# Late Life Depression

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# Introduction

- 13.3% of the U.S. population is an older adult
- The older population (age 65 year old and older)= 41.4 million in 2011, an increase of 6.3 million or 18% since 2000.
- Projected to increase to 79.7 million in 2040
- The very old (85+) projected to increase from 5.7 million in 2011 to 14.1 million in 2040

# Introduction

- With our population aging, we will need to be prepared to provide care for medical as well as mental health issues such as depression in the older adult
- Most older adults with depression will be treated in the primary care setting
- Depression is not thought to be a normal part of aging

# Types of Depressive Disorders

- Major depressive disorder
- Persistent depressive disorder (Dysthymia)
- Other specified depressive disorder

# Major Depressive Disorder

- DSM V Criteria
- A. Five (or more) of the following symptoms have been present during the same 2 week period and represent a change from previous functioning; at least one of the symptoms is either (1) depressed mood or (2) loss of interest or pleasure
  - 1. Depressed mood most of the day, nearly every day
  - 2. Markedly diminished interest or pleasure (subjective account or observation)
  - 3. Significant weight loss/gain (5%change in 1 month), or decrease/increase in appetite nearly every day
  - 4. Insomnia or hypersomnia
  - 5. Psychomotor agitation or retardation nearly every day (observed by others)

# Major Depressive Disorder

  - 6. Fatigue or loss of energy
  - 7. Feelings of worthlessness or excessive or inappropriate guilt
  - 8. Diminished ability to think or concentrate, or indecisiveness
  - 9. Recurrent thoughts of death (not just fear of dying), recurrent suicidal ideation without a specific plan, or suicide attempt, or SI with plan

# Major Depressive Disorder

- B. Symptoms cause clinically significant distress or impairment in social, occupational, or other important areas of functioning
- C. The episode is not attributable to the physiological effects of a substance or to another medical condition
- D.  Not due to another psychiatric condition
- E. There has never been a manic/hypomanic episode

# Rule Out History of Manic/Hypomanic Symptoms

- Periods of time when the patient experiences:
  - Elevated mood/irritability
  - Inflated self-esteem
  - Decreased need for sleep
  - Talkativeness
  - Flight of ideas
  - Risky behaviors
  - Increase in goal directed behaviors

## Persistent Depressive Disorder (Dysthymia)

- A. Depressed mood for most of the day, for more days than not, as indicated by either subjective account or observation by others for at least 2 years
- B. Presence, while depressed, of two (or more) of the following:
  - 1. Poor appetite or overeating
  - 2. Insomnia or hypersomnia
  - 3. Low energy or fatigue
  - 4. Low self-esteem
  - 5. Poor concentration or difficulty making decisions
  - 6. Feelings of hopelessness

## Persistent Depressive Disorder

- C. During the 2 year period, individual has not been without the symptoms in Criteria A and B for more than 2 months
- D. Criteria for a major depressive disorder may be continuously present for 2 years
- E. There has never been a manic episode or a hypomanic episode and criteria have never been met for cyclothymia

## Other Specified Depressive Disorder

- Symptoms of depression are clinically significant leading to distress or impairment
- Full criteria for the other disorders are not met

## Bereavement

- Normal reaction to death of loved one
- May present with characteristics similar to major depressive episode such as insomnia, poor appetite, and weight loss
- Normal grief may occur in waves or "pangs"
- Abnormal grief reaction: suicidal ideation, feelings of worthlessness, feelings of guilt, psychotic symptoms

# Difference between Grief and MDD

**Bereavement/Grief**

- Emptiness and loss
- Decrease in intensity over days/weeks or in waves
- Triggered by thoughts of deceased; Preoccupaton with thoughts of deceased
- Uncharacteristic times of happiness
- Self-esteem preserved
- Thoughts of "joining" the deceased

**MDD**

- Persistent depressed mood, anhedonia
- More persistent
- Not tied to thoughts of the deceased
- Pervasive unhappiness
- Feelings of worthlessness and self-loathing
- Suicidal thoughts due to worthlessness, undeserving life, and unable to cope with depression

# Epidemiology

- General community dwelling elderly: 8-16% (MDD)
- Lower prevalence than adults due to "forgetting" prior episodes, under-reporting of "depressed mood", stigma of mental illness in older cohorts
- Medically hospitalized: 11% (MDD), 25% (clinically significant depression)
- LTCF: 12-22.4% (MDD), 17-30% for minor depression

# Late Onset vs Early Onset Depression

- Late Onset: defined as first episode of depression in late life.
- Characterized by:
  - Less frequent family history
  - Higher likelihood of cognitive impairment
  - Increase in medical co-morbidities

# Risk Factors for depression

- Female > Male
- Physical disability
- Sensory impairment
- Recent loss
- Social isolation

## Morbidity and Mortality

- Increase in utilization of medical services
- Increase in use/number of medications
- Increase in functional impairment
- Increased risk for suicide
- Increased risk for mortality

## Suicide in the Elderly

- 8,168 individuals aged 60 years old + died from suicide in 2010
- Rate of completed suicide is highest in white, elderly men
- 50.8 suicides per 100,000 in non-hispanic men over age 85 years old which is 4x higher than general population rate of 12.1 per 100,000
- Overall suicidal ideation and attempted suicide decrease with age in both men and women

# Risk Factors for Suicide

- Male
- History of mental illness and/or substance abuse
- Prior suicide attempts
- Marked feelings of hopelessness
- Co-morbid general medical conditions that significantly limit functioning or life expectancy
- Pain and declining role function (e.g., loss of independence or sense of purpose)

# Risk Factors for Suicide

- Social isolation
- Family discord or losses
- Inflexible personality or marked difficulty adapting to change
- Access to lethal means (e.g., firearms)
- Impulsivity in the context of cognitive impairment

# Presentation in the older adult

- Less endorsement of “sad” mood (cohort effect)
- More likely to show lack of interest or positive affect
- Increased concern about physical disability and cognitive impairment
- Increase in somatic complaints (focus on GI symptoms, headaches)
- Increase in thoughts about death
- Increase in psychotic symptoms with focus on persecution, somatic issues, nihilistic

# Depression and Cognitive Impairment

- Depression as a prodrome or clinical sign of dementia
- Depression as a risk factor for dementia
  - Conflicting evidence
- Dementia as a risk factor for depression
- Depression with reversible dementia or “Pseudodementia”
  - In one study by Alexopoulos, 1993: Patients with depression with “reversible dementia” had 4.69x higher risk of conversion to dementia (43%) within 2-3 years compared to depression alone (12%)

Reference:

Alexopoulos, GS, Myers BS, Young RC, Mattis S, Kakuma T. The course of geriatric depression with “reversible dementia”: a controlled study. Am J Psychiatry. 1993;150(11):1693-1699.

## Depression and Cognitive Impairment

- Co-occurrence of depression and cognitive impairment associated with greater cognitive decline, functional decline and higher rates of institutionalization
- Depressed older adults have difficulties in executive function, processing speed, and memory
- Poor processing speed and small hippocampal volumes may predict poor response to antidepressant treatment

## Neurobiology of depression

- Monoamine deficiency hypothesis
- Hypothalamic pituitary axis
- Inflammation

## Bidirectional relationship between depression and medical illness

- Depression is a risk factor for chronic illnesses such as cardiovascular disease and diabetes
- Chronic illnesses such as CHF, CAD, OA, Diabetes, and stroke can increase the risk for depression
- Inflammation and maladaptive behaviors (poor diet, sedentary lifestyle) can be the result of depression/chronic illness which predisposes an individual to further medical illness and impairment

## Screening

- PHQ (Patient Health Questionnaire) 2 or 9
- Geriatric Depression Scale (short or long)
- Cornell Depression Scale in Dementia
- Suicide: Do you have thoughts of death? Do you have plans to harm yourself?
  - Do you have access to firearms? Do have intent to harm yourself
  - Would you call the clinic/911/family/suicide hotline if feeling unsafe?

## Geriatric Depression Scale

- **Choose the best answer for how you have felt over the past week:**
- **1. Are you basically satisfied with your life? YES / NO**
- **2. Have you dropped many of your activities and interests? YES / NO**
- **3. Do you feel that your life is empty? YES / NO**
- **4. Do you often get bored? YES / NO**
- **5. Are you in good spirits most of the time? YES / NO**
- **6. Are you afraid that something bad is going to happen to you? YES / NO**
- **7. Do you feel happy most of the time? YES / NO**
- **8. Do you often feel helpless? YES / NO**
- **9. Do you prefer to stay at home, rather than going out and doing new things? YES / NO**
- **10. Do you feel you have more problems with memory than most? YES / NO**

## Geriatric Depression Scale

- **Choose the best answer for how you have felt over the past week:**
- **11. Do you think it is wonderful to be alive now? YES / NO**
- **12. Do you feel pretty worthless the way you are now? YES / NO**
- **13. Do you feel full of energy? YES / NO**
- **14. Do you feel that your situation is hopeless? YES / NO**
- **15. Do you think that most people are better off than you are? YES / NO**

# Geriatric Depression Scale

- A score > 5 points is suggestive of depression.
- A score ≥ 10 points is almost always indicative of depression.
- A score > 5 points should warrant a follow-up comprehensive assessment.
- Source: http://www.stanford.edu/~yesavage/GDS.html
- Answers in bold indicate depression. Score 1 point for each bolded answer.
- This scale is in the public domain

# Screening Cognition

- Mini Mental Status Examination
- Montreal Cognitive Assessment
- Orientation questions

# Late Life Depression

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# Assessment

- **Review diagnostic criteria for MDD**
- **Review prior history of depressive episodes, suicidal thoughts/attempts, and treatments**
- **Rule out mania, grief reaction, and substance abuse**
- **Assess functional impairment: ADLs and IADLs**
- **Assess psychosocial stressors**
- **Assess suicidal thinking and access to firearms**
- **Assess severity of symptoms**
- **Obtain collateral information from family/friends/caregivers**

# Assessment

- Review medical problems and physical examination
- Review medication list including herbals/over the counters
- Family history of depression and suicide
- Obtain collateral information from family/friends/caregivers

# Assessment

- Consider baseline labwork if not done recently, including CBC, Chem 7, LFTS, TFTs, UA, UDS, EKG, B12/Folate, Vit D 25-OH
- For cognitive impairment, consider RPR, HIV, homocysteine
- Consider neuroimaging, EEG
- MMSE, MOCA
- Consider sleep study

# Medication induced depression

- Corticosteroids
- Benzodiazepines
- Oral contraceptives
- Alpha-interferon
- Tamoxifen
- Chantix
- Anticonvulsants (Keppra)

# Treatment: Expert Consensus Guidelines

Expert Consensus Guidelines in 2001:

- Nonpsychotic MDD: SSRI/SNRI(Venlafaxine) + Psychotherapy
- Psychotic MDD: SSRI/SNRI (Venlafaxine) + Atypical antipsychotic or ECT
- MDD + Medical disorder: treat both
- Dysthymic do: SSRI + Psychotherapy

## Expert Guidelines: Treatment Duration

- One episode: 1 year
- Two episodes: 1-3 years
- 3 or more episodes: lifelong

## Treatment: Pharmacotherapy

- Serotonin reuptake inhibitors (SSRIs) and Serontonin norepinephrine reuptake inhibitors (SNRIs such as Venlafaxine) are first line antidepressants. They are equally efficacious and tolerable in recent studies
- Other options include mirtazapine and buproprion
- Tricyclic antidepressants (TCAs) may be used if SSRIs/SNRIs are not beneficial; however, there is greater risk for side effects and intolerability.
- Monoamine oxidase inhibitors (MAOIs)

# Pharmacotherapy

- Start at low dose to ensure tolerability
- Adequate trial is 8 weeks at therapeutic dose (which may be adult dose)
- Dose increase after 4-6 weeks in partial responders. If no response, consider switch or augmentation
- Be aware of drug-drug interactions (several antidepressants including paroxetine, fluoxetine and bupropion are strong 2D6 inhibitors)
- Be aware of medical co-morbidities
- Goal is to reach remission of symptoms to decrease risk for future relapse

# SSRIs

- Side Effects include: anxiety/agitation, tremor, headaches, diarrhea, nausea, dizziness, sleep changes, hyponatremia (SIADH), sexual dysfunction, decrease in platelet aggregation
- Precautions: QTc prolonging effect with citalopram and escitalopram

| SSRI | Starting dose | Dose range per day |
|---|---|---|
| Citalopram | 10mg | 10-20mg |
| Escitalopram | 5mg | 5-20mg |
| Sertraline | 12.5 to 25mg | 50 - 100mg |
| Paroxetine | 10mg | 10mg - 40mg |
| Fluoxetine | 5-10mg | 10-40mg |

# SNRIs

- **Side Effects: headache, nausea, anxiety/agitation, tremors, sexual dysfunction, hyponatremia, decrease in platelet aggregation due to serotonin effects**
- **Precautions: risk for increase in diastolic blood pressures, hepatotoxicity with duloxetine**
- **Helpful in pain syndrome**

| SNRI | Starting dose | Dose Range | Frequency | |
|---|---|---|---|---|
| Venlafaxine | 37.5mg | 75 - 225mg | Daily or BID | |
| Duloxetine | 20-30mg | 60mg | Daily | |

# Other Antidepressants

- **Buproprion**
  - **Increases dopamine and norepinephrine.**
  - **Start at 37.5mg, range from 75mg to 300mg daily (once daily or split dosing).**
  - **Avoid in patients with eating disorders, high anxiety/agitation, and seizures.**
  - **Side effects are sleep disturbances, elevations in blood pressure, and anxiety/agitation.**

# Other Antidepressants

- **Mirtazapine**
  - **Increases serotonin and norepinephrine**
  - **Start at 7.5 to 15mg, range from 15 to 45mg, once nightly**
  - **May promote appetite, weight gain, and sedation**
  - **Does not decrease platelet aggregation, sexual dysfunction, and has less risk for nausea**
  - **Monitor for neutropenia/agranulocytosis**

# Tricyclic Antidepressants

- **Side effects: risk for cardiac conduction abnormalities, anticholinergic issues (constipation, dry mouth, urinary retention), orthostasis, dizziness, sedation**
- **Monitor EKG**
- **Avoid in prostatic hypertrophy and narrow-angle glaucoma**
- **Can be lethal in overdose**
- **Nortriptyline: least orthostatic of TCAs, start at 10mg, range is 10-125mg, monitor blood levels (range is 50-150)**
- **Desipramine: least anticholinergic of TCAs, start at 10mg, range is 100-200mg**

## Monoamine Oxidase Inhibitors

- Emsam (Selegiline patch)
- Do not use with other serotonergic agents
- Washout of at least 2 weeks with other antidepressants, 5 weeks for Prozac
- Dietary restrictions with higher doses
- Limited data in older adults

## Serotonin Syndrome

- Elevated levels of serotonin can lead to serotonin syndrome, which can be life-threatening
- Signs /symptoms are loose stools, vomiting, elevated heart rate/blood pressure, agitation, myoclonus, ocular clonus, deep tendon hyperreflexia, confusion, tremor, dilated pupils, muscle rigidity, dry mucous membranes, flushed skin and diaphoresis
- Medications that can lead to this include: antidepressants, opiates, linezolid, demerol, dextromethorphan, triptans, ultram
- Discontinue serotonergic agents, provide supportive care, possible use of cyproheptadine

# Pharmacotherapy Response

- 30 to 50% of older adults will not respond to treatment with SSRIs
- 40-50% of non-responders will respond to non-SSRI treatments such as switching to SNRI or augmentation strategies such as adding Buproprion, Lithium or T3

# Treatment: Psychotherapy

- Psychotherapy is an effective treatment in older adults with depression
- Studies utilizing Cognitive Behavioral Therapy, Interpersonal Therapy, Problem-Solving Treatment, Supportive Psychotherapy can be helpful as they are directive and usually time limited treatments
- Behavioral activation and schedule management assistance can be helpful as well

## Treatment: Psychotherapy

- Psychotherapy can be equally efficacious as medications for treatment of depression
- Choice between therapy and medications will be based on access to care, cost, possible medication adverse effects/tolerability
- Combination of Pharmacotherapy + Psychotherapy reduces risk of relapse compared to either treatment alone

## Treatment: Other therapies

- Exercise
- Senior centers
- In-home caregivers
- Bright light therapy
- Family counseling

## Treatment: Neuromodulation therapies

- Electroconvulsive therapy (ECT)
  - Effective treatment for severe depression in the elderly
  - Thought to be more effective in older adults
  - Age is not necessarily a risk factor for cognitive side effects.
  - Risk factor for cognitive side effects include female gender, neurological disease such as AD, PD, cerebrovascular disease, low premorbid intellectual capacity
  - Dementia is not a contraindication for ECT
  - Remission rates 50-80%
  - However, relapse rate within 6 to 12 months is 50% (all ages), as high as 80% relapse with no medication treatment following ECT

## Treatment: Neuromodulation therapies

rTMS—FDA approved for treatment-resistant depression

- Repetitive electromagnetic delivered to dorsolateral prefrontal cortex daily x4-6 weeks
- Improves blood flow and neurotransmitter release; changes in cortical metabolism
- Effective for older adults, and treatment can be modified at a lower frequency for improved tolerability

## Refractory Depression

- Review accuracy of your diagnosis – consider additional history and medical work-up (reconsider dementia, bipolar disorder, another medical condition)
- Multiple medication trials may be needed before reaching remission of symptoms
- Refer to psychiatrist for psychosis, multiple med trial failures, suicide risk
- Consider referral for Neuropsychological testing

## Key Points

1. Older adults may not endorse sad mood but rather lack of interest and appear to have a negative affect
2. Rule out medical conditions first
3. Rule out history of mania/hypomania and substance abuse
4. Obtain collateral information
5. Perform a baseline cognitive assessment

# Key Points

6. Assess for safety in terms of suicide risk, access to firearms, and functional impairment
7. Treatment responses to psychotherapy and pharmacotherapy are similar to general adult population but caution should be taken with dosing and medical co-morbidities
8. Refer for hospitalization for risk of harm to self/others
9. Refer to psychiatrist for severe illness, refractory depression, or psychotic depression
10. Refer to cognitive specialist for concerns about cognitive impairment

# Resources for Patients and Caregivers

- Geriatric Mental Health Foundation (GMHF)
- National Alliance on Mental Illness (NAMI)
- National Institute of Mental Health (NIMH)

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