



LIFE (Lifestyle Interventions to Fend off dEmentia): A Systematic Review and Network Meta-Analysis of Lifestyle Interventions to Prevent Dementia.

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Weston Family
Foundation

I have no commercial support/conflict of interest.

Dr. Goodarzi will avoid making personal recommendations about the products and will limit the presentation to a discussion of the evidence.

Faculty/Presenter Disclosure



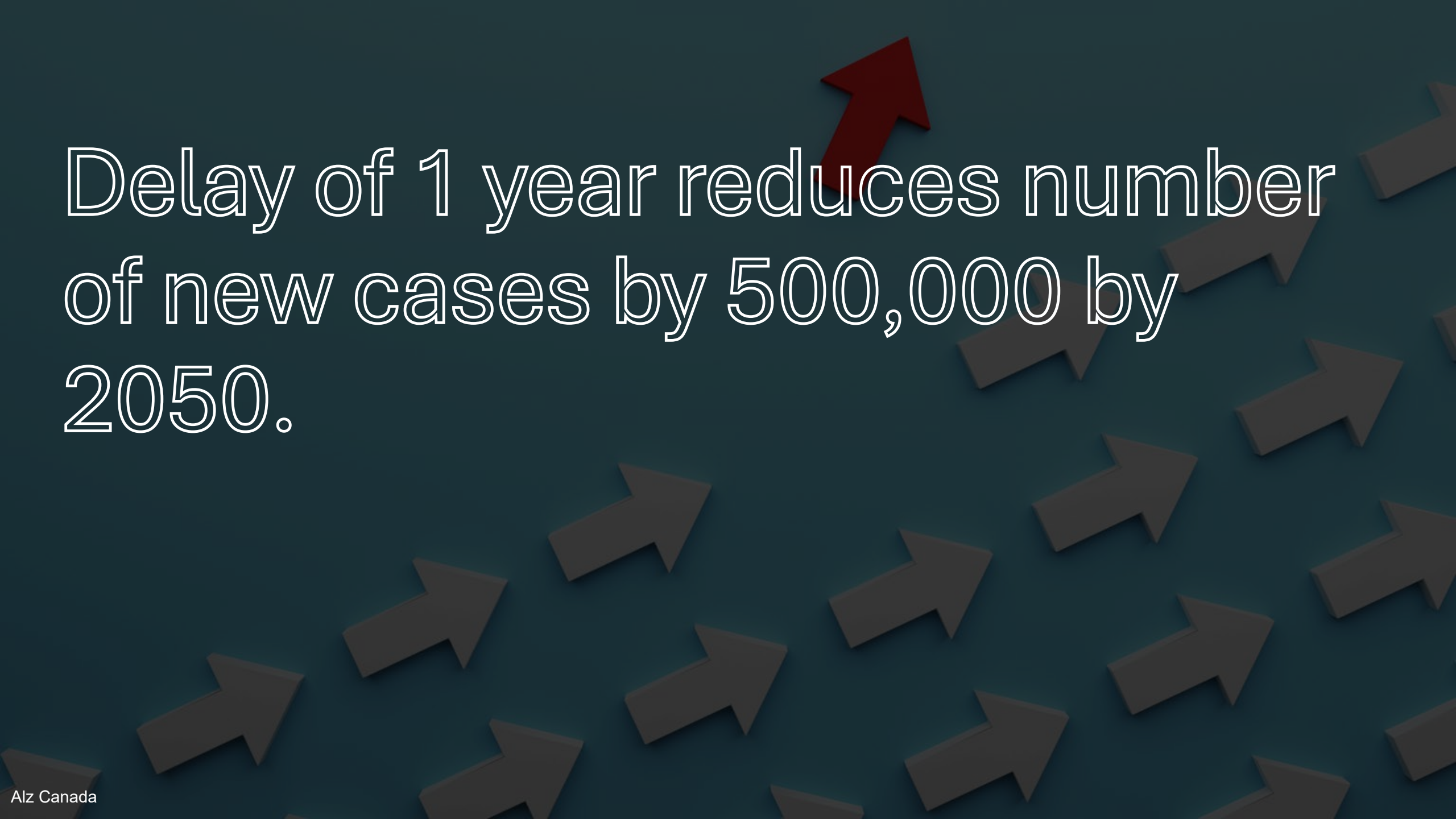
Faculty:
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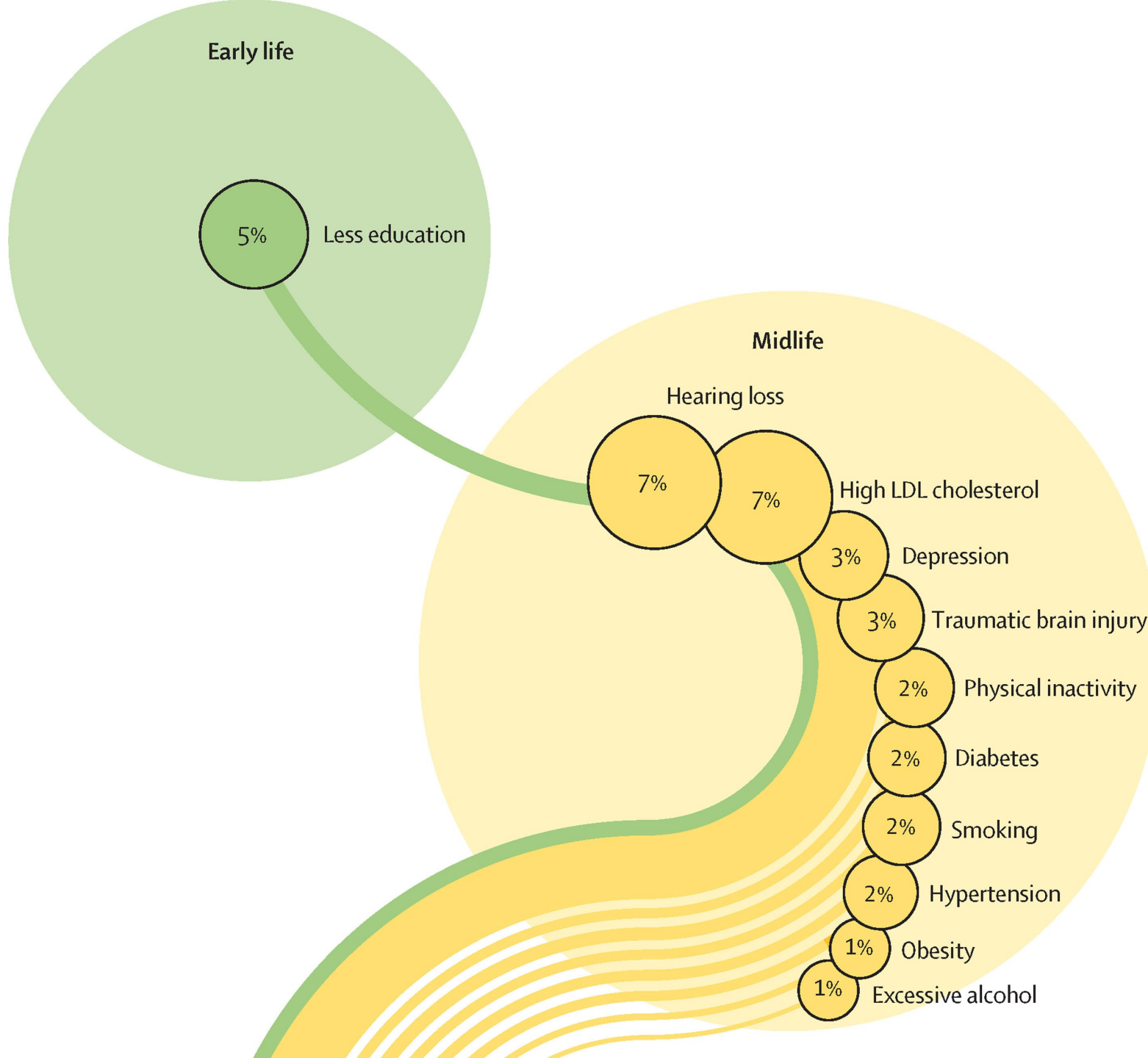
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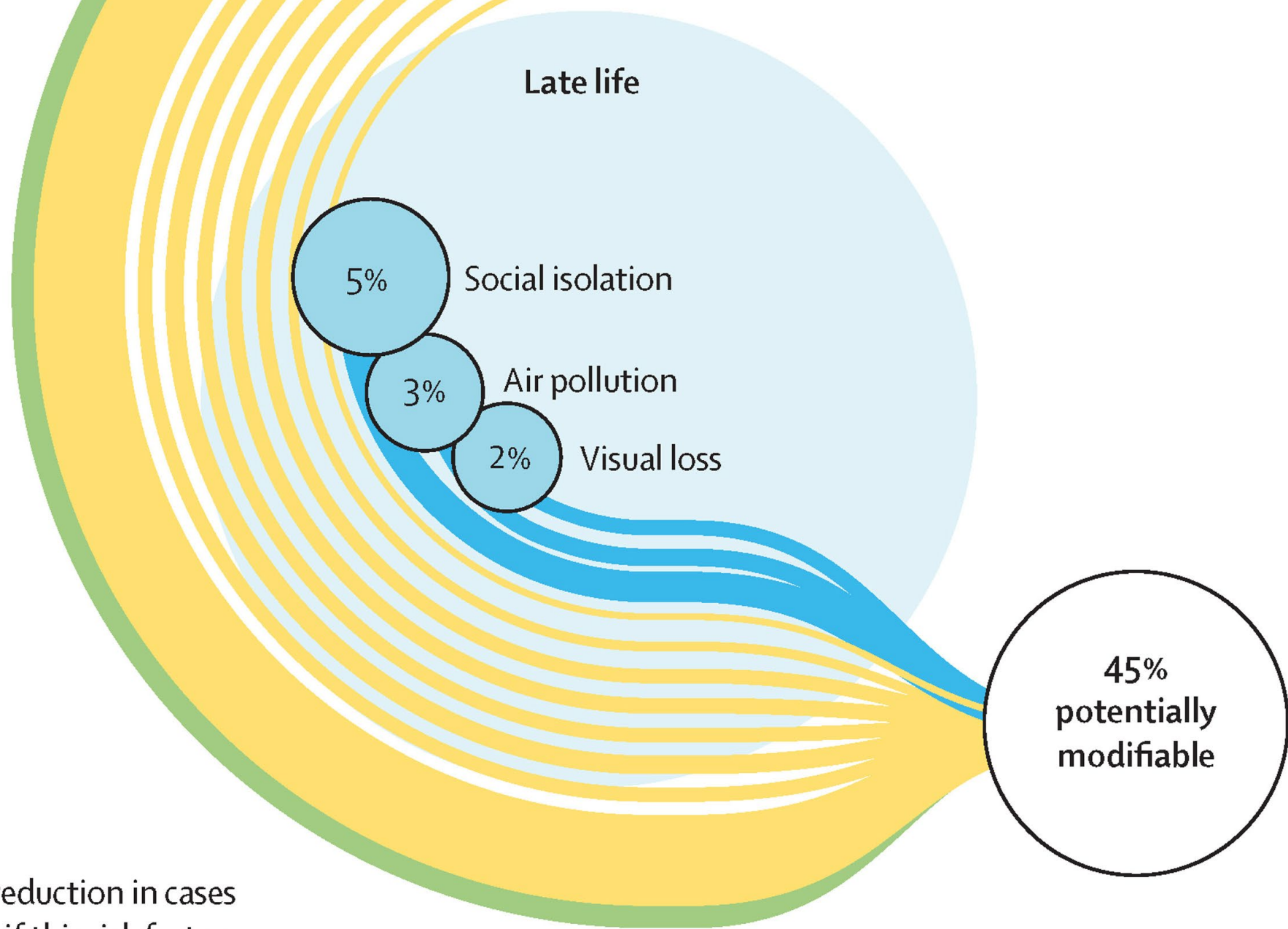


45% of cases of dementia are potentially modifiable.



Delay of 1 year reduces number
of new cases by 500,000 by
2050.





n Percentage reduction in cases of dementia if this risk factor is eliminated

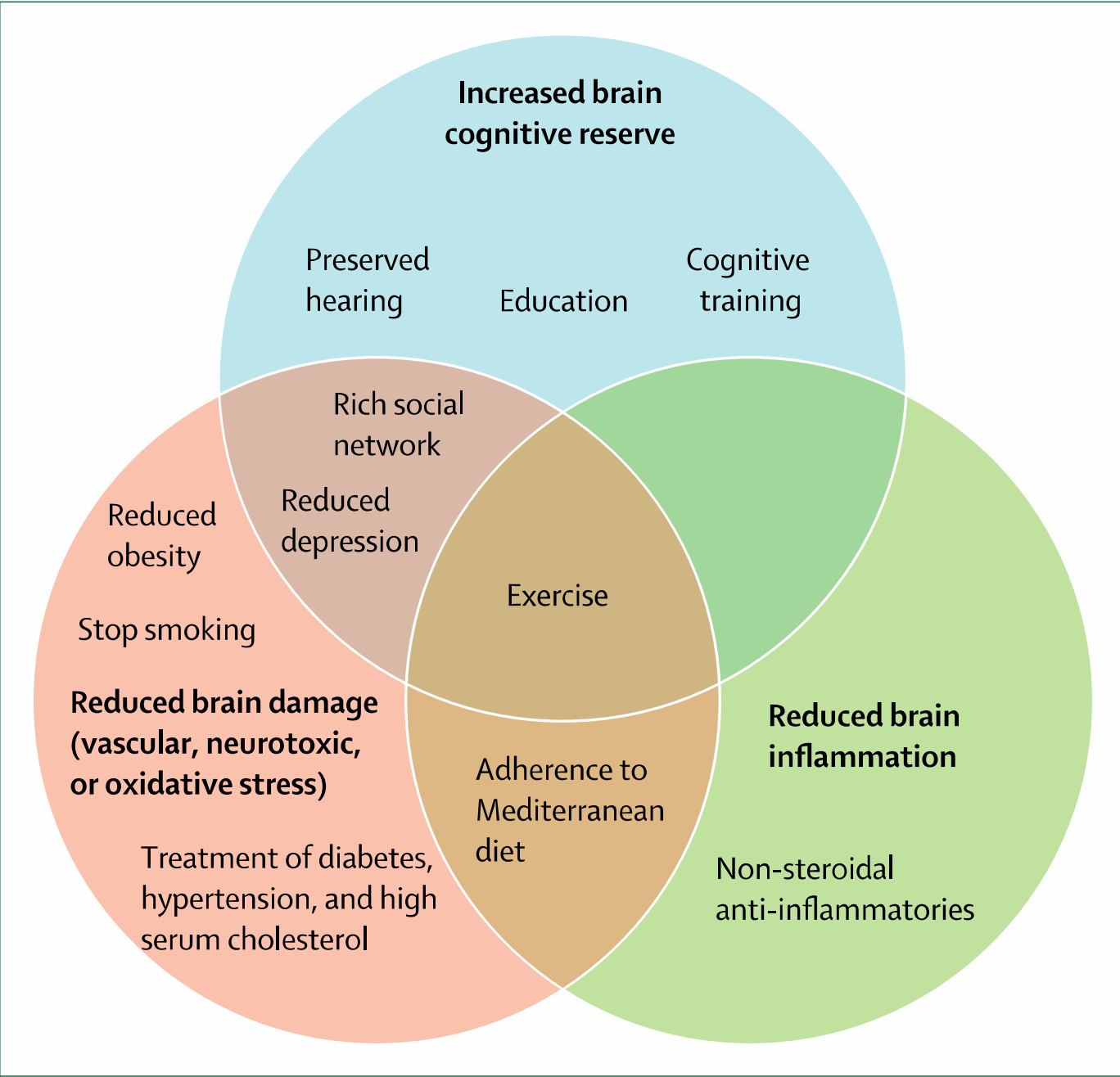
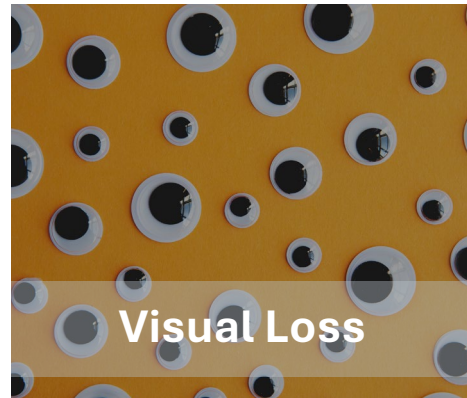
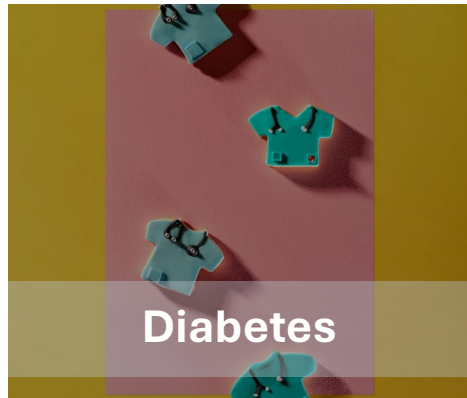
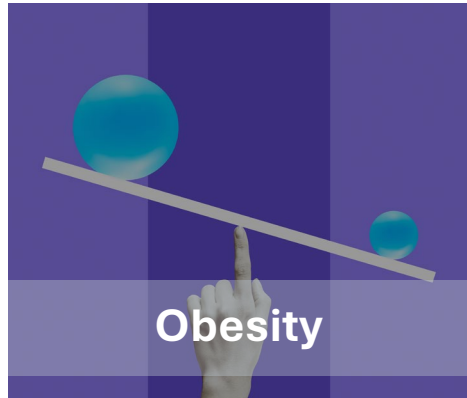
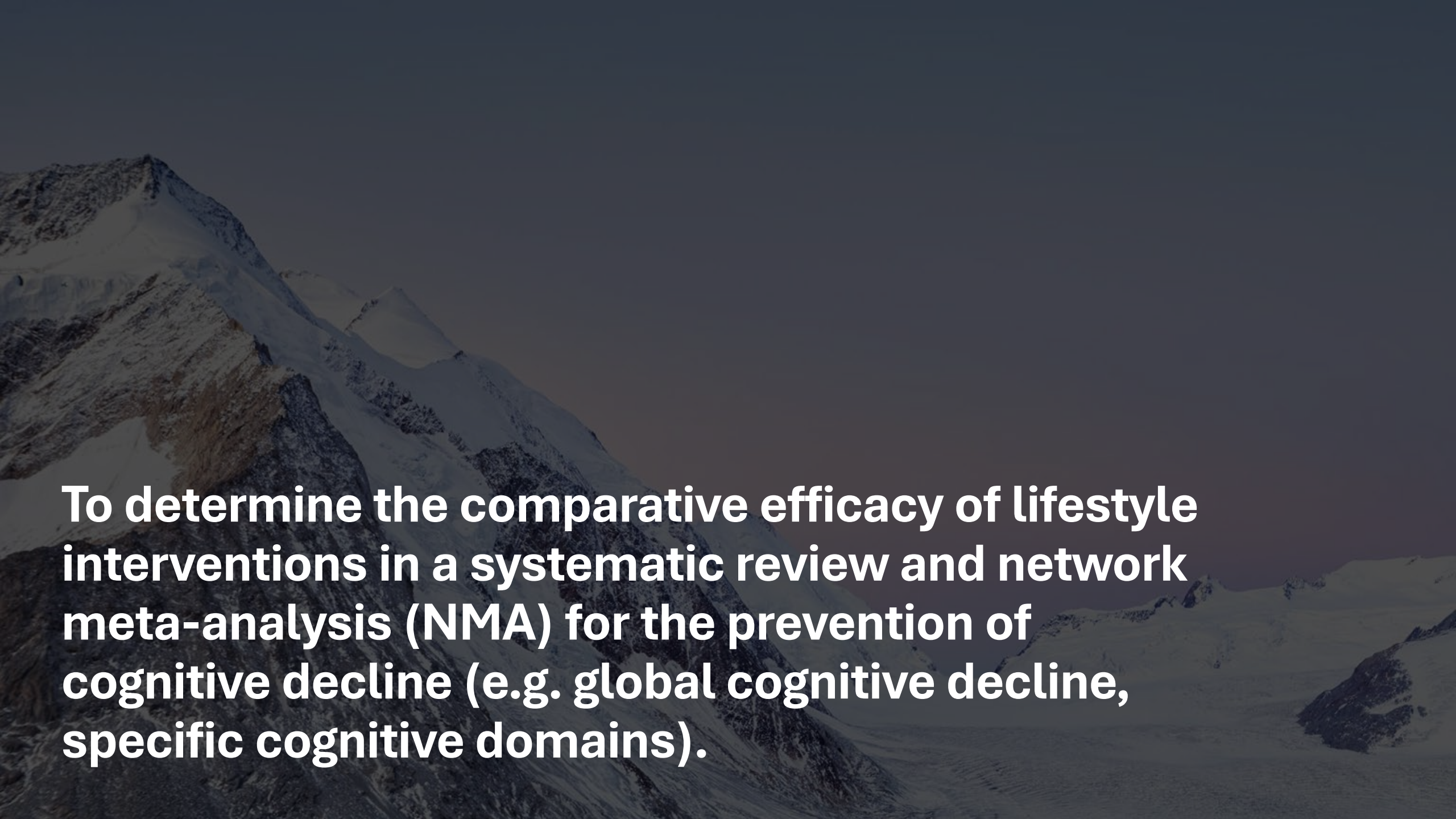


Figure 5: Potential brain mechanisms for preventive strategies in dementia





To determine the comparative efficacy of lifestyle interventions in a systematic review and network meta-analysis (NMA) for the prevention of cognitive decline (e.g. global cognitive decline, specific cognitive domains).

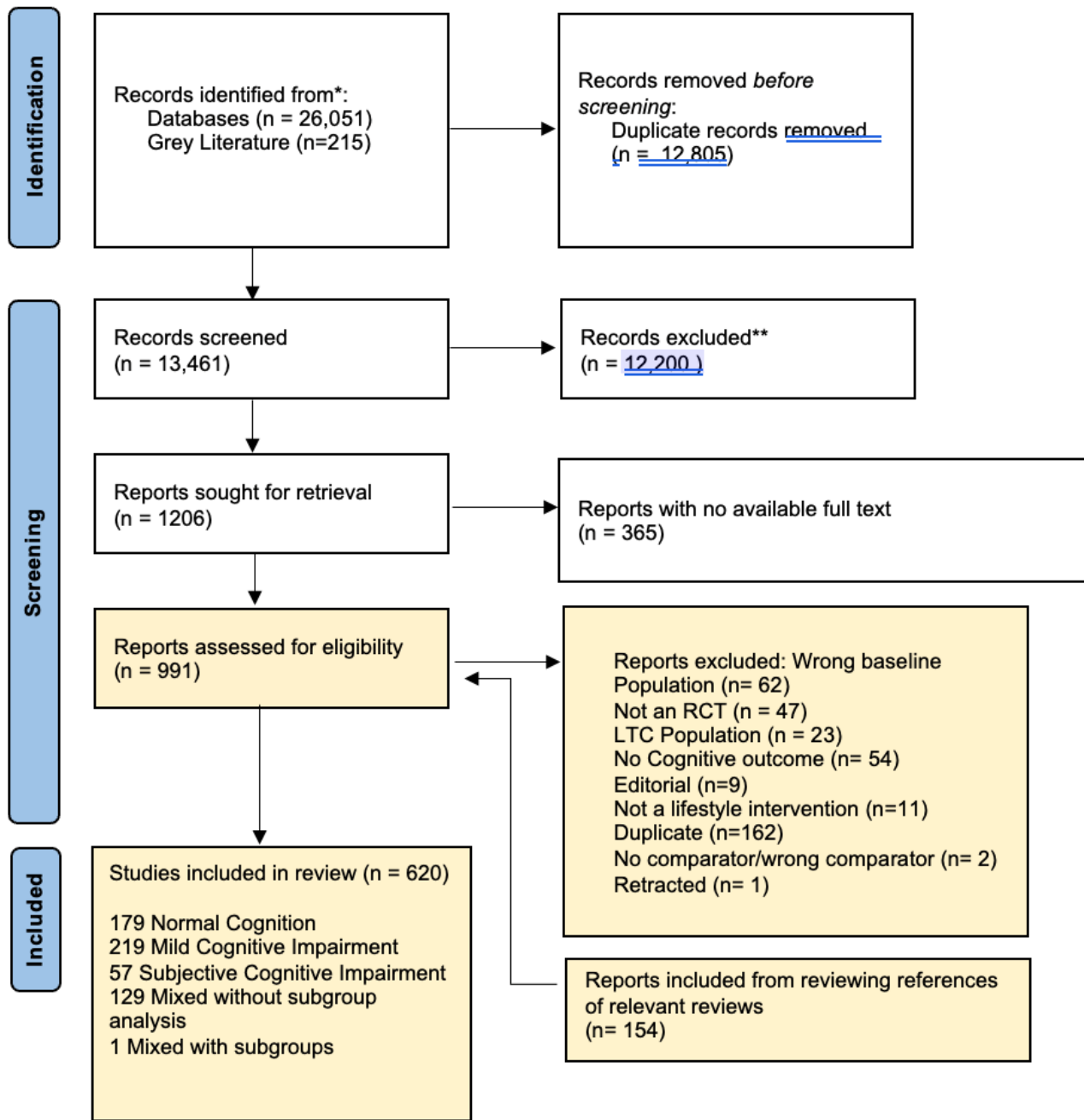
LIFE (Lifestyle Interventions to Fend off dEmentia): A Systematic Review and Network Meta-Analysis of Lifestyle Interventions to Prevent Dementia.



Common Lifestyle Risk Factors



Identification of studies via databases and registers



Normal baseline Cognition
or Cognitive Scores

Abstract Screening

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graph TD; A[Abstract Screening] --> B[Full Text Screening]; B --> C[Extraction]; C --> D[Risk of Bias]; D --> E[Node Categorization];
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Full Text Screening

Extraction

Risk of Bias

Node Categorization

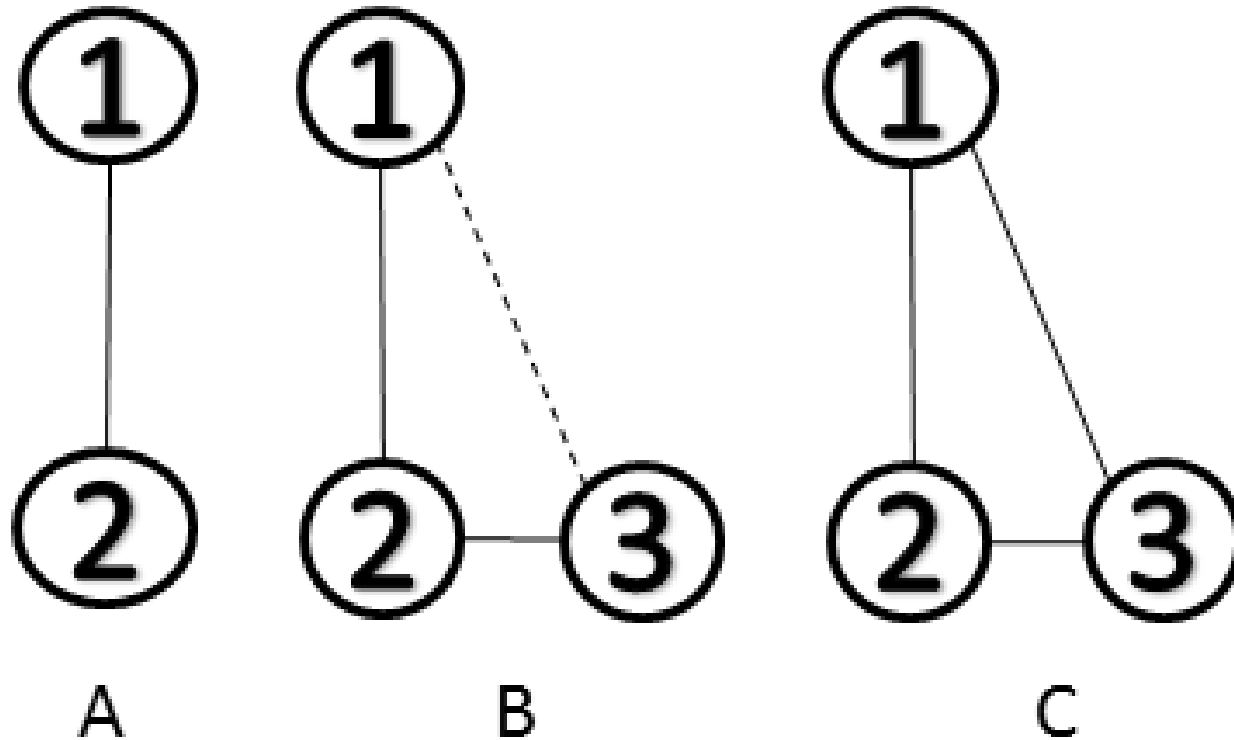
A hand holding a blue Ethernet cable connector against a background of blurred server racks. The text 'Synthesis' is overlaid in white outline font.

Synthesis

Prioritized ITT analyses, studies excluded where compared similar interventions or insufficient information for extraction and analyses

Network Meta-Analysis: Direct and Indirect Evidence

Watt JA, et al. Research Techniques Made Simple: Network Meta-Analysis. *J Invest Dermatol.* 2019;139(1):4-12 e1



Panel A demonstrates a pairwise comparison between interventions 1 and 2. Panel B demonstrates two direct comparisons (intervention 1 vs. 2 and intervention 2 vs. 3) and one indirect comparison (intervention 1 vs. 3) in a network meta-analysis. Panel C demonstrates 3 direct comparisons (intervention 1 vs. 2, intervention 2 vs. 3, and intervention 1 vs. 3) that form a closed loop.

69 Studies included
NMA

1996-2024

Includes 30,970
Cognitively Healthy
Persons

- Range 20 – 5947 persons
- Median 87 persons

Duration 4 weeks to 740
weeks

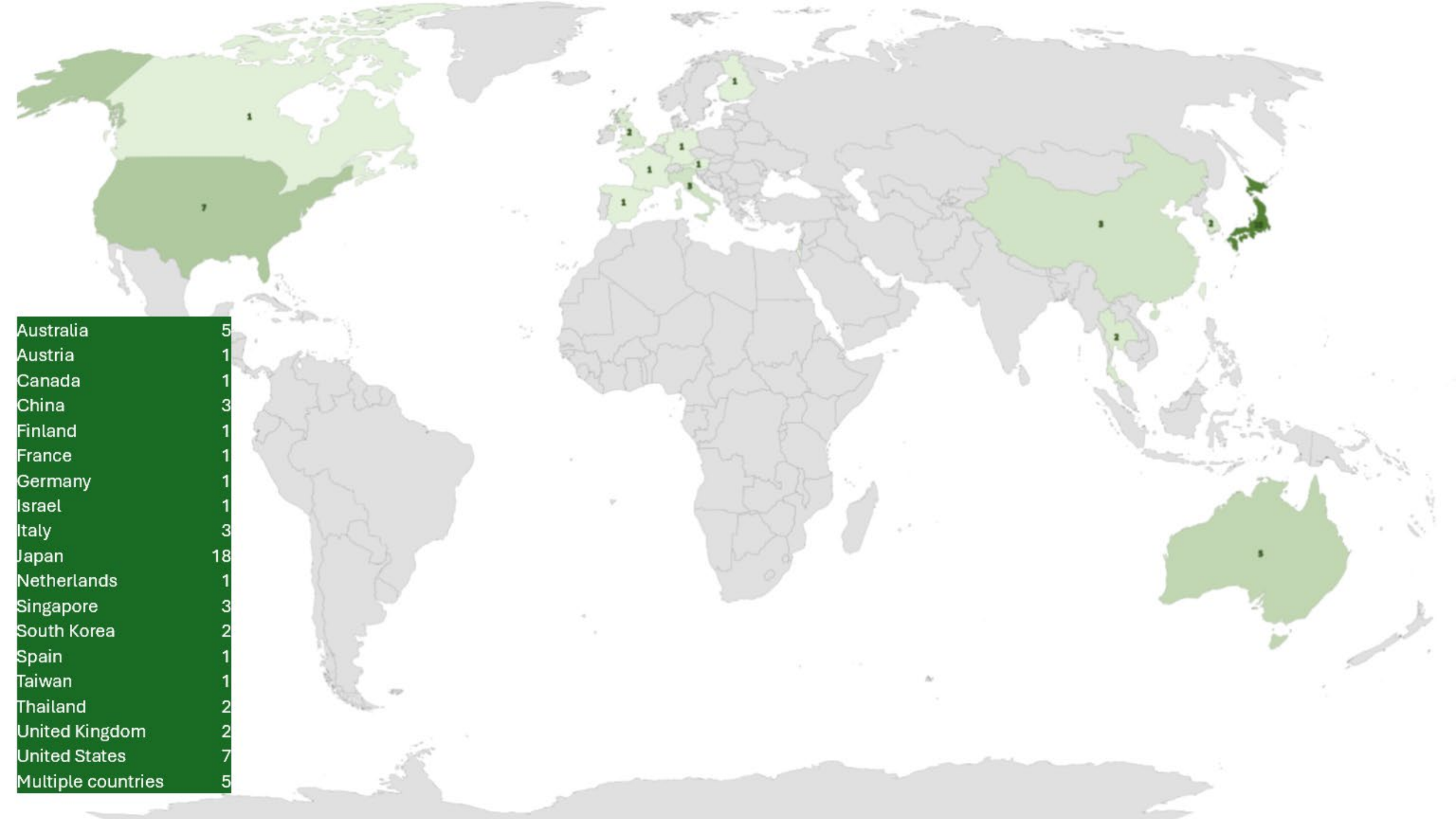
- Median 17 weeks

Mean age
approximately 69 years
old

64.2% Female

34 MMSE, 8 MoCA,
3MS, ACE-R, Global
composites etc.

Community, Registry,
Prior Trials, General
Population



Randomization

Low = 51

Some Concerns = 15

High = 3

Deviations Intervention

Low = 45

Some Concerns = 22

High = 0

Missing Outcome Data

Low = 60

Some Concerns = 8

High = 0

Measurement of the Outcome

Low = 58

Some Concerns = 8

High = 2

Selection of Results

Low = 60

Some Concerns = 4

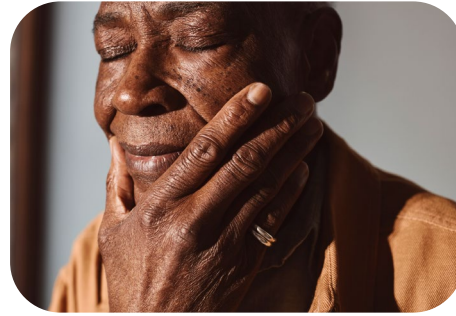
High = 2



Exercise and diet (2)



Cognitive stimulation (6)



Mindfulness (1)



Supplements (16)



Mediterranean diet (5)



Multicomponent (10)



Aerobic exercise (10)



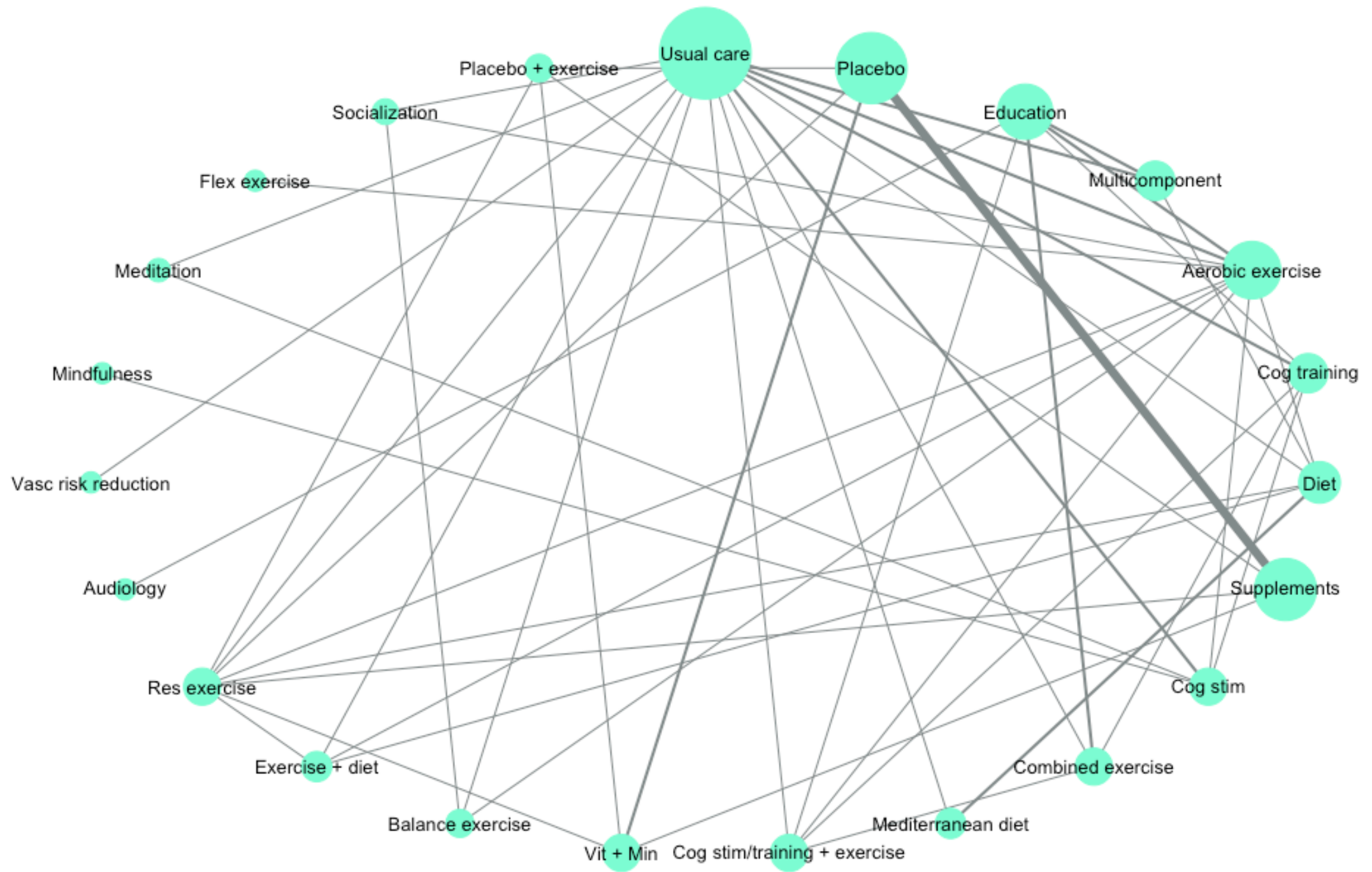
Socialization (1)



Flexibility exercise (1)



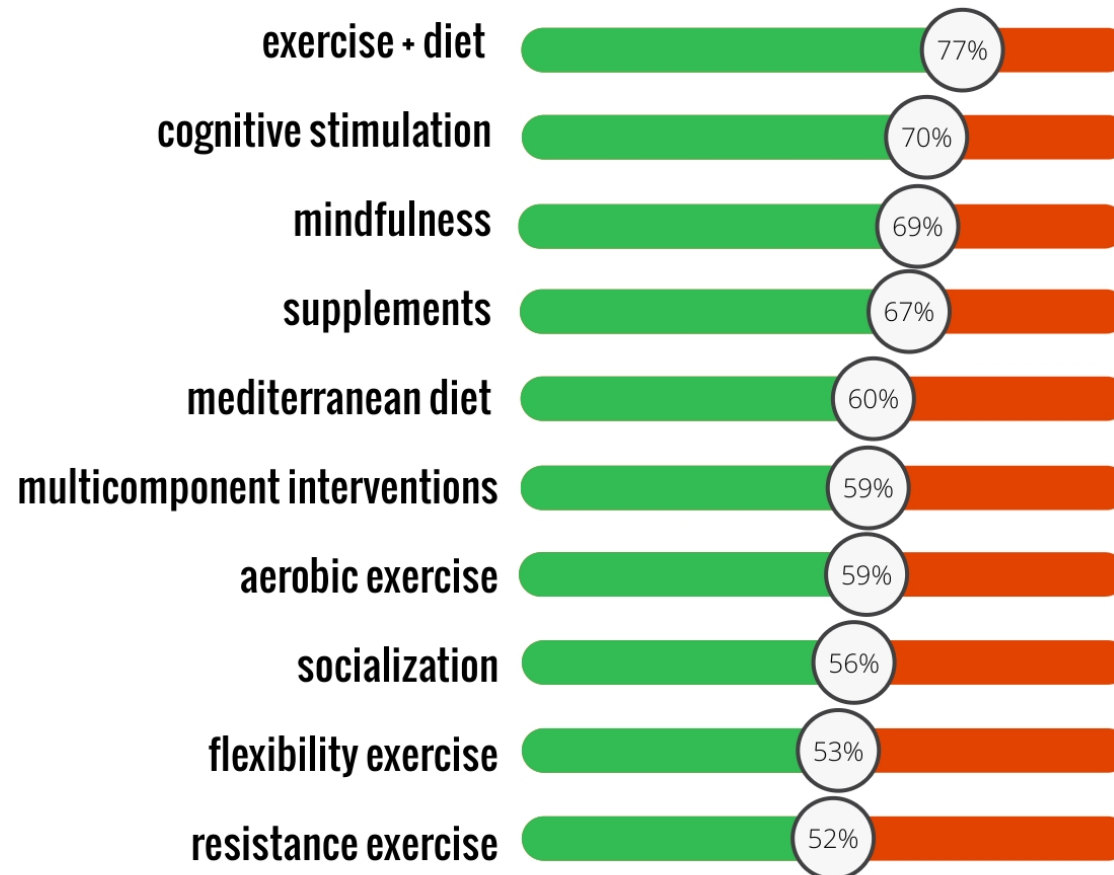
Resistance exercise (2)



Which intervention is most likely to work?

The percent represents the probability that an intervention will be most effective in improving cognition in a healthy population.

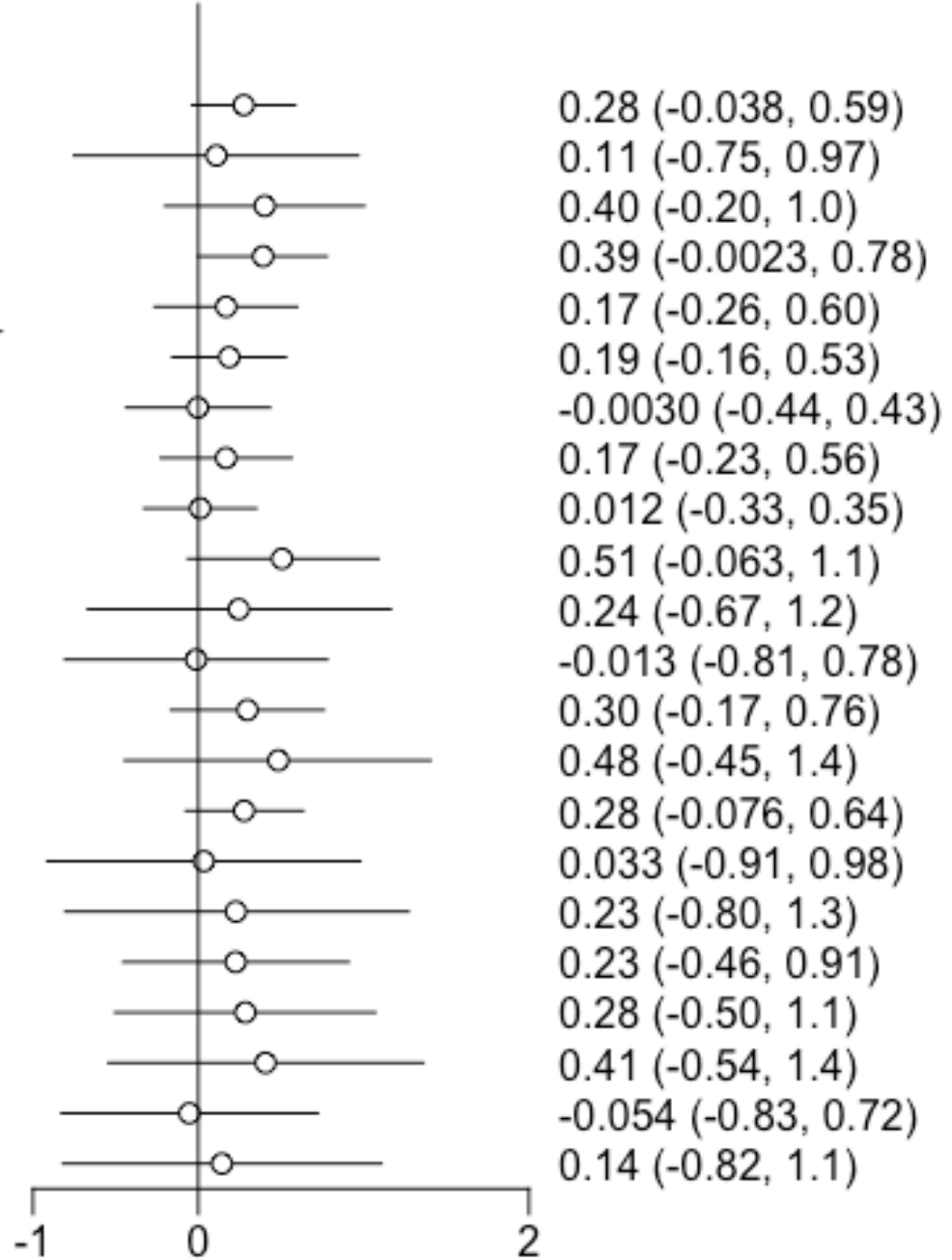
When all interventions are compared to usual care in a network meta-analysis



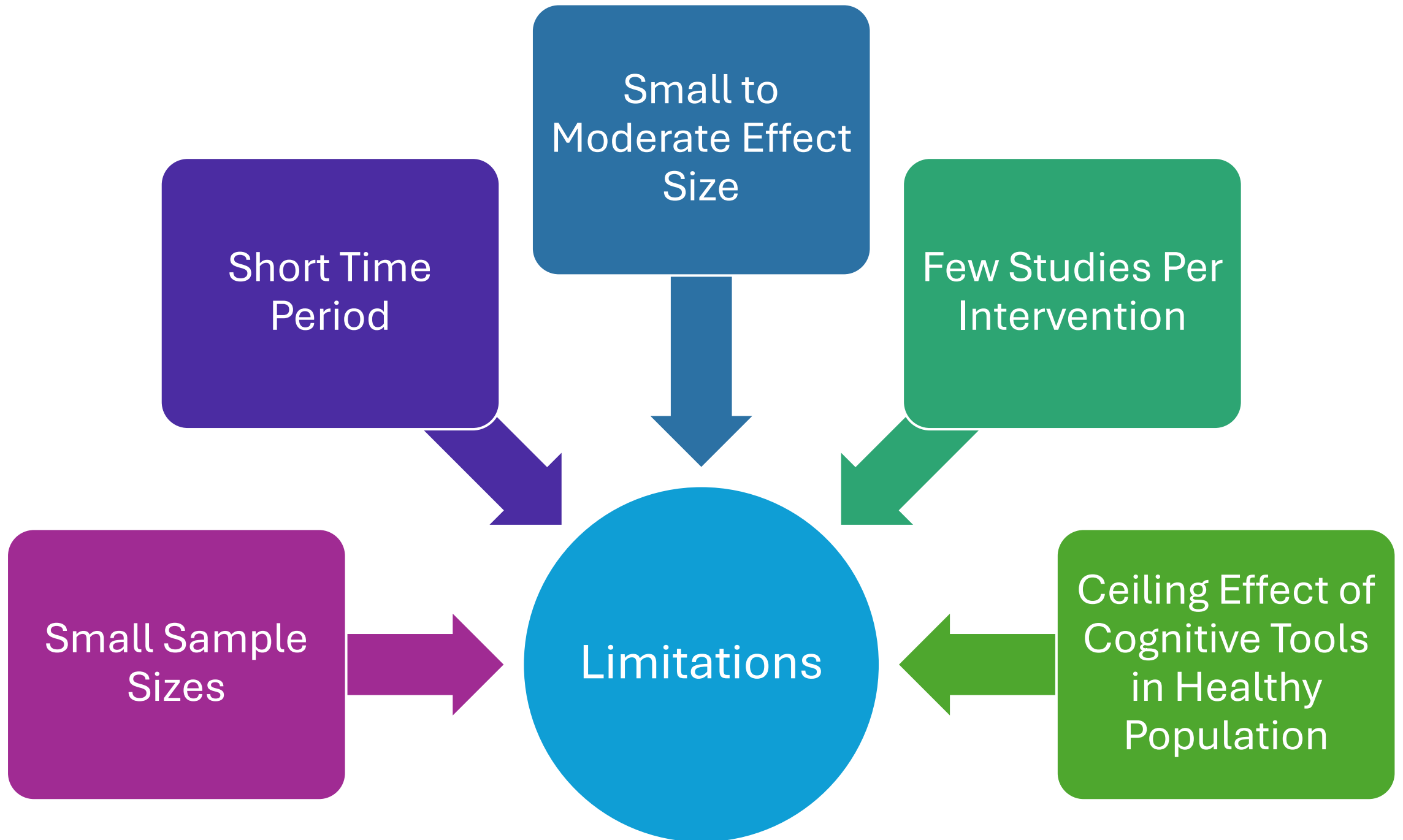
Standardized Mean Difference (95% CrI)

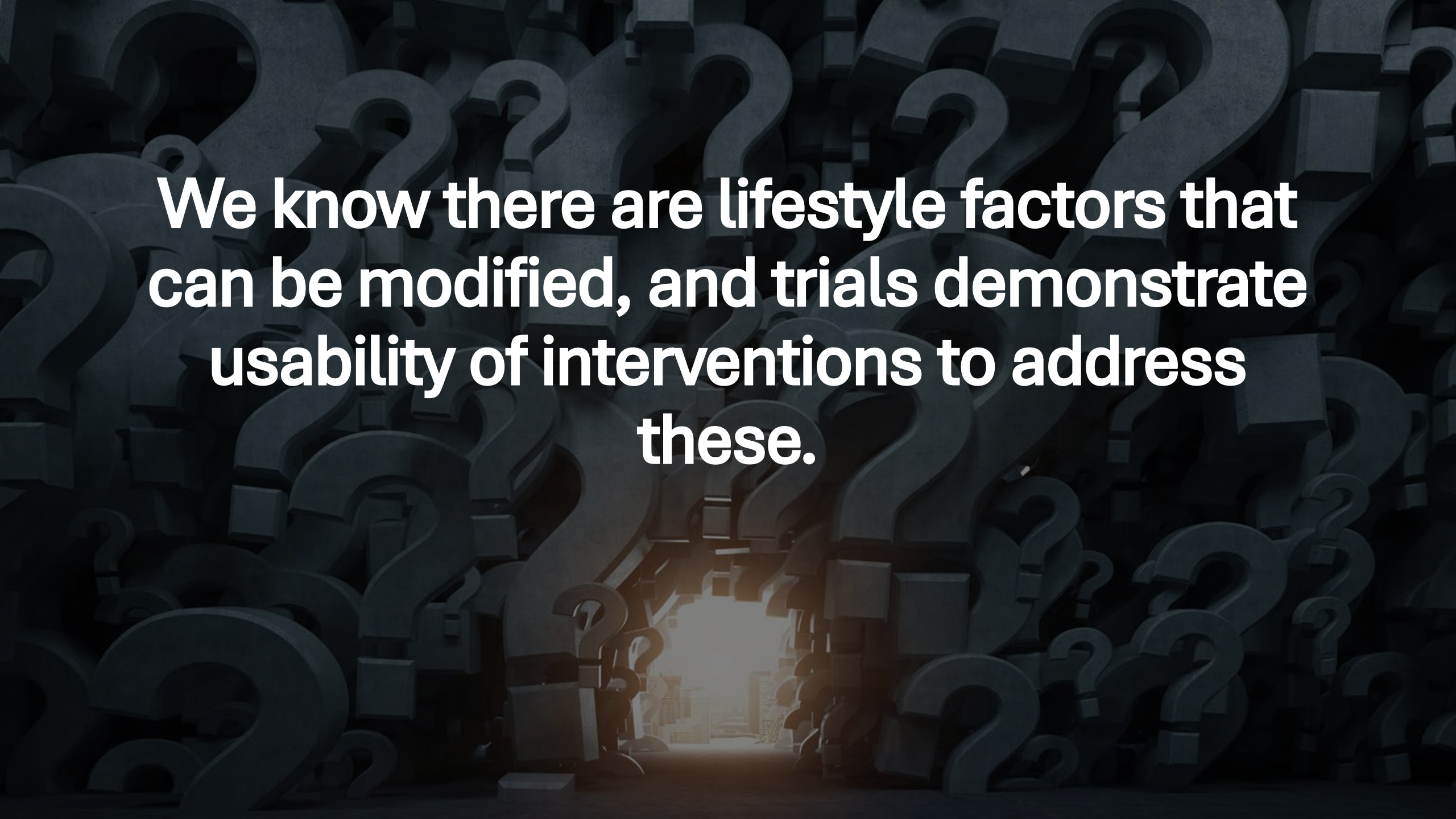
Compared with Usual_care

- Aerobic_Exercise
- Audiology
- Balance_Exercise
- Cognitive_stimulation
- Cognitive_Stimulation_Training_Exercise_
- Cognitive_Training
- Combined_Exercise
- Diet
- Education
- Exercise_Diet
- Flexibility_Exercise
- Meditation
- Mediterranean_Diet
- Mindfulness_
- Multicomponent_intervention
- Placebo
- Placebo_Exercise
- Resistance_Exercise
- Socialization
- Supplements
- Vascular_Risk_Reduction
- Vitamins_Minerals

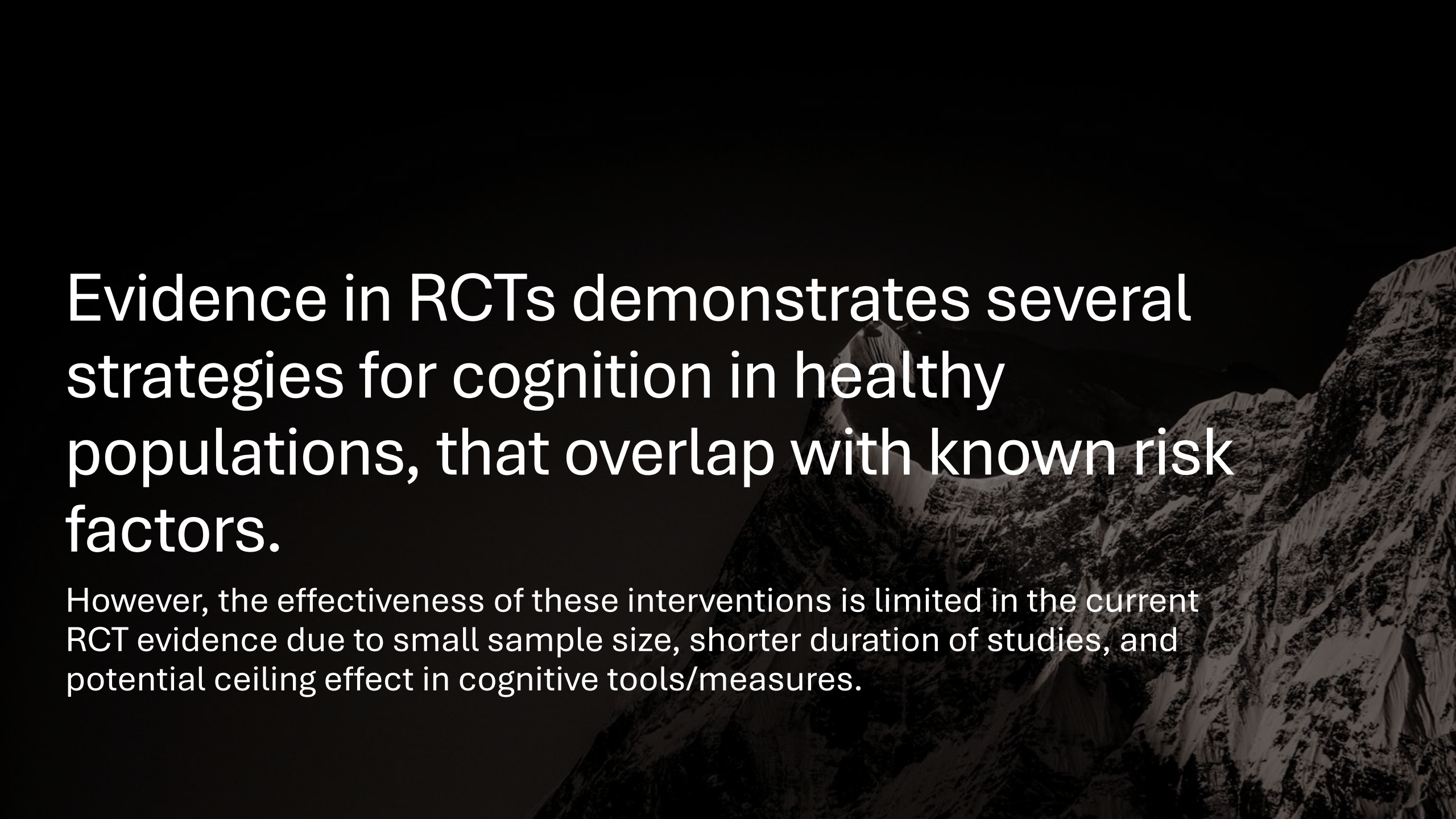


Small Effect Sizes;
Wide Credible Intervals





We know there are lifestyle factors that can be modified, and trials demonstrate usability of interventions to address these.



Evidence in RCTs demonstrates several strategies for cognition in healthy populations, that overlap with known risk factors.

However, the effectiveness of these interventions is limited in the current RCT evidence due to small sample size, shorter duration of studies, and potential ceiling effect in cognitive tools/measures.

A photograph of a brown dog lying on a wet, reflective floor. The dog has a sad expression, looking down. To its right is a hamburger with lettuce, tomato, and cheese. The text "Ok but what do I do about that!!!" is overlaid in white on the image.

Ok but what do I do about that!!!

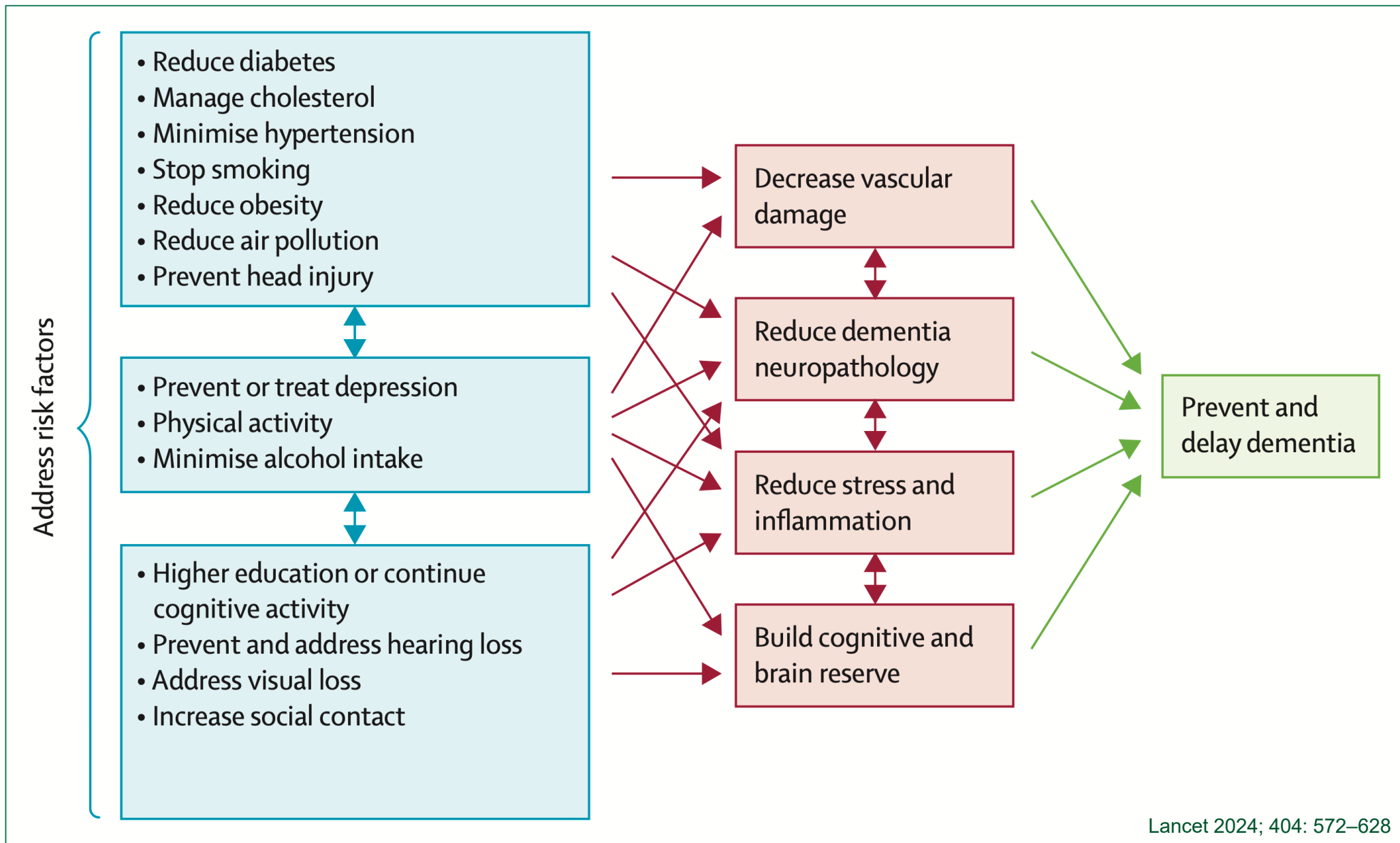


Figure 2: Possible brain mechanisms for enhancing or maintaining cognitive reserve and risk reduction of potentially modifiable risk factors in dementia

10 ways to reduce your risk of dementia

Alzheimer
Society



Be physically active each day

Get moving! Any physical activity is better than none at all.



Protect and support your hearing

Hearing loss in midlife can increase dementia risk by an average of 90%. Use hearing aids if needed – they help reduce that risk.



Stay socially active

Stay connected and engaged with your family, friends and community.

Social isolation in later life can increase dementia risk by an average of 60%.



Manage your medical conditions

In collaboration with your health-care provider, try to manage complex conditions such as diabetes and obesity as best you can.



Quit smoking

Get support in quitting or reducing smoking. Even in later life, these steps can improve your brain health and reduce your dementia risk.



Seek support for depression

Depression is more than just feeling sad. Seeking depression treatment and support will help improve your mood and brain functioning.



Drink less alcohol

Drinking more than 12 standard drinks a week in midlife increases dementia risk by an average of 20%.

If you need help in quitting or limiting alcohol, speak with your health-care provider.



Protect your heart

Working with your health-care provider, monitor and manage your blood pressure and heart health. What's good for the heart is also good for the brain!



Avoid concussion and traumatic brain injury

Steer clear of activities where you might put your brain at risk of harm. Play, travel and work safe!



Aim to get quality sleep

Work toward sleeping well for 6 to 8 hours each night. If you experience sleep apnea or other sleep issues, talk to your health-care provider for treatment options.

The more actions you take, the better! Learn more at alzheimer.ca/ReduceYourRisk.

© June 2023, Alzheimer Society of Canada.

Eating well for your brain health means:



- Including a **variety** of healthy foods in moderation
- Focusing on overall **pattern** of healthy eating, not one specific "superfood"
- Eating until you're **comfortably full** and not stuffed
- Enjoying lots of **fruits and vegetables** including berries and leafy greens (lettuce, kale, and spinach). Frozen fruits and vegetables are an equally good option



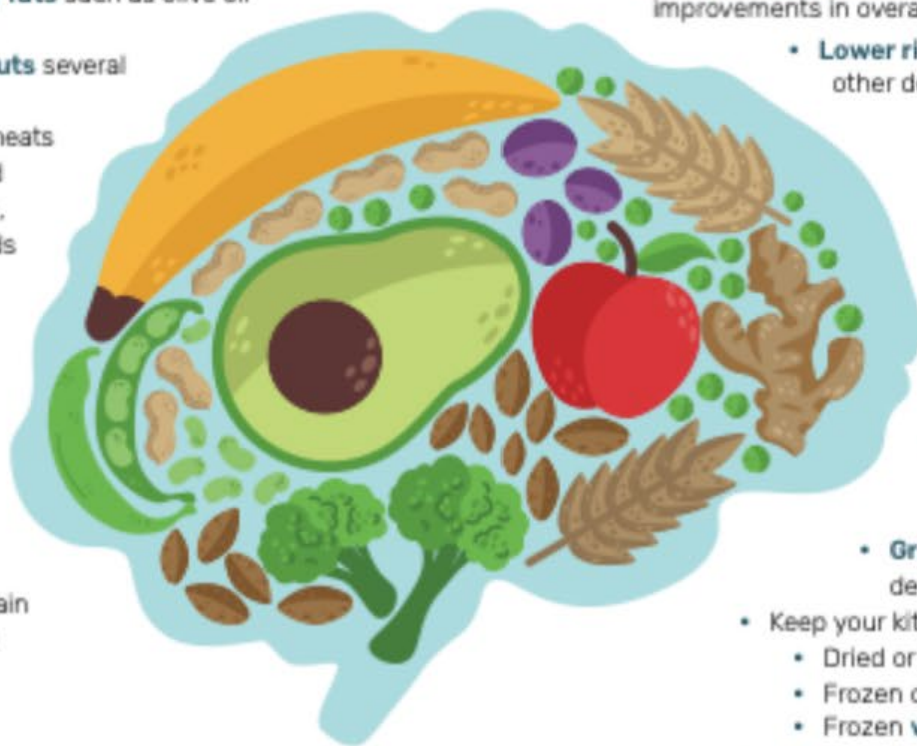
- Including foods with **healthy fats** such as olive oil daily
- Choosing **fish, beans, and nuts** several times a week



- **Limiting** red and processed meats
- **Limiting** foods high in added sugar and salt such as cakes, cookies, ice cream, fried foods, chips, frozen dinners, and canned soups



- Choosing dairy products such as milk and yogurt that are **low in fat**. For example, choose skim milk instead of whole milk
- Selecting **whole grains** over refined grains. For example, choose multigrain bread instead of white bread



An Evidence-Based Approach to Healthy Eating for the Aging Brain

Simple diet changes have a powerful effect on brain health

What's good for the body is also good for the brain.

The Brain Health Food Guide is similar to the eating plans that are recommended to treat other conditions such as heart disease, diabetes, high cholesterol, and high blood pressure.

Studies show that eating a healthy diet is associated with:

- **Better memory abilities**¹², thinking speed¹³, and improvements in overall brain functioning⁴
- **Lower risk of Alzheimer's disease** and other dementias⁵



Tips & Tricks

The Brain Health Food Guide includes a variety of healthy foods that supply your brain with the nutrients it needs to function best.

- **Choose colour.** Eat a colourful assortment of fruits and vegetables at each meal
- **Grill, steam, or bake** foods instead of deep frying
- Keep your kitchen stocked with:
 - Dried or canned **beans**
 - Frozen or canned **fish**
 - Frozen **vegetables** and **fruits**
- **Add beans or legumes** to soups, stews, salads, and stir-fries
- **Snack smart.** Choose nuts, fresh fruits, chopped vegetables, and low-fat yogurt
- **Keep hydrated.** Drink water or other unsweetened drinks



For more resources and recipes, to find a registered dietitian, and to share your feedback, scan the QR code

Canadian Physical Activity Guidelines

FOR OLDER ADULTS 65 YEARS AND OLDER

Guidelines



To achieve health benefits, and improve functional abilities, adults aged 65 years and older should accumulate at least 150 minutes of moderate- to vigorous-intensity aerobic physical activity per week, in bouts of 10 minutes or more.



It is also beneficial to add muscle and bone strengthening activities using major muscle groups, at least 2 days per week.



Those with poor mobility should perform physical activities to enhance balance and prevent falls.



More physical activity provides greater health benefits.

Let's talk intensity!

Moderate-intensity physical activities will cause older adults to sweat a little and to breathe harder. Activities like:

- Brisk walking
- Bicycling

Vigorous-intensity physical activities will cause older adults to sweat and be 'out of breath'. Activities like:

- Cross-country skiing
- Swimming

Being active for at least 150 minutes per week can help reduce the risk of:

- Chronic disease (such as high blood pressure and heart disease) and,
- Premature death

And also help to:

- Maintain functional independence
- Maintain mobility
- Improve fitness
- Improve or maintain body weight
- Maintain bone health and,
- Maintain mental health and feel better














Pick a time. Pick a place. Make a plan and move more!

- Join a community urban poling or mall walking group.
- Go for a brisk walk around the block after lunch.
- Take a dance class in the afternoon.
- Train for and participate in a run or walk for charity!
- Take up a favourite sport again.
- Be active with the family! Plan to have "active reunions".
- Go for a nature hike on the weekend.
- Take the dog for a walk after dinner.

Now is the time. Walk, run, or wheel, and embrace life.


Alcohol consumption per week

Drinking alcohol has negative consequences. The more alcohol you drink per week, the more the consequences add up.

<p>0 drinks per week Not drinking has benefits, such as better health, and better sleep.</p>	<p>No risk</p>	<p>0 </p>	<p>During pregnancy, none is the only safe option.</p> 
<p>1 to 2 standard drinks per week You will likely avoid alcohol-related consequences for yourself and others.</p>	<p>Low risk</p>	<p>1  2 </p>	
<p>3 to 6 standard drinks per week Your risk of developing several different types of cancer, including breast and colon cancer, increases.</p>	<p>Moderate risk</p>	<p>3  4  5  6 </p>	<p>A standard drink means:</p> <p> Beer 341 ml (12 oz) of beer 5% alcohol</p> <p>or</p> <p> Cooler, cider, ready-to-drink 341 ml (12 oz) of drinks 5% alcohol</p> <p>or</p> <p> Wine 142 ml (5 oz) of wine 12% alcohol</p> <p>or</p> <p> Spirits (whisky, vodka, gin, etc.) 43 ml (1.5 oz) of spirits 40% alcohol</p>
<p>7 or more standard drinks per week Your risk of heart disease or stroke increases.</p>	<p>Increasingly high risk</p>	<p>7  8  + </p>	
<p>Each additional standard drink Radically increases the risk of these alcohol-related consequences.</p>			

6 Healthy Sleep Habits for Older Adults

Older adults need about 7-9 hours of sleep each night. Getting a good night's sleep supports physical health, mental health, and overall well-being. Improve your sleep with these tips.



Develop a regular sleep schedule and bedtime routine

Avoid napping in the late afternoon or evening

Try to avoid electronic screens, such as cell phones and TVs, in the bedroom

Keep your bedroom quiet and at a comfortable temperature

Exercise at regular times each day, but not within three hours of bedtime

Avoid alcohol, caffeine, and large meals late in the day

A growing concern

In Canada, we face growing rates of social isolation and loneliness.



As many as 41% of Canadians aged 50 years and older **are at risk of social isolation.**



Up to 58% have **experienced loneliness.**



Among Canadians aged 50–64 years:

Almost one in four (23%) are **very lonely.**



Another 41% are **somewhat lonely.**

Knowing the risks

Some health risks of isolation and loneliness among adults over 50 years old include:

32% increased risk of stroke

25% increased risk of cancer mortality

50% increased risk of developing dementia

45% increased risk of death

Understanding who is at greater risk

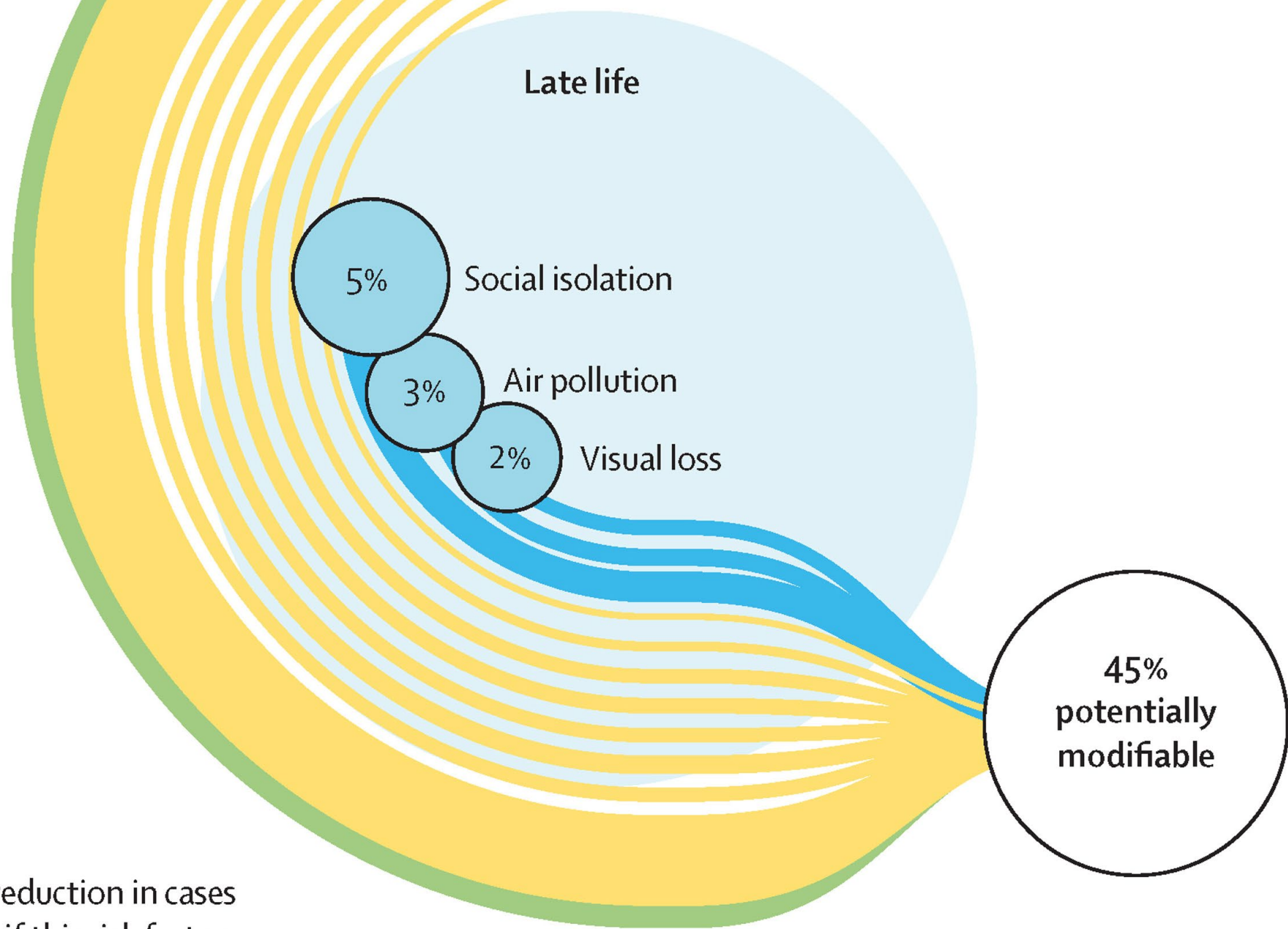
Some groups of people are at greater risk for social isolation and loneliness, including:

- Women
- Older adults living with low income or in poverty
- Indigenous older adults
- 2SLGBTQIA+ older adults
- Care providers for older adults

- Spending time with friends or family
- Exercising or taking part in exercise classes
- Using technology to connect with friends and family
- Spending time in nature
- Participating in hobbies
- Volunteering
- Visiting or joining programs at a community centre



Is it ever too
late?



n Percentage reduction in cases of dementia if this risk factor is eliminated



But how!



BRAINFIT™ FREE HABIT TRACKER

New Mobile App Helps You Get & Stay Brain Fit

[DOWNLOAD NOW](#)

Sleepwell

**It's no dream.
Sleep well without sleeping pills.**

Get your sleep back with CBT.



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