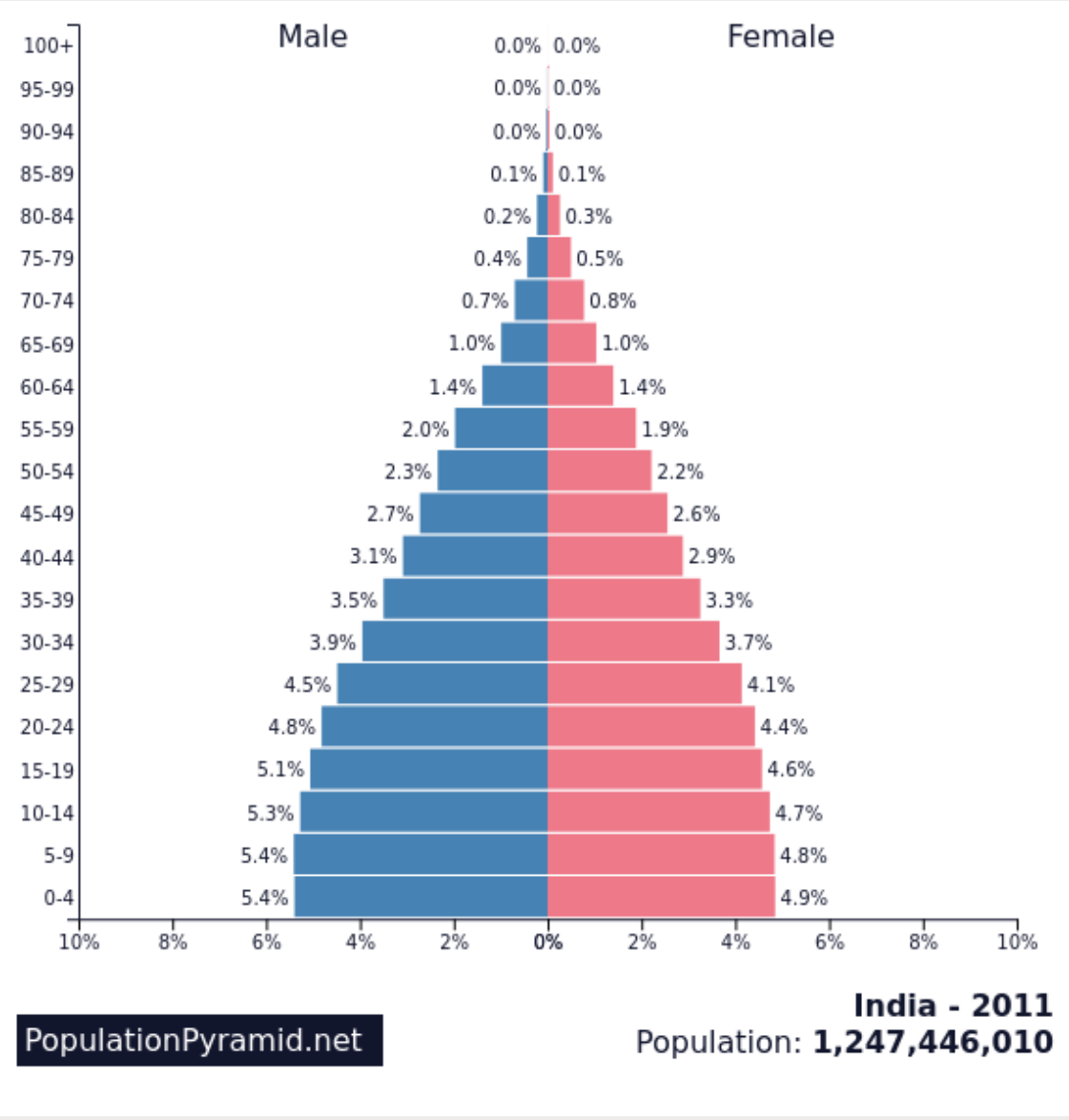
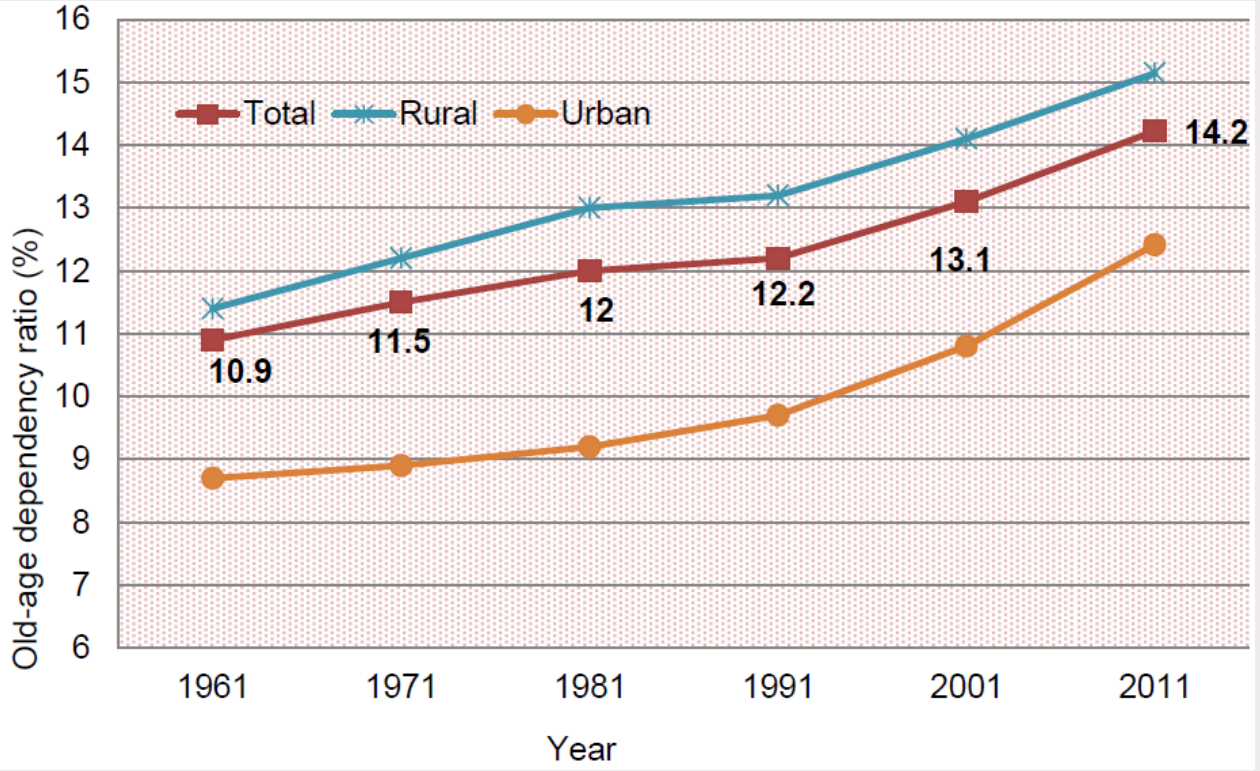
MENTAL HEALTH IN ELDERLY

Dr M Suresh Kumar MD DPM MPH (USA)
Director Psymed hospital Chennai
www.drmsureshkumar.com

NAMSCON 2018
October 26 2018
Puducherry

Mental health in elderly





Source: Elderly in India. www.mospi.gov.in

In the 2011 census, 104 million elderly persons (aged 60 years or above) - 8.6% of total population

Prevalence of mental disorders in elderly 20-30%; depression 10%; dementia 3% (Varghese & Dahale, Indian J Psychiatry, 2018)

Why are elderly vulnerable for mental health problems?

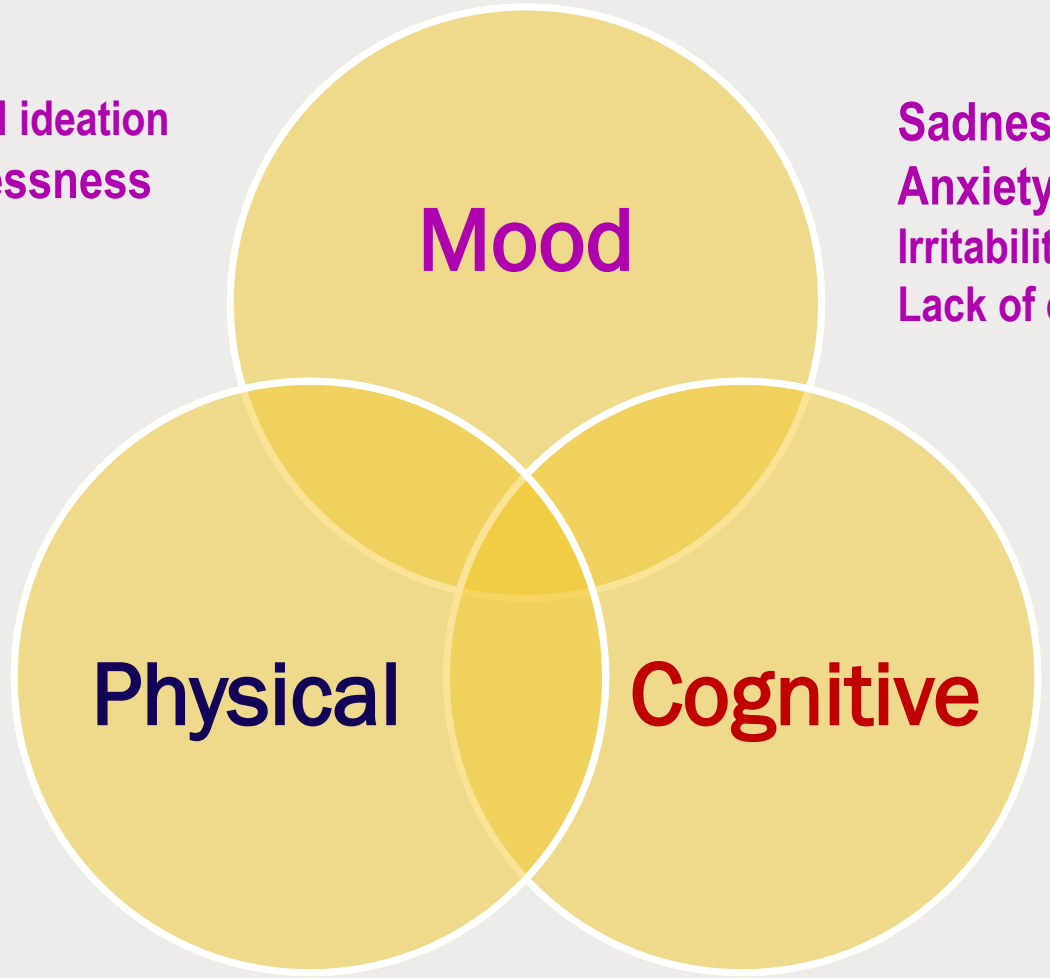
- ***Physical factors:***
  - ***Significant ongoing loss in capacities (e.g., vision, hearing)***
  - ***Decline in functional ability***
  - ***Reduced mobility, chronic pain, frailty***
  - ***Health problems requiring long term care***
  - ***Cardio vascular disease***
- ***Psychological factors:***
  - ***Bereavement***
  - ***Drop in socioeconomic status with retirement***
  - ***Isolation, Loneliness***
  - ***# of life events***
  - ***# daily hassles***
- ***Social factors:***
  - ***Social support lacking***

Common mental health problems in elderly

- Depression
- Dementia
- Delirium
- Anxiety disorder
- Psychosis
- Bipolar disorder
- Others

Depression and Dementia among older people: Public health issue

Late Life Depression: Symptoms



Suicidal ideation
Hopelessness
Guilt

Sadness
Anxiety
Irritability
Lack of enjoyment

Fatigue
Insomnia
Eating changes
Headaches
Pain

Poor concentration
Forgetfulness
Slow thinking
Difficulties in planning and decisions

Late Life Depression: Risk Factors

- Poor physical health and frailty
- Female gender
- Oldest elders (≥80 years)
- Cognitive impairment and neurodegenerative disease
- Nutritional deficits
- Vascular events
- Lifestyle: smoking, alcohol, multiple medications
- Being single or widow(er)

Screening for depression in general medical settings

PATIENT HEALTH QUESTIONNAIRE (PHQ-9)

NAME: _____ DATE: _____

Over the last *2 weeks*, how often have you been bothered by any of the following problems?
(use "✓" to indicate your answer)

	Not at all	Several days	More than half the days	Nearly every day
1. Little interest or pleasure in doing things	0	1	2	3
2. Feeling down, depressed, or hopeless	0	1	2	3
3. Trouble falling or staying asleep, or sleeping too much	0	1	2	3
4. Feeling tired or having little energy	0	1	2	3
5. Poor appetite or overeating	0	1	2	3
6. Feeling bad about yourself—or that you are a failure or have let yourself or your family down	0	1	2	3
7. Trouble concentrating on things, such as reading the newspaper or watching television	0	1	2	3
8. Moving or speaking so slowly that other people could have noticed. Or the opposite — being so figety or restless that you have been moving around a lot more than usual	0	1	2	3
9. Thoughts that you would be better off dead, or of hurting yourself	0	1	2	3
	add columns		+	+

(Healthcare professional: For interpretation of TOTAL, please refer to accompanying scoring card). TOTAL:

10. If you checked off *any problems*, how *difficult* have these problems made it for you to do your work, take care of things at home, or get along with other people?

- Not difficult at all _____
- Somewhat difficult _____
- Very difficult _____
- Extremely difficult _____

Screening for depression in general medical settings

- **Two questions by healthcare professionals (PHQ 2)**

1. **“During the past month, have you been bothered by having little interest or pleasure in doing things?”**

2. **“During the past month, have you been bothered by feeling down, depressed, or hopeless?”**

“Yes” to any question may require further assessment with the patient’s consent

Takes <1 min to complete

Late Life Depression: Screening tools

Geriatric Depression Scale

- Yes/no format
- Takes 3–4 min to complete
- Validated for the oldest elders and MMSE >10
- Preferred screening tool for Parkinson disease
- Items: Cognitive complaints, self-image, losses
- Cutoff 15-item list: ≥5, major depressive disorder

Late Life Depression: Differential Diagnosis

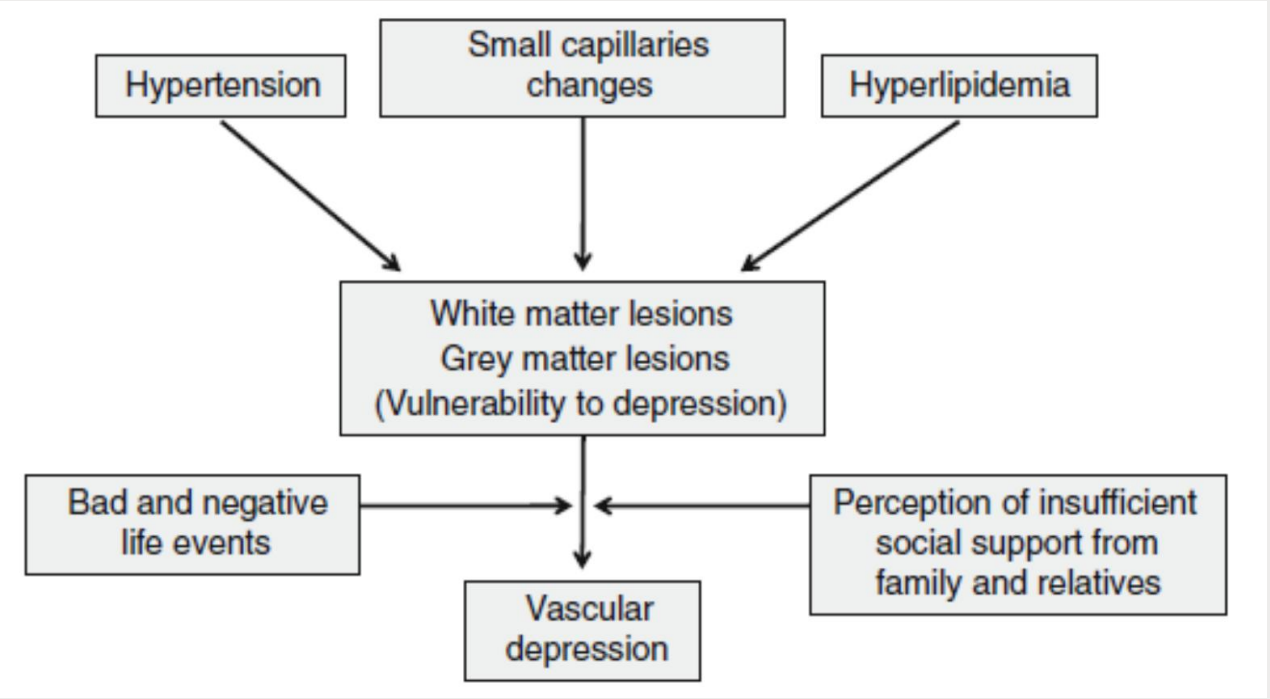
- Central nervous system disorders (dementia, Parkinson disease, and neoplasm)
- Related psychiatric disorders (dysthymia, bipolar, and anxiety disorders)
- Endocrine disorders (hypothyroidism, hyperthyroidism, and hyperparathyroidism)
- Adverse events of drugs (e.g., β-blockers, centrally active antihypertensive medications, steroids, H2-blockers, sedatives, certain chemotherapy agents)
- Life circumstances (e.g., grief, bereavement, financial loss)
- Substance use, abuse, or dependence
- Infectious and inflammatory diseases (e.g., HIV encephalopathy, systemic lupus erythematosus)
- Sleep disorders (in particular, obstructive sleep apnea)

Vascular Depression

Depression is the consequence of vascular disease.

Vascular brain disease may stimulate the development and course of depression.

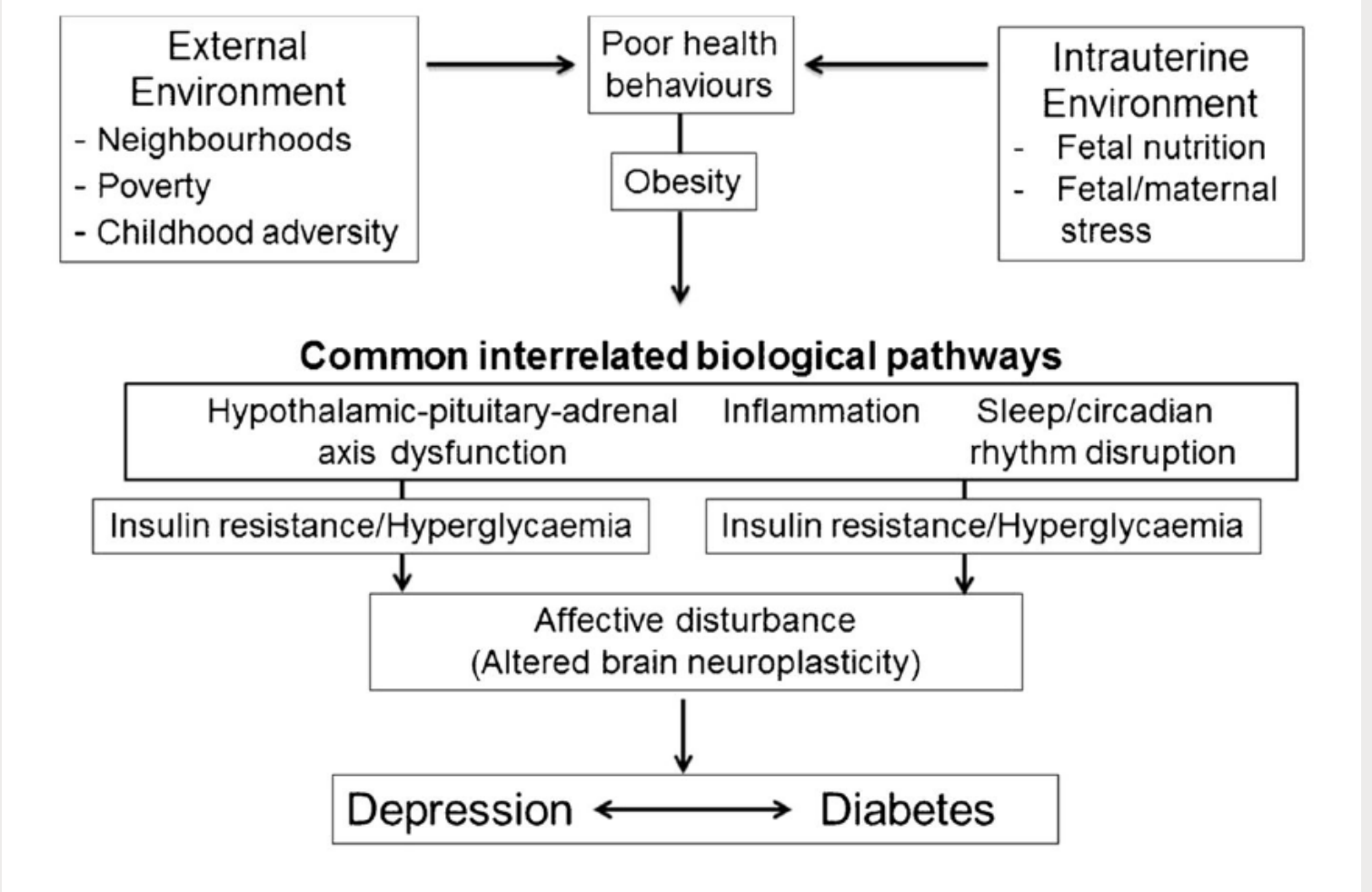
Cerebrovascular pathology and depression as two manifestations of the same genetic predisposition and pathobiological mechanisms.



Depression may cause cardiovascular and/or cerebrovascular disease and there may be a bidirectional relationship between depression and vascular disease.

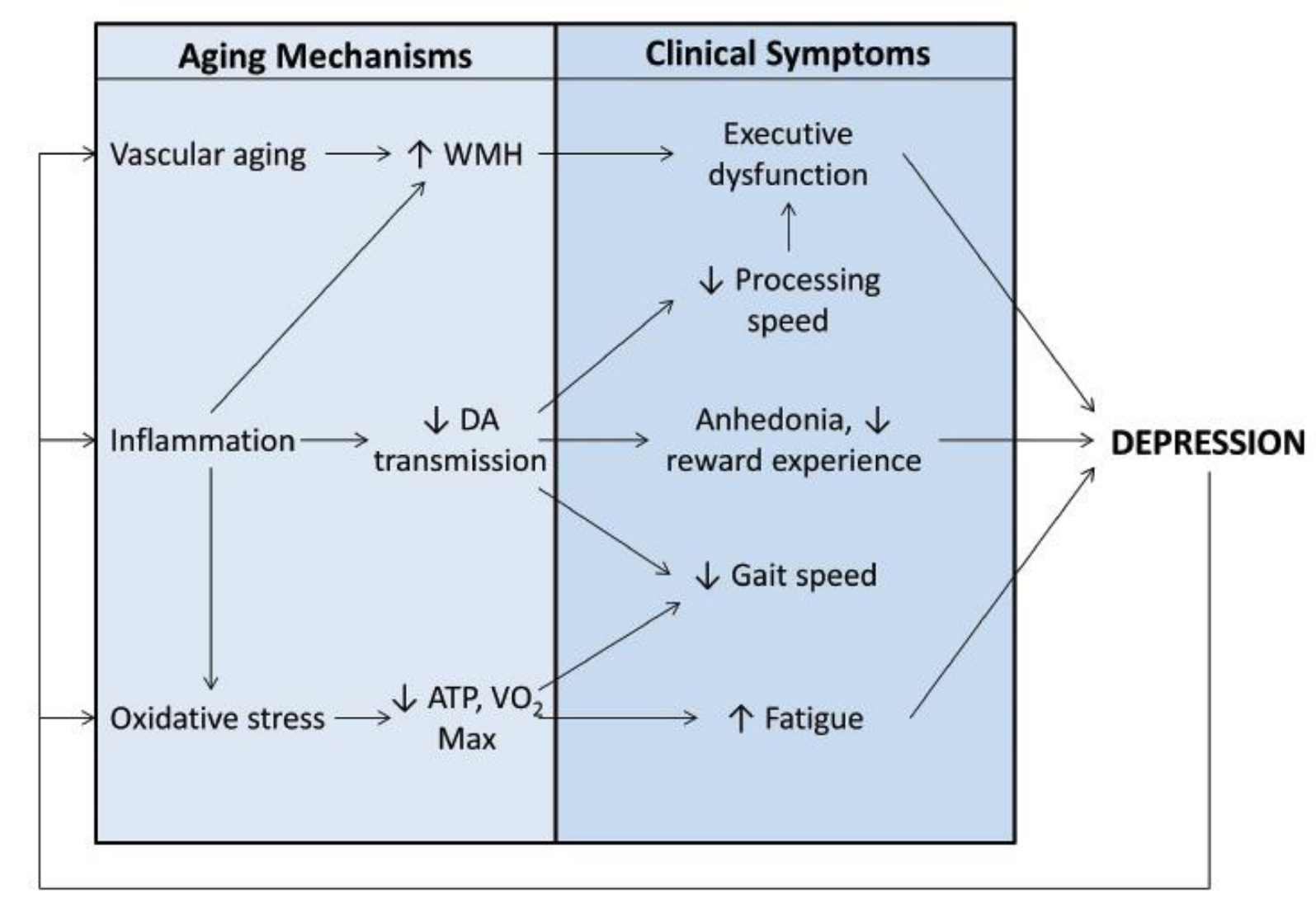
Aizenstein et al. BMC Medicine (2016) 14:161

Mechanisms and Pathogenesis: Diabetes and Depression



Holt et al, Curr Diab Rep. 2014; 14 (6): 491

Biological Ageing and Late Life Depression



Rutherford et al, J Gerontol A Biol Sci Med Sci, 2017, Vol. 72, No. 3, 343–352

Late Life Depression: Treatment

Nonpharmacological treatment

- Psycho-education
- Psychotherapy
  - *Patients who prefer talking over medication*
  - *As adjunctive therapy*
- Structured physical exercise
  - *Frequency: 3–4 times a week*
  - *One session: 45–60 min*

Late Life Depression: Treatment

Pharmacological treatment

- **Substitution therapy (when deficit is present)**
  - ***Vitamin D: 2,000 IU daily***
  - ***Folic acid: 800 µg–2 mg***

- **Antidepressants**
  - ***SSRIs (e.g., sertraline, escitalopram)***
  - ***TCAs (e.g., nortriptyline)***
  - ***SNRIs (e.g., duloxetine, venlafaxine, desvenlafaxine)***
  - ***Mirtazapine***
  - ***Vortioxetine***

Choice of antidepressants in elderly

- **Considerations**
  - *Dose (Start low, go slow)*
  - *Side effects (Sedation, anticholinergic effects, cardiac conduction disturbances)*
  - *Toxicity (TCAs are toxic)*
  - *Drug-drug interaction (Safe drugs: Escitalopram, Desvenlafaxine, Vortioxetine; Avoid drugs such as fluoxetine, fluvoxamine)*
  - *Renal impairment (Dose adjustment)*

- **Choice**
  - *SSRI: Sertraline (safe in cardiac context)*
  - *SNRI: Desvenlafaxine (less drug-drug interaction)*
  - *Multimodal: Vortioxetine (safety and beneficial in cognitive functioning)*
  - *Mirtazapine (increases appetite)*

- **Avoid**
  - *TCAs (severe anti-cholinergic effects and cardiotoxicity)*
  - *Potential for elevating blood pressure (e.g., venlafaxine)*
  - *Potential for hyponatremia (more with SSRIs such as escitalopram than with TCAs)*

Late Life Depression: Referral to a Psychiatrist

- Preference for nonpharmacological treatment
- Persistent depression (one to three trials of antidepressants)
- Psychosis
- Mania
- Concern about suicide

Depression and Dementia:
A complex relationship

- **Relationship between the two is complex**

- **Depression may be:**
  - ***Risk factor for dementia***
  - ***Prodrome of dementia***
  - ***Consequence to dementia***

Depression:
A risk factor for dementia

- Depression is a risk factor for dementia
- More than two-fold increase to develop dementia later on
- Frequent episodes of depression increases risk (increase by 14% for each episode)
- 10-15% of Alzheimer's dementia is attributable to depression

Dotson et al, 2010; Barnes et al, 2011

Diagnosis: Alzheimer's Disease

- **Preclinical Alzheimer's Disease**
  - ***biomarkers that indicate the earliest signs of disease, but no noticeable symptoms***

- **MCI Due to Alzheimer's Disease**
  - ***Mild but measurable changes in thinking abilities that are noticeable to the person affected and to family members and friends***
  - ***Do not affect the individual's ability to carry out everyday functioning***
  - ***Biomarkers***

Diagnosis: Alzheimer's Disease

- **Dementia Due to Alzheimer's Disease**
  - ***Noticeable memory, thinking and behavioral symptoms.***
  - ***Unlike MCI, impair a person's ability to function in daily life.***

Types of Dementia and characteristics

Type of Dementia	Characteristics
Alzheimer's disease	Difficulty remembering recent conversations, names or events - early clinical symptom; apathy and depression; impaired communication; disorientation, confusion; poor judgment, behavior changes; difficulty speaking, swallowing and walking.
Vascular dementia	Impaired judgment or impaired ability to make decisions, plan or organize; difficulty with motor function, especially slow gait and poor balance Brain changes of Alzheimer's and vascular dementia commonly coexist (Mixed dementia)

Alzheimer's Association. 2017 Alzheimer's Disease Facts and Figures. Alzheimers Dement 2017;13:325-373.

Risk factors for Alzheimer's disease

Risk factors

- Genetic mutations (APP, Presenelin 1, 2)
- Age above 65 years
- Family History
- Apolipoprotein E-e4 Gene
- Mild Cognitive Impairment (MCI)

Modifiable Risk factors

- Cardiovascular Disease Risk Factors
- Social and Cognitive Engagement
- Education and Cognitive Reserve
- Traumatic Brain Injury (TBI)

Reversible Dementia

Neurosurgical	Neuroinfections and Inflammations	Metabolic conditions	Others
Chronic Subdural hematoma	Meningitis (tubercular, fungal, malignant)	Hypo and Hyperthyroidism	Depression
Normal Pressure Hydrocephalus (NPH)	Encephalitis (limbic, HIV, herpes)	Hypo and Hyperparathyroidism	Drugs and toxins
Intracranial tumors	Neurosyphilis	Pituitary insufficiency	Alcohol Abuse
Intracranial empyema and abscess	Cerebral vasculitis	Cushing's disease	Sleep apnea
	Lyme's disease	Addison's disease	Limbic encephalitis (neoplastic / autoimmune)
	Whipple's disease	Hypercalcemia	
	Sarcoidosis	Hypoglycemia	
		Vitamin deficiencies (B1, B6, B12, Folate)	
		Chronic liver failure	
		Chronic respiratory failure	
		Chronic renal failure	
		Wilson's disease	

Adapted from Tripathi & Vibha, Indian J Psychiatry, 2009; S52-S55.

Treatment of AD

- **Current treatments**
  - *Acetylcholinesterase inhibitors*
    - Donepezil
    - Rivastigmine
    - Galantamine
  - *NMDA antagonist*
    - Mementine

"These current treatments are not disease-modifying"

Treatment of AD

Characteristic	Donepezil	Rivastigmine	Galantamine	Memantine
Starting dose	5mg daily	1.5mg twice daily	4mg twice daily (or 8mg XL daily)	5mg daily
Usual treatment dose (max dose)	10mg daily	6mg twice daily 9.5mg/24 hrs (patch)	12mg twice daily (or 24mg XL daily)	10mg twice daily or 20mg daily
Recommended minimum interval between dose increases	4 weeks (increase by 5mg daily)	2 weeks (increase by 1.5mg twice daily)	4 weeks (increase by 4mg twice daily)	1 week (increase by 5mg daily)

Preventive Strategies for AD

- Conventional physical activity (e.g. aerobic, strength training)
- Dietary interventions (e.g. fish consumption, Mediterranean diet)
- Mind-body exercise (e.g. yoga, tai chi)
- Supplements (e.g. omega-3 fatty acids, flavanols)
- Stress reduction techniques (e.g. Mindfulness-based Stress Reduction)
- Sleep modification strategies

Eyre et al, Psychiatr Clin North Am. 2015 September ; 38(3): 495–514.

Clinical suggestions for geriatric population

If age > 65 years, with no limiting health condition

- **At least 150 minutes of moderate-intensity aerobic activity (i.e. brisk walking) every week and muscle-strengthening activities on 2 or more days a week that work all major muscle groups (i.e. legs, hips, back, abdomen, chest, shoulders and arms).**

OR

- **75 minutes of vigorous-intensity aerobic activity (i.e. jogging or running) every week and muscle-strengthening activities on 2 or more days a week that work all major muscle groups.**

OR

- **An equivalent mix of moderate- and vigorous-intensity aerobic activity and muscle-strengthening activities on 2 or more days a week that work all major muscle groups.**

Eyre et al, Psychiatr Clin North Am. 2015 September ; 38(3): 495–514.

Delirium in elderly: Risk factors

Predisposing factors	Precipitating factors
Dementia	Drugs (Psychoactive, sedatives, multiple drugs)
Cognitive impairment	Use of physical restraints
History of Delirium	Use of bladder catheter
Visual impairment	Physiological (increased serum urea, increased BUN:creatinine ratio; abnormal serum albumin; abnormal sodium, potassium, glucose, metabolic acidosis)
Hearing impairment	
Comorbidity or severity of Illness	Infection
Depression	Surgery (Aortic aneurysm, Non-cardiac thoracic, neurosurgery)
History of transient ischaemia or stroke	
Alcohol misuse	Trauma admission
Older age >75 years	Urgent admission

Delirium in elderly: Management

- Drug Adjustments
- Address acute medical issues
- Reorientation strategies
- Maintain safe mobility
- Normalise sleep-wake cycle
- Pharmacological management (Haloperidol 0.25 -0.5 mg orally or im twice a day)

Anxiety disorders in elderly

- **Pharmacotherapy with SSRI or SNRI is better than benzodiazepines**
- **Avoid Alprazolam and other benzos - fall risks, cognitive impairment, irritability**
- **Psychosocial interventions**
  - ***Cognitive behaviour therapy***
  - ***Relaxation techniques***
  - ***Supportive psychotherapy***

Key points

- Depression in the elderly is prevalent.
- LLD has been prominently linked to cerebrovascular compromise.
- Depression serves as both a risk factor and an early sign of dementia.
- Depression is eminently treatable.
- Pharmacotherapy with anti-depressants such as sertraline, vortioxetine and desvenlafaxine is effective and safe.

Key points

- In Dementia Due to Alzheimer's Disease
  - Noticeable memory, thinking and behavioral symptoms.
  - Unlike MCI, impair a person's ability to function in daily life.
- Currently available treatments for AD are donepezil, rivastigmine, galantamine and memantine
- Preventive therapies for AD include physical activity, Mediterranean diet, supplements, mind-body exercise, stress reduction techniques and sleep modification strategies
- Older adults are vulnerable to develop delirium and understanding the predisposing and precipitating factors is helpful in prevention.

MCQ

1. What are the risk factors for late-life depression?

a. Vascular events

b. Poor physical health and frailty

c. Female gender

d. a & b

e. a & b & c

2. Which one of the following statements is not true?

a. Hyponatremia is more likely to occur with imipramine than with escitalopram

b. Amitriptyline produces more anticholinergic symptoms compared with fluoxetine

c. Mirtazapine causes excessive appetite and increases weight

d. Venlafaxine is better avoided in elderly with uncontrolled hypertension

e. Sertraline is among the safest SSRIs in the context of cardiac disease

3. Which among these is not a reversible dementia?

a. Hypothyroidism

b. Normal pressure hydrocephalus

c. Vascular dementia

d. Vitamin B12 deficiency

e. Chronic subdural hematoma

4. Which one of the following statements is not true?

a. Donepezil, rivastigmine and memantine are disease modifying treatment agents for Alzheimer's Disease

b. 150 minutes per week of physical activity is protective for brain health

c. Modifying risk factors such as diabetes, hypertension, obesity, smoking and depression reduces the incidence of Alzheimer's Disease

d. Dietary interventions such as Mediterranean diet are protective for cardiac and brain health

e. Mild cognitive impairment (MCI) does not interfere with the individual's ability to carry out every day functioning

Answers

1. e. a & b & c

2. a. Hyponatremia is more likely to occur with imipramine than with escitalopram

3. c. Vascular dementia

4. a. Donepezil, rivastigmine and memantine are disease modifying treatment agents for Alzheimer's Disease