Update on dementia

SYMPOSIUM 2019

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GERIATRICIAN

Case

62 year old female

High function CEO of furniture company

Complain 12 month history of worsening cognitive difficulties

- - noticed mild difficulties for 4-5 year period
- - difficulty with staff's names
- - intermittently missing appointment
- - increasing difficulty with processing accounting spreadsheet (but never good with math)
- - one episode where she went to wrong place (put wrong place on GPS) and had to cancel appointment

- - information generally return after some time, worse when stressed

Past history

Chronic rhinitis

Osteoporosis with previous wrist fracture 5 years prior

Mild dyslipidaemia (Total Chol 5.5)

Family history

Mother and father – AD – 80s

Aunty – 80s

Medication

Cetirizine 10mg nocte

Flixinase nasal spray

Amitriptyline 20mg nocte

1 glass wine every few days

Never smoked

Reduced exercise, recently stopped going to gym

Maintains “healthy” diet

Examination

P 70, sinus

BP 145/70

Examination normal

ACE-III 95/100

BMI 32

Any further information?

How should we manage her?

What is her diagnosis?

- subjective cognitive impairment
- mild cognitive impairment
- dementia (major neurocognitive disorder)
- Anxiety/depression

What investigations should we do or consider?

Nothing

Bloods

- - FBC, renal function, LFT
- B12/folate/TFT
- Calcium, Magnesium
- Fasting lipid/Hba1c
- Syphilis

CT vs MRI

LP

PET

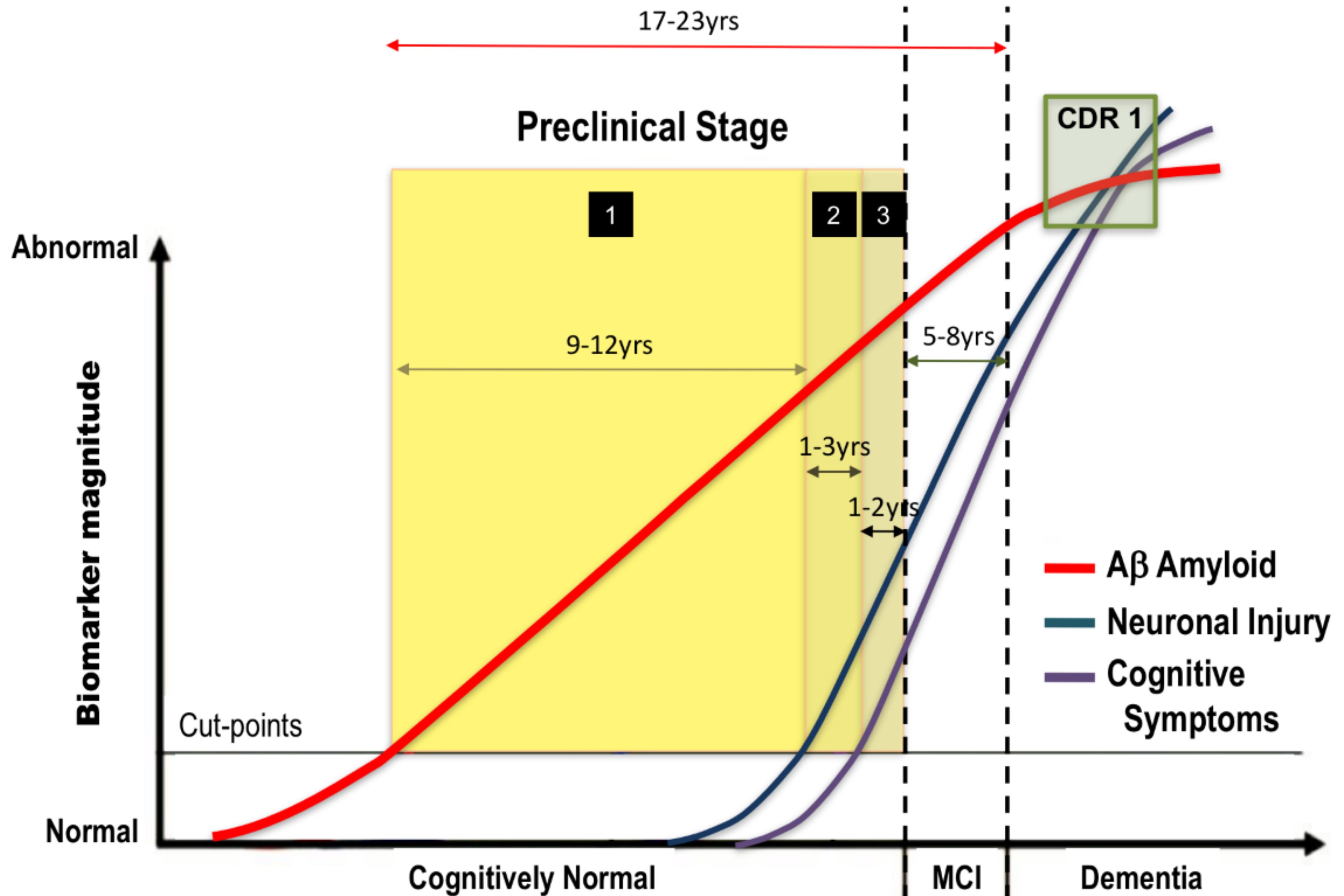
Subjective cognitive impairment

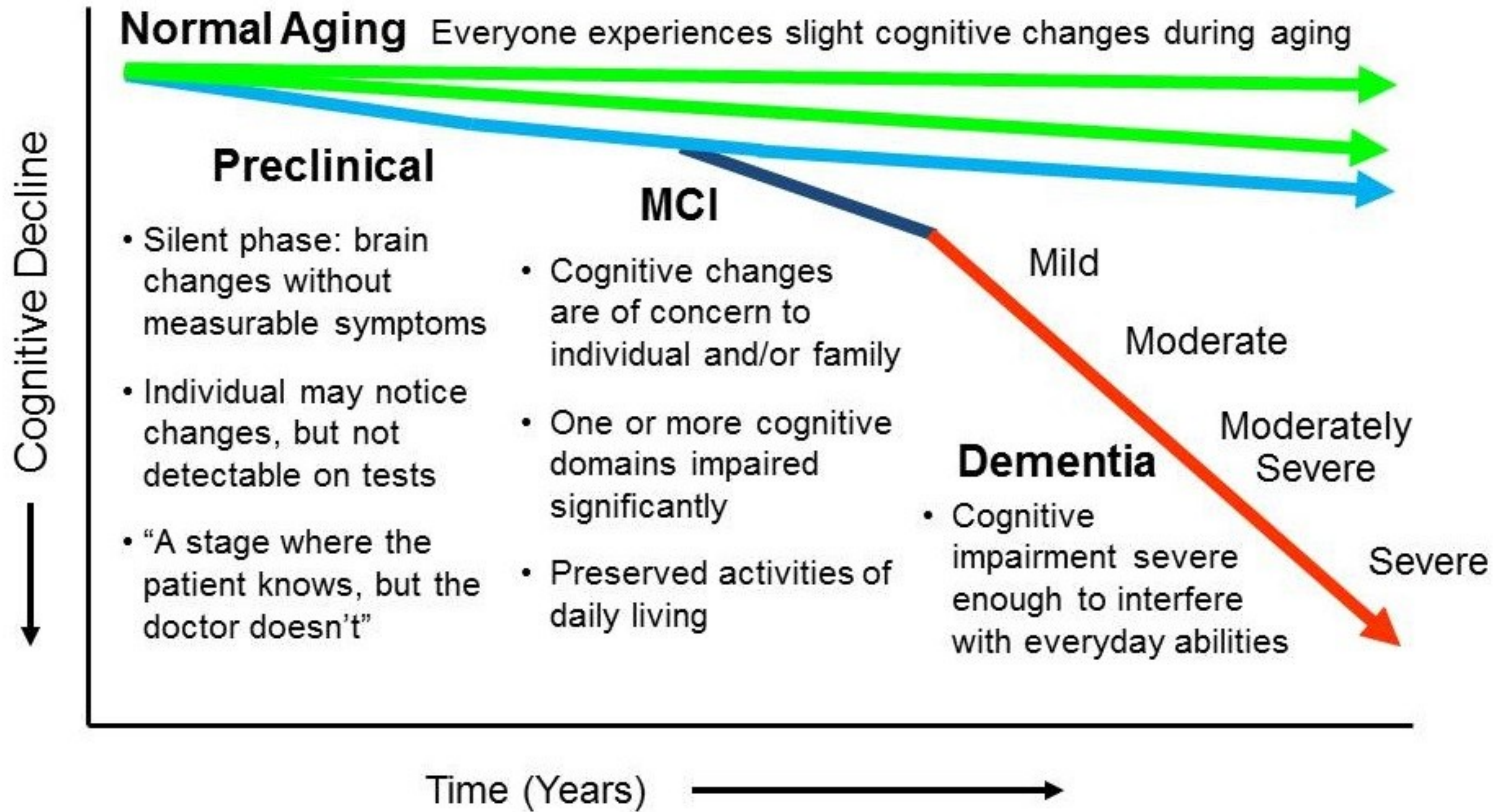
Very common in GP setting

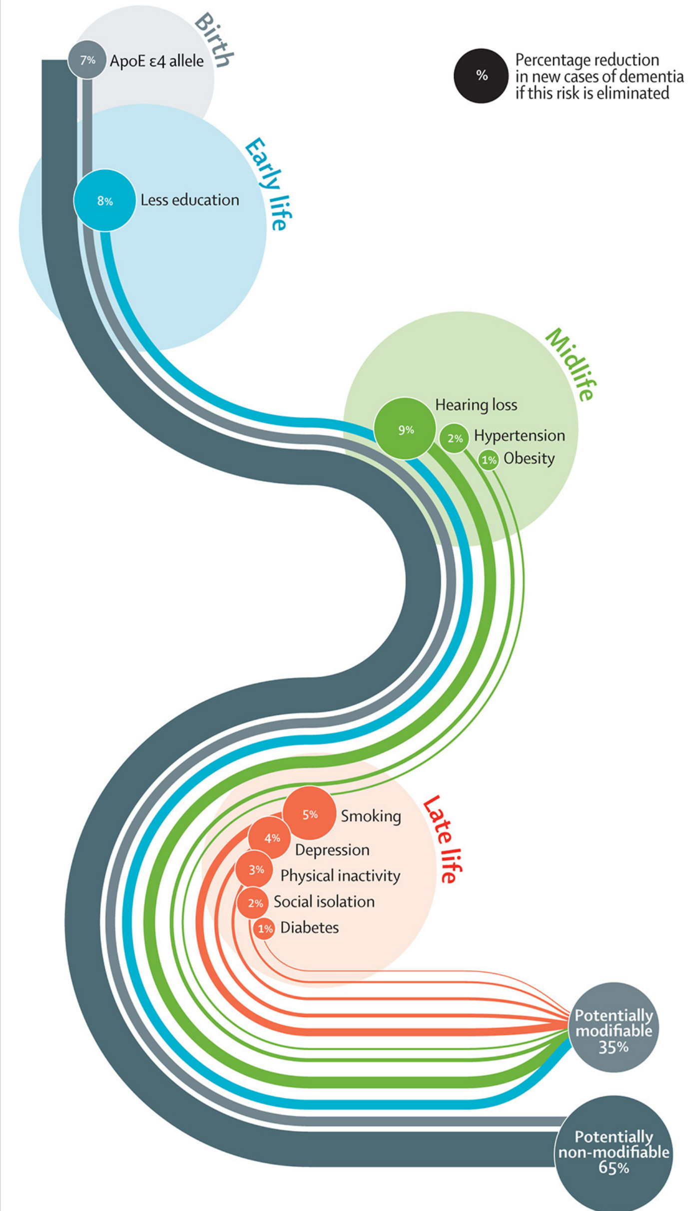
May not be benign

- study suggest higher risk of progression to MCI or dementia
- Risk may be 4.5x higher than those who do not complain of cognitive difficulty

aibl




Normal Aging
Everyone experiences slight cognitive changes during aging
Preclinical
• Silent phase: brain changes without measurable symptoms
• Individual may notice changes, but not detectable on tests
• "A stage where the patient knows, but the doctor doesn't"
MCI
• Cognitive changes are of concern to individual and/or family
• One or more cognitive domains impaired significantly
• Preserved activities of daily living
Mild
Moderate
Moderately Severe
Severe
Dementia
• Cognitive impairment severe enough to interfere with everyday abilities
Cognitive Decline
Time (Years)



Risk factors for dementia
The Lancet Commission presents a new life-course model showing potentially modifiable, and non-modifiable, risk factors for dementia.
Birth
7%
ApoE ε4 allele
Early life
8%
Less education
%
Percentage reduction in new cases of dementia if this risk is eliminated
Midlife
9%
Hearing loss
2%
Hypertension
1%
Obesity
Late life
5%
Smoking
4%
Depression
3%
Physical inactivity
2%
Social isolation
1%
Diabetes
Potentially modifiable 35%
Potentially non-modifiable 65%
THE LANCET
The best science for better lives

What should we do?

Risk stratification

- **CAIDE risk assessment app** (ipad/iphone)
- BP
- BMI
- Cholesterol
- Physical activity
- Age
- Education level

- Risk score 0-15 and approximate risk of developing dementia over 20 years

Other factors to consider

Alcohol

Smoking

Diabetes

Medications (Review +/- stop if appropriate)
- Tricyclics (anti-cholinergic burden), ACB charts/calculator
- Benzodiazapine
- ?Omeprazole
- Recurrent hypoglycaemia
- Excessive hypotension
- ? Antiandrogen therapy for prostate cancer

Deprescribing protocol/guideline (www.deprescribing.org)

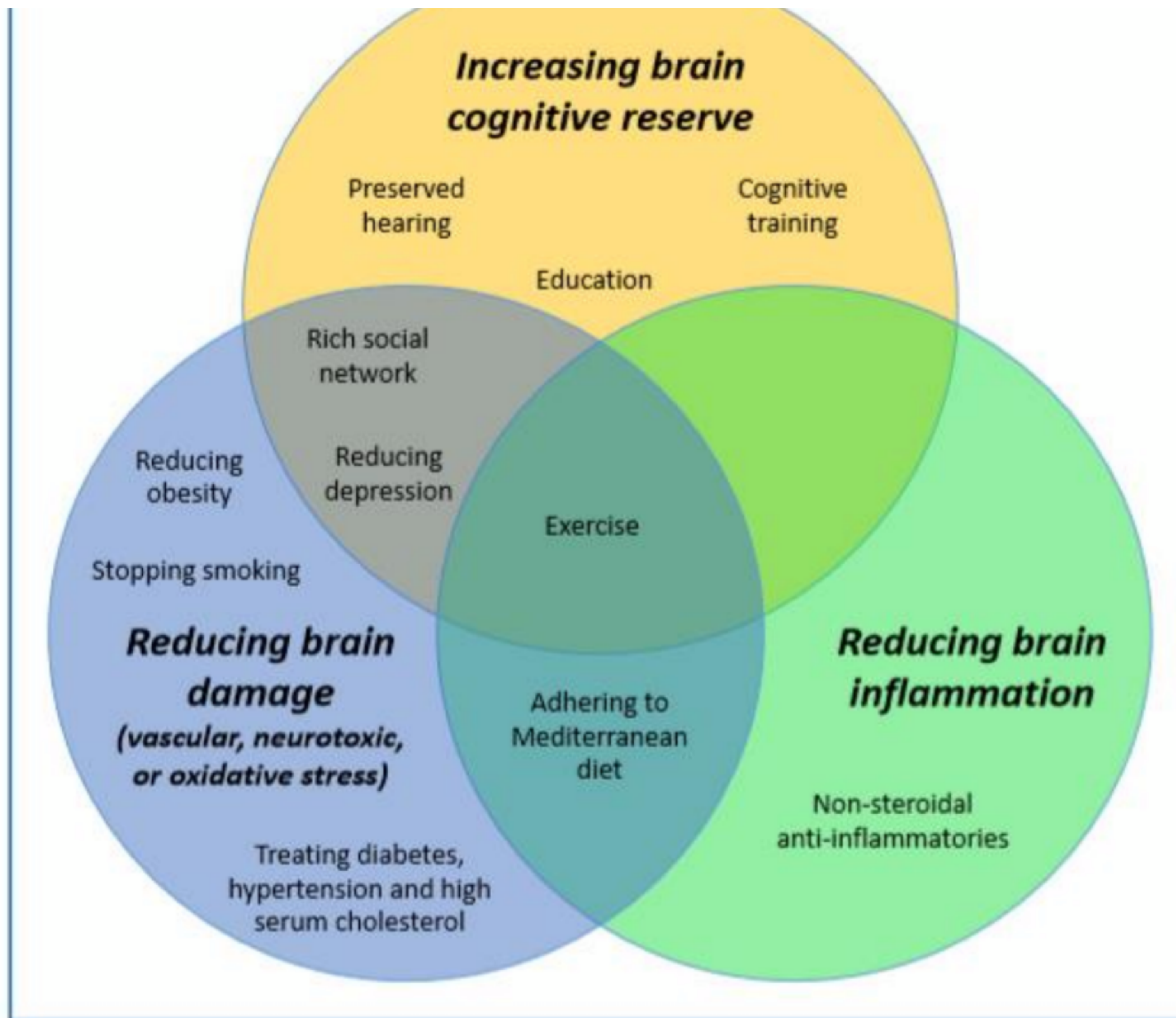


Figure 5. Potential brain mechanisms for preventative strategies in dementia

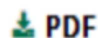
SHARE April 10, 2018; 90 (15) ARTICLE OPEN ACCESS

Midlife cardiovascular fitness and dementia

A 44-year longitudinal population study in women

Helena Hörder, Lena Johansson, XinXin Guo, Gunnar Grimby, Silke Kern, Svante Östling and Ingmar Skoog

First published March 14, 2018, DOI: https://doi.org/10.1212/WNL.0000000000005290

 PDF CITATION PERMISSIONS COMMENT

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Exercise ≠ fitness

Assessed fitness in mid-age (44-60)

Cycling to assess cardiovascular fitness

Followed up for 44 years

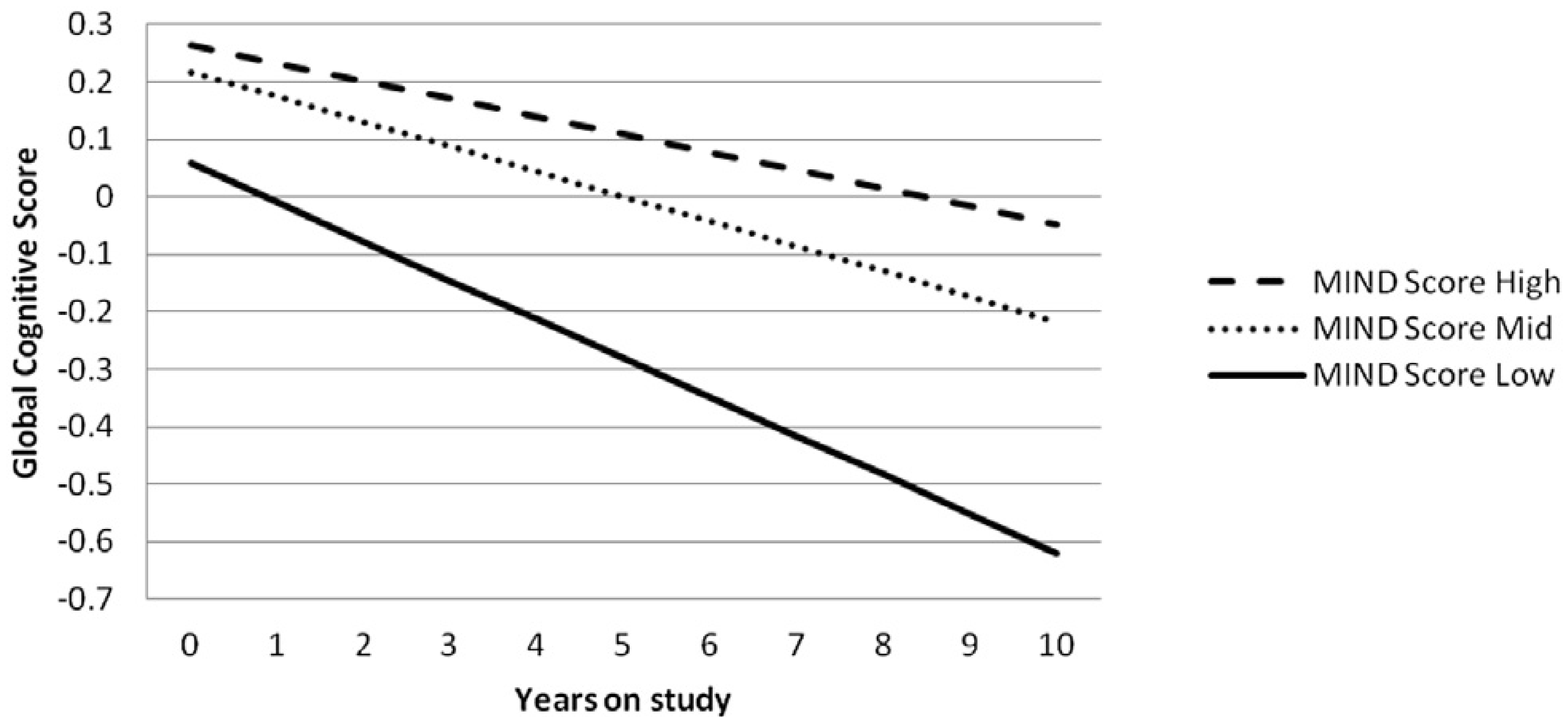
Highest fitness level had 90% reduced risk (5% risk of developing dementia over this period)

Dementia delayed for ~11 years

MIND diet associated with reduced incidence of Alzheimer's disease

Martha Clare Morris, Christy C. Tangney, Yamin Wang, Frank M. Sacks, David A. Bennett, Neelum T. Aggarwal

Alzheimer's & Dementia: The Journal of the Alzheimer's Association
Volume 11, Issue 9, Pages 1007-1014 (September 2015)
DOI: 10.1016/j.jalz.2014.11.009


0.3
0.2
0.1
0
-0.1
-0.2
-0.3
-0.4
-0.5
-0.6
-0.7
Global Cognitive Score
0
1
2
3
4
5
6
7
8
9
10
Years on study
MIND Score High
MIND Score Mid
MIND Score Low

What the MIND studies say we should eat:

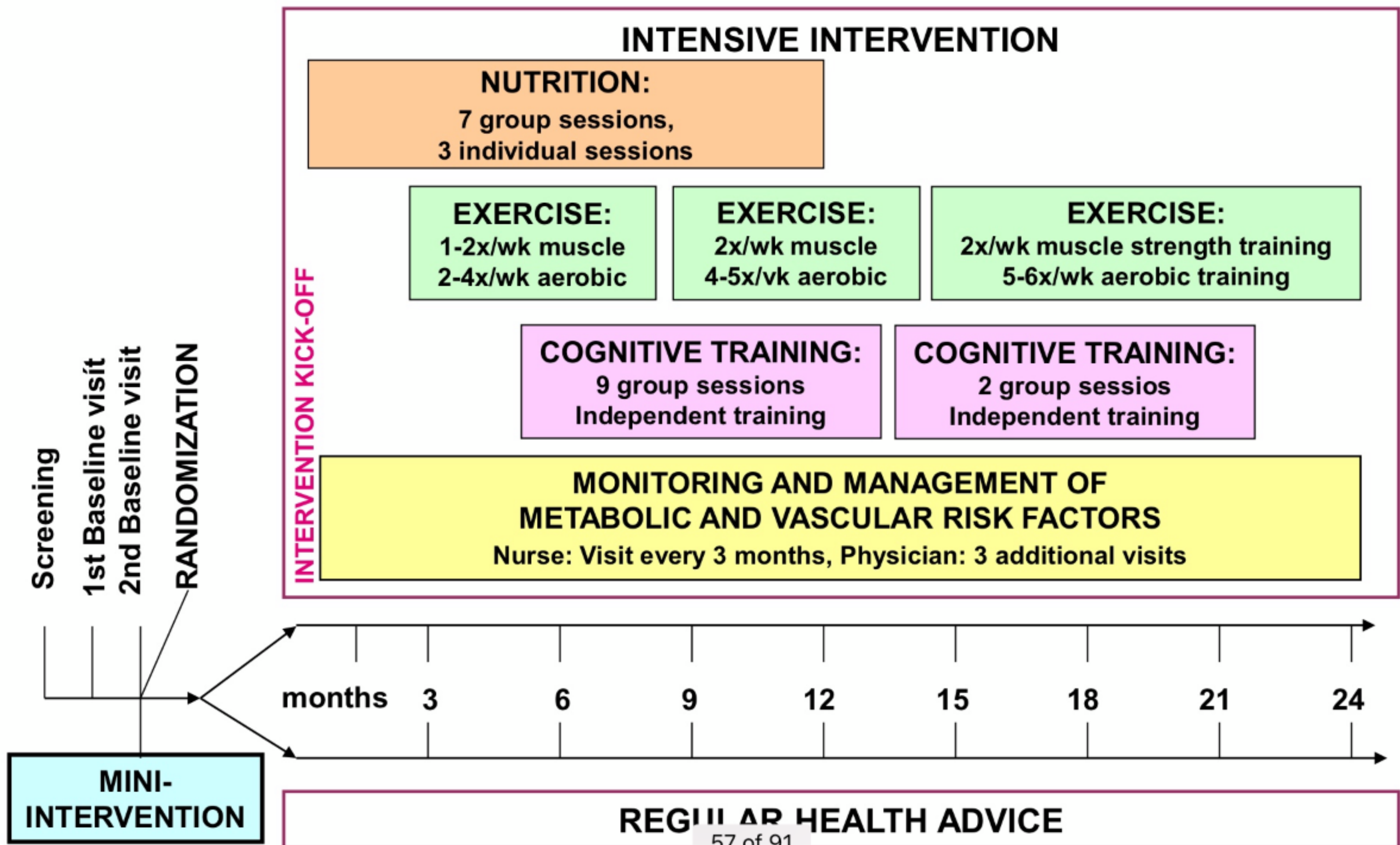
- •**Green leafy vegetables** – kale, spinach, broccoli, collards and other greens, at least two servings a week;.
- •**Other vegetables** – a salad and at least one other vegetable every day;
- •**Nuts** – at least five times a week;
- •**Berries** – such as blueberries or strawberries, at least twice a week;
- •**Beans** – three times a week;
- •**Whole grains** – at least three servings a day;
- •**Fish** – at least once a week;
- •**Poultry** – two or more servings a week;
- •**Olive oil**.

What MIND tells us to avoid:

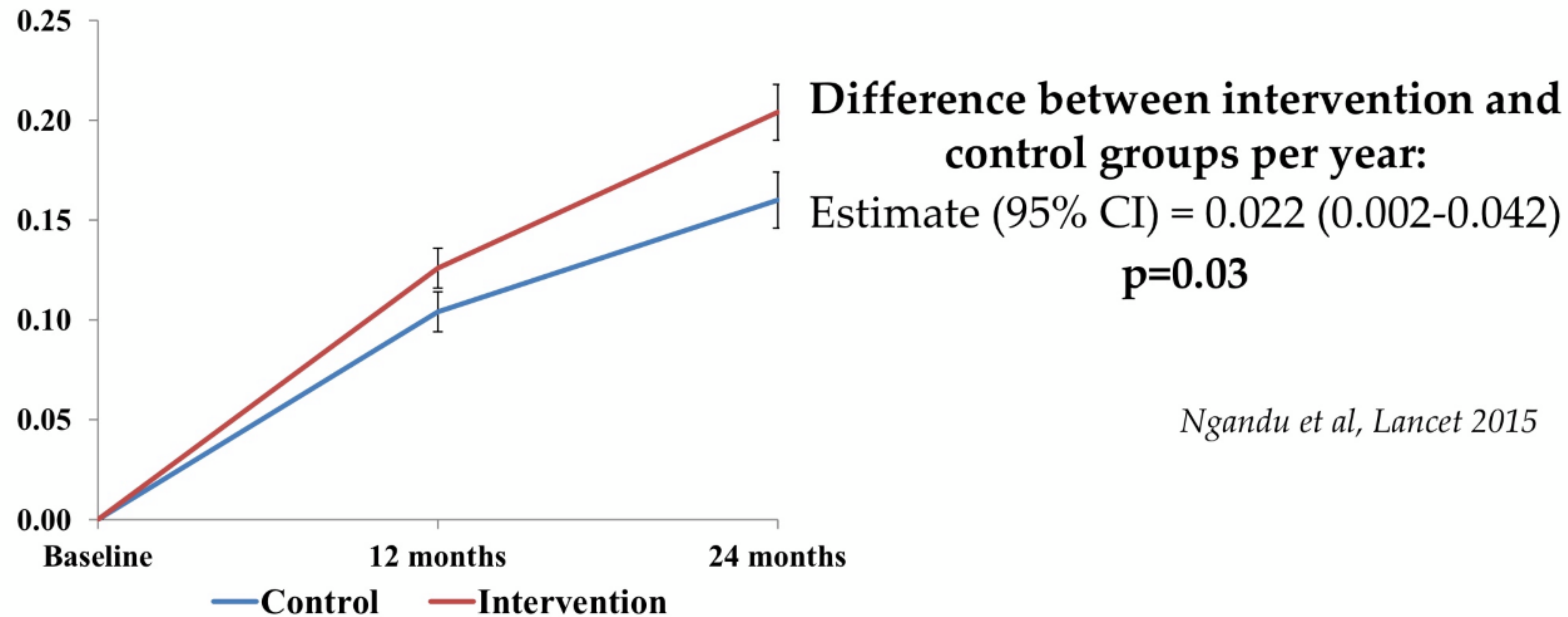
- **Butter and margarine** – not more than one tablespoon daily;
- **Cheese** – less than once per week;
- **Red meat** – no more than three servings each week;
- **Fried food** – less than once per week;
- **Pastries and sweets** – no more than four times a week.

FINGER

INTERVENTION SCHEDULE



Primary efficacy outcome: overall cognition (NTB composite Z score)



Lines = estimates for cognitive change from baseline to 12 and 24 months

Higher scores = better performance

Error bars = standard errors.

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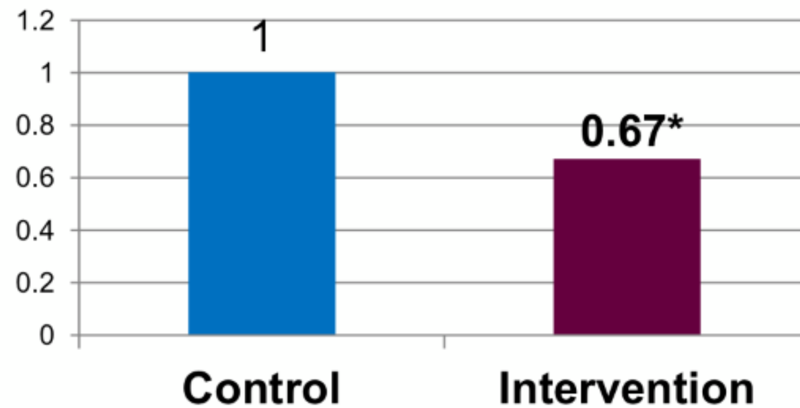
Benefits on ADL functioning, mobility and quality of life

Intervention group ≈30% lower risk of ADL decline



Multinomial logistic regression analyses with multiple imputation of chained equations, adjusted for baseline

Kulmala et al. manuscript

Health-related Quality of Life

RAND-36 scales	Intervention (*P*-value for change)	Control (*P*-value for change)	*P*-value for difference between groups
Physical function	−2.3 (<0.001)	−4.0 (<0.001)	0.013
Role physical	−1.7 (0.43)	−4.7 (0.004)	0.11
Role mental	−0.1 (0.95	−1.7 (0.29)	0.41
Vitality	−0.3 (0.64)	−0.9 (0.026)	0.49
Mental health	−0.6 (0.17)	−0.9 (0.061)	0.56
Social function	−0.8 (0.057)	−1.2 (0.043	0.53
Bodily pain	−2.4 (0.086	−2.1 (0.099)	0.89
General health	1.5 (0.003)	−1.6 (0.050)	<0.001

Strandberg et al, Eur Ger Med 2017

Take home message

Do not ignore subjective cognitive complains

Use CAIDE risk assessment

Aggressive multimodal intervention including lifestyle and medical risk factor is key

- MDT approach to intervention