td>
<td>[0.44, 2.23]</td>
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<tr>
<td>Scarmeans, 2006</td>
<td>9.5%</td>
<td>0.90</td>
<td>[0.42, 0.80]</td>
<td></td>
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<tr>
<td>Scarmeans, 2009-AD</td>
<td>4.7%</td>
<td>0.52</td>
<td>[0.20, 0.90]</td>
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<tr>
<td>Subtotal (95% CI)</td>
<td>24.2%</td>
<td>0.60</td>
<td>[0.48, 0.74]</td>
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<tr>
<td>Heterogeneity: Tau^2 = 0.00; Chi^2 = 3.09, df = 4 (P = 0.54); P = 0% Test for overall effect Z = 4.18 (P &lt; 0.0001)</td>
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<tr>
<td>Dementia</td>
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<tr>
<td>Feart, 2009</td>
<td>3.8%</td>
<td>1.12</td>
<td>[0.60, 2.09]</td>
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<tr>
<td>Haring, 2016</td>
<td>9.6%</td>
<td>1.13</td>
<td>[0.79, 1.62]</td>
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<tr>
<td>Olsson, 2015</td>
<td>3.4%</td>
<td>0.85</td>
<td>[0.44, 1.64]</td>
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<tr>
<td>Subtotal (95% CI)</td>
<td>18.7%</td>
<td>1.07</td>
<td>[0.81, 1.42]</td>
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<tr>
<td>Heterogeneity: Tau^2 = 0.00; Chi^2 = 0.58, df = 2 (P = 0.75); P = 0% Test for overall effect Z = 0.40 (P = 0.63)</td>
<td></td>
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<tr>
<td>Total (95% CI)</td>
<td>100.0%</td>
<td>0.78</td>
<td>[0.70, 0.90]</td>
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<tr>
<td>Heterogeneity: Tau^2 = 0.01; Chi^2 = 15.38, df = 12 (P = 0.22); P = 22% Test for overall effect Z = 3.63 (P = 0.0023)</td>
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<tr>
<td>Test for subgroups differences: Chi^2 = 9.94, df = 2 (P = 0.007); P = 79.9%</td>
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</tbody>
</table>

Figure 2. Forest plot of relative risks (RRs) and 95% confidence intervals (CIs) for the association between Mediterranean diet score (High vs. Low) and the incident risk of cognitive disorders by outcome type. MCI, mild cognitive impairment; AD, Alzheimer’s disease.
Sleep
Sleep

Poor sleep linked to increased dementia risk

Slow wave sleep disruption increases cerebrospinal fluid amyloid-β levels.
Brain. 2017 Aug; 140(8): 2104–2111

Slow wave sleep is a promising intervention target for Alzheimer’s Disease
CSF Brain fluid flow switches direction in deep sleep

Søren Grubb, and Martin Lauritzen Science 2019;366:572-573

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Cognitive Training

*Life moves pretty fast. If you don’t stop and look around once in awhile, you could miss it.*

--Ferris Bueller
Cognitive Training

- Advanced Cognitive Training for Independent and Vital Elderly (ACTIVE) study
- Began in 1996
- Six sites
- 2,832 participants
- National Institute on Aging
- Four groups: (1) memory, (2) reasoning, (3) speed of processing, and (4) control
- 10 sessions over 6 weeks
- Intervention for speed of processing
  - Useful Field of View
Effect Size = 0.36

Risk of Developing Dementia

Risk:

- 331 participants developed dementia:
  - Control: 14%
  - 10 or fewer sessions: 12.1%
  - 11 to 14 sessions: 8.2%
- Speed training associated with lower risk for dementia by 8% per session
- HR, 0.52; CI 0.33 - 0.82; $P = .005$

What about combining treatments?
Combined physical/cognitive training in aged MCI subjects: the Train the Brain study

Multicomponent interventions may interact with apo E and amyloid

Multicomponent interventions and ADLs

Flávia Borges-Machado, MSc, Nádia Silva, PhD, Paulo Farinatti, PhD, Roberto Poton, PhD, Óscar Ribeiro, PhD, Joana Carvalho, PhD, Effectiveness of Multicomponent Exercise Interventions in Older Adults With Dementia: A Meta-Analysis, *The Gerontologist*, 2020; gnaa091, https://doi.org/10.1093/geront/gnaa091.
Putting it together
Brain health training program

Daily

- Aerobic exercise
- Mentally stimulating activities
- Meditation
- Mediterranean diet
- Sleep
Brain health training program

Weekly

- Cognitive training at least 3 times/week
- Strength training at least 3 times/week
Encouraging behavior change

- Motivational interviewing
  - Empathy
  - Develop discrepancy
  - Acknowledge resistance change
  - Support self-efficacy
Encouraging behavior change

Interventions

• Facilitate goal “SMART” goal setting
  • Specific
  • Measurable
  • Achievable
  • Relevant
  • Time specific
Bottom line
Dementia prevention is possible through promoting brain health.
Dementia prevention is possible through promoting brain health.

Specific types of cognitive training, exercise and diet may slow cognitive aging and reduce dementia incidence.
Dementia prevention is possible through promoting brain health.

Specific types of cognitive training, exercise and diet may slow cognitive aging and reduce dementia incidence.

A brain health plan should be part of a comprehensive strategy for senior health.
Brain Health Study—enrolling now

All procedures are online

ClinicalTrials.gov Identifier: NCT04822129
Brain health study (enrolling now)

Inclusion

50 years of age or older

Interest in brain health

Interest in learning more about how to develop a personal brain health program

Have a computer or tablet with internet connection and an e-mail address
Brain health study (enrolling now)

Intervention

12 week study

Weekly video conferences

Cognitive assessment and free access to a commercial cognitive training site

Participants will be compensated for their time

Comparing treatment as usual with intensive behavior change support
Cogtrastim study (enrolling now)

Contacts

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bap2@bellsouth.net

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954-262-1481
ro71@nova.edu

www.sfbrainhealth.com
Choosing Wisely for Older Patients

Opportunities to Address Age Friendly Care: Medications

Todd James, MD, AGSF, FACP
Associate Professor of Medicine
UCSF Division of Geriatrics

June 17, 2021
Disclosures

No Disclosures
Background

• Geriatrics Consult Services
• Age-Friendly Emergency Department
Age-Friendly 4M’s

4Ms Framework

What Matters
Know and align care with each older adult’s specific health outcome goals and care preferences including, but not limited to, end-of-life care, and across settings of care.

Medication
If medication is necessary, use Age-Friendly medication that does not interfere with What Matters to the older adult, Mobility, or Mentation across settings of care.

Mentation
Prevent, identify, treat, and manage dementia, depression, and delirium across settings of care.

Mobility
Ensure that older adults move safely every day in order to maintain function and do What Matters.
Objectives

• To describe resources for identifying Potentially Inappropriate Medications

• To illustrate risks in specific clinical scenarios for older adults

• To describe evidence which alters management for common practices

• To formulate improved care plans engaging interprofessional resources
Goal: Appropriate Medications

• Cure Disease
• Prevent Disease Progression
• Improve Symptoms
• Improve Functioning

Frequent Reality:
Sometimes Medications are Inappropriate or
Become Inappropriate or also Underused
How can we identify PIMs*

PIMs* = Potentially Inappropriate Medications

• Choosing Wisely
• AGS Beers Criteria for PIMs
• Screening Tool for Older People’s Prescriptions (STOPP)
• European Union (EU)(7)-PIM list


PIMs =
Potentially Inappropriate Medications

<table>
<thead>
<tr>
<th>Drug(s)</th>
<th>Recommendation</th>
<th>Rationale</th>
<th>Quality of Evidence (QE), Strength of Recommendation (SR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anticholinergics *</td>
<td>Avoid</td>
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<tr>
<td>First-generation antihistamines:</td>
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<tr>
<td>Brompheniramine</td>
<td>Avoid</td>
<td>Highly anticholinergic; clearance reduced with advanced age, and tolerance develops when used as hypnotic; risk of confusion, dry mouth, constipation, and other anticholinergic effects or toxicity.</td>
<td>Moderate; Strong</td>
</tr>
<tr>
<td>Carbinoxamine</td>
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<td>Chlorpheniramine</td>
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<td>Clemastine</td>
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<td>Cyproheptadine</td>
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<tr>
<td>Dextromethorphan</td>
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<td>Dexamethasone</td>
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<td>Dimenhydrinate</td>
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<td>Diphenhydramine (oral)</td>
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<td>Doxylamine</td>
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<td>Hydroxyzine</td>
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<td>Meclazine</td>
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<td>Promethazine</td>
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<tr>
<td>Pyrilamine</td>
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<tr>
<td>Triprolidine</td>
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</table>
STOPP Criteria

Example

PIMs = Potentially Inappropriate Medications

**STOPP**

Bladder antimuscarinic drugs
- with dementia
  - risk of increased confusion, agitation
- with chronic glaucoma
  - risk of acute exacerbation of glaucoma
- with chronic constipation
  - risk of exacerbation of constipation
- with chronic prostatism
  - risk of urinary retention
IHI lists these PIMs as Big Offenders

- Benzodiazepines
- Opioids
- Highly-anticholinergic medications
- All prescription and over-the-counter sedatives and sleep medications
- Muscle relaxants
- Tricyclic antidepressants
- Antipsychotics

Review High-Risk Medications

- Engage the older adult and caregiver in review.
- Medicare beneficiaries may be eligible for an annual comprehensive medication review.
- Medication reconciliation, part of the Medicare Annual Wellness Visit.
ABIM Asks What may be Wiser? Choosing Wisely Program

- Specialty societies asked to identify practices that providers should question
- Care supported by evidence
- Care that is free from harm
- Care that is necessary
American Geriatrics Society

• AGS submitted 10 practices
• Practices reviewed today reference
  Medication Cascade
  Antipsychotics
  Benzodiazepines
Patient Stories
Dee Prescribere

Dee fills her own pill boxes, 18 pills/day. Her daughter sees errors in pill box.
Medication Cascade

Medications added to treat side effects of other medications

Increased risks of:

• Receiving incorrect medications
• Adverse drug reactions
• Nonadherence

Medication Cascade

Adverse drug reactions include:

• Cognitive impairment
• Falls
• Functional decline

Medication Cascade

• 40% of older adults take ≥5 prescriptions [3x more than 20 years ago]

• Add OTC’s and 20% of older adults ≥10 agents

Medication Cascade

Medication Review Helps identify:

• Unnecessary medications
• Potentially harmful medications
• Underuse of medications
• Opportunities to reduce medication burden

Context of Medication Review Matters

• Goals of care
• Life expectancy
• Time to benefit
• Burden of therapy
• Values/quality of life that are preferred?

--see Preferences Tool


Reuben DB. Medical Care for the Final Years of Life "When You're 83, It's Not Going to Be 20 Years"JAMA. 2009;302(24):2686-2694.
Patient Priorities Care aligns care among all clinicians with what matters most to their patients. It recognizes that patients are the experts in what they want to achieve from their healthcare, while clinicians are the experts in how to get them there.
Deprescribing Canada

DO I STILL NEED THIS MEDICATION?
Resources for Clinicians

The US Deprescribing Research Network is focused on research. We encourage clinicians looking for clinical information and resources relevant to deprescribing to peruse the excellent content prepared by partner colleagues and organizations. Please note that this is not a comprehensive list.

Guidelines on Deprescribing Common Medications

Evidence-based, easy-to-use algorithms for deprescribing commonly used medications. Includes the algorithms, full guidelines, and whiteboard videos, prepared by the Bruyère Research Institute and University of Montreal.

- Deprescribing Guidelines and Algorithms
- Deprescribing Algorithms
- Educational Videos For Clinicians

Deprescribing guidance for common medications from the governments of New South Wales and Tasmania, Australia
PRESS RELEASE: Millions of Older Americans Harmed by Too Many Medications

Lown Institute just released Eliminating Medication Overload: A National Action Plan. more medication overload, press release
Medication Cascade

- Case resolution: Dee Prescribee visits primary care team with her daughter.
- Daughter is concerned and brings large brown bag of all the bottles she can find.
- Goals discussed, time-to-benefit and values reviewed.
- Decision to prioritize vascular meds; work from med-list only; trial reduction to 7 pills
Antipsychotics
Antipsychotics

• Advice: Don’t use antipsychotics as first choice to treat behavioral and psychological symptoms of dementia.
Antipsychotics

• Case Study: Andy, an 89 yo man with moderately advanced dementia; he lives at home; his wife Mary watches him 24/7; he disassembles furniture, he has episodes at which he energetically attempts to leave the house; he’s aggressive; Mary’s friend’s husband got daily Haldol for his behaviors. Mary wants to try Haldol. His last doctor gave them lorazepam.
Antipsychotics

• Mary would like a break. Can’t we calm Andy?
• All dementias may exhibit behaviors: agitation, apathy, repetitive questioning, aggression, wandering, sleep problems, inappropriate behaviors, resistance to care.
• Have you seen these?
Antipsychotics

- Antipsychotics are often prescribed
- Yet, provide little benefit and can cause harm
- What is efficacy of antipsychotics?
Antipsychotics

- No efficacy for behaviors. Sedation.
- Worsening cognitive function, lower urinary tract symptoms
- Increased risk of death, stroke, extrapyramidal symptoms (NNH=10 for olanzapine)
- Off-label


Antipsychotics

• For Andy – he’s at baseline
• What is diagnosis? Need history and evaluation.
• What other dx & drugs may be adding symptoms: anticholinergics (TylenolPM), sedatives, narcotics, hypnotics
• Seems like: Behavioral and psychological symptoms of dementia.
Behavioral and psychological symptoms of dementia

<table>
<thead>
<tr>
<th>Common problems</th>
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<tbody>
<tr>
<td>(of most concern to caregivers)</td>
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<tr>
<td>Repetitive questioning</td>
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<tr>
<td>Argumentativeness</td>
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<tr>
<td>Toileting issues</td>
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<tr>
<td>Upset, agitated, restless</td>
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<tr>
<td>Refusing care</td>
</tr>
<tr>
<td>Awake at night</td>
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<tr>
<td>Verbal aggression</td>
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<tr>
<td>Wandering</td>
</tr>
</tbody>
</table>
## Behavioral and psychological symptoms of dementia

<table>
<thead>
<tr>
<th>Common problems (of most concern to caregivers)</th>
<th>Solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Repetitive questioning</td>
<td>Expect to provide repetitive answers. Re-orient.</td>
</tr>
<tr>
<td>Argumentativeness</td>
<td>Agree. Model behavior. Avoid debating.</td>
</tr>
<tr>
<td>Toileting issues</td>
<td>Timed voiding.</td>
</tr>
<tr>
<td>Refusing care</td>
<td>Be flexible. Relax rules so long as safe.</td>
</tr>
<tr>
<td>Awake at night</td>
<td>Establish routines. Hire overnight coverage. Avoid bedtime beverages and caffeine.</td>
</tr>
<tr>
<td>Verbal aggression</td>
<td>Distract. Redirect. Identify and avoid antecedents.</td>
</tr>
<tr>
<td>Wandering</td>
<td>Daytime exercise and activity. Safety-proof walkways.</td>
</tr>
</tbody>
</table>
DICE Addresses Undesirable Behaviors

• **Describe, Investigate, Create, and Evaluate (DICE)**, created by a national multidisciplinary panel of experts in dementia care, based on the current evidence as well as clinical experience.

DICE model for behavioral problems in dementia

- **Describe** situations where problem behaviors occur
- **Investigate** problems that might combine with these factors and lead to behavioral issues
- **Create** a plan to prevent/respond to behavioral issues
- **Evaluate** how the plan is working and change it if needed
Guiding the Caregiver in Managing the Behavioral Symptoms of Dementia

The DICE Approach: Guiding the Caregiver in Managing the Behavioral Symptoms of Dementia
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Internationally renowned and now available to the public! The DICE Approach™ is the leading evidence-informed method for assessing and managing the behavioral symptoms of dementia. The creators of The DICE Approach™ have written an easy-to-understand and use manual to help guide family or facility caregivers through the use of the method.

There are an estimated 16 million informal (family or friend) caregivers of people living with dementia in the US and those numbers will increase rapidly as baby boomers age. While dementia is often thought of as...
Antipsychotics

• Case resolution

• For support, wife asks family members to schedule themselves for supervision and activity shifts on a calendar. They found he likes to disassemble Legos and is not bothered by someone assembling Lego blocks. Doors are locked with key locks and keys are kept by his wife. Sign on door that Train Line is on strike.
Benzodiazepines
Benzodiazepines

Advice:
Don’t use benzodiazepines or other sedative-hypnotics in older adults as first choice for insomnia, agitation or delirium.
Benzodiazepines

• Case study: Bennie Zapine, an 84 yo woman moved to assisted living and wants to sleep at 9:30PM. Everyone else does! She was an RN and worked 2nd shift; never in adult life went to bed before 1AM. Her husband always sent the kids to school. She wants a prescription!
A common problem

- Chronic sleep problem: 57% of older adults
- Alprazolam and zolpidem among top 20 prescriptions in US
- Used by 12% of community-dwelling elderly, 13% of nursing home residents

Observational data

• Motor vehicle accidents
  • 1.6-fold increase (95% CI, 1.29–1.97)

• Crashes requiring hospitalization
  • 5.3-fold increase (95% CI, 3.6–7.9)
  • Comparable to a blood alcohol level at the legal limit
Observational data

• Falls leading to hospitalization and death
  • 1.83-fold increase (95% CI, 1.10–3.06)

Hip fractures
3.11-fold increase (95% CI, 1.96–4.91)
Risk greater with zolpidem
“Wake up refreshed and recharged.”

“Patients who take insomnia drugs can experience impairment of mental alertness the morning after use, even if they feel fully awake.”

FDA 1/10/13
Randomized trials

- 24 RCTs, 2,417 participants, mean age ≥60, sedatives for ≥5 nights

Adverse Events

- Memory loss, confusion, disorientation
  - 4.78-fold increase (95% CI, 1.47–15.5)

Adverse events

• Daytime fatigue
  • 3.82-fold increase (95% CI, 1.88–7.80)

• Dizziness, loss of balance, falls
  • 2.61-fold increase (95% CI, 1.12–6.09)

Effectiveness in older adults

• Improved sleep quality: 0.11 pts (7-point scale)
  • Increased sleep time: 25 minutes (95% CI, 12.8–37.8)
  • Decreased night-time awakenings: –0.63 (95% CI, –0.48 to –0.77)

Benefits versus harms

• NNT: 13 (95% CI, 6.7–62.9)

• NNH: 6 (95% CI, 4.7–7.1)

• Adverse event more than twice as likely as improved sleep

Cognitive-behavioral therapy

• More effective and durable than drug therapy for late-life insomnia
  • No adverse effects

Two exceptions

• Sedative-hypnotics are useful for:
  • Alcohol withdrawal/delirium tremens
  • Severe generalized anxiety disorder
Insomnia-Curbing Apps Are Beginning To Use Actual Cognitive Therapy

Carolyn Burke
Last Updated On August 15, 2019

App Store Preview

This app is available only on the App Store for iPhone and iPad.

CBT-i Coach
US Department of Veterans Affairs (VA)

3.5, 34 Ratings
Free

iPhone Screenshots
Benzodiazepines

• Case resolution for Benny Zapine
• We advised of risks and described our unwillingness to give sedative hypnotic, since harms were more likely than benefit.
• Reviewed prior sleep patterns, sleep hygiene, re-setting with alarm clock – every time she came to clinic – offer CBT-i coach app
What is Wiser for Medications?

• Recognize some practices that we should question
• Care that is supported by evidence
• Care that is free from harm
• Care that is beneficial
Summary

• Medication Cascade: Dee Prescriber
• Antipsychotics: Andy
• Benzodiazepines: Bennie Zapine
Returning to Our Objectives

- We reviewed rationales for identifying Potentially Inappropriate Medications (Beers, STOPP, Choosing Wisely initiative)
- We illustrated risks inherent in specific clinical scenarios
- We described evidence which alters clinical choices for common practices
- We formulated improved care plans engaging interprofessional resources
Questions

Thank you!

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Questions?
Age-Friendly Health Systems 4M Training
For Healthcare Practitioners

Help us by completing an evaluation!

https://redcap.nova.edu/redcap/surveys/?s=CHETXK48Y4
Age-Friendly Health Systems 4M Training
For Healthcare Practitioners

Join us Next Week!

Module 1: Introduction to Age-Friendly Health Systems
• Thursday, June 3, 2021 • 10:00 am EST

Module 2: Deep Dives – What Matters Most & Mobility
• Thursday, June 10, 2021 • 10:00 am EST

Module 3: Deep Dives – Mentation & Medication
• Thursday, June 17, 2021 • 10:00 am EST

Module 4: Putting it All Together
• Thursday, June 24, 2021 • 10:00 am EST
Age-Friendly Health Systems 4M Training
For Healthcare Practitioners

Thank you!

Contact Information for Today’s Speakers:

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