Management of the Behavioral and Psychological Symptoms of Dementia (BPSD)

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Disclosure

- I do not have a vested interest in or affiliation with any corporate organization offering financial support or grant money for this continuing education program, or any affiliation with an organization whose philosophy could potentially bias my presentation.

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Objectives

- By the end of the presentation the pharmacist should be able to:
  - Identify the Behavioral and Psychological Symptoms of Dementia (BPSD) in patients.
  - Discuss non-pharmacological approaches in managing BPSD.
  - Implement current standard of care for pharmacological treatment in patients with BPSD.
- By the end of the presentation the pharmacist technician should be able to:
  - Identify the Behavioral and Psychological Symptoms of Dementia (BPSD) in patients.
  - Discuss non-pharmacological approaches in managing BPSD.
  - Recognize pharmacological treatment in patients with BPSD.

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Which of the following should be considered when evaluating new or worsening behavioral symptoms in dementia?

A. Delirium

B. Medication side effects

C. Hearing loss

D. Sleep disturbances

E. All of the above

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Which of the following can contribute to BPSD?

A. Pain
B. Depression
C. Unmet needs
D. Cognitive deficits
E. All of the above

20

5

Which of the following should be done <u>first</u> in patients seemingly experiencing non-emergent visual hallucinations?

A. Start a 1st generation antipsychotic
B. Start a 2nd generation antipsychotic
C. Assess for vision issues
D. Admit them to the psych ward

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Which of the following is LEAST appropriate in patients needing treatment for severe agitation?

A. Haloperidol
B. Quetiapine
C. Aripiprazole
D. Risperidone

20

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Outline

- Statistics
- Impact of dementia on healthcare
- BPSD and long term care correlation
- Management of BPSD

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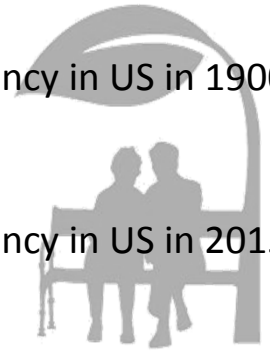
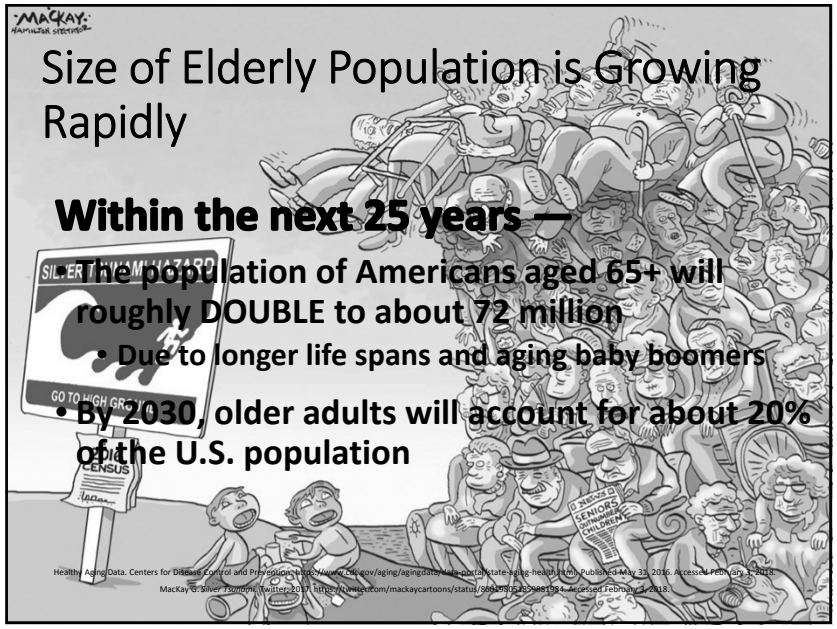
Average Life Expectancy in U.S. is Increasing

- The average life expectancy in US in 1900:
  - Males – 46.30 years
  - Females – 48.30 years
- The average life expectancy in US in 2015:
  - Males – 76.30 years
  - Females – 81.20 years



National Center for Health Statistics, Life Expectancy. Centers for Disease Control and Prevention. https://www.cdc.gov/nchs/fastats/life-expectancy.htm. Published May 3, 2017. Accessed February 3, 2018.

Size of Elderly Population is Growing Rapidly



Within the next 25 years —

- **The population of Americans aged 65+ will roughly DOUBLE to about 72 million**
  - **Due to longer life spans and aging baby boomers**
- **By 2030, older adults will account for about 20% of the U.S. population**

Healthy Aging Data. Centers for Disease Control and Prevention. https://www.cdc.gov/aging/agingdata/data-portal/state-aging-health.html. Published May 33, 2016. Accessed February 3, 2018.

MacKay @ Silver Tsunami, Twitter, 2017. https://twitter.com/mackaycartoons/status/[illegible]. Accessed February 3, 2018.

Healthcare Costs and Long-term Care[4,5]

- Over 5 million in the US live with dementia
  - Accounts for $259 BILLION in healthcare costs
- Dementia rates expected to TRIPLE by 2050
  - Expected to rise to $1.1 TRILLION
- In 2014:
  - 8,357,100 received long-term care service
    - Home health agencies
    - Nursing homes
    - Hospice
    - Residential care communities
    - Adult day service centers

Dementia and Long-term Care

- Home health agencies (4,742,500)
  - 31.4%
- **Nursing homes (1,383,700)**
  - **50.4%**
    - **Patients experiencing BPSD are more likely to be placed in long-term care facilities**
- Hospice (1,244,500)
  - 44.7%
- Residential care communities (713,300)
  - 39.6%
- Adult day service centers (273,200)
  - 29.9%

National Center for Health Statistics, Long-term Care Use for Alzheimer's Disease. Centers for Disease Control and Prevention. https://www.cdc.gov/nchs/fastats/alzheimers.htm. Published October 6, 2016. Accessed February 3, 2018.

Behavioral and Psychological Symptoms of Dementia (BPSD)

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BPSD Overview

- Symptoms and signs of disturbed perception, thought content, mood or behavior that frequently occur in patients with dementia
- Occur in up to 90% of patients with dementia over the course of illness[6]
- Also impacts the caregiver burden[7]
  - Typically cause more distress than the hallmark cognitive symptoms inherent to dementia
  - Often contribute to admission to long-term care institutions

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How does memory impairment lead to behavioral problems?

Example

Patient is able to dress himself, but can't remember where his clothes are kept

⇩

Walks around naked

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How does language impairment (aphasia) lead to behavioral problems?

Example

Patient who can't verbally communicate her dislike of milk

⇩

Throws milk carton across the room

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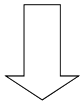
How does impaired recognition (agnosia) lead to behavioral problems?

Example

Patient can maneuver to pull down his pants, but can't recognize that a toilet is a receptacle for urination



Urinates on floor

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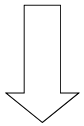
How does impairment in performance of motor tasks (apraxia) lead to behavioral problems?

Example

Patient is continent of bladder, but cannot unzip or unbutton to pull down her pants



Wets her clothing

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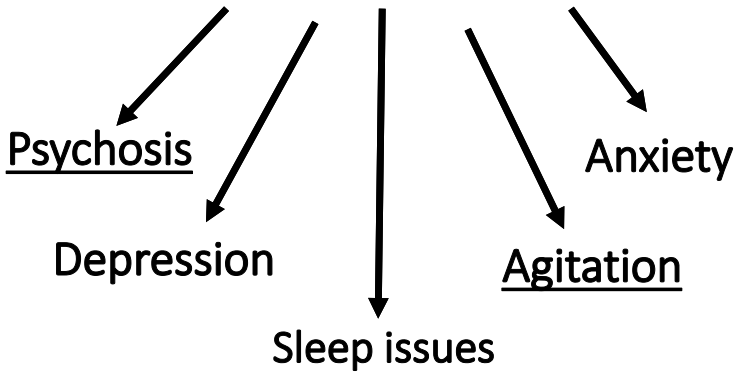
BPSD Symptom Spectrum



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BPSD Symptom Spectrum[8,9]

Behavioral

- Physical
  - General restlessness
  - Wandering/pacing
  - Hitting/scratching/biting
  - Throwing things
  - Social Inappropriateness
  - Physical Sexual Advances
- Verbal
  - Screaming
  - Cursing
  - Temper outbursts
  - Verbal sexual advances

Psychological

- Depression/Anxiety
- Apathy
- Sleep disturbances
- Psychosis
  - Hallucination
  - Delusions

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BPSD Based on Dementia Type

- Symptoms appear universal across dementia type
- Exception of hallucinations in LBD and disinhibition in FTD

Alzheimer	**Vascular**	**Lewy Body**	**Fronto-temporal**
Apathy	Apathy	**Visual Hallucinations**	Apathy
Agitation	Depression	Delusions	**Disinhibition**
Depression	Delusions	Depression	Personality Changes
Anxiety	Labile	Sleep Disturbance	Obsessions
Irritability	Anxiety	Aggression	Impulsive

Mukherjee A, Biswas A, Roy A, Biswas S, Gangopadhyay G, Das SK. Behavioural and Psychological Symptoms of Dementia: Correlates and Impact on Caregiver Distress. Dementia and Geriatric Cognitive Disorders Extra. 2017;7(3):354-365. doi:10.1159/000481568. 21

Assessment and Management

- Evaluation of Symptoms
  - Assess risk of harm
  - Identify underlying cause of agitation or aggression
- Initial management strategies
  - Nonpharmacological therapy
  - Treat precipitating medical conditions
    - Pain
    - Sleep issues
    - Depression/Apathy
- Severe symptom management
  - Clinical use of antipsychotics

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Evaluation of Symptoms

- Evaluation for BPSD should be done at regular visits
- Assess risk of harm
- New or worsening agitation can pose safety risks
- Safety strategies
  - Additional support for family/caregivers, Increased one-on-one supervision
  - Inpatient hospitalization
  - Short-term pharmacotherapy

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Evaluation of Symptoms (cont.)

- Identify underlying cause of agitation or aggression
  - Delirium
  - Medications
  - Sensory deficits
  - Cognitive deficits
  - Pain
  - Sleep issues
  - Depression/apathy

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Evaluation of Symptoms (cont.)

- Identify underlying cause of agitation or aggression
  - Delirium
  - Medications
  - Sensory deficits
  - Cognitive deficits
  - Pain
  - Sleep issues
  - Depression/apathy

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Delirium

- Must be considered with new or sudden worsening of behavior
- Delirium secondary to an underlying condition
  - Dehydration
  - Urinary tract infection
  - Pneumonia
  - Medication toxicity
  - Pain

Delirium (cont.)

- Common cause of abrupt behavioral disturbances in patients with dementia
- Often the first sign of onset of a health problem
- Hallucinations, particularly visual hallucinations, can be a symptom of delirium
- Addressing the cause and/or ruling out delirium should be done before initiating treatment

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Clinical Features of Delirium

- Acute onset
- Fluctuating course
- Inattention
- Disorganized thinking
- Cognitive deficits

- Altered level of consciousness
- Perceptual disturbances
- Altered sleep wake cycle
- Emotional disturbances

Delirium is often misdiagnosed as a psychiatric disorder or dementia
Address the underlying cause

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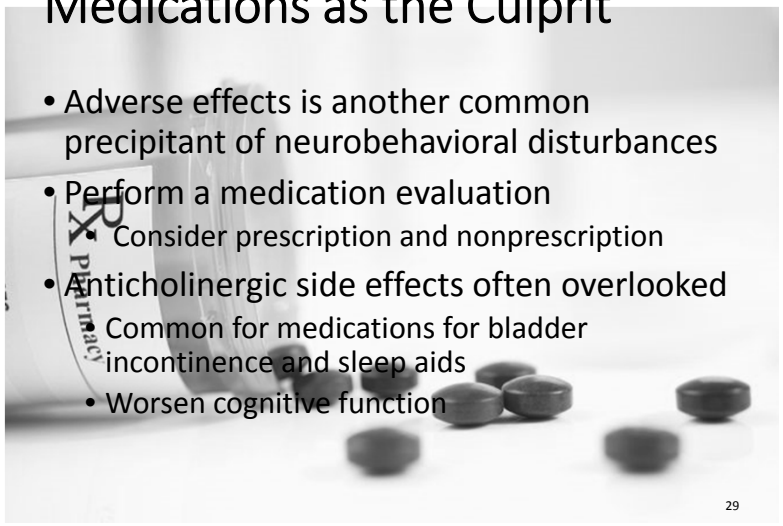
Medications as the Culprit



- Adverse effects is another common precipitant of neurobehavioral disturbances
- Perform a medication evaluation
  - Consider prescription and nonprescription
- Anticholinergic side effects often overlooked
  - Common for medications for bladder incontinence and sleep aids
  - Worsen cognitive function

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Medications as the Culprit (cont.)

Medications to avoid due to worsening cognition**

- Antihistamines
- Antispasmodics
- Benzodiazepines
- Tricyclic antidepressants
- Antipsychotics
- Muscle relaxants
- H2 antagonists
- Nonbenzodiazepine sleep aids

American Geriatrics Society 2015 Updated Beers Criteria for Potentially Inappropriate Medication Use in Older Adults. Journal of the American Geriatrics Society. 2015;63(11):2227-2246. doi:10.1111/jgs.13702.

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Sensory and Cognitive Deficits

- Vision loss
  - Increased fall risk
  - Exacerbates confusion
  - Hinder communication
  - Contributes to visual disturbances/visual hallucinations
- Hearing loss
  - Exacerbates confusion
  - Hinder communication
  - Contributes to depression and isolation[12]
- Confusion or misunderstanding

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In which scenario is pharmacotherapy most likely necessary?

A. A patient mildly agitated about "someone stealing his belongings" when he misplaces items, although relaxes when he's reminded where they are

B. A patient who becomes scared and combative when she "sees people in the trees outside" despite nothing is there

C. A patient who is incontinent despite making it to the restroom in time

D. A patient experiencing daytime fatigue

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Treatment

- Initial management strategies
  - Nonpharmacological therapy
  - Treat precipitating medical conditions
    - Pain
    - Sleep Disturbances
    - Depression/Apathy
- Severe symptom management
  - Clinical use of antipsychotics

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Nonpharmacological Management

Nonpharmacological Management

- Shown to reduce agitation and anxiety in dementia
- Techniques should be individualized
- Behavioral Interventions
  - Identify/avoid triggers to behavior
  - Determine/anticipate unmet needs
  - Avoid environmental triggers
  - "Person-centered" care
- Caregiver education and training
  - Communication skills training
- Sensory techniques
  - Aromatherapy
  - Music therapy
  - Massage and touch therapy
- Exercise
- Pet therapy

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Nonpharmacological Management: Behavioral Intervention

- Ensure a consistent routine and environment
  - Sudden changes can precipitate confusion and subsequently agitation
- Assess for an unmet need (pain, thirst, hunger, etc.)
  - Language and memory deficits can hinder communication of what is needed
- Caregiver education
  - Provide calm, reassuring communication when patients seem anxious
  - Use redirection and distraction techniques

Livingston G, Kelly L, Lewis-Holmes E, et al. Non-pharmacological interventions for agitation in dementia: systematic review of randomised controlled trials. British Journal of Psychiatry. 2014;205(06):436-442. doi:10.1192/bjp.bp.113.141119.

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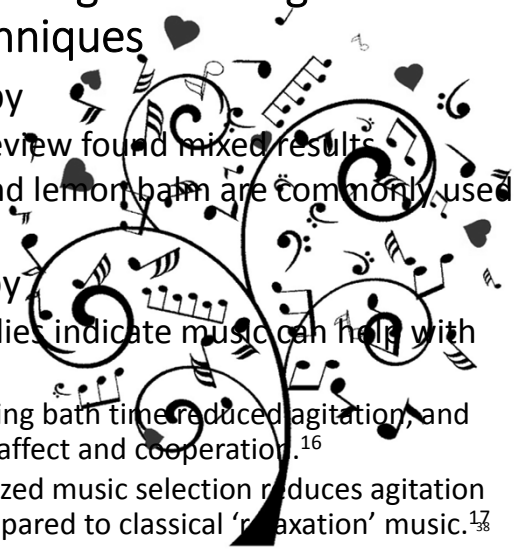
Nonpharmacological Management: Behavioral Intervention (cont.)

- Patient-centered care
  - Providing more individualized focus on the patient during certain activities that may cause discomfort
- Study in nursing home residents analyzing "Person-centered Showering"
  - Usual care control group (showering)
  - "Patient-centered showering" group
  - "Towel bath" group
- Both treatment groups showed decreased agitation, aggression, and discomfort when compared to controls
- Reduction of impersonal, usual care methods which evoke behavioral issues

Sloane PD, Hoeffer B, Mitchell CM, et al. Effect of Person-Centered Showering and the Towel Bath on Bathing-Associated Aggression, Agitation, and Discomfort in Nursing Home Residents with Dementia: A Randomized, Controlled Trial. Journal of the American Geriatrics Society. 2004;52(11):1795-1804. doi:10.1111/j.1532-5415.2004.52501.x.

Nonpharmacological Management: Sensory Techniques



- Aromatherapy
  - Cochrane review found mixed results
  - Lavender and lemon balm are commonly used and safe.[15]
- Music therapy
  - Several studies indicate music can help with BPSD
    - Music during bath time reduced agitation, and improved affect and cooperation.[16]
    - Individualized music selection reduces agitation when compared to classical 'relaxation' music.[17]

Nonpharmacological Management: Sensory Techniques (cont.)

- Massage/touch therapy
  - Limited data
- Hand massage was effective for immediate, short term reduction of agitation.[18]
- The addition of touch to verbal encouragement to eat increased nutritional intake.[19]

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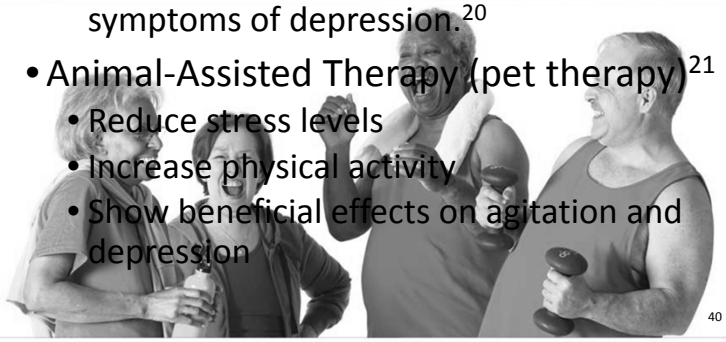
Nonpharmacological Management: Other Techniques

- Exercise
  - Can improve physical functioning and symptoms of depression.[20]
- Animal-Assisted Therapy (pet therapy)[21]
  - Reduce stress levels
  - Increase physical activity
  - Show beneficial effects on agitation and depression



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Treatment

- Initial management strategies
  - Nonpharmacological therapy
  - Treat precipitating medical conditions
    - Pain
    - Sleep Disturbances
    - Depression/Apathy
- Severe symptom management
  - Clinical use of antipsychotics

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Assess and Treat Precipitating Medical Conditions

Pain

Sleep Disturbances

Depression/Apathy

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JC is a 76yo male with severe AD. He resides in a NH, and staff reports he is typically very pleasant despite his cognitive deficits (verbal communication has diminished, but his ability to communicate nonverbally is well enough to satisfy needs). Recently JC becomes severely agitated when its time to wake for breakfast, and becomes combative with staff who assist helping him out of bed, but this agitation lessens after his morning medications and breakfast. PMH includes hypertension, A-fib, chronic back pain, constipation, and BPH. Which of the following is most appropriate?

A. Inquire about recent staff changes

B. Initiate risperidone 1mg in the morning for aggression

C. Monitor JC throughout the day for signs of worsening pain

D. A and C

E. All of the above are appropriate

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Addressing Pain

- Pain assessment through interview and observation
  - Patients with mild to moderate dementia can report pain reliably.[22]
  - Patients with advanced stages, clinicians rely on caregiver report
- Areas to asses include:[23]
  - Facial expressions
  - Verbalizations/vocalizations
  - Body movements
  - Changes in interpersonal interactions
  - Changes in activity patterns/routines
  - Mental status changes

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Pain Assessment in Advanced Dementia (PAINAD)[24]

Items*	0	1	2	Score
Breathing independent of vocalization	Normal	Occasional labored breathing. Short period of hyperventilation.	Noisy labored breathing. Long period of hyperventilation. Cheyne-Stokes respirations.	
Negative vocalization	None	Occasional moan or groan. Low-level speech with a negative or disapproving quality.	Repeated troubled calling out. Loud moaning or groaning. Crying.	
Facial expression	Smiling or inexpressive	Sad. Frightened. Frown.	Facial grimacing.	
Body language	Relaxed	Tense. Distressed pacing. Fidgeting.	Rigid. Fists clenched. Knees pulled up. Pulling or pushing away. Striking out.	
Consolability	No need to console	Distracted or reassured by voice or touch.	Unable to console, distract or reassure.	

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Addressing Pain (cont.)

Selected Nonpharmacological Approaches

- Beneficial alone and in combination with pharmacotherapy
- May decrease need for higher dose, and subsequent risk associated with medication use
- Physical interventions
  - Physical therapy
  - Exercise (Tai Chi)
  - Massage
- Psychoeducational interventions
  - Patient education
  - Meditation
  - Relaxation therapy

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Addressing Pain (cont.)

General Approach to Pharmacotherapy

- Beer's Criteria reviews potentially inappropriate options.
- Non-opioid medications are preferred to opioids for non-cancer pain.
- Topical medications have a benefit with reduced systemic adverse effects.
- Acetaminophen is considered first-line for mild persistent pain.[26]
- NSAIDS should only be used briefly (1-2 weeks) during episodes of increased nociceptive pain.[27]

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Addressing Pain (cont.)

General Approach to Pharmacotherapy

- Antidepressants and anticonvulsants may be used in the treatment of persistent neuropathic pain.
  - Preferred medications in older adults: SSRIs, SNRIs, pregabalin, and gabapentin.[28]
- Certain muscle relaxants should be avoided due to adverse effects.[29]
- Opioids
  - Careful consideration and evaluation
  - Choice and dose of specific opioid depend upon:
    - Desired route of administration (oral vs transdermal)
    - Onset time and duration of action
    - Drug-drug and drug-disease interactions
    - Sensitivity to side effects

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Addressing Pain (cont.)

- Pain management and prescribing should be pragmatic
  - Prescribe a trial of scheduled analgesics
  - Use a stepped-care approach to analgesic prescribing
  - Start low, go slowly, but use enough
  - Monitor risks and benefits
- Adequate pain control may be observed as improvements in behavior and function

Scherder E, Herr K, Pickering G, Gibson S, Benedetti F, Lautenbacher S. Pain in dementia. Pain. 2009;145(3):276-278. doi:10.1016/j.pain.2009.04.007.

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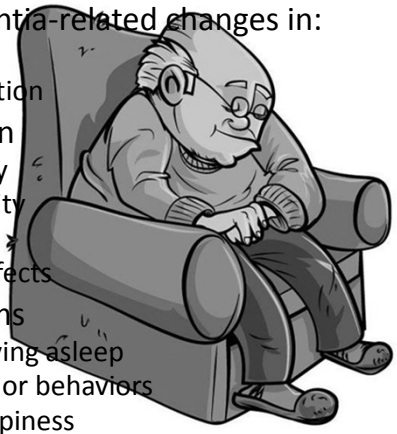
Sleep Disturbances

- Affect 25-35% of patients with dementia[31]
- Age-related and dementia-related changes in:
  - Circadian rhythm
  - Sleep quality and duration
- Multifactorial causation
  - Depression and anxiety
  - Minimal daytime activity
  - Nocturia
  - Medication adverse effects
- Wide array of symptoms
  - Difficulty falling or staying asleep
  - Abnormal movements or behaviors
  - Excessive daytime sleepiness



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Sleep Disturbances (cont.)

General Recommendations

- Assess the specific sleep issue and address the cause, if possible.
- Pharmacotherapy has limited role in management of insomnia in dementia.
  - No controlled trials to support effectiveness
  - Increased susceptibility to a variety of side effects[32]
- Patients treated with medications should be frequently re-evaluated to assess response and appropriateness.[33]

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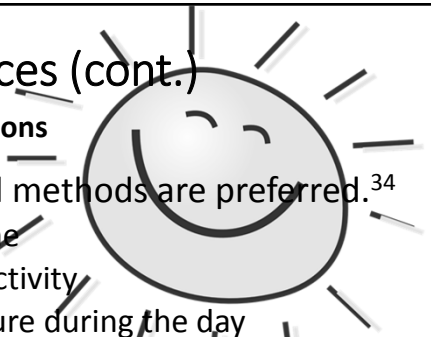
Sleep Disturbances (cont.)

General Recommendations



- Nonpharmacological methods are preferred.[34]
  - Proper sleep hygiene
  - Daytime exercise/activity
  - Natural light exposure during the day
  - Limit evening beverages (including alcohol and coffee)
- Light therapy may improve sleep and mood.[35]
- Melatonin studies show mixed results.[36,37]

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BJ is a 68yo female with mild AD who has been exhibiting symptoms of daytime fatigue, and decreased interest in her hobby of gardening. BJ's husband also reports increased irritability, although BJ denies symptoms all together. She reports becoming more forgetful and misplacing items since moving into their new apartment. PMH osteoarthritis, hypertension, hyperlipidemia. Which of the following should be considered before treatment initiated for depression?

A. Pain assessment
B. Sleep assessment
C. Medication review
D. All of the above

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Depression

- Late-life depression is a risk factor for developing dementia.[38]
- Cognitive decline and dementia can give rise to episodes of depression.
- Agitation and irritability can occur in patients with dementia and comorbid depression.
- Diagnosis can be difficult and complicated in those with impaired cognition.
  - American Association for Geriatric Psychiatry (AAGP) proposed diagnostic criteria for those with dementia[39]
- Although underutilized, psychotherapy can be beneficial in mild-moderate dementia.[40]
- Few studies to guide treatment selection in this population.[40]

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Depression (cont.)

General Approach to Pharmacotherapy

- Selective Serotonin Reuptake Inhibitors (SSRIs) are the preferred class
  - Greater tolerability and less effect on cognition than TCAs
  - Individual drug selection is based upon the side effect profile, drug interactions, and cost
- Fluoxetine poses more drug interactions, making it less desirable
- Paroxetine has the most anticholinergic effect in the class which may negatively impact cognition
- Citalopram has shown benefit for behavioral symptoms due to depression or when depression cannot be ruled out when no other cause is apparent[42,43]

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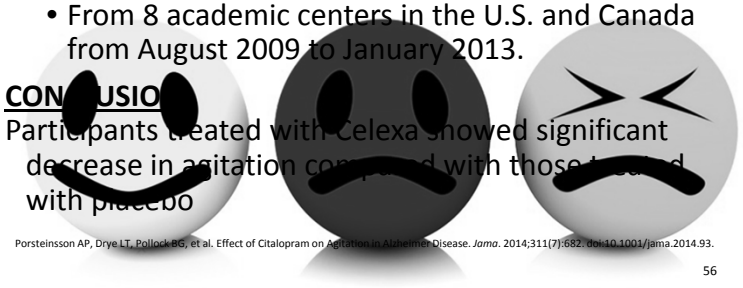
Citalopram for Agitation in Alzheimer Disease Study (CitAD)

The CitAD study:

- Randomized, placebo-controlled, double-blind, parallel group trial
- Enrolled 186 patients with probable Alzheimer disease and clinically significant agitation
- From 8 academic centers in the U.S. and Canada from August 2009 to January 2013.

CONCLUSIO

Participants treated with Celexa showed significant decrease in agitation co[illegible] with those treated with placebo



Porsteinsson AP, Drye LT, Pollock BG, et al. Effect of Citalopram on Agitation in Alzheimer Disease. *Jama*. 2014;311(7):682. doi:10.1001/jama.2014.93.

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Depression (cont.)

General Approach to Pharmacotherapy

- Other antidepressants to consider
  - Serotonin-Norepinephrine Reuptake Inhibitors (SNRIs)
    - Considered 2nd line therapy in older individuals, but limited studies in patients with dementia
    - Dose related BP increase is a concern
  - Bupropion
    - Activating agent
    - Case report on possible benefit for apathy[44]
    - Dose related BP increase is a concern, several contraindications to use
  - Mirtazapine
    - Beneficial with insomnia and weight loss in depressed patients
    - Showed no more effective than placebo in study with Alzheimer's dementia[45]

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Apathy

- Common symptom of dementia
  - May present early on or during later stages
- Can occur with or without depression
- Very difficult to distinguish from depression
- Limited data on psychotherapy
- Management requires a step-wise approach
  - Acetylcholinesterase Inhibitor
  - Antidepressant
  - Methylphenidate

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Apathy (cont.)

Methylphenidate

- Studies with beneficial outcomes as adjunct to antidepressants in geriatric depression[46]
- Positive studies reviewing methylphenidate for apathy in dementia[47]
- To prevent agitation or difficulty with sleep, low doses and slow titration is suggested
  - Initial dose: 5mg every morning
  - Maximum dose: 10mg twice daily (with second dose no later than noon)

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Treatment

- Initial management strategies
  - Nonpharmacological therapy
  - Treat precipitating medical conditions
    - Pain
    - Sleep Disturbances
    - Depression/Apathy
- Severe symptom management
  - Clinical use of antipsychotics

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Use of Antipsychotics

- Increased mortality when used for dementia-related psychosis
  - Increased risk of stroke, MI, and death
- Reserved for symptoms that are severe, debilitating, or pose safety risks[48]
  - Agitation/aggression
  - Psychosis
- Should NOT be used routinely
- No clear evidence indicating benefit of 1st generation antipsychotics in dementia[49]

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Use of Antipsychotics (cont.)

Efficacy

- Typical Antipsychotics (1st generation)
  - Higher mortality rate when compared to 2nd generation agents
  - Haloperidol may improve aggression, but not other symptoms[50]
    - Lower doses produced side effects, and worsened cognition
- Atypical Antipsychotics (2nd generation)
  - More extensively studied in dementia
  - Show modest efficacy over 1st generation[49]
    - Risperidone 1mg daily
    - Olanzapine 2.5mg daily, titrated to a max 5mg twice daily
      - Appears effective in BPSD with AD and vascular dementia

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American Psychiatric Association (APA) Guidelines

Use of Antipsychotics to Treat Agitation or Psychosis in Dementia Patients

- Randomized placebo-controlled trials suggest some efficacy for:
  - Risperidone in treating psychosis
  - Risperidone, olanzapine, and aripiprazole in agitation
- Considerations in medication selection
  - Side effects, formulation options, drug interactions, etc.
- Treatment maintenance should continue if there's benefit
  - Routinely assess and taper if appropriate

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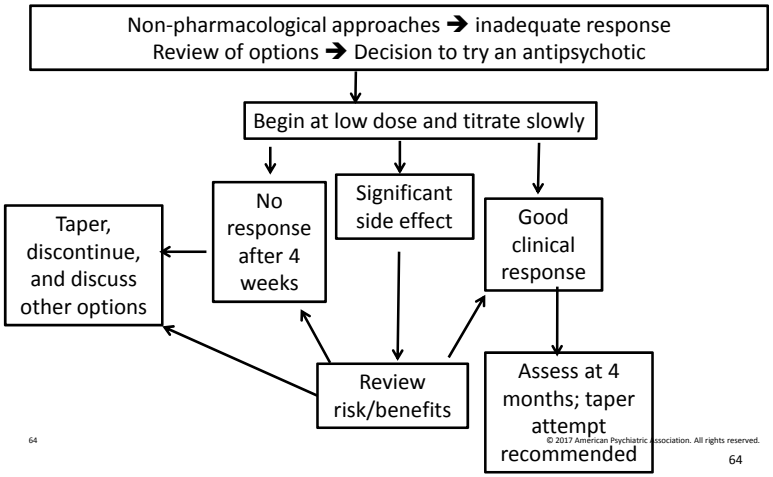
American Psychiatric Association (APA) Guidelines



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New FDA Warning Added to Antipsychotic Labeling

- Antipsychotics cause falls and fractures as the result of:
  - Somnolence
  - Postural hypotension
  - Motor and sensory instability
- Recommends a fall risk assessment
  - When initiating antipsychotics
  - Recurrently for long-term use

Ernst D. New Warning Added to Antipsychotic Drug Labeling. MPR. http://www.empr.com/safety-alerts-and-recalls/antipsychotic-medication-warning-somnolence-hyoptension/article/640400/. Published February 27, 2017. Accessed February 7, 2018. 65

Which of the following scenarios may require initiation of antipsychotic medication?

A. A patient who experiences frightening hallucinations at night, which prevents her from sleeping.

B. A patient who reports seeing children playing outside, despite no children being present, but "enjoys watching them."

C. A patient experiencing aggression and combativeness due to consistently unfamiliar home health nurses.

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D. A patient experiencing delirium secondary to a UTI.

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Summary

- A wide array of behavioral and psychological symptoms can occur with dementia.
- Identifying the underlying cause of acute agitation/aggression is important to care.
- Many of the symptoms of BPSD can be alleviated by nonpharmacological methods and caregiver education.
- Some symptoms may be precipitated by a chronic illness like pain or depression.
- Antipsychotics should be reserved for acute situations in which safety is a concern and symptoms are debilitating to the patient.

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Questions

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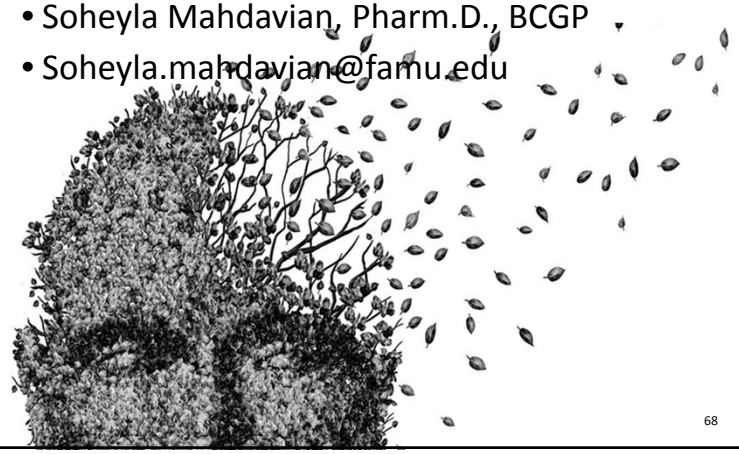

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