Depression
and
Dementia
BRAIN HEALTH
ACADEMY
UsAgainstAlzheimer's
December 12, 2023

Acknowledgements

This course is presented and developed in collaboration with the Gerontological Society of America

This course and continuing education credit is provided free of charge, with support from

Presenter

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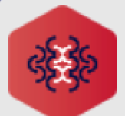
Course Description

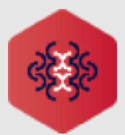
There is growing evidence that suggests
a link between depression and dementia. Several studies have shown that there is a strong link between the number of depressive episodes and the risk of developing dementia. This course provides strategies and resources to help health professionals address depression and build cognitive resilience.

Learning Objectives

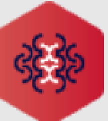
- Participants will be able to list 6 or more modifiable risk factors for dementia.



- Participants will be able to summarize the link between depression and dementia.



- Participants will be able to identify effective interventions and strategies to address depression.



- Participants will be able to identify special considerations for high-risk populations.

Facts:
Alzheimer’s and related dementias (ADRD)

Scope of the Epidemic (U.S.) [1]

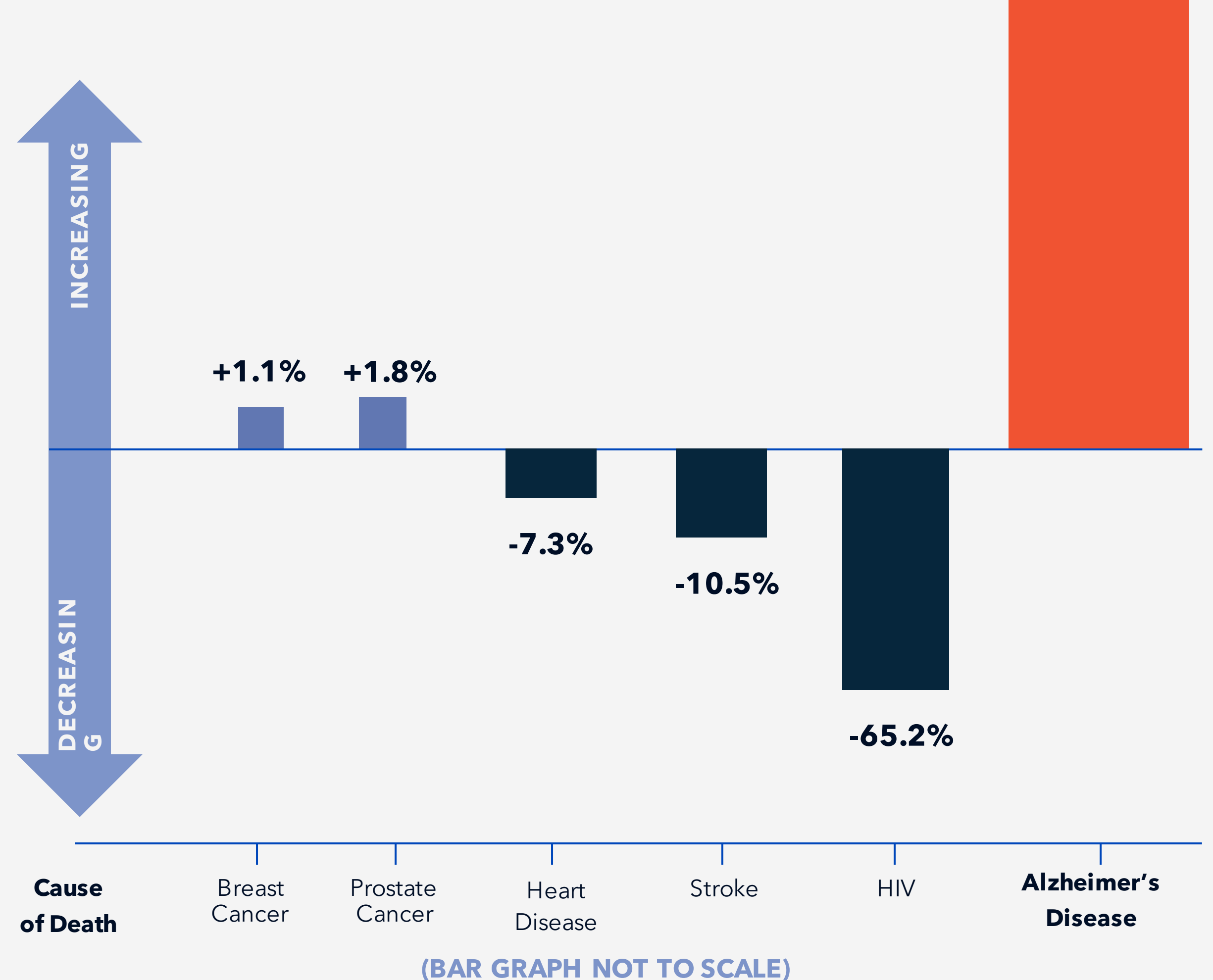
6.5 million adults

1 in 9 adults age ≥65

1 in 3 adults age ≥85

2/3 are women

Alzheimer’s deaths increased 145% from 2000-2019, while other top causes of death have declined



Inequities in Brain Health [5,9,22]

African American people are
2X AS LIKELY
to have Alzheimer's

Latino people are
1.5X AS LIKELY
to have Alzheimer's

Less likely than White patients to receive a timely diagnosis;

More likely to report experiencing racial discrimination along their patient and caregiver journeys;

Less likely to be enrolled in cutting-edge Alzheimer's and brain health research.

Health Disparities & Comorbidities for Alzheimer's in the African American Community [5]

44% More Likely to have a stroke.

23% More Likely to live with obesity.

25% More Likely to die from heart disease.

72% More Likely to be diabetic.

2X AS LIKELY

TO HAVE ALZHEIMER'S

Modifiable Risk
Factors for Dementia

Alzheimer's: Non-Modifiable Risk Factors

Age [2]

Number one risk factor is advancing age.

Risk doubles every 5 years after age 65.

Family History [1]

Genetics vs environmental factors.

Education [3]

Fewer years of formal education and lower levels of cognitive engagement may be risk factors.

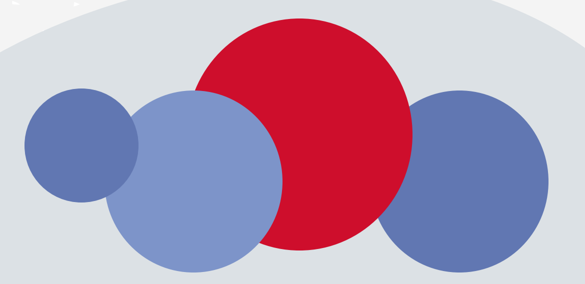
Sex [16]

2/3 of those with Alzheimer's are women.

16% of women age ≥ 71 (11% of men).

After age 65, have more than 1 in 5 chance (1 in 11 for men).

Modifiable Risk Factors[9]



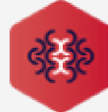
40%

of dementia cases could be prevented by addressing these lifestyle factors

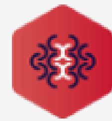
INCREASE	DECREASE
• Healthy Diet • Physical Activity • Mental Activity • Cognitive and social activity	• Hypertension • High cholesterol • Uncontrolled diabetes • Obesity • Smoking • Depression • Excessive Alcohol Intake • Head Injury • Air Pollution • Hearing Loss

Understanding
Depression

Depression Prevalence[24]

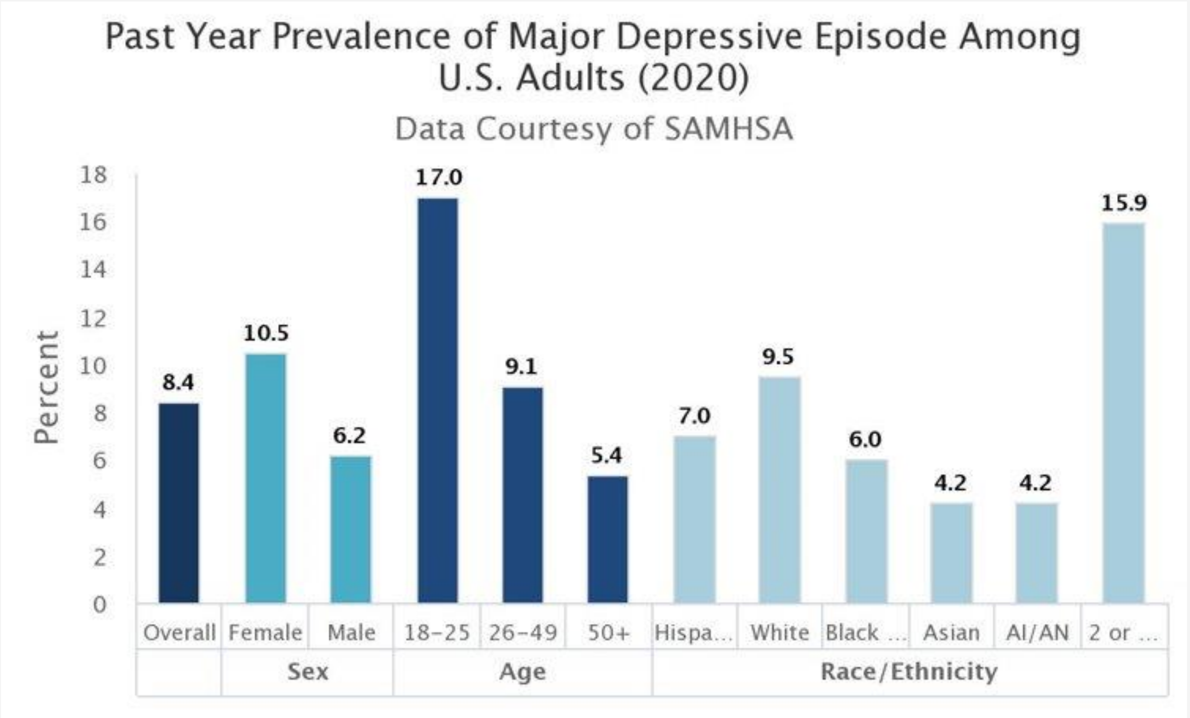


An estimated **21.0 million adults in the United States had at least one major depressive episode. This represented 8.4% of all U.S. adults.**



The prevalence of major depressive episode was:

- Higher among adult females (10.5%) compared to males (6.2%).
- Highest among individuals aged 18-25 (17.0%).
- Highest among those who report having multiple (two or more) races (15.9%).



Characteristics of Depression[12]

- Feelings of sadness, tearfulness, emptiness or hopelessness
- Angry outbursts, irritability or frustration, even over small matters
- Reduced appetite and weight loss or increased cravings for food and weight gain
- Sleep disturbances, including insomnia or sleeping too much/ Tiredness and lack of energy, so even small tasks take extra effort

Depression vs. Grief [25]

Being sad is not the same as having depression. The grieving process is natural and unique to each individual and shares some of the same features of depression. Both grief and depression may involve intense sadness and withdrawal from usual activities.

- In grief, painful feelings come in waves, often intermixed with positive memories of the deceased. In major depression, mood and/or interest (pleasure) are decreased for most of two weeks.
- In grief, self-esteem is usually maintained. In major depression, feelings of worthlessness and self-loathing are common.
- In grief, thoughts of death may surface when thinking of or fantasizing about "joining" the deceased loved one. In major depression, thoughts are focused on ending one's life due to feeling worthless or underserving of living or being unable to cope with the pain of depression.

Depressive Disorders (Depression) [23]

There are several possible types of depression. To be diagnosed, symptoms must be present for at least two weeks. Some depressive disorders develop due to specific circumstances.

- **Major depression** includes symptoms of depressed mood or loss of interest, most of the time for at least 2 weeks, that interfere with daily activities. This is the most common.
- **Persistent depressive disorder** consists of less severe symptoms of depression that last must longer, usually for 2 years.
- **Perinatal depression** occurs during or after pregnancy. Depression that begins during pregnancy is prenatal depression. If it begins after the baby is born, it is postpartum depression.
- **Seasonal affective disorder** comes and goes with the seasons, with symptoms typically starting in the late fall and early winter and going away during the spring and summer.
- **Depression with symptoms of psychosis** is a severe form of depression in which a person experiences psychosis symptoms, such as delusions or hallucinations.

Causes of Depression [6]

- **Genetics:** Depression can run in families.
- **Personality:** People who are easily overwhelmed, are pessimistic or have low self-esteem are more likely to suffer from depression.
- **Environmental factors:** Exposure to neglect, violence, poverty, or other trauma.
- **Brain Changes:** Differences in neurotransmitters or hormones, as well as activity in parts of the brain can contribute to symptoms
- Drug and alcohol abuse
- Major life changes
- Certain medications

Impact of Unaddressed Depression at Individual Level: [26]

- Depression can render people disabled in their work life, family life, and social life. Left untreated, clinical depression is as costly as heart disease or AIDS to the U.S. economy.
- Untreated depression is responsible for more than 200 million days lost from work each year. The annual cost of untreated depression is more than $43.7 billion in absenteeism from work, lost productivity, and direct treatment costs.
- Change in sleep patterns. Though the most common problem is insomnia (difficulty getting adequate sleep), people sometimes feel an increased need for sleep and experience excessive energy loss.
- Weight gain or loss, feelings of hopelessness and helplessness, and irritability.

The link
between Depression &
Alzheimer’s and
related dementias

Depression and Dementia Link [7, 29]

- Studies have suggested a strong link between the number of depressive episodes and the risk of developing dementia, indicating a 14% increase in risk for all-cause dementia with each episode of depression.
- A study published last year that looked at 30 years of health records for 1.7 million people in New Zealand found that those who had been hospitalized for a mental health disorder at any point during adulthood were three to four times as likely to be diagnosed with dementia later.
- The connection could also be attributed to behaviors associated with mental illness that increase the risk for a neurodegenerative disease. For example, people with psychiatric disorders tend to be more isolated, not sleep as well, be less physically healthy and have higher rates of chronic conditions like heart disease and diabetes — all things that increase the risk for dementia.

Depression and Dementia Link [7, 29]

- Both Alzheimer’s disease and major depressive disorder are associated with decreased volume in an area of the brain called the hippocampus, which is involved in both memory and mood.

- Hippocampal atrophy is one of the main and early brain chances in Alzheimer's disease. Evidence from structural imaging studies suggests that depression in late life is associated with a reduced hippocampal volume. It has been hypothesized that long-term exposure to stress or depression leads to a smaller hippocampus, contributing to the development of dementia.

- The association between depression and dementia may emerge from the impact of depression on the hypothalamic-pituitary-adrenal axis (HPA axis), resulting in chronic elevation of adrenal corticoids and impaired negative feedback of the HPA axis.

Depression and Dementia Link [7]

- Older adults with a combination of mild cognitive impairment and recently active depression are a particularly high-risk subgroup.
- Depression might also be an early prodromal symptom, an early sign of neurodegenerative changes that occur in dementia, a psychological reaction to cognitive and functional disability, or a symptom of a related risk factor (cofounder).
- The overall prevalence of dementia is estimated to be 25-30% with a significantly higher prevalence of depressive disorders in Vascular dementia (VaD) (40-50%) and unspecified dementia (32%) compared with Alzheimer's disease (up to 20%)

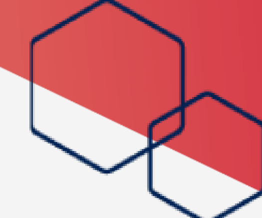
Depression Treatment Associated With Reduced Incidence of Dementia [7]

- Evidence suggests that antidepressant treatment possesses significant anti-inflammatory properties and limits microglial and astroglial inflammatory processes, which play a causal role in the pathogenesis of dementia.

- Continued long-term antidepressant treatment was associated with a reduction in the rate of dementia. However, not to the same level as the rate for the general population.

- Shorter duration of the current depressive episode and duration of untreated depression are associated with better symptomatic and functional outcomes in Major Depressive Disorders.

Depression
intervention
recommendations



Clinical Guidelines for Depression [28]

For initial treatment of older adult patients with depression, the following is recommended in the context of shared decision-making with the patient:

- Either group life review treatment or Group Cognitive Behavioral Therapy (either alone or added to usual care) over no treatment
- Combined pharmacotherapy and Interpersonal Therapy over Interpersonal Therapy alone.

For older adult patients with depression, if a recommended treatment is not acceptable or available, it is suggested that clinicians offer one of the following psychotherapies/interventions:

- Combination cognitive-behavioral therapy and nonspecific therapeutic techniques (individual) with pharmacotherapy, which was superior to pharmacotherapy alone.
- Problem-solving therapy (group), which was superior to reminiscence therapy (group)

Helpful questions to assess depression[19]

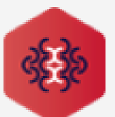
Over the last two weeks, how often have you been bothered by any of the following problems?

1. Little interest or pleasure in doing things
2. Feeling down, depressed, or hopeless
3. Trouble falling or staying asleep, or sleeping too much
4. Feeling tired or having little energy
5. Poor appetite or overeating
6. Feeling bad about yourself – or that you are a failure or have let yourself or your family down
7. Trouble concentrating
8. Moving or speaking so slowly that other people could have noticed? Or being so fidgety and restless that you are moving around more than usual?
9. Thoughts that you would be better off dead or hurting yourself in some way

Encourage Patients With Depression to:[8]

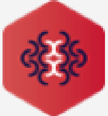
- Focus on self-care. Control stress with activities, such as meditation or yoga. Eat healthy, exercise and get enough sleep. Avoid using alcohol and recreational drugs, which can worsen symptoms.
- Educate family and friends about major depression, which would allow them to help you notice warning signs that your depression may be returning.
- Set small, achievable goals to build confidence and motivation. Build up to bigger goals as you feel better.
- Stick to your treatment plan. Even if you feel better, you should continue going to therapy and taking your medication. Abruptly stopping can cause withdrawal symptoms and a return of depression.
- Seek support. Whether you find encouragement from family members or a support group, maintaining relationships is important, especially in times of crisis.

Depression Treatments [14]

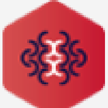


Cognitive Behavioral Therapy. The goal is to become more aware of your own thoughts, attitudes, and expectations. It uses two treatment approaches:

- **Cognitive therapy** is based on the idea that problems are often less caused less by things and situations themselves, but rather the importance people attach to them. The goal is to change perception.
- **Behavioral therapy** is based on the assumption that behavior is learned and can be unlearned. The goal is to identify destructive patterns of behavior and work to change them.



Systemic Therapy. This approach places a huge importance on the relationships between people. This form of therapy might be involved in trying to improve communication within your social circle.



Antidepressants. They can have a mood-lifting effect and increase motivation. Depending on the severity of the depression, it can take several days or weeks before they start working. It is usually taken in addition to other treatments, such as therapy.

Depression Treatments [14]

- **Relaxation techniques and yoga.** There is evidence that suggests that relaxation techniques can help relieve mild to moderate depression.
- **Sports and exercise.** Many people find that physical activity improves their mood and gives them more energy, and it has been found to help relieve depression in some people too. It's best to do this as an addition to other treatments.
- **Light therapy.** This is mainly used for seasonal depression, which affects people in darker months. It involves sitting in front of an artificial light therapy device to mimic sunlight.
- **Sleep deprivation therapy.** This involves temporarily depriving the patient of sleep. They stay awake for a whole night and only go to sleep the following night. It is suggested that sleep deprivation changes the metabolism in the brain and might lead to an improvement in mood. This should also be used in addition to other treatments.

Other benefits of
addressing Depression

Benefits of Seeking Treatment [25]

Improved health. One study found that women who were depressed had double the risk of sudden cardiac death than those who were not.

Sharper Thinking and Better Memory. Studies have found that depression might cause structural changes to the areas of the brain involved in memory and decision-making.

Lower Risk of Future Depression. People who have been depressed have a higher risk of becoming depressed in the future. However, ongoing therapy or medication could help prevent depression from coming back.

Benefits of Seeking Treatment [25]

Better Sleep. Depression can disrupt your circadian rhythm by making it hard to fall asleep or by waking you too soon. Lack of sleep can also make depression more severe. Treating your depression ultimately improves your sleep.

Pain Relief. Treatment for your depression can make you feel better emotionally and may reduce pain. Studies have found that people who have conditions like arthritis and migraines feel more pain and are more disabled by it, if they suffer from depression.

Better Performance at Work. Depression can make it hard to maintain a job because you might lose focus at work and make more mistakes. However, management of your depression can make you more attentive in the workplace.

Depression disparities and
the impact of
social determinants of health

Depression Stigma [17]

- Stigma affected the lives of participants and influenced their willingness to seek help and access support. Even when they had sought help and were receiving treatment, they remained cautious about sharing details concerning their depression diagnosis and/or treatment with their loved ones.
- Although it is a serious condition at any age, depression is a particularly complex problem for older adults. It is associated with a decline in well-being, daily functioning, and independence, and increased disability, suicidal ideation, and mortality
- Formal help-seeking efforts had been delayed and/or hindered by stigma of depression in older age, struggling to become self-motivated to seek help, difficulty accessing formal support, ageism deterring help-seeking, and the challenge of obtaining an initial diagnosis.

Equity and Social Determinants of Health [13]

Race and Socioeconomic Status were two factors that played a huge role in depression management and treatment.

- Depression treatment rates were lower for African Americans and Hispanics compared to whites, and the odds of African Americans were half that of whites for receiving depression treatment.
- A study that observed racial/ethnic differences in Medicaid funded mental health services found lower utilization of services among African Americans and Hispanics. Also, whites were more likely to receive their treatment in community-based settings, while African Americans and Hispanics were more likely to receive their care in inpatient settings, emergency departments, and outpatient settings
- While the Medicaid population includes many low socioeconomic status (SES), high risk individuals, race may operate as an additional risk factor for inadequate depression treatment in this high-risk population.

Equity and Social Determinants of Health [15]

- The largest SDoH contributors to disparities included education, mother's education, father's education, income, number of years worked, Medicare coverage, and Medicaid coverage.
- There was strong evidence that showed selected SDoH accounted for larger proportions of Black–White disparities in depressive symptomatology, cognition, and self-rated health than each of the other four domains (demographics, physical health, mental health and cognition, and health behaviors and health care utilization)
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What patients think
(A List)

What Matters Most Insights Survey: Depression Diagnosis

- **23%** believe they are depressed
  - **11%** unsure
  - **80%** of this group officially diagnosed
- **90%** believe that depression affects the brain & brain health
  - **63%** say the impact is significant
- **39%** think depression has affected <u>their</u> brain health
  - **24%** unsure

- 60% feel SOMEWHAT / VERY INFORMED about effects of depression
- 13% feel TOTALLY UNINFORMED about effects of depression
- Information largely obtained online (58%), from HCPs (54%), and from TV (18%)

Respondents largely over age 65 (67%), Caucasian (92%), female (78%), college educated or greater (73%)

N=640 (ADRD/MCI diagnosis: 55; high risk for ADRD: 169; current caregivers: 72; former caregivers: 191; general interest in brain health: 153)

Tools and resources for health professionals

Provider Resources

The following resources to address and manage depression can be shared with patients:

- American Psychiatric Association - https://www.apa.org/depression-guideline/guideline.pdf
- Gerontological Society of America - https://www.geron.org/
- Substance Abuse and Mental Health Services Administration - https://www.samhsa.gov/medications-substance-use-disorders/training-resources
- Communicating Brain Health Messaging with the African American and Latino Communities - https://www.usagainstalzheimers.org/sites/default/files/2022-04/BrainHealthEquity_PracticalGuide_Final_Digital.pdf
- BrainGuide by UsAgainstAlzheimer's - https://mybrainguide.org/

Patient Resources

The following resources to address and manage depression can be shared with patients:

- To locate treatment facilities or providers, visit FindTreatment.gov or call SAMHSA's National Helpline at 800-662-HELP (4357).
- If you or someone you know is struggling or in crisis, help is available. Call or text 988 or chat 988lifeline.org.
- To learn how to get support for mental health disorders, visit FindSupport.gov
- To learn how to support a loved one who is dealing with a mental health crisis or disorder, visit https://www.samhsa.gov/families

References

1. Alzheimer's Association. (2022). 2022 Alzheimer’s Disease Facts and Figures. Alzheimer's Association. https://www.alz.org/media/Documents/alzheimers-facts-and-figures.pdf
2. Alzheimer's Association. (2022). Causes and Risk Factors for Alzheimer’s Disease. Alzheimer's Association. https://www.alz.org/alzheimers-dementia/what-is-alzheimers/causes-and-risk-factors
3. Alzheimer's Association. (2022). Younger/Early-Onset Alzheimer’s. Alzheimer's Association. https://www.alz.org/alzheimers-dementia/what-is-alzheimers/younger-early-onset
4. Anstey KJ, von Sanden C, Salim A, O’kearney R. Smoking as a risk factor for dementia and cognitive decline: a meta-analysis of prospective studies. American journal of epidemiology. 2007;166:367-78
5. Aranda, Maria P., Vega, William A., Richardson, Jason R., Resendez, Jason. (2019). Priorities for Optimizing Brain Health Interventions Across the Life Course in Socially Disadvantaged Groups. Florida International University and UsAgainstAlzheimer’s.
6. Cunha, J. (2021). *What are the four types of depression?*. eMedicineHealth. https://www.emedicinehealth.com/what_are_the_four_types_of_depression/article_em.htm
7. Dafsari, F. S., & Jessen, F. (2020). Depression—an underrecognized target for prevention of dementia in Alzheimer's disease. *Translational Psychiatry*, *10*(1). https://doi.org/10.1038/s41398-020-0839-1
8. *Depression*. SAMHSA. (n.d.). https://www.samhsa.gov/mental-health/depression#:~:text=Focus%20on%20self%2Dcare.&text=Eat%20healthy%2C%20exercise%2C%20and%20get,make%20depression%20harder%20to%20treat
9. Gardener, H., Wright, C. B., Dong, C., Cheung, K., DeRosa, J., Nannery, M., Stern, Y., Elkind, M. S., & Sacco, R. L. (2016). Ideal Cardiovascular Health and Cognitive Aging in the northern Manhattan study. Journal of the American Heart Association, 5(3). https://doi.org/10.1161/jaha.115.002731
10. Habert, J., Katzman, M. A., Oluboka, O. J., McIntyre, R. S., McIntosh, D., MacQueen, G. M., Khullar, A., Milev, R. V., Kjernisted, K. D., & Chokka, P. R. (2021). *Functional recovery in major depressive disorder: Focus on early optimized treatment*. Psychiatrist.com. https://www.psychiatrist.com/pcc/depression/early-optimized-treatment-in-mdd/
11. Haffin, H. (n.d.). *Depression: The benefits of early and appropriate treatment*. The American journal of managed care. https://pubmed.ncbi.nlm.nih.gov/18041868/
12. Mayo Foundation for Medical Education and Research. (2022). *Depression (major depressive disorder)*. Mayo Clinic. https://www.mayoclinic.org/diseases-conditions/depression/symptoms-causes/syc-20356007
13. McGregor, B., Li, C., Baltrus, P., Douglas, M., Hopkins, J., Wrenn, G., Holden, K., Respress, E., & Gaglioti, A. (2020). Racial and ethnic disparities in treatment and treatment type for depression in a national sample of Medicaid recipients. *Psychiatric Services*, *71*(7), 663–669. https://doi.org/10.1176/appi.ps.201900407
14. National Center for Biotechnology Information. (n.d.). *Treatments for depression* . National Library of Medicine. https://www.ncbi.nlm.nih.gov/books/NBK279282/

References

15. Nye, J. (2023). *Social Determinants of health contribute to racial and ethnic disparities in depression, cognition*. Psychiatry Advisor. https://www.psychiatryadvisor.com/home/topics/general-psychiatry/sdoh-contribute-racial-ethnic-disparities-depression-cognition/#:~:text=Income%2C%20education%2C%20years%20worked%2C,The%20American%20Journal%20of%20Psychiatry.%20%E2%80%8B

16. Podcasy, J. L., & Epperson, C. N. (2016). Considering sex and gender in Alzheimer disease and other dementias. Dialogues in clinical neuroscience, 18(4), 437.

17. Polacsek, M., Boardman, G. H., & McCann, T. V. (2018). Help-seeking experiences of older adults with a diagnosis of moderate depression. *International Journal of Mental Health Nursing*, *28*(1), 278–287. https://doi.org/10.1111/inm.12531

18. Rusanen, M., Kivipelto, M., Quesenberry, C. P., Zhou, J., & Whitmer, R. A. (2011). Heavy smoking in midlife and long-term risk of alzheimer disease and vascular dementia. *Archives of Internal Medicine*, *171*(4). https://doi.org/10.1001/archinternmed.2010.393

19. Screening for depression. Screening for Depression | Anxiety and Depression Association of America, ADAA. (n.d.). https://adaa.org/living-with-anxiety/ask-and-learn/screenings/screening-depression

20. The United States Government. (2023). *Fact sheet: Biden-Harris Administration announces new actions to tackle nation's mental health crisis*. The White House. https://www.whitehouse.gov/briefing-room/statements-releases/2023/05/18/fact-sheet-biden-harris-administration-announces-new-actions-to-tackle-nations-mental-health-crisis/

21. Tips to manage depression. Anxiety and Depression Association of America, ADAA. (n.d.). https://adaa.org/understanding-anxiety/depression/tips

22. Tyas SL, White LR, Petrovitch H, Ross GW, Foley DJ, Heimovitz HK, Launer LJ. Mid-life smoking and late-life dementia: the Honolulu-Asia Aging Study. Neurobiology of aging. 2003;24:589-96.

23. U.S. Department of Health and Human Services. (n.d.). *Depression*. National Institute of Mental Health. https://www.nimh.nih.gov/health/topics/depression

24. U.S. Department of Health and Human Services. (n.d.). *Major depression*. National Institute of Mental Health. https://www.nimh.nih.gov/health/statistics/major-depression

25. WebMD. (n.d.). *Benefits of depression treatment*. WebMD. https://www.webmd.com/depression/ss/slideshow-10-benefits

26. WebMD. (n.d.). *Side effects of untreated depression*. WebMD. https://www.webmd.com/depression/untreated-depression-effects

27. What is depression?. Psychiatry.org - What Is Depression? (n.d.). https://www.psychiatry.org/patients-families/depression/what-is-depression

28. American Psychological Association. (2019). Clinical practice guideline for the treatment of depression across three age cohorts. Retrieved from https://www.apa.org/depression-guideline

29. Smith, D. G. (2023, November 8). Mental illness, especially later in life, can increase the risk of dementia. The New York Times. https://www.nytimes.com/2023/11/08/well/mind/mental-illness-depression-dementia.html?smid=url-share

Thank you!

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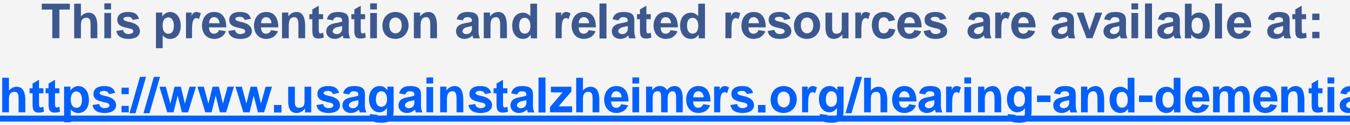

Please register for additional courses at:

https://www.usagainstalzheimers.org/brain-health-academy

For more information, contact:

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