

Alzheimerren gaixotasunaren inguruko jakintza eguneratzen

Miren Altuna Azkargorta

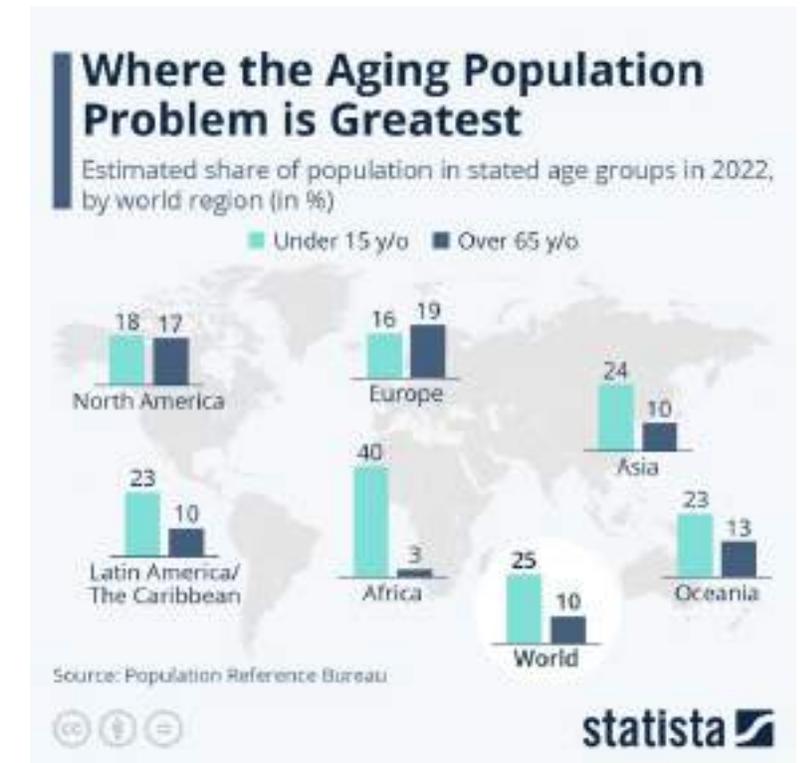
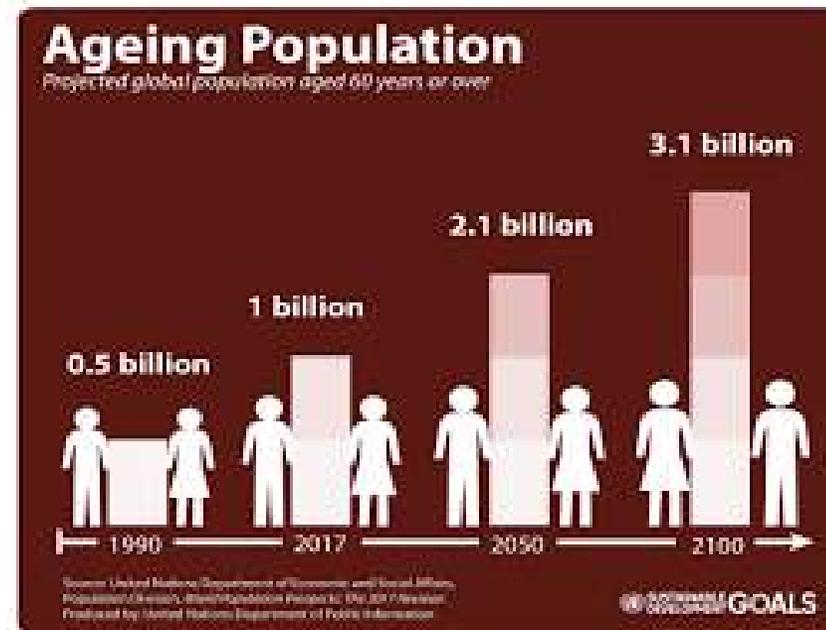
Zarautzen, 2024ko urtarrilak 11an

maltuna@cita-alzheimer.org

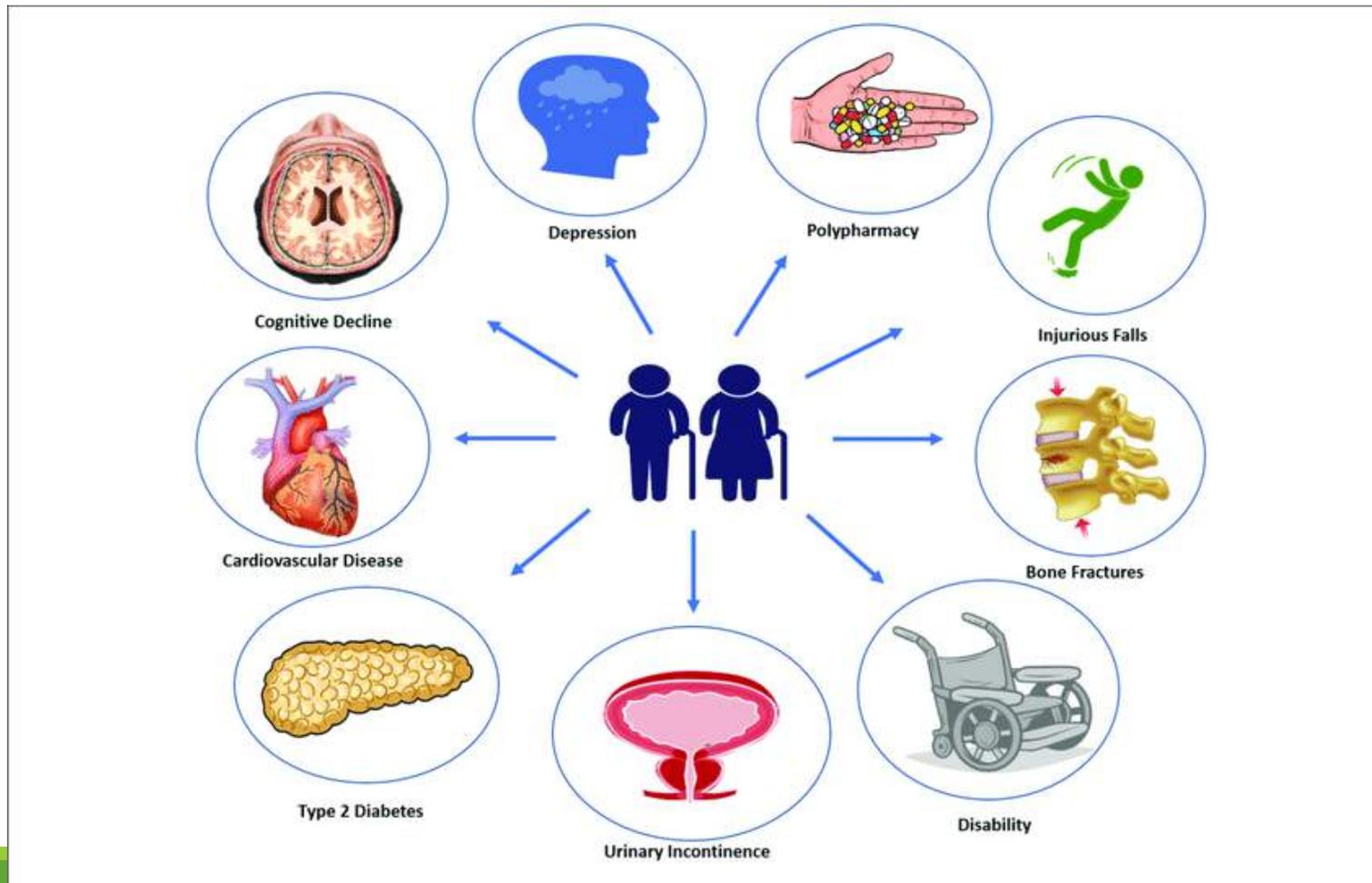
AURKIBIDEA

1. **Narriadura kognitiboa: oinarrizko ideiak.**
2. **Alzheimerren gaitza eta gainerako gaitz degeneratibo eta ez degeneratiboak.**
3. **Diagnosia nola egin.**
4. **Genetikoki zehaztutako Alzheimerren gaixotasuna.**
5. **Tratamendua gaur egun eta etorkizunean.**
6. **Ondorioak.**

GIZARTEAREN ZAHARTZEARI LOTURIKO ERRONKAK



ZAHARTZEARI LOTURIKO OSASUN ARAZO OHIKOENAK



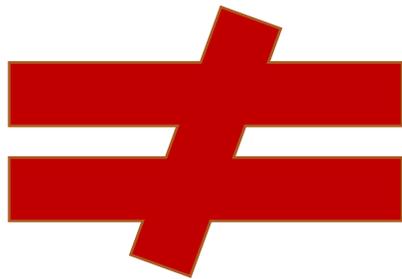
OINARRIZKO IDEIAK

KOGNITIBOKI OSASUNTSU

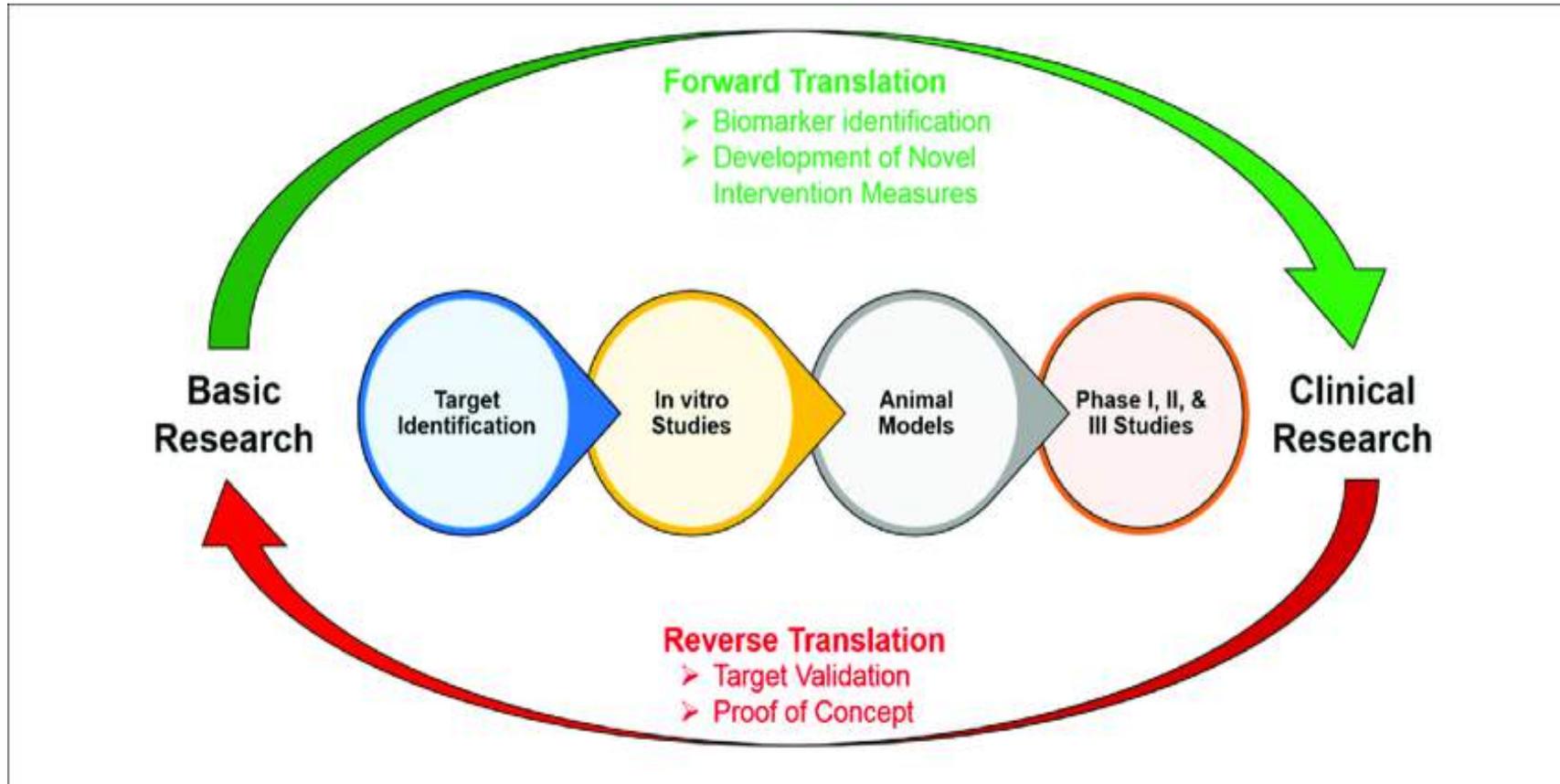
MEMORIAREN KEXA SUBJETIBOAK

NARRIADURA KOGNITIBO ARINA

DEMENTZIA

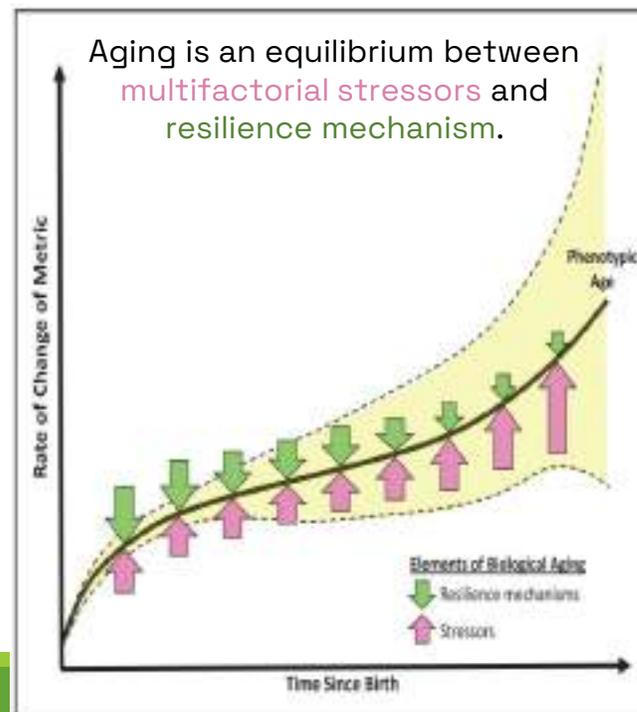


OINARRAIZKO IDEIAK II: cita' alzheimer Ikerketa mota ezberdinak

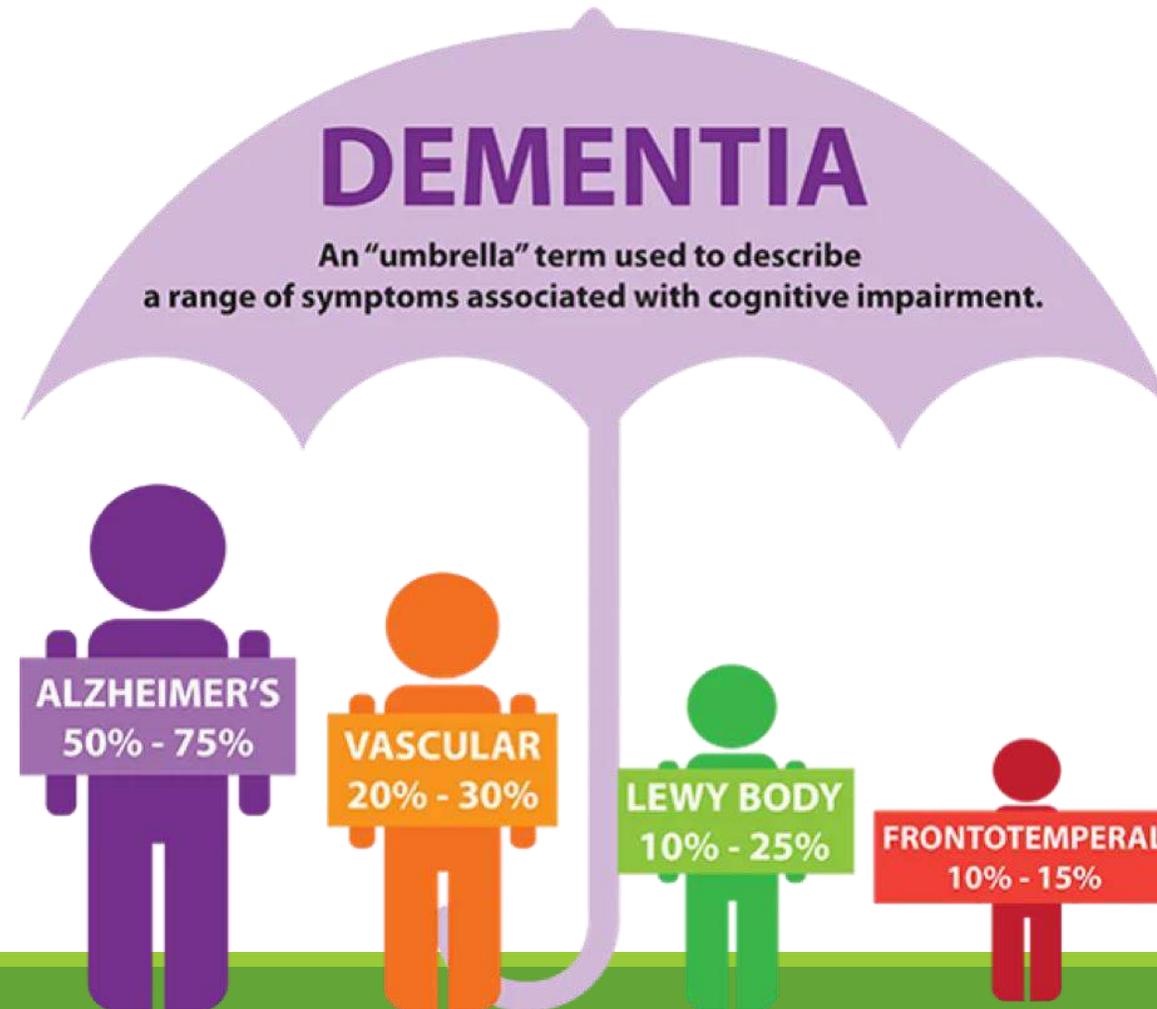


ZAHARTZEAK \neq NARRIADURA KOGNITIBOA

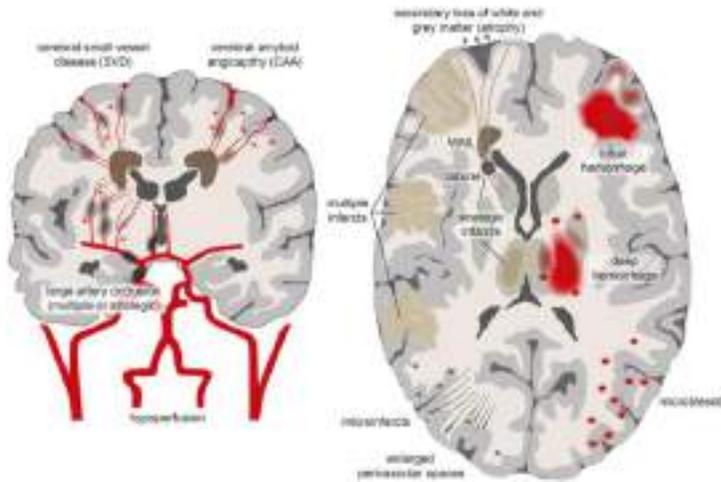
Zahartzero osasuntsua ez da ez DEMENTZIA ezta NARRIADURA KOGNITIBO ARINA rekin bateragarri



NARRIADURA KOGNITIBO GUZTIAK ALZHEIMERREN GAIXOTASUNAGAREN ONDORIO DIRA?

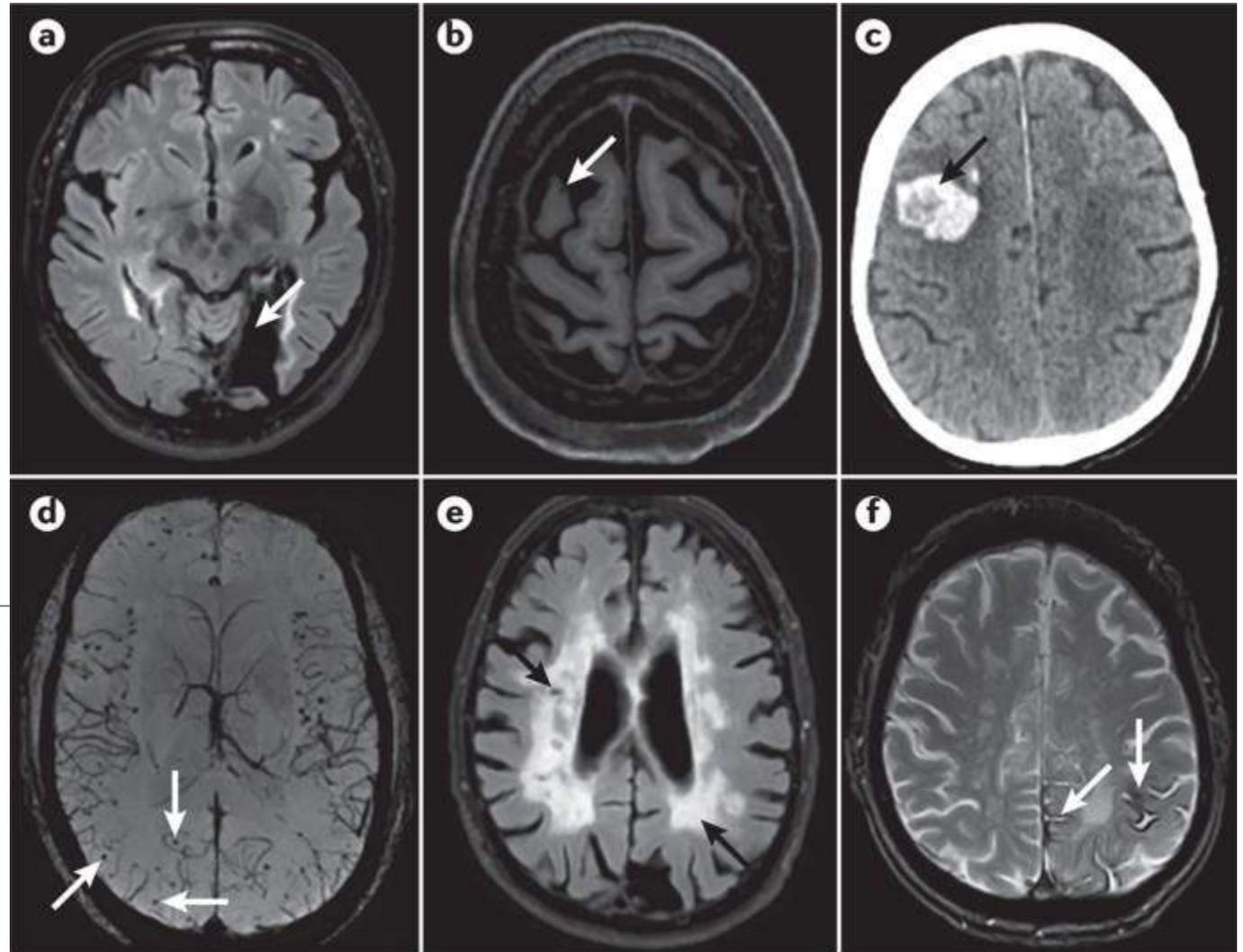


NARRIADURA KOGNITIBOAREN BESTE ARRAZOIAK



Dichgans et al. 2017.

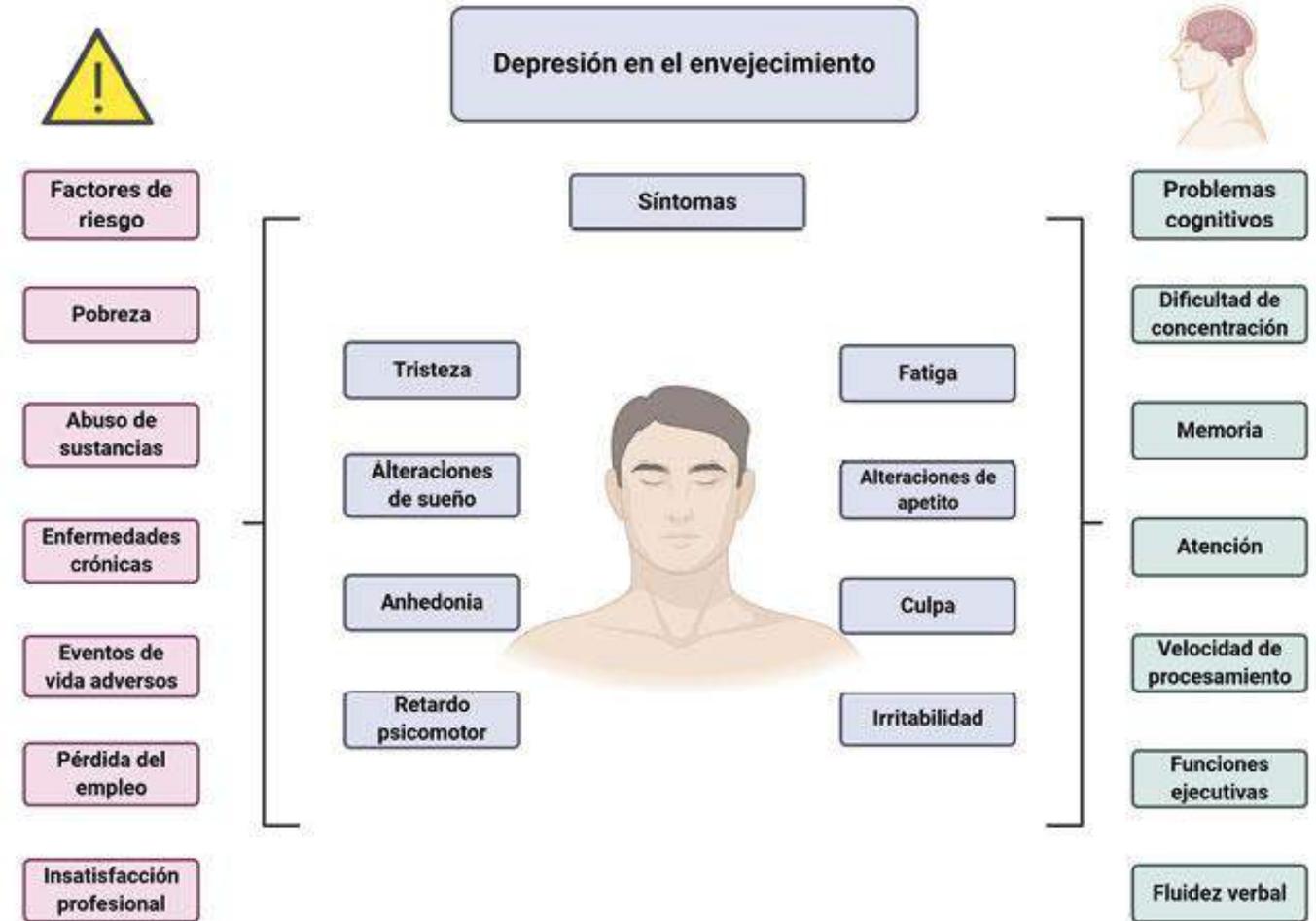
Odol jarioak (mikro eta makro odol jarioak) edo/eta lesio iskemikoak (iktus-ak zein leukoaraiosia).



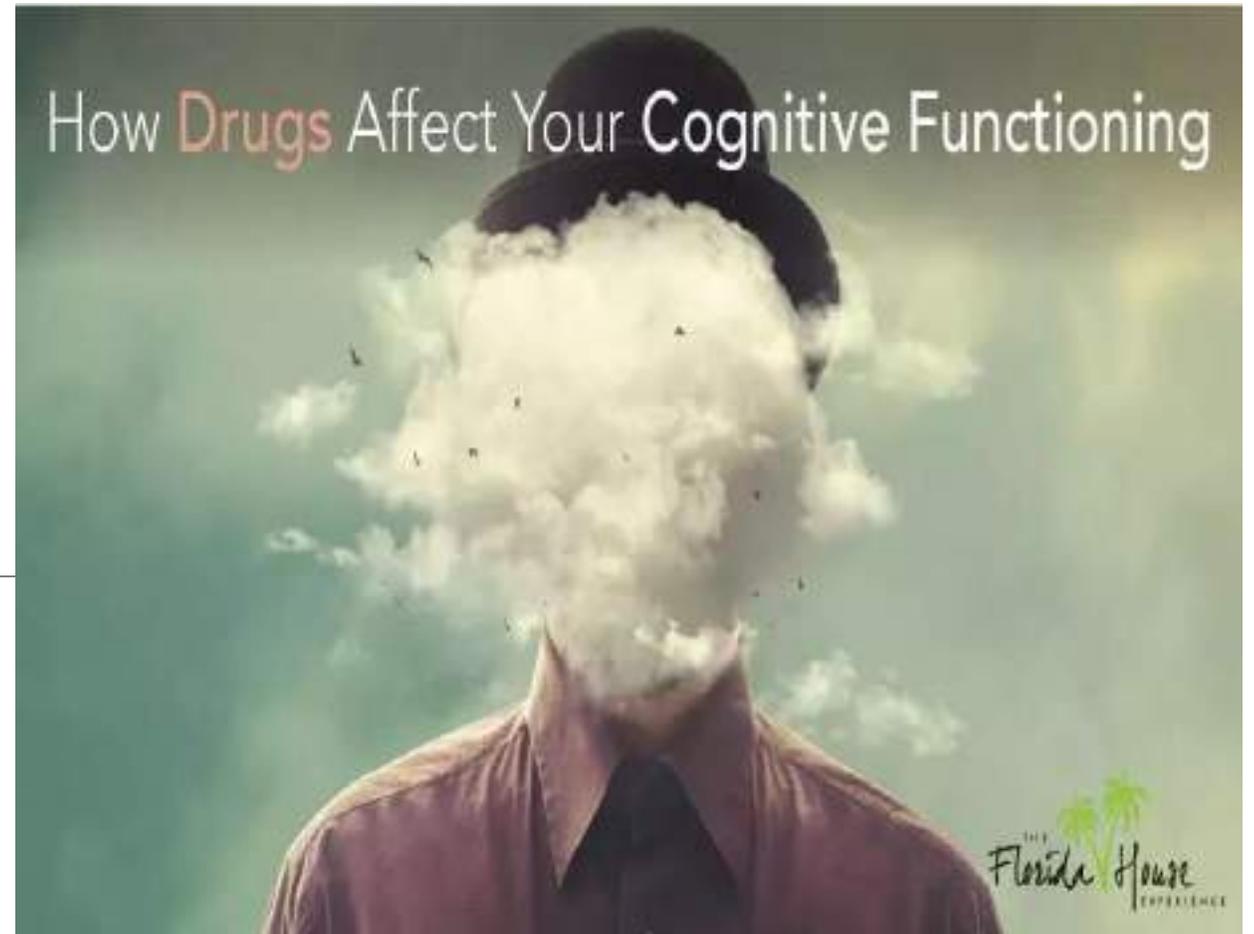
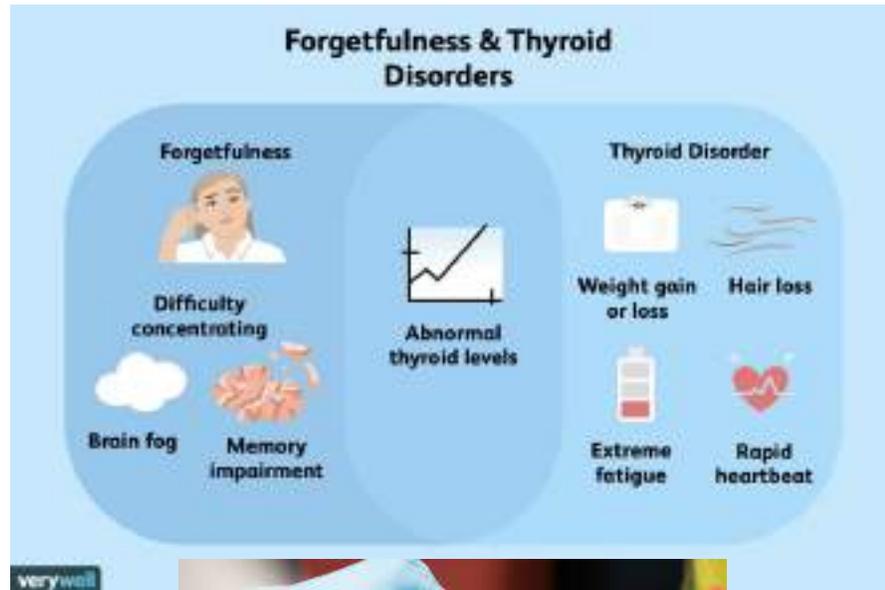
NARRIADURA KOGNITIBOAREN BESTE ARRAZOIAK

Gaitz psikiatrikoek (antsietatea eta depresioak barne) narriadura kognitiboa era gin dezakete.

Baina antsietatea eta depresioa (eta sintoma psikotikoak) ere narriadura kognitiboaren sintoma goiztiarrak izan litezke.

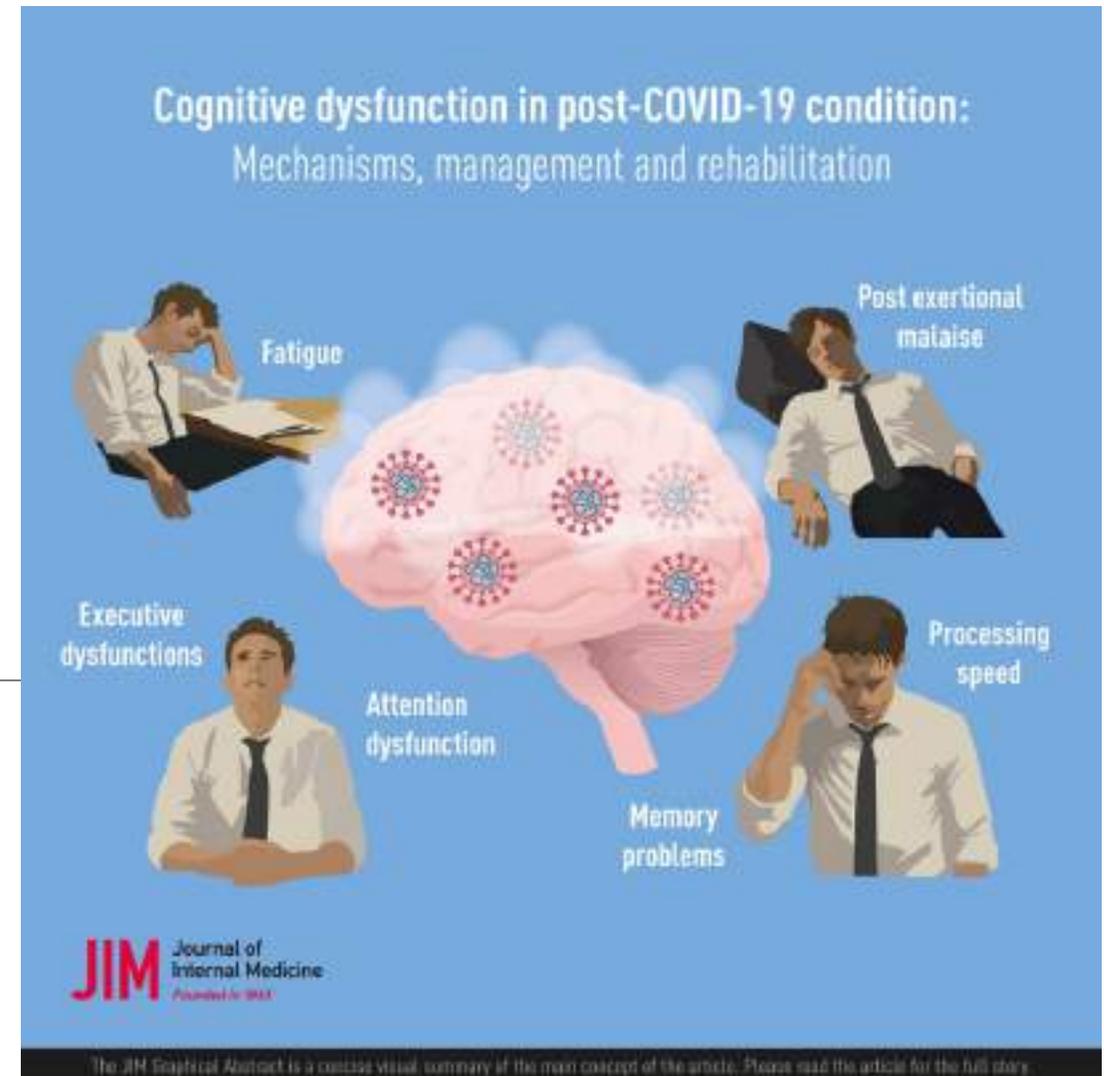
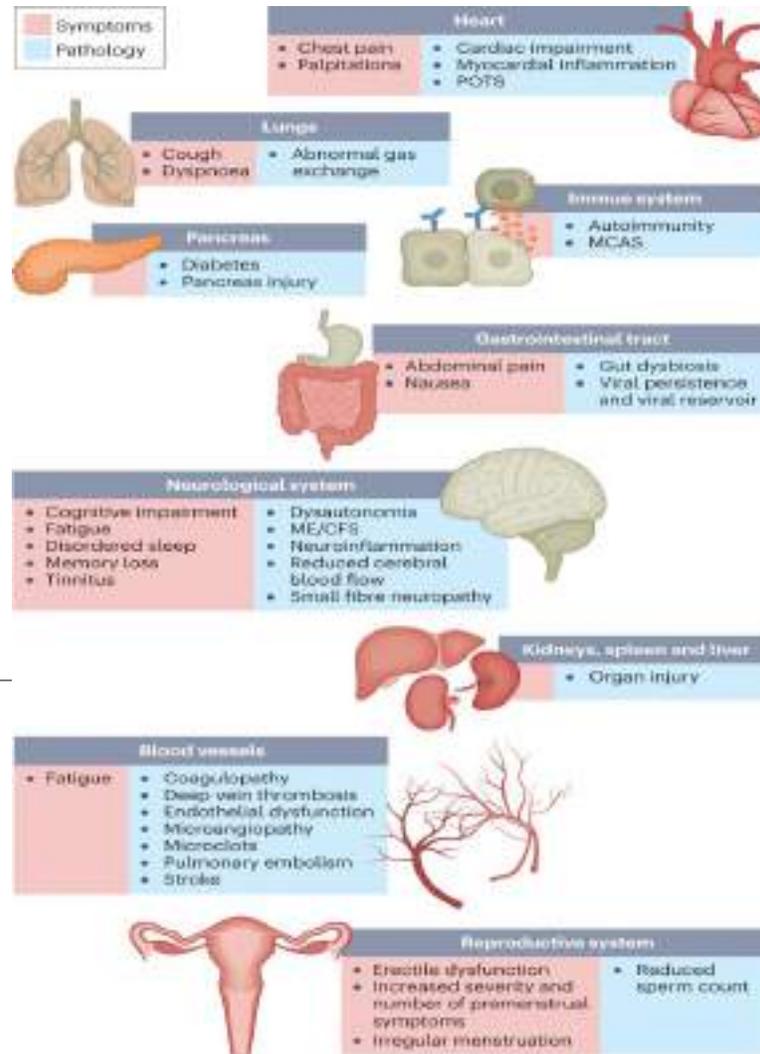


NARRIADURA KOGNITIBOAREN BESTE ARRAZOIAK



NARRIADURA KOGNITIBOAREN BESTE ARRAZOIAK

COVID-19



NARRIADURA KOGNITIBOAREN BESTE ARRAZOIAK

COVID-19

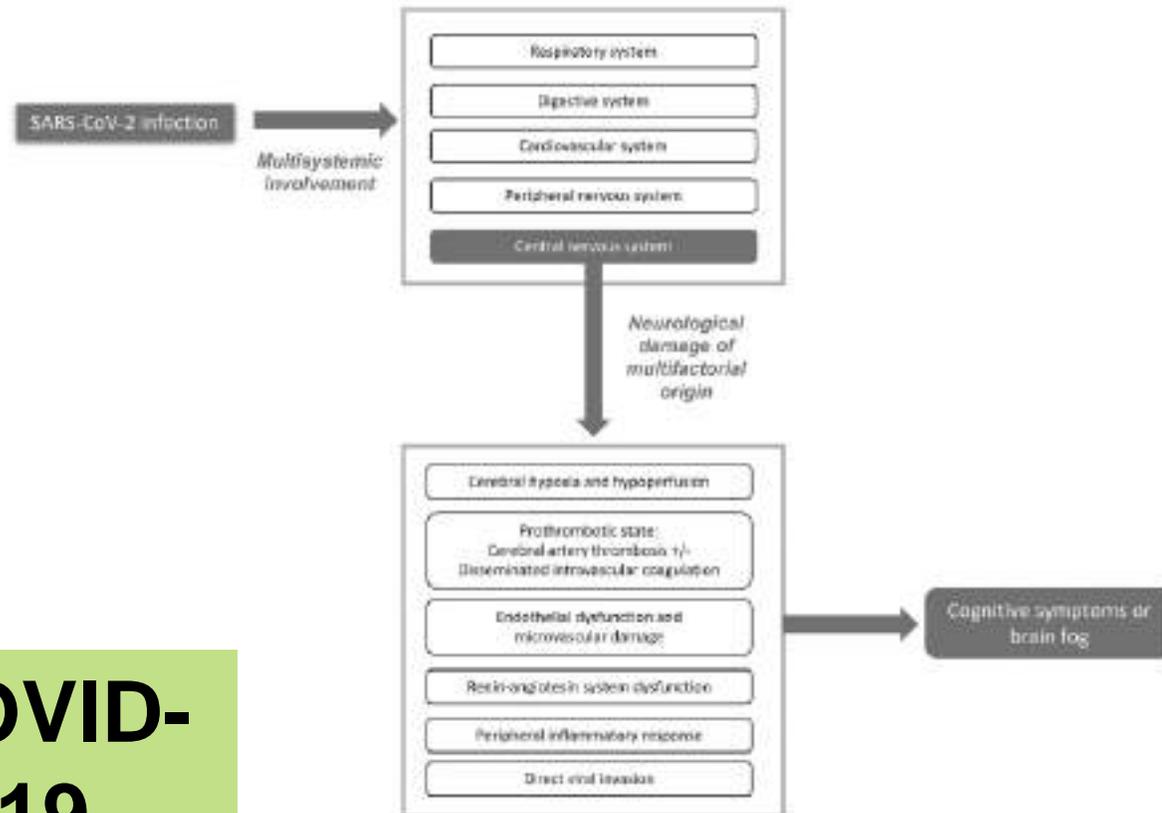


Table 1 Profile of cognitive, mood, and behavioural symptoms in patients with post-COVID-19 cognitive impairment (the most frequent symptoms are marked with asterisks).

Cognitive symptoms

- Global cognitive function
- Concentration*
- Memory*
 - Working memory*
 - Verbal episodic memory
 - Visual memory
- Executive function*
 - Sustained attention*
 - Information processing speed*
- Visuospatial processing
- Language

Affective symptoms

- Anxiety*
- Depression*
- Post-traumatic stress disorder

Behavioural symptoms

- Irritability
- Sleep disorders

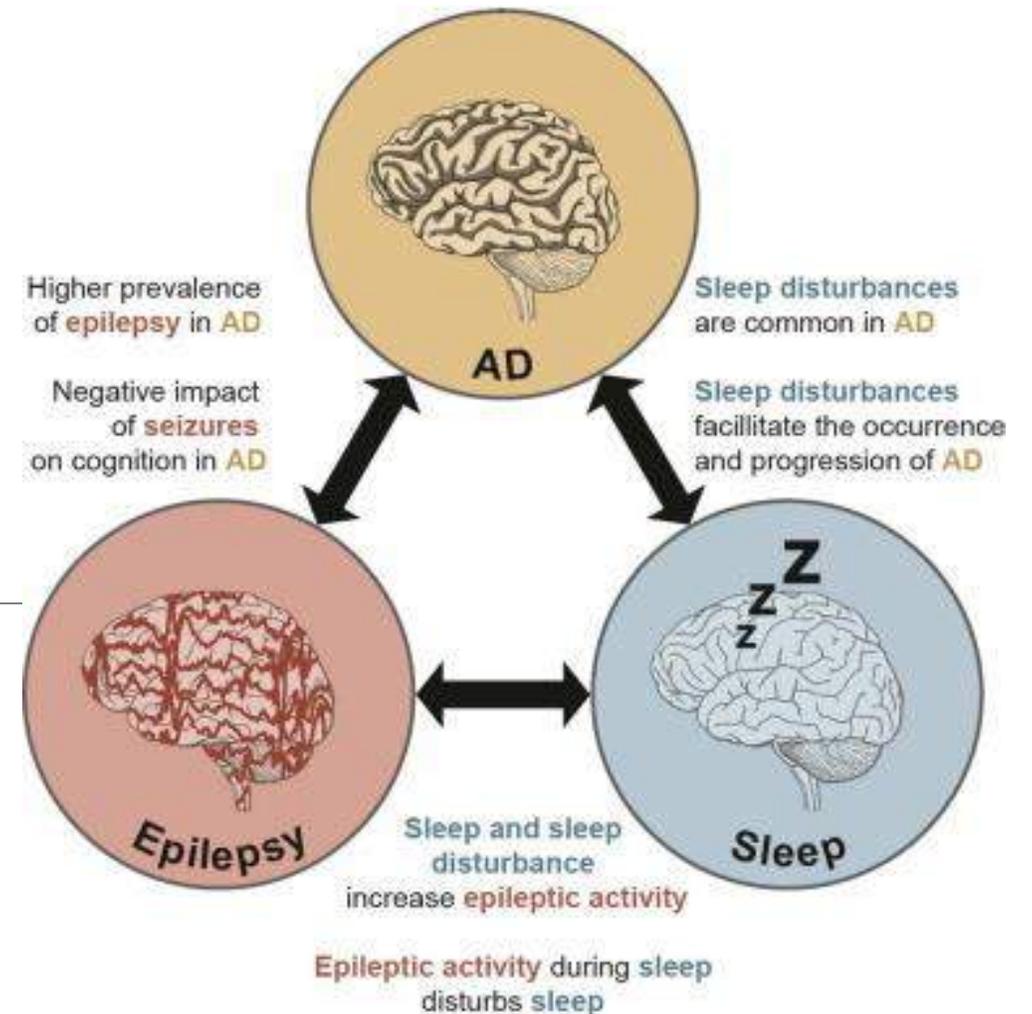
Other symptoms

- Fatigue*

NARRIADURA KOGNITIBOAREN BESTE ARRAIZOIAK

LOAREN KALITATEA ETA
KANTITATEAREN
GARRANTZIA.

EPILEPSIAK ERE BADU
BERE GARRANTZIA.

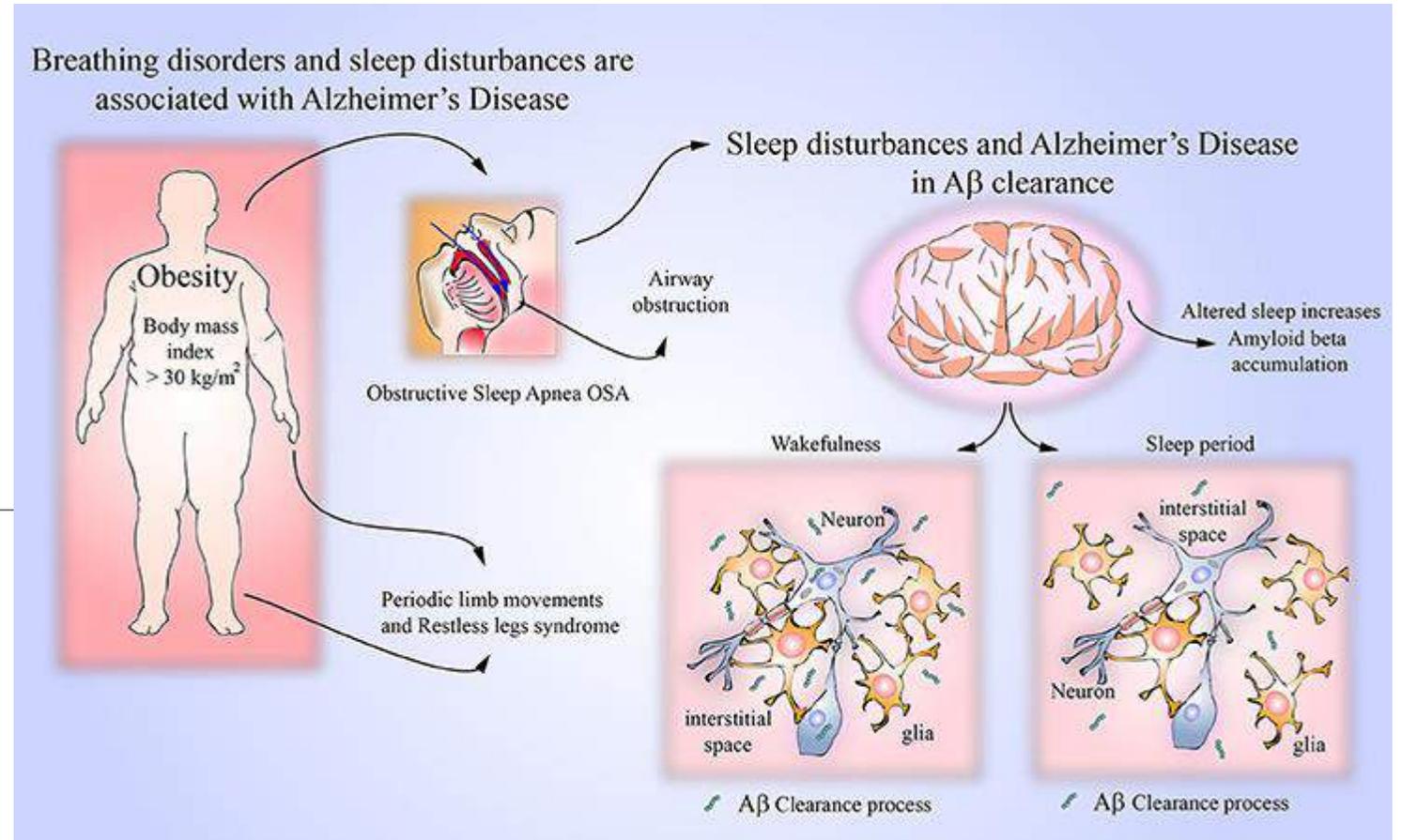


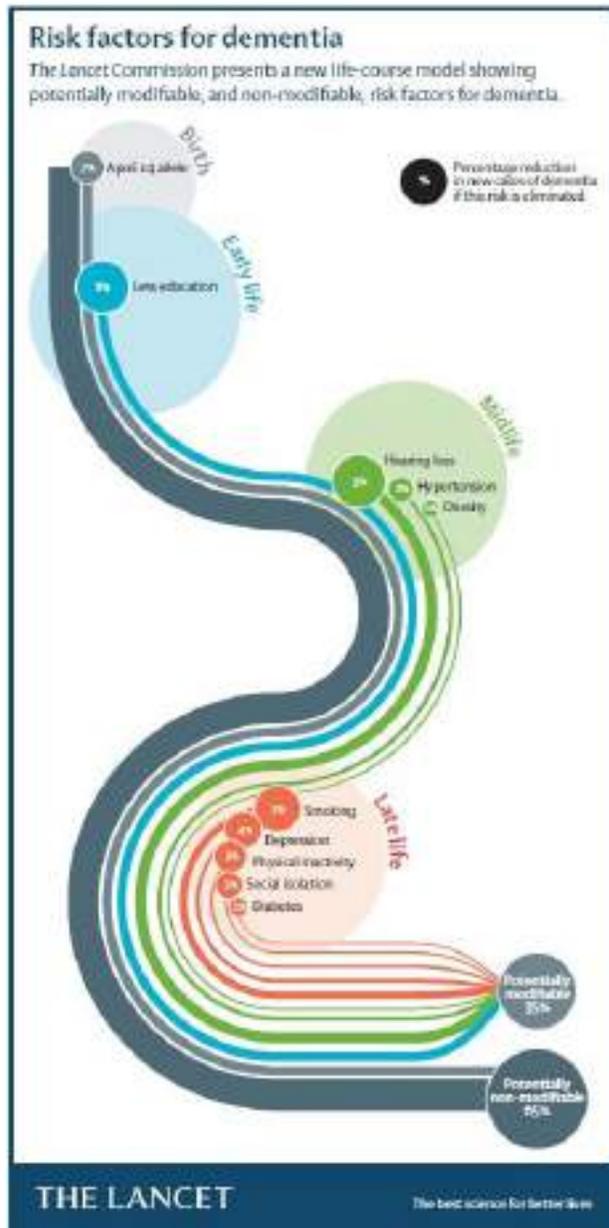
NARRIADURA KOGNITIBOAREN BESTE ARRAIZOIAK

LOALDIAREN APNEAK TRATATU EZEAN

- ALZHEIMERRAREN.
- BIHOTZEKOEN ETA
- IKTUS-EN

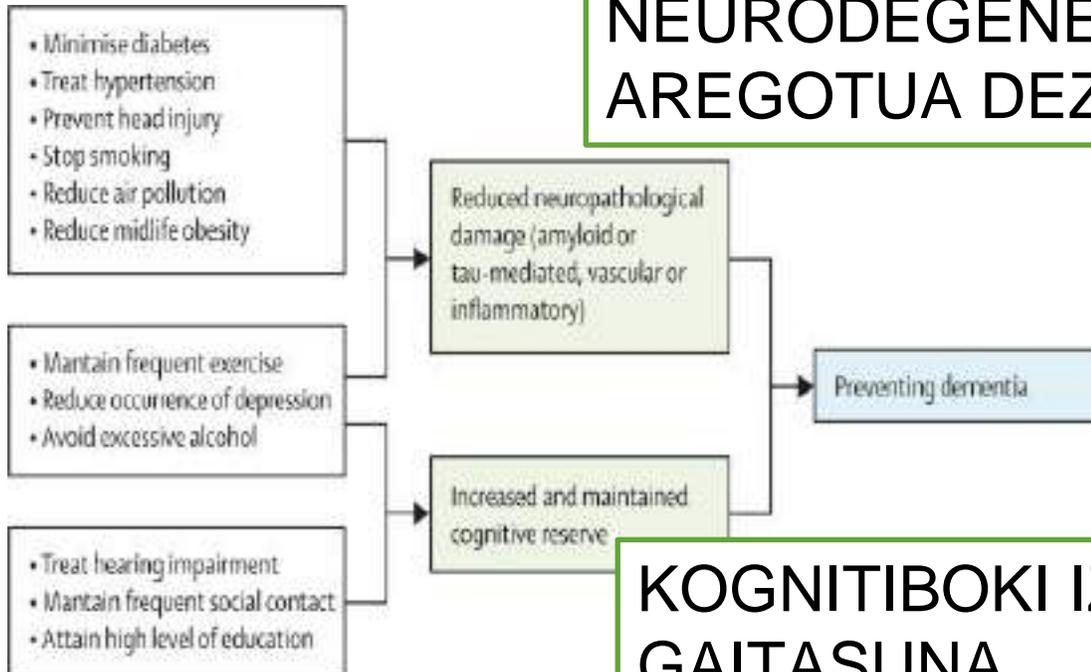
ARRISKU FAKTORE DIRA





Narriadura
kognitiboen kasu
guztien herena
ekidin liteke!

ZUZENEAN NARRIADURA KOGNITIBOA ERAGIN DEZAKETEN GAITZ NEURODEGENERATIBO ETA EZ NEURODEGENERATIBOAK IZATEKO ARRISKUA AREGOTUA DEZAKETE (**ERAGIN BIOLOGIKOA**).



KOGNITIBOKI IZAN GENEZAKEN GURE OINARRIZKO GAITASUNA OKERTU DEZAKETE (**ERAGIN KOGNITIBOA**).

NARRIADURA KOGNITIBOA: GAITZ NEURODEGENERATIBOAK



Lewy Body Dementia (LBD)
There are several possible symptoms of LBD, which can be grouped into the following categories:

Movement issues	Fluctuating cognitive function
<ul style="list-style-type: none"> • Slow movements. • Rigidity or stiffness. • Tremors. • Balance problems. • Shuffling walk. • Difficulty swallowing. • Frequent falls. • Loss of coordination. 	<ul style="list-style-type: none"> • Visual hallucinations. • A decline in: <ul style="list-style-type: none"> • Planning abilities. • Problem-solving skills. • Decision-making. • Memory. • Ability to focus. • Understanding visual information.
Sleep problems	Mood and behavior changes
<ul style="list-style-type: none"> • Rapid eye movement (REM) sleep behavior disorder (RBD). • Excessive daytime drowsiness. • Changes in sleep patterns. • Insomnia. 	<ul style="list-style-type: none"> • Depression. • Anxiety. • Agitation, restlessness or aggression. • Delusions. • Paranoia.
Dysautonomia: autonomic nervous system (ANS) that doesn't function as it should	
<ul style="list-style-type: none"> • Changes in body temperature. • Blood pressure fluctuations. • Dizziness. • Fainting. • Sensitivity to heat and cold. 	<ul style="list-style-type: none"> • Sexual dysfunction. • Urinary incontinence. • Fecal (bowel) incontinence. • Constipation.

Cleveland Clinic

SINUKLEINA PROTEINA



LEWY-REN GAITZA

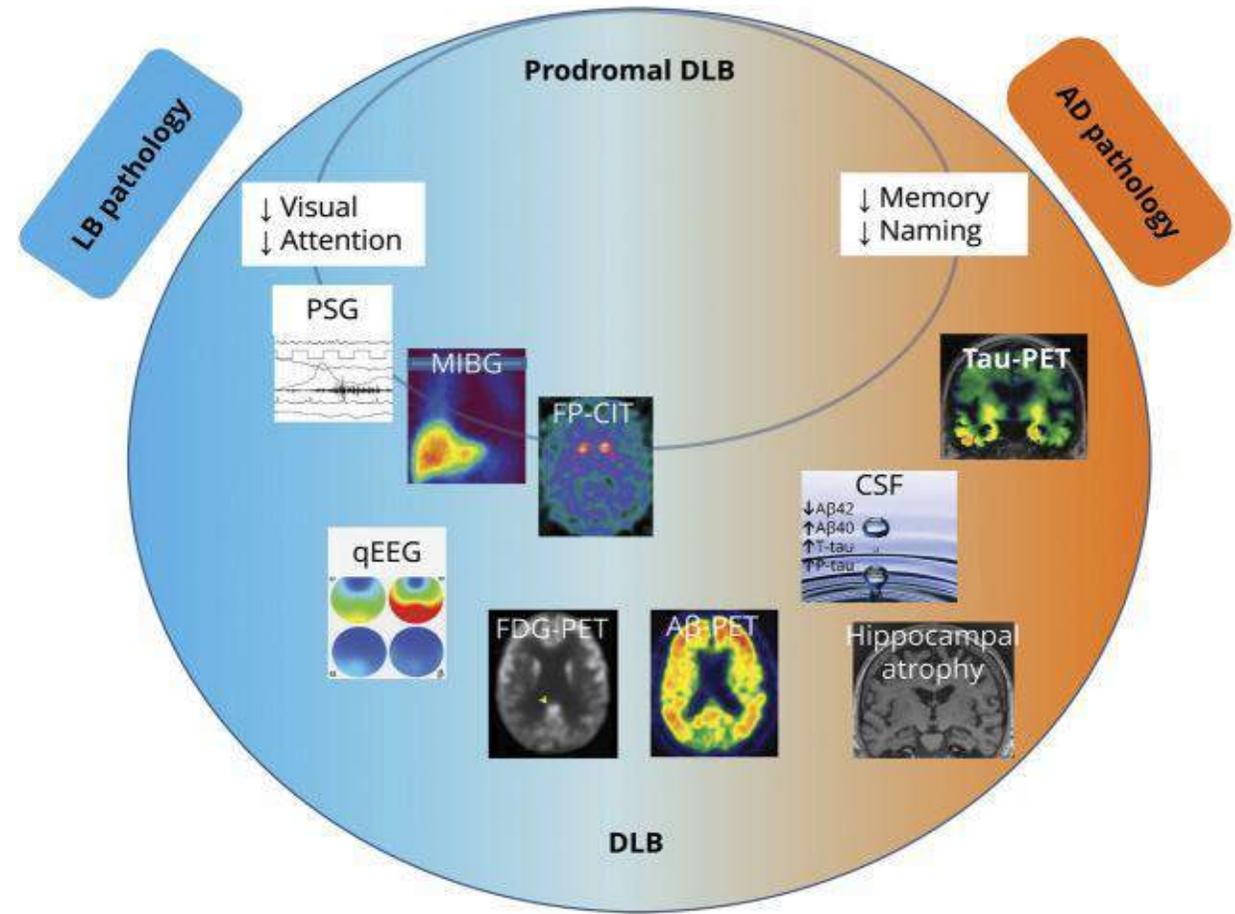
PARKINSON-EN GAITZA



LEWY-REN GAITZA: DIAGNOSIA DEMENTZIA BAINO LEHEN

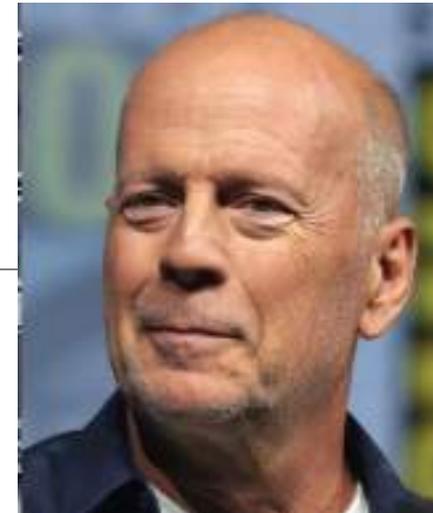
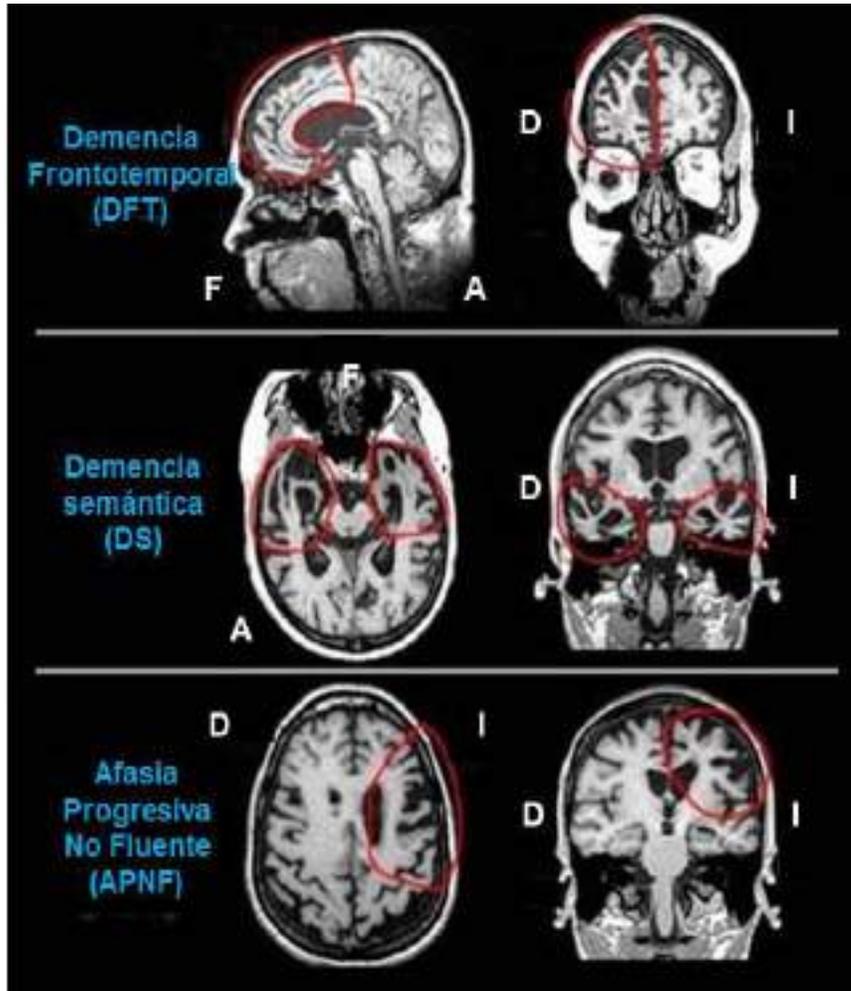
Table 1 Research criteria for the clinical diagnosis of probable and possible MCI-LB

<p>Essential for a diagnosis of MCI-LB is MCI defined by the presence of each of the following:</p> <ul style="list-style-type: none"> Documented by the patient, informant, or clinician regarding cognitive decline. Objective evidence of impairment in 1 or more cognitive domains. The cognitive impairment may include any domain, but domain likely to be also assessed in the clinical research study: visual perceptual deficits. Preserved or minimally affected performance of previously obtained independent functional abilities, which do not meet the criteria for dementia.
<p>Core clinical features</p> <p>Fluctuating cognition with pronounced variations in attention and awareness:</p> <ul style="list-style-type: none"> Recurrent visual hallucinations. REM. One or more spontaneous, core clinical features of parkinsonism that are bradykinetic defined as instances of hesitancy and decreases in amplitude or speed, rest tremor, or rigidity.
<p>Proposed biomarkers</p> <ul style="list-style-type: none"> Reduced dopamine transporter uptake in basal ganglia demonstrated by SPECT or PET. Neuroimaging confirmation of REM sleep without atonia. Biopsy of monoamine transporter (DAT) uptake on myocardial scintigraphy.
<p>Probable MCI-LB can be diagnosed if:</p> <ul style="list-style-type: none"> Two or more core clinical features of DLB are present, with or without the presence of a proposed biomarker, or Only 1 core clinical feature is present, but with 2 or more proposed biomarkers.
<p>Possible MCI-LB can be diagnosed if:</p> <ul style="list-style-type: none"> Only 1 core clinical feature of DLB is present, with no proposed biomarkers, or One or more of the proposed biomarkers is present, but there are no core clinical features.
<p>Supportive clinical features</p> <p>Severe sensitivity to antiemetics; agitated postural instability; repeated falls; episode or other transient episodes of amnesia; persistent/recurrent delirium; apnoeic dysfunction (e.g., constipation, orthostatic hypotension, urinary incontinence, hypotension, hypoxemia, falls); features in other modalities including gait; and series of previous phenomena: syncope/dizziness; apathy, anxiety, and depression.</p>
<p>Potential biomarkers of MCI-LB</p> <ul style="list-style-type: none"> Quantitative MRI showing slowing and/or abnormal frequency variability. Relative preservation of medial temporal lobe structures on magnetic imaging. Lower thalamus and gray matter volume (on an MRI). Low occipital uptake on perfusion metabolic scans. MCI-LB supportive clinical features or potential biomarkers are insufficient to diagnose MCI-LB but may have implications if and when further investigation and may add weight to an existing MCI-LB diagnosis.
<p>MCI-LB is not MCI-LB if the presence of any of the (pink) or absence of any of the (blue) clinical or biomarker features is not met. The clinical or biomarker features are not sufficient to diagnose MCI-LB but may have implications if and when further investigation and may add weight to an existing MCI-LB diagnosis.</p>
<p>Abbreviations: DLB = dementia with Lewy bodies; MCI = mild cognitive impairment; MCI-LB = MCI with Lewy bodies. These should be used to categorize all of the corresponding articles, which gives full details of the definitions and the use of biomarkers as they apply to MCI-LB.</p>



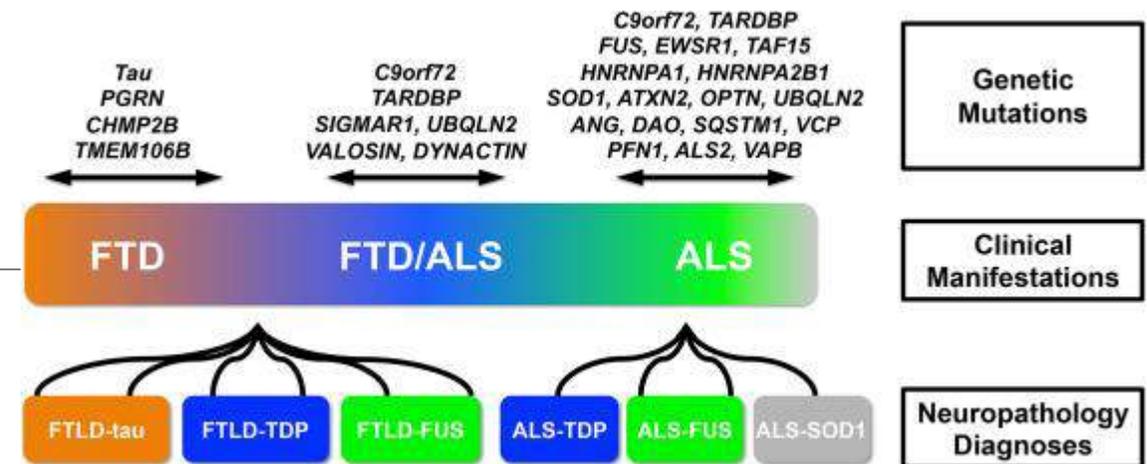
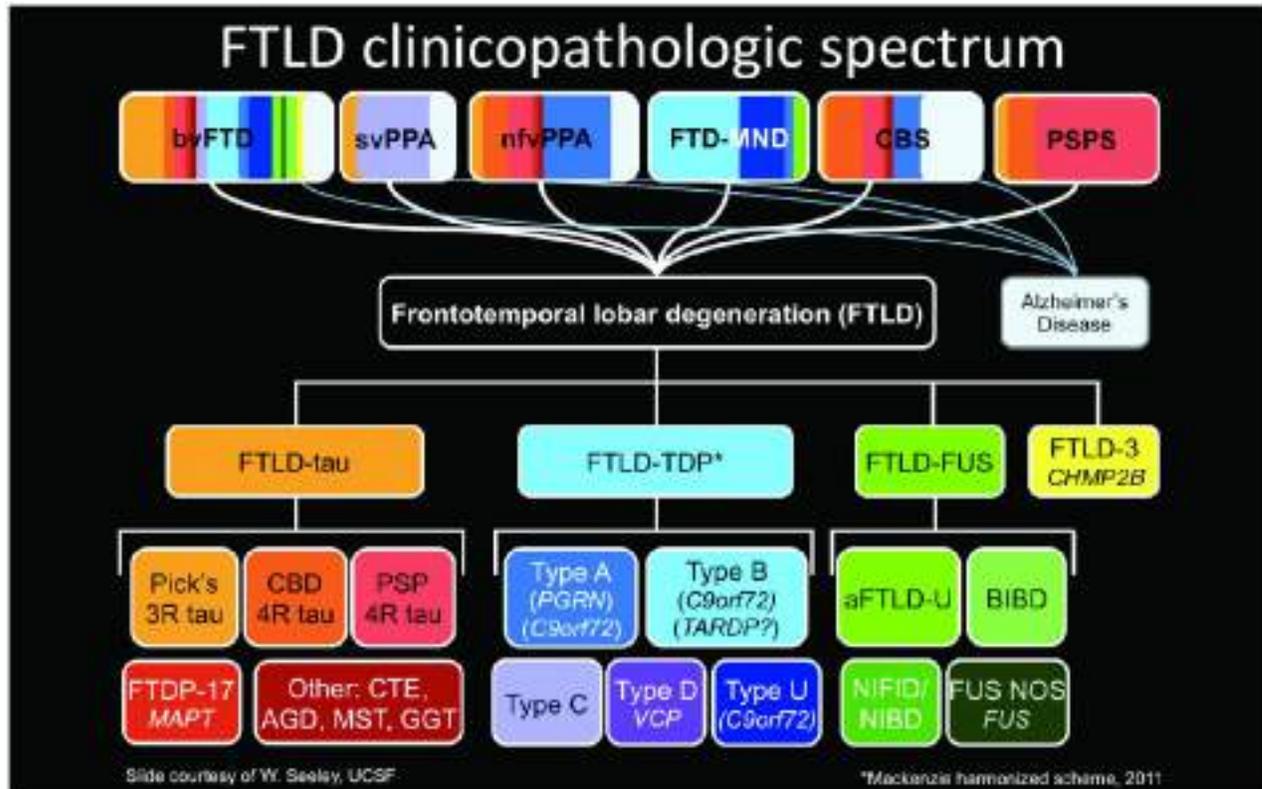
NARRIADURA KOGNITIBOA: GAITZ NEURODEGENERATIBOAK

DEGENERAZIO LOBAR FRONTO-TENPORALA



NARRIADURA KOGNITIBOA: GAITZ NEURODEGENERATIBOAK

DEGENERAZIO LOBAR FRONTO-TENPORALA



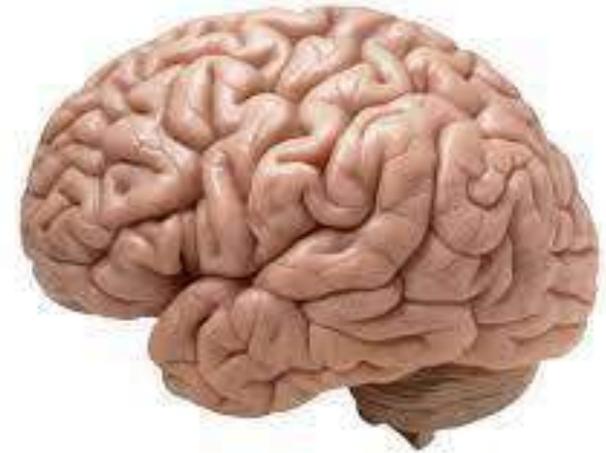
ALZHEIMERREN GAIXOTASUNA



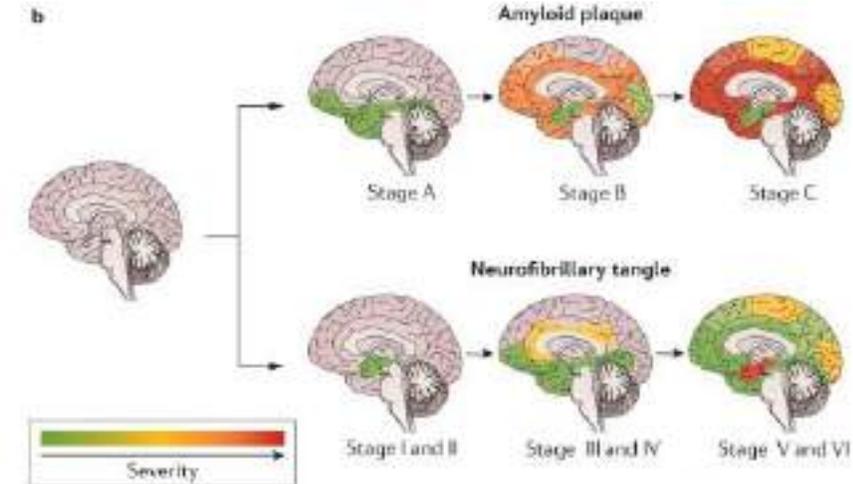
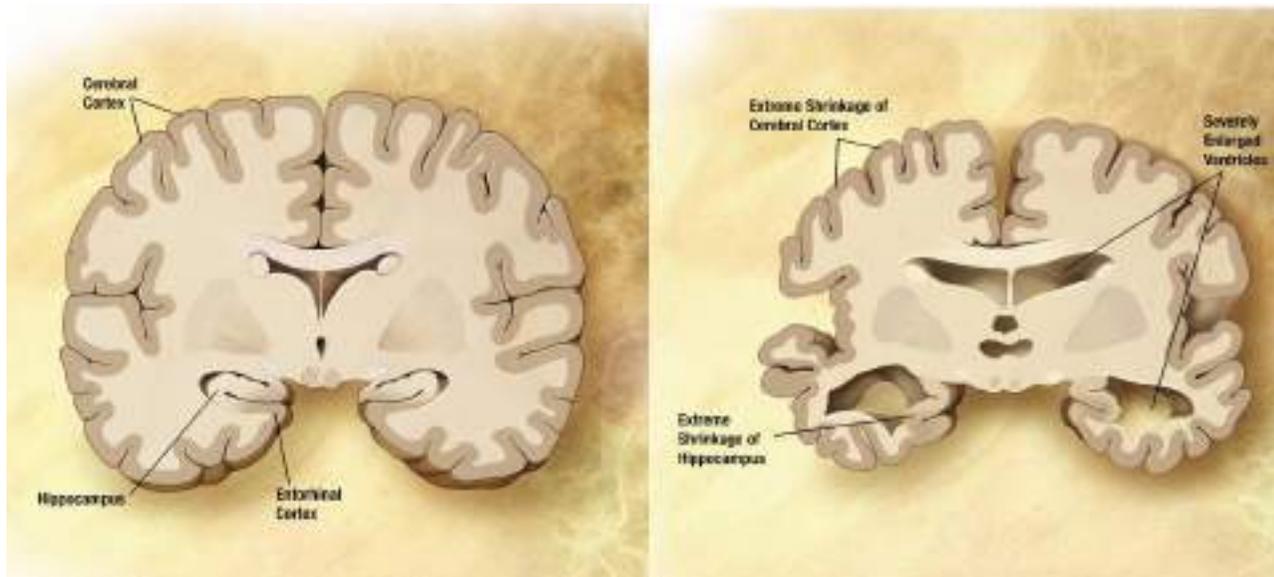
Alois Alzheimer.



August Deter.

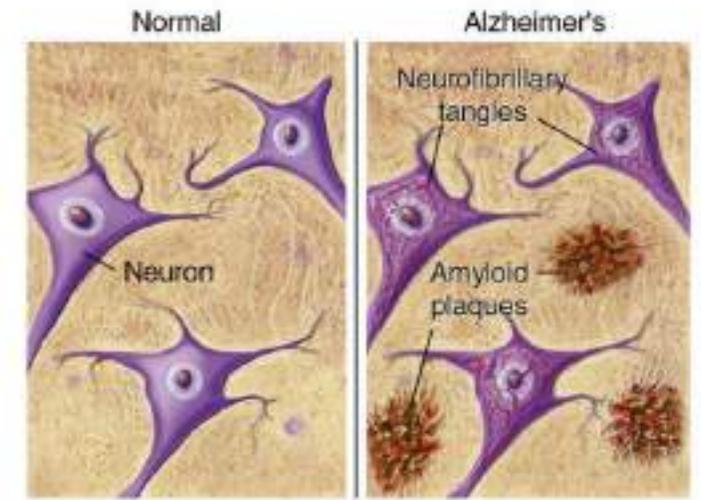
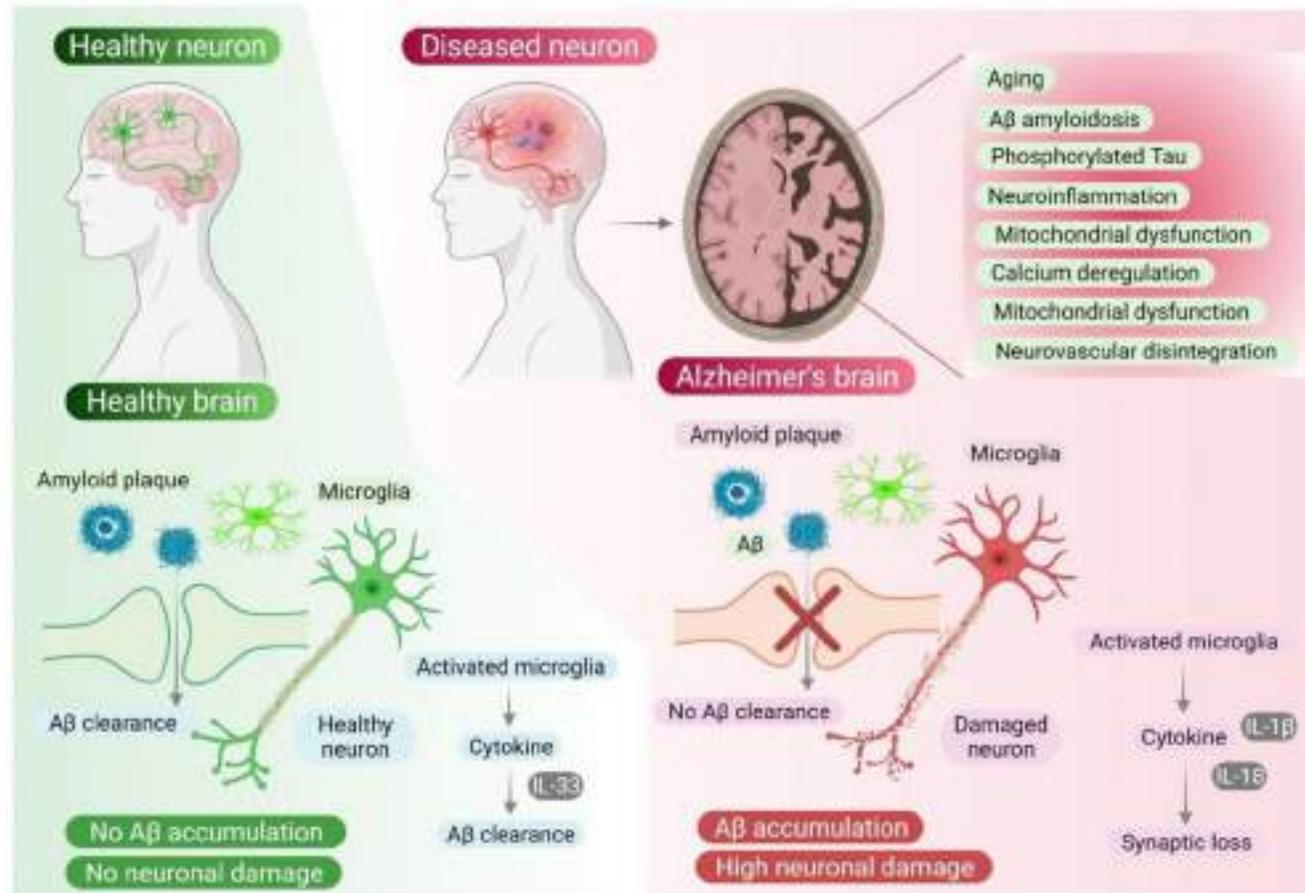


ALZHEIMERREN GAIKOTASUNA



Nature Reviews | Disease Primers

ALZHEIMERREN GAIKOTASUNA

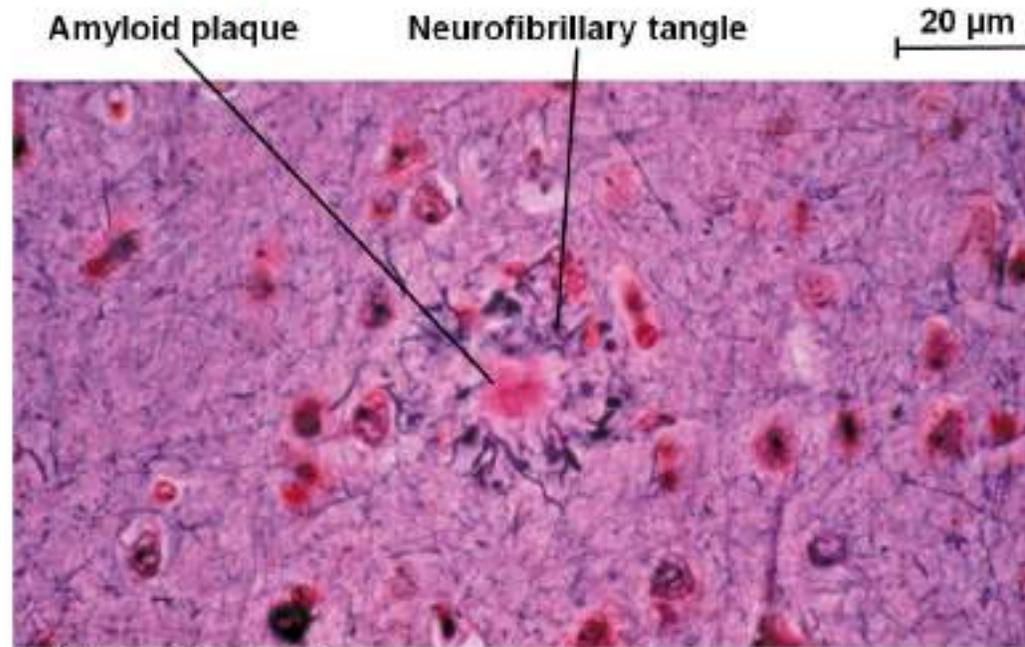


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ALZHEIMERREN GAIKOTASUNA

Microscopic signs of Alzheimer's disease

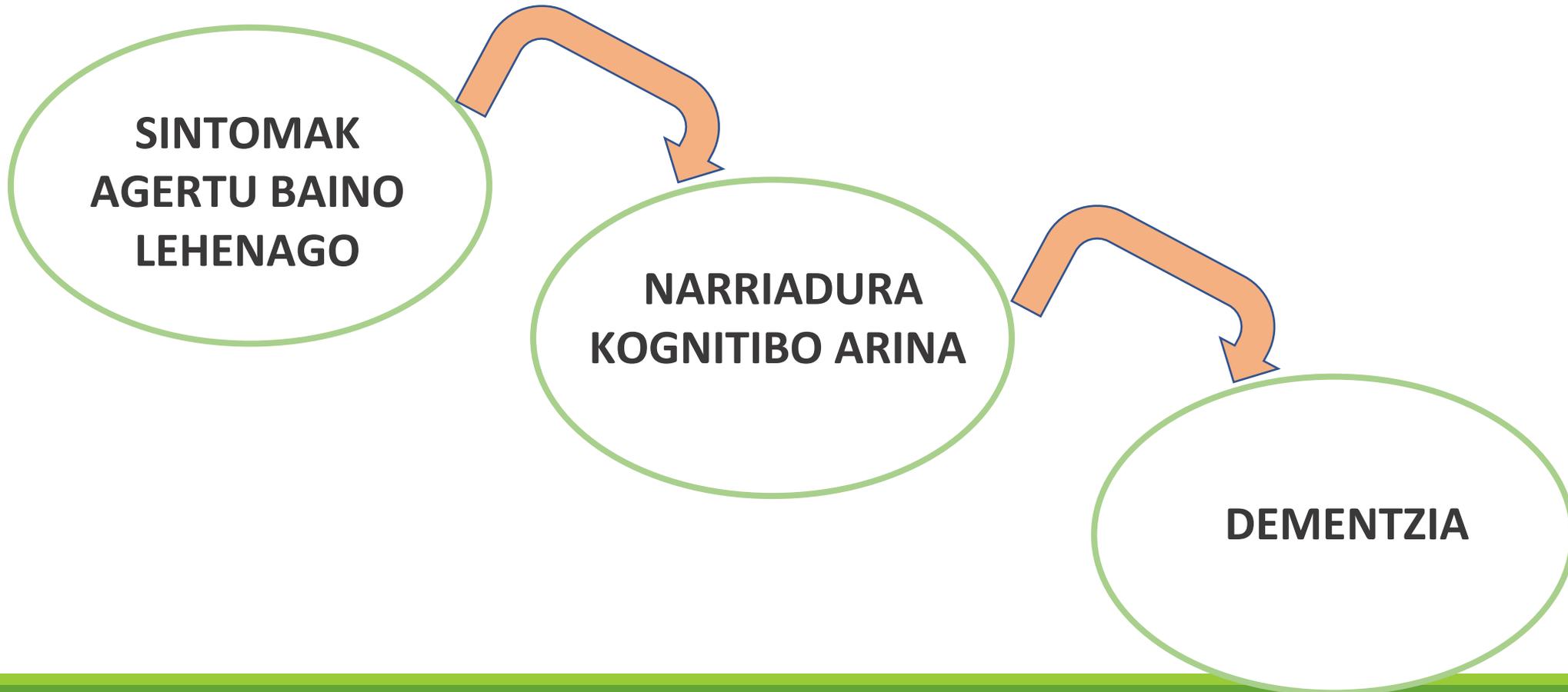


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AMILOIDE eta **TAU** proteinak



ALZHEIMERREN GAIXOTASUNA



ALZHEIMERREN GAIKOTASUNA

Las fases de la enfermedad de Alzheimer
ESCALA GDS

fundación pasqual maragall

FASES	SINTOMAS
De la normalidad a los primeros indicios de deterioro cognitivo	GDS 1 Normalidad Se percibe alguna Normalidad cognitiva de cualquier edad.
	GDS 2 Deterioro cognitivo subjetivo Atención cognitiva subjetiva, algunas dificultades de memoria, pérdida del tiempo pasado.
	GDS 3 Deterioro cognitivo leve Desorientación, Pérdida de objetos, Dificultades para hacer cálculos o manejar palabras o nombres.
El primer diagnóstico de demencia en fase leve	GDS 4 Demencia leve Dificultades para planificar viajes y gestionar la economía personal, Dificultad para recordar hechos recientes, Confusión con los detalles de la propia historia personal.
La fase moderada de la demencia, necesidad constante de ayuda	GDS 5 Demencia moderada Dificultades para realizar tareas cotidianas, pérdida de la capacidad para recordar datos simples, Dificultades en la orientación temporal y física, Aún reconoce a sus allegados e identifica a las personas familiares.
	GDS 6 Demencia moderada a muy grave Incapacidad para realizar tareas de ayuda, Dificultades para mantener una conversación, Aparición problemas de control de esfínteres, Pérdida de orientación respecto a su propia biografía, Olvido del nombre de personas cercanas, Cambios de conducta y personalidad, actividad agresiva e incluso autolesiones.
Fase grave, al final del proceso	GDS 7 Demencia grave Pérdida progresiva de la capacidad para hablar y comportarse, Necesidad de ayuda para las actividades más básicas: comer, caminar o realizar otras acciones.

Blog "Enfermedad de Alzheimer" - blog.fundacionpasqual.org



DEMENTZIAREN BAITAN ZEIN FASE EDO ETAPA EZBERDIN DAUZKAGU?

AZTERKETA KLINIKOA (NEUROLOGIKOA)



ELKARRIZKETA KLINIKOA.

AZTERKETA FISIKOA.

DIAGNOSI POSIBLEAK AZTERTZEA.
ESKATU BEHARREKO FROGAK (EZ
BETI) EGOKI AUKERATZEA.

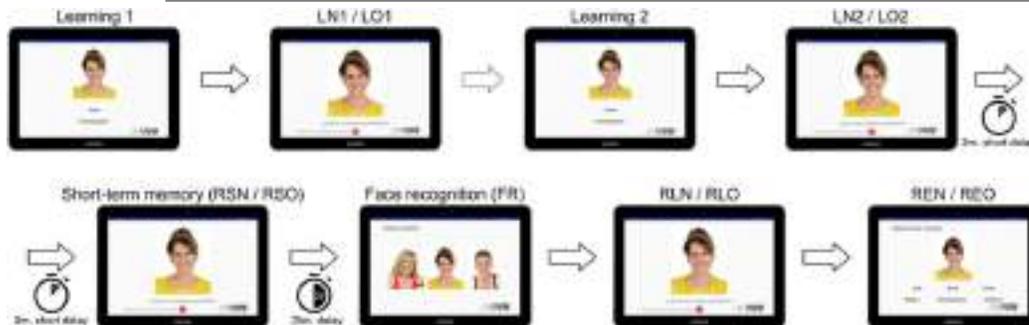
AZTERKETA KLINIKOA (NEUROPSIKOLOGIKOA)



NARRIADURA KOGNITIBOA DAGOEN
EDO EZ ETA BERE EZAUGARRIAK ZEIN
DIREN ONGI ZEHAZTEA.

DEMENTZIA AURREKO FASEETAN
GARRANTZITSUA ETA IZAN DEZAKE
ERABILERA JARRAIPENEAN ERE.

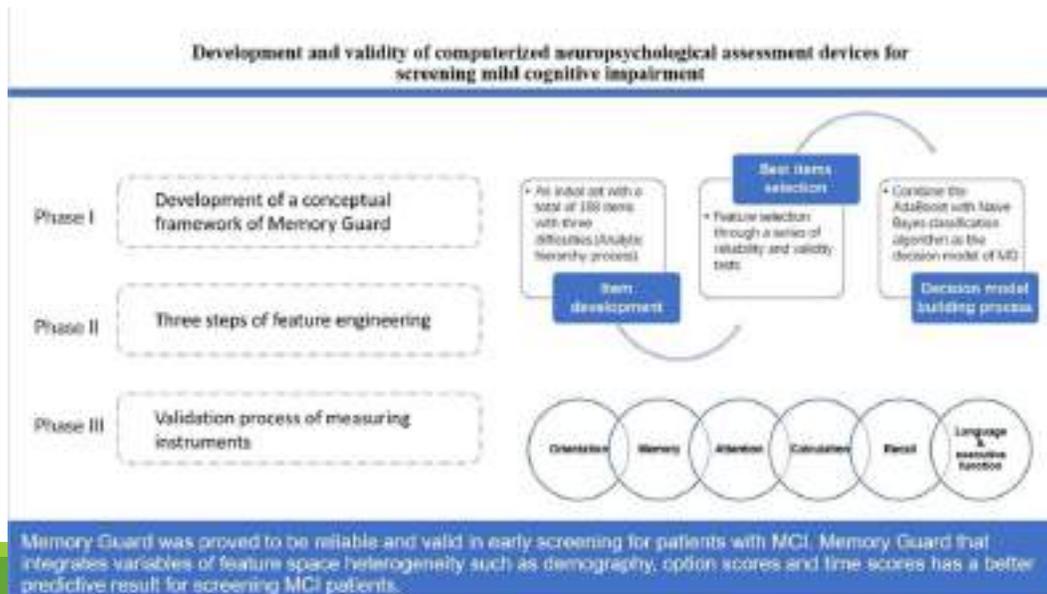
AZTERKETA KLINIKOA (NEUROPSIKOLOGIKOA)



Alegret et al. 2020.



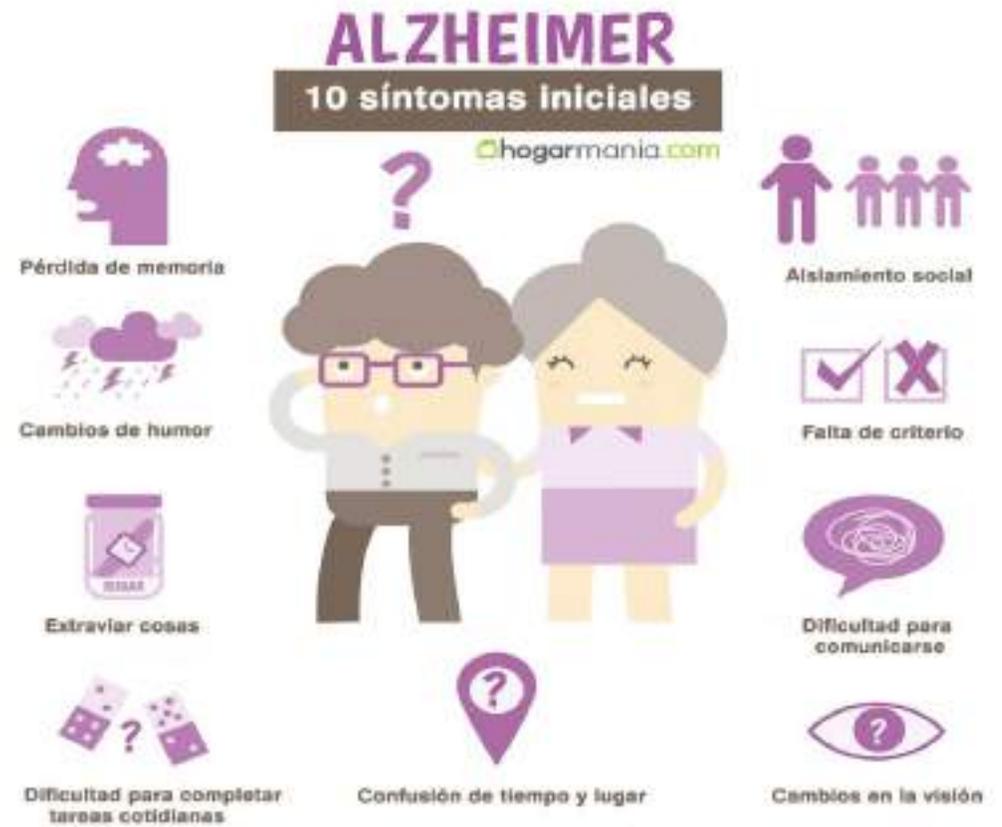
UCSF Weill Institute for Memory and
Neurosciences | Aging Center



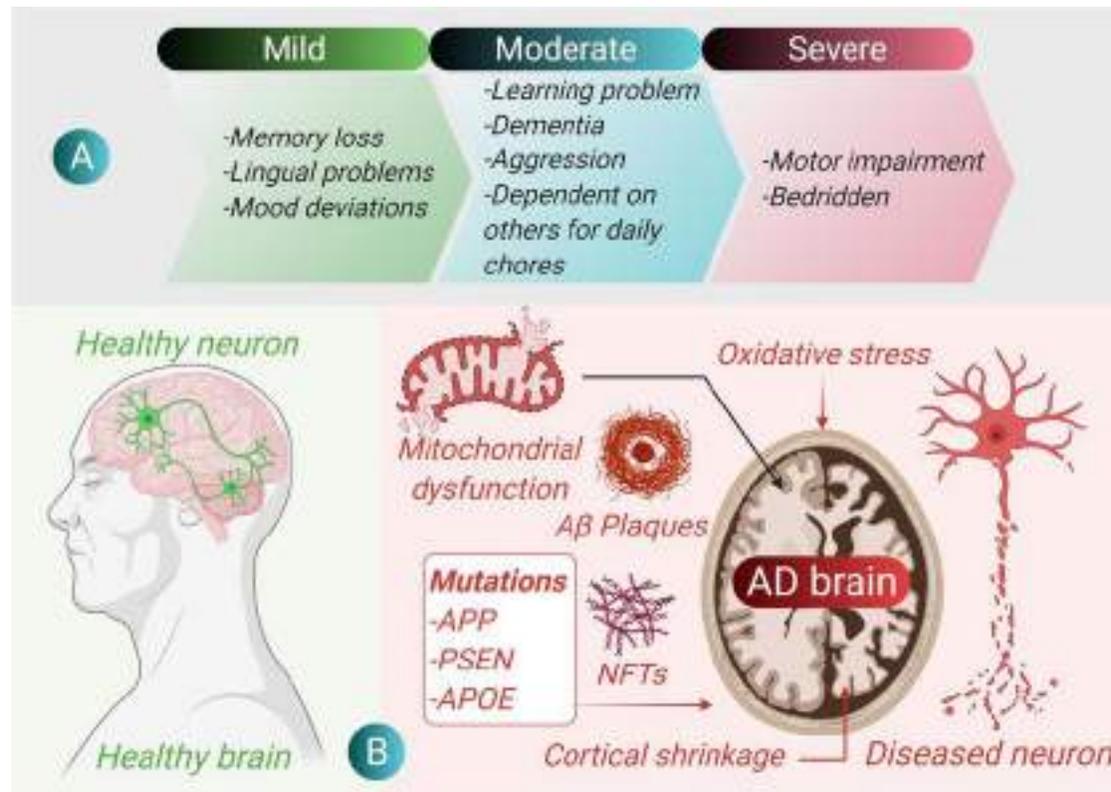
Xiao et al. 2022.

ALZHEIMERREN GAIJOTASUNA

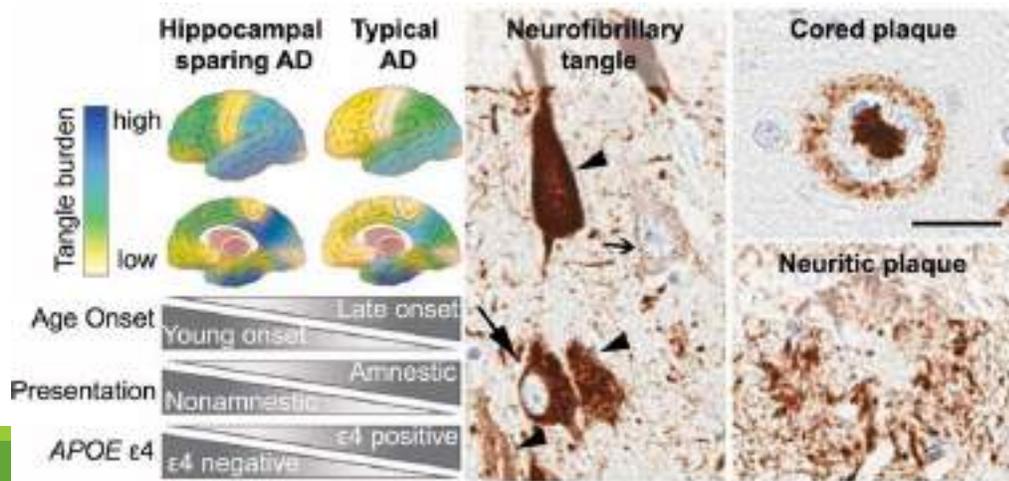
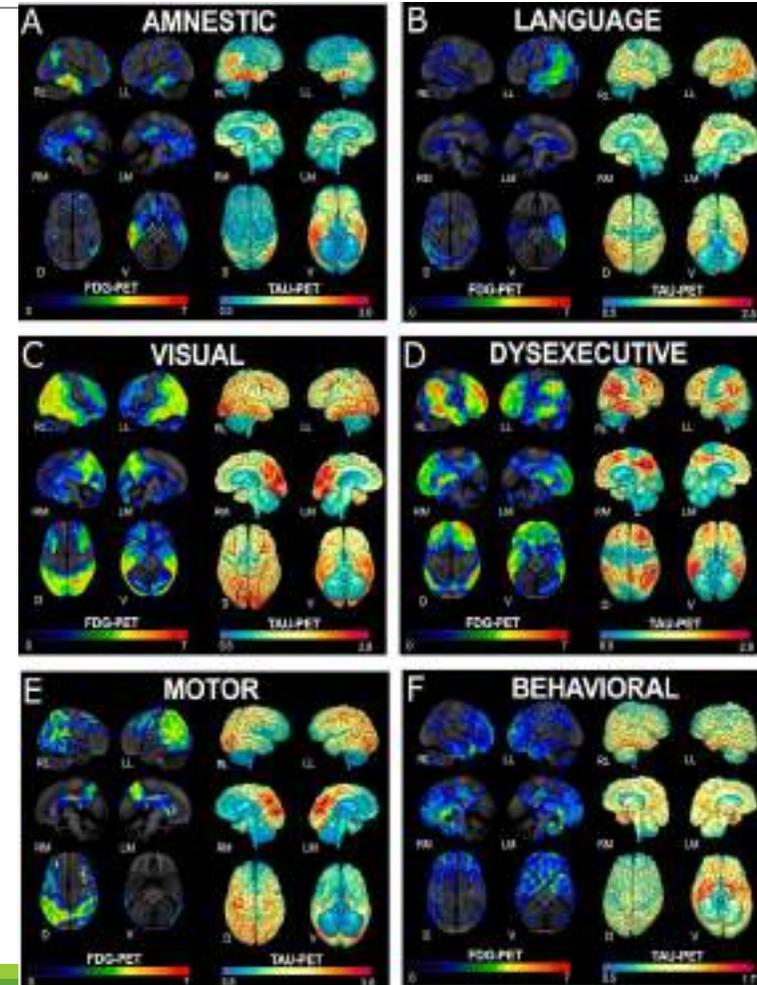
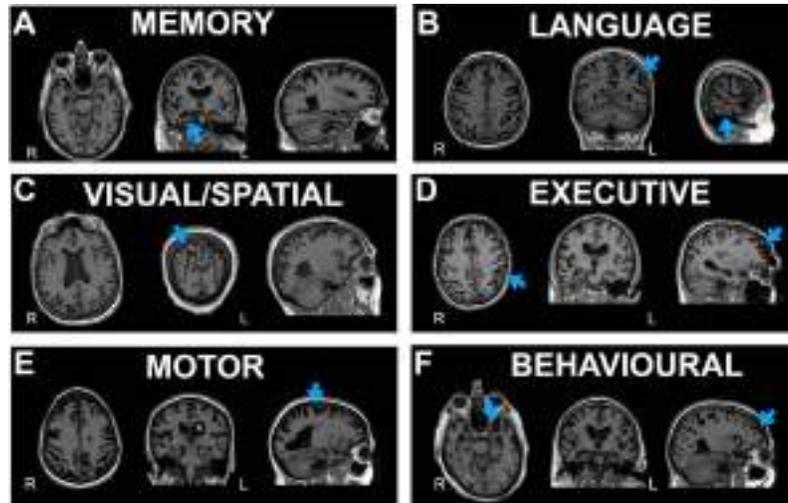
*MEMORIA arazoak ohikoenak,
baina ez inolaz ere bakarrak!*



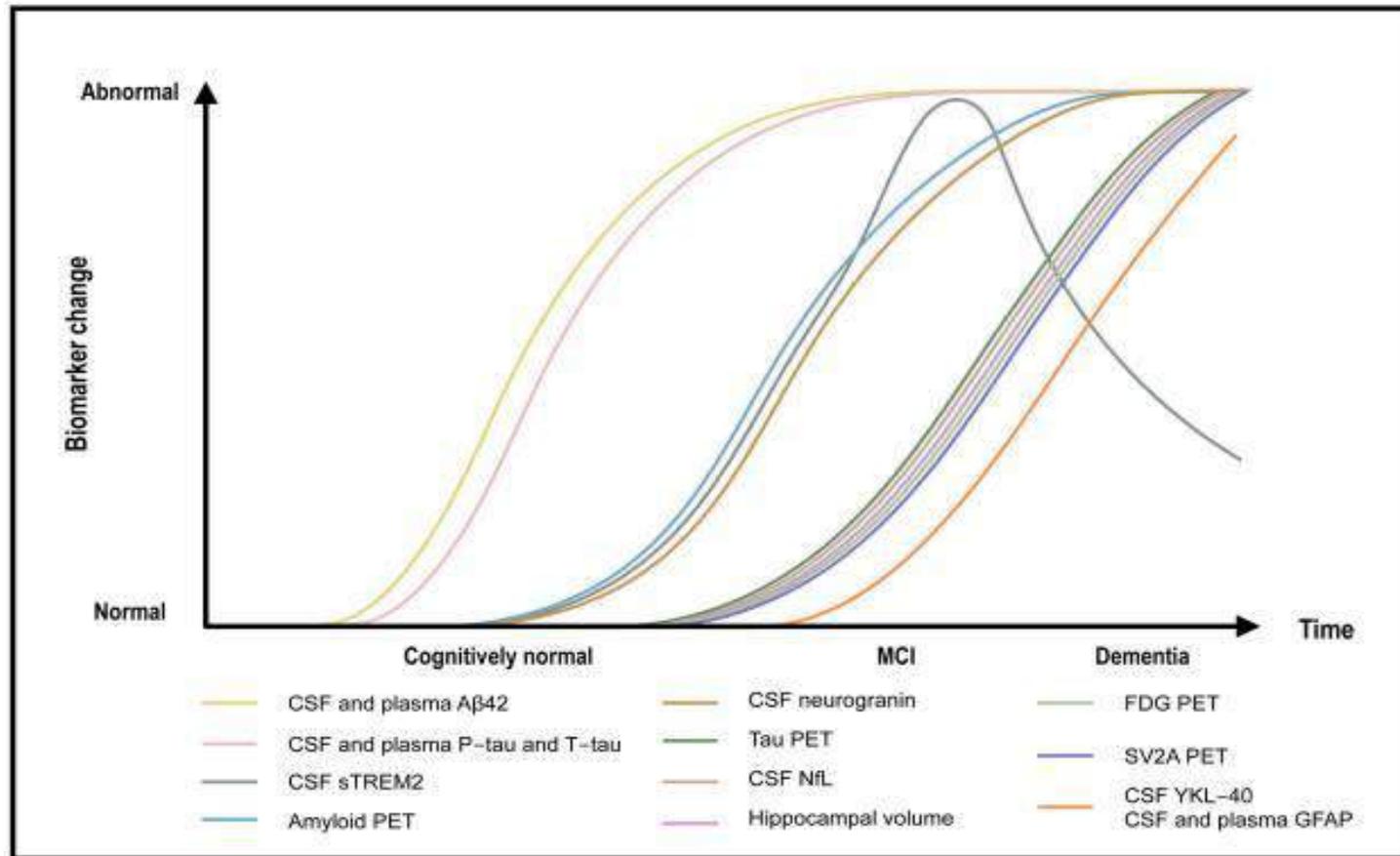
ALZHEIMERREN GAIXOTASUNA



ALZHEIMERREN GAIKOTASUNA: FROGEN ETA SINTOMEN ARTEKO LOTURA

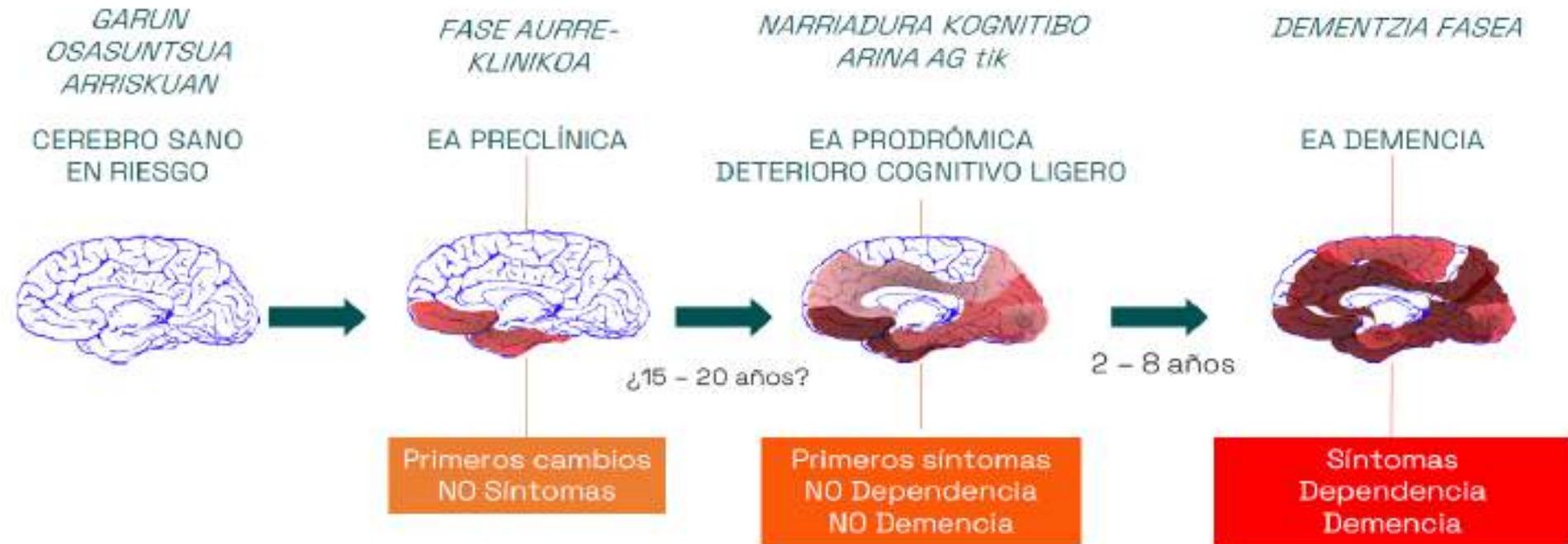


ALZHEIMERREN GAIXOTASUNA: DIAGNOSIA



BIOMARKATZAILEAK

ALZHEIMERREN GAIXOTASUNA: DIAGNOSIA



GAIXOTASUNAK MOTEL EGITEN DU AURRERA (HAMARKADE TAN ZEHAR).

ALZHEIMERREN GAIXOTASUNA: DIAGNOSIA



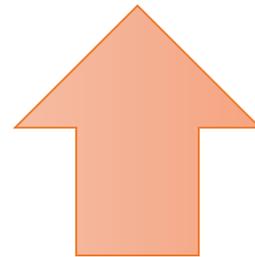
SINTOMAK HASI BAINO
LEHENAGO



NARRIADURA
KOGNITIBO ARINA



DEMENTZIA



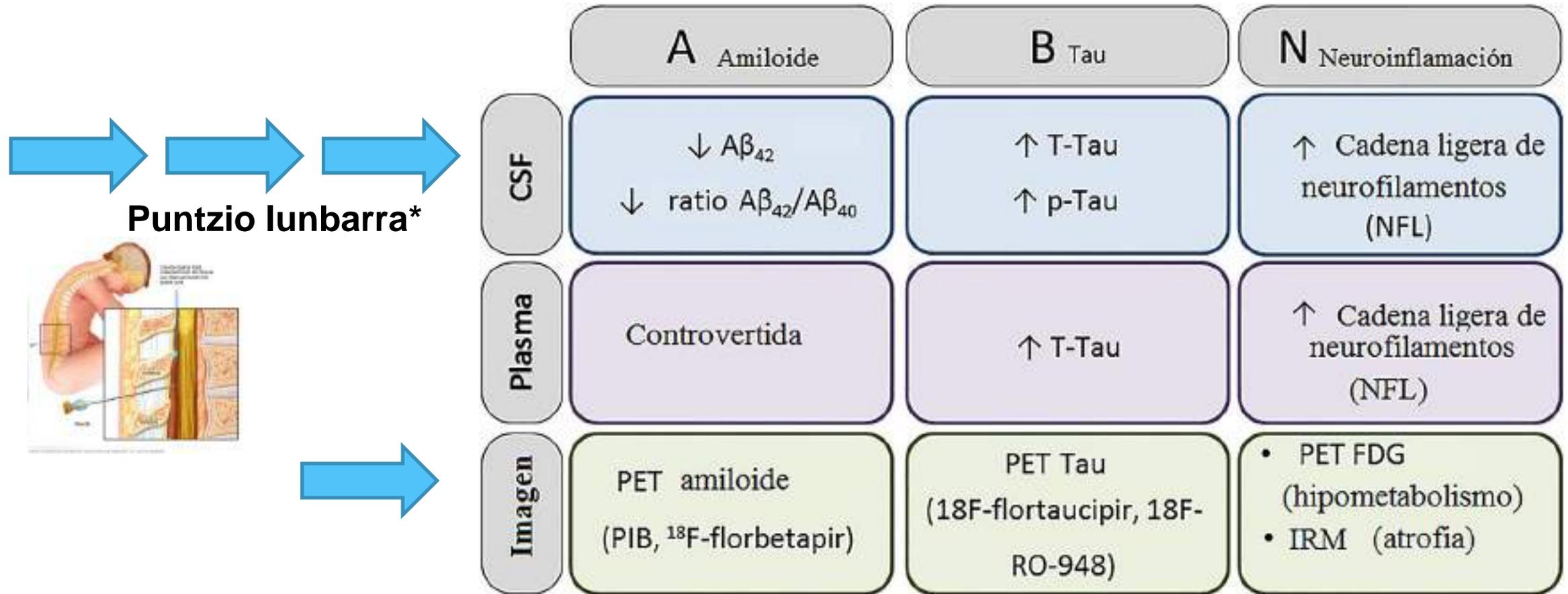
BIOMARKATZAILEAK

AMILOIDE

NEURODEGENERAZIOA

TAU

ALZHEIMERREN GAIKOTASUNA: DIAGNOSIA

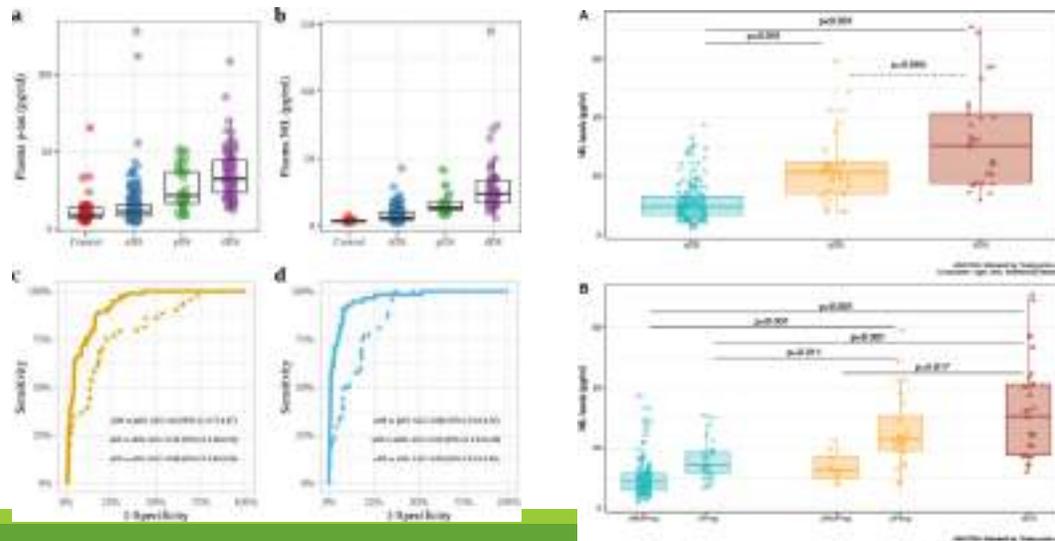


ALZHEIMERREN GAIXOTASUNA: BIOMARKATZAILE BERRIEN BILA

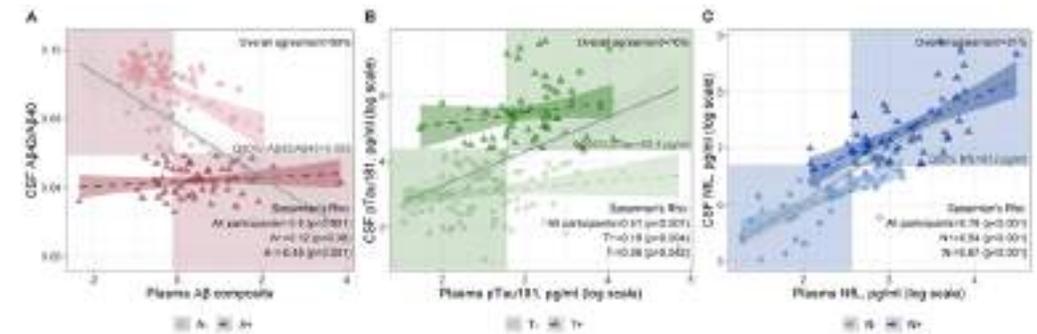
Table 1 Demographics, clinical and biomarkers information across diagnostic categories

	CN	MCI	AD dementia	DLB	FTLD-related syndromes	P value
N	46	46	8	25	25	—
Age, years	54.8 (12.3)	72.6 (6.5)	72.3 (5)	77.5 (4.9)	70.4 (8.4)	<0.001
Female/male (% female)	24/22 (52)	28/18 (61)	3/5 (38)	8/17 (32)	18/7 (72)	0.041
MMSE score	29.1 (1.1)	25.8 (2.7)	23.6 (3.2)	23.5 (3.5)	22.6 (6)	<0.001
APOEε4+/APOEε4- (% APOEε4+)	11/35 (24)	21/23 (48)	6/2 (75)	6/18 (25)	5/20 (20)	0.048
A+/A- (% A+)	4/42 (9)	31/15 (67)	7/1 (88)	12/13 (48)	6/19 (24)	<0.001
T+/T- (% T+)	4/42 (9)	31/15 (67)	7/1 (88)	11/14 (44)	5/20 (20)	<0.001
N+/N- (% N+)	2/23 (8)	17/14 (55)	4/1 (80)	17/3 (85)	18/4 (82)	<0.001
A+T+/A+T-/A-T+/A-T- (% A+T+)	3/11/41 (6.5)	27/4/4/11 (58.7)	7/0/0/1 (87.8)	11/1/0/13 (44)	3/3/2/17 (12)	<0.001
Amyloid PET+/amyloid PET- (% amyloid PET+)	3/2 (60)	29/17 (63)	7/1 (88)	16/9 (64)	4/6 (40)	0.36
CSF Aβ ₁₋₄₂ /Aβ ₁₋₄₀	0.1 (0.021)	0.058 (0.025)	0.044 (0.011)	0.072 (0.029)	0.086 (0.024)	<0.001*
CSF tTau, pg/mL†	245 (131)	485 (293)	623 (332)	451 (394)	419 (155)	<0.001*
CSF pTau181, pg/mL†	32.5 (17.2)	79.2 (57)	109.8 (80.5)	56.2 (70.1)	52.8 (35.6)	<0.001*
CSF NFL, pg/mL†	391 (222)	832 (416)	1140 (142)	1141 (657)	1943 (2923)	<0.001*
¹⁸ F-florbetapir quantification, SUVR	1.14 (0.11)	1.23 (0.2)	1.3 (0.1)	1.16 (0.21)	1.04 (0.17)	<0.001*
Plasma Aβ composite score	-0.47 (0.66)	0.81 (3.03)	0.29 (0.73)	0.19 (0.88)	0.06 (0.91)	0.161*
Plasma pTau181, pg/mL†	9.3 (6.5)	18.7 (10.5)	28.5 (15.6)	18 (17.2)	13.1 (12.9)	0.002*
Plasma NFL, pg/mL†	8.9 (5)	16.8 (9.3)	16.5 (6.6)	19.6 (13.3)	23.7 (26.3)	<0.001*

ETORKIZUNA BADIRUDI ODOLEAN DAGOELA

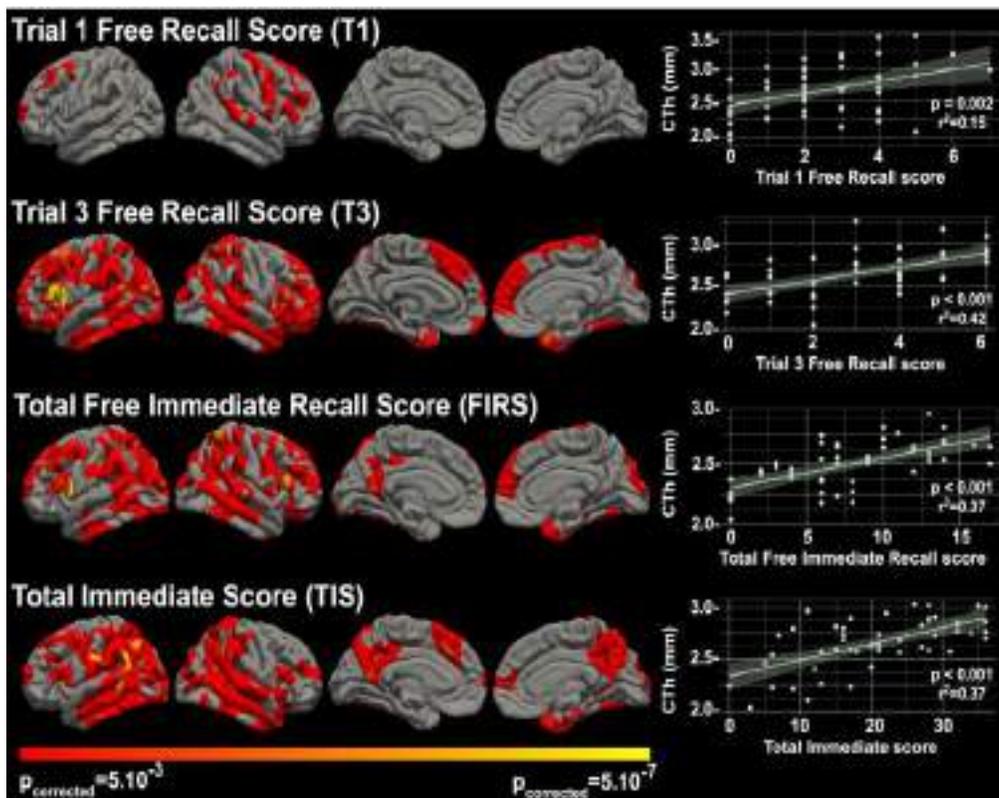


Lleó et al. 2021.

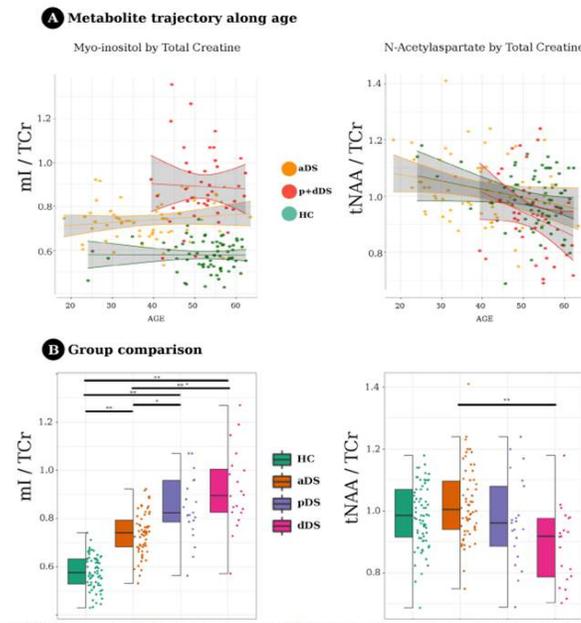


Carmona-Iragui et al. 2021.

ERRESONANTZIA MAGNETIKOAREN BESTE ERABILERA



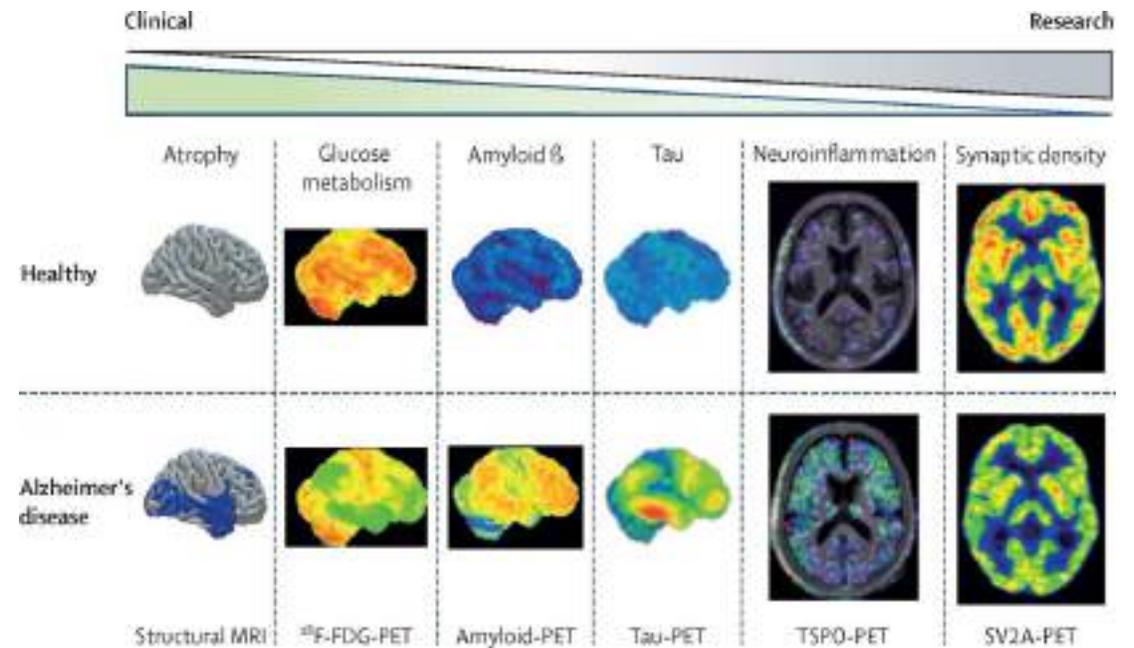
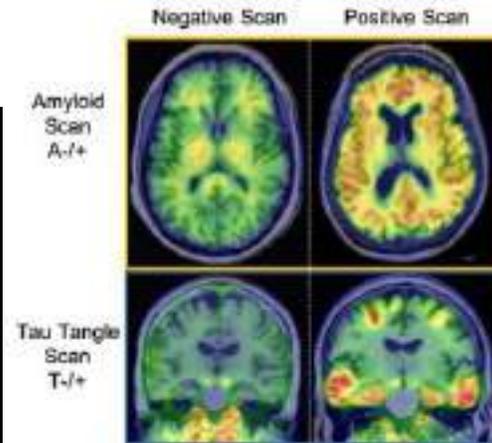
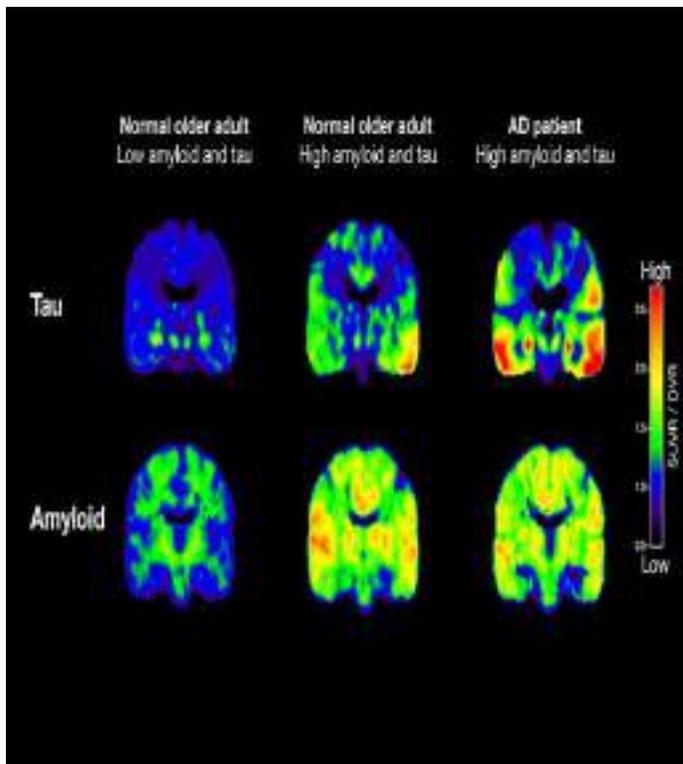
Benejam et al. 2022.



Montal et al. 2021.

**EZ DU SOILIK ATROFIA
BEGIRATZEKO BALIO!**

TAU ETA AMILOIDE PROTEINAK NEURTZEKO BESTE TRESNAK (PET)



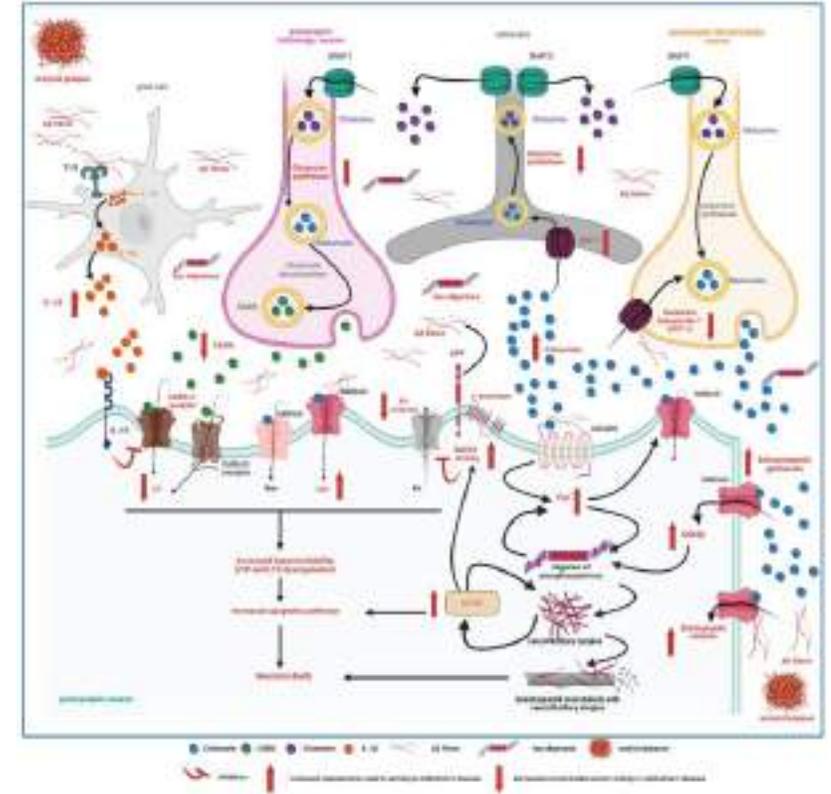
ALZHEIMERREN GAIKOTASUNA ETA EPILEPSIA

Table 3. Clinical and electrophysiological differences between epileptic seizures in relation to sporadic AD vs autosomal dominant Alzheimer's disease (ADAD) and DSAD.

	Sporadic AD	ADAD	DSAD
Prevalence	1.5–12.7% [80]	2.8–47% [67,81]	41.1–75% [29,74]
Most frequent type of seizures	Focal seizures with altered level of consciousness and without motor symptoms	82% generalized motor seizures, 8% focal with generalization, 8% focal with impairment of consciousness and 2% focal [67]	Myoclonic and GTCS
EEG most frequent epileptiform findings	Focal temporal slow and acute waves or spikes	Spike waves, spikes, rapid slow waves focal or generalized [67]	Generalized polyspike-waves
Temporal relation between AD onset and epilepsy onset	First seizure in dementia state for AD	Higher risk in carriers without cognitive impairment but majority first seizure in dementia state for AD [78,81]	First seizure in dementia state for AD
Clinical progression	Good seizure control after onset of antiepileptic drug	Good seizure control after onset of antiepileptic drug. In last stages of the disease possible progression to refractory myoclonus	Initial good response and frequently progression to refractory myoclonus

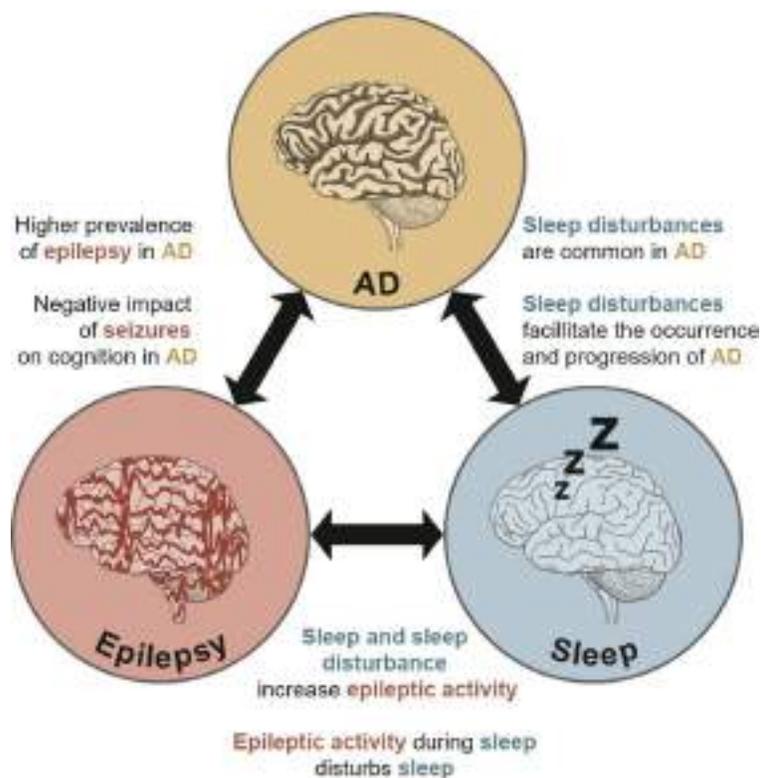
Altuna et al. 2021.

**ALZHEIMERRAK EPILEPSIA
GARATZEKO ARRISKUA
AREAGOTZEN DU*!**



Altuna et al. 2022.

ALZHEIMERREN GAIKOTASUNA ETA LOA (KALITATEA ETA KANTITATEA)



Hanke et al. 2022.

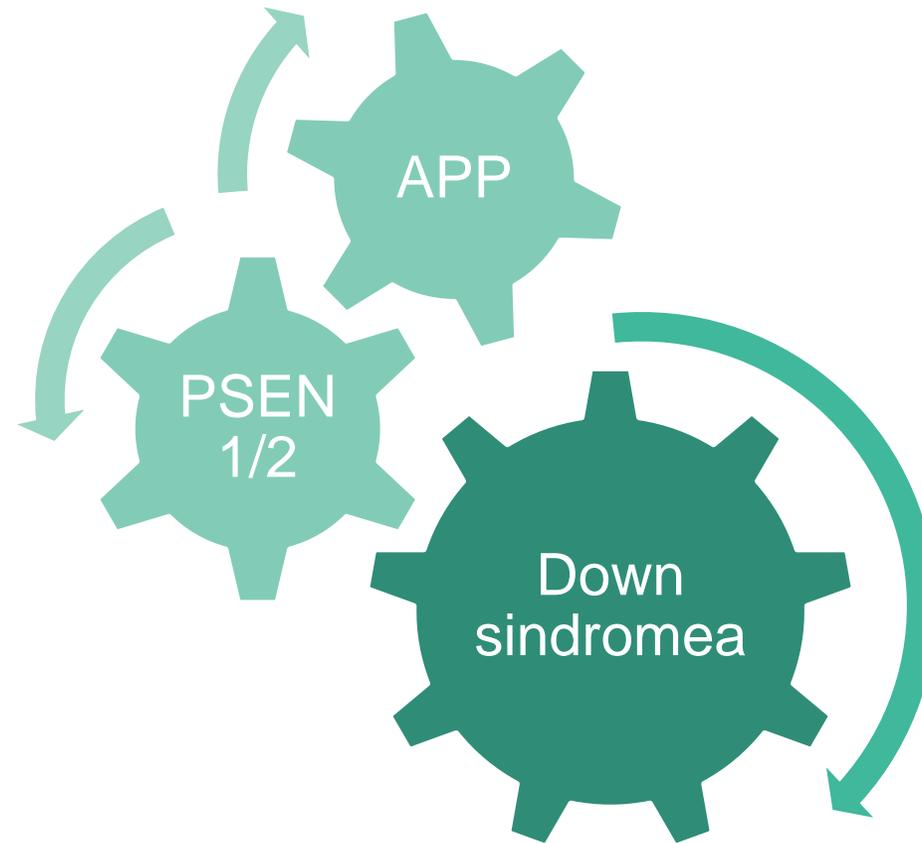


Gimenez, Altuna et al. 2021.

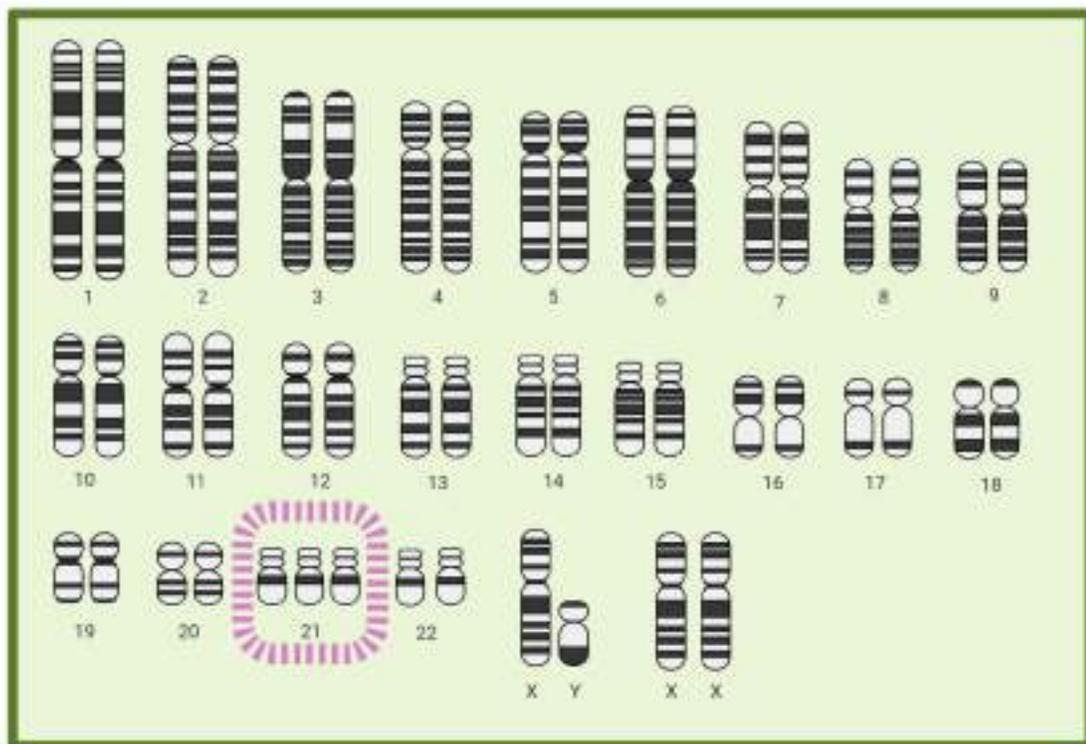
Dementia	Aging/AD biomarkers		Sleep Disordered Breathing	After CPAP treatment
↑ Posterior EEG slowing predicts conversion of MCI to AD	↑ Posterior EEG slowing predicts cognitive decline	WAKE	↑ EEG Slowing Ratio predicts sleepiness & impaired vigilance	Reversal of EEG slowing
↑ EEG Slowing Ratio predicts conversion of MCI to AD	↑ EEG Slowing Ratio predicts cognitive decline	REM	↑ EEG Slowing Ratio predicts impaired vigilance	Reversal of EEG slowing
↓ Density (fast spindles) in MCI & AD	-Density (fast spindles) & Duration with age -Associated with increased Tau & cognitive impairment	NREM Spindles	↓ Spindle density & frequency	Recovery of spindle density
↓ Density & Amplitude in AD	↓ Density with age	K-Complexes	↑ Density & Amplitude associated with respiratory events Impaired homeostatic amplitude dissipation across sleep cycles	Recovery of homeostatic amplitude dissipation across sleep cycles
Impaired homeostatic dissipation across sleep cycles	-With age -Associated with increased Amyloid-β, Tau & memory	Slow wave activity	Impaired homeostatic dissipation across sleep cycles	Recovery of homeostatic dissipation across sleep cycles

Mullins et al. 2022.

Genetikoki zehaztutako Alzheimerren gaitza



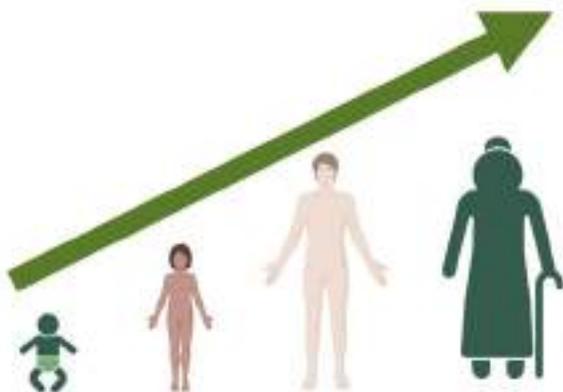
DOWN-EN SINDROMEA



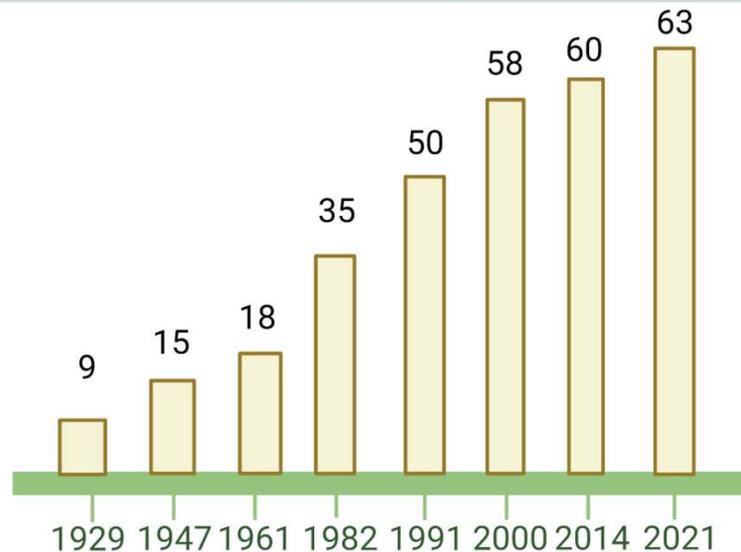
Egilea: Miren Altuna. Biorender.com bitartez sortua.

- Ezgaitasun intelektualaren arrazoi genetiko ohikoena da.
- Ustezko intzidentzia: 1/700 jaiotzetatik.
- Trisomia (kasuen % 96a)/mosaikoa/translokazioa.

BIZI ITXAROPENAREN ALDAERA



Osasun arazo ezberdinak adinen arabera



Bizi itxaropena nabarmen handitu da azken hamarkadetan, baina batez-beste 20 urte baxuagoa izaten jarraitzen du Down sindromea ez duten pertsonekin alderatuz gero.



Zahartzaroa goiztiarragoa da +20 urte Down-en sindromearen baitan

Egilea: Miren Altuna. Biorender.com bitartez sortua.

ZAHARTZAROARI LOTURIKO OSASUN ARAZO OHIKOENAK



Ikus-entzumenezko arazoak



Sintoma afektibokonduktualak



Hipotiroidismoa



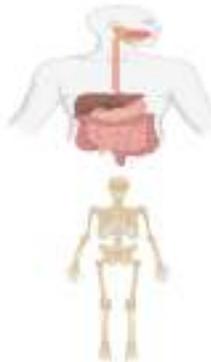
Hortzak galtzea edo gingibitisa



Loaldiaren apneak

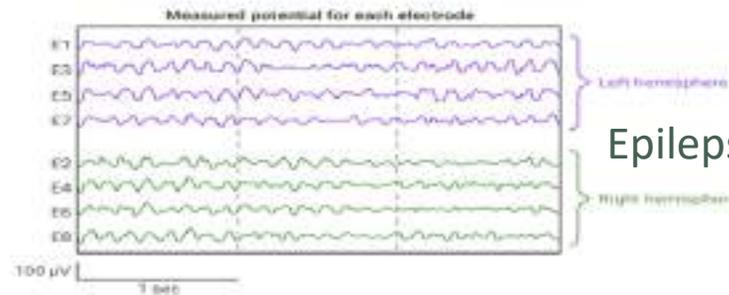


Hipotentsio arteriala eta sinkope basobagala

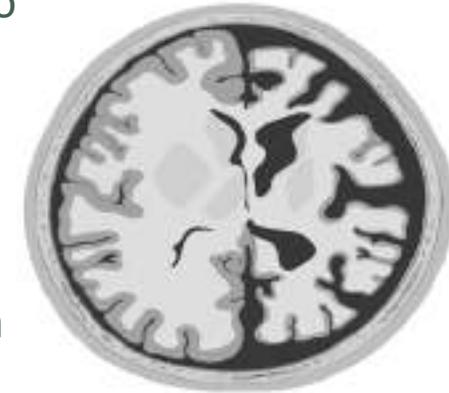


Gaixotasun zeliakoa

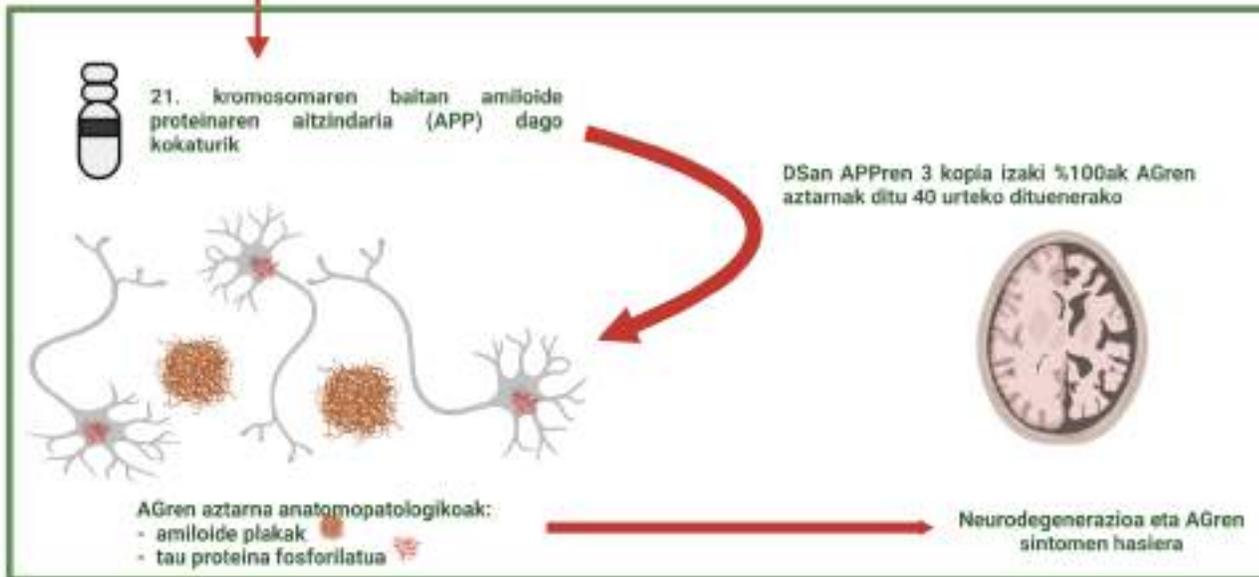
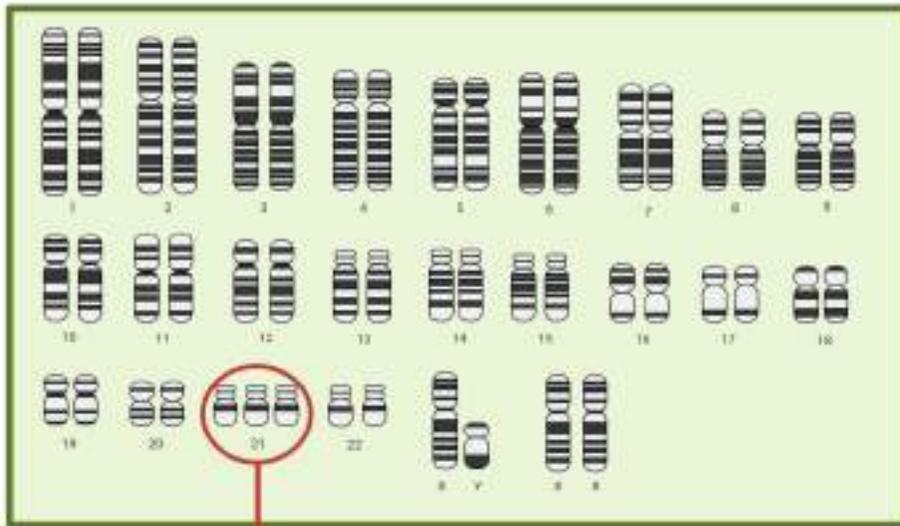
Hezur eta artikulazio arazoak



Epilepsia

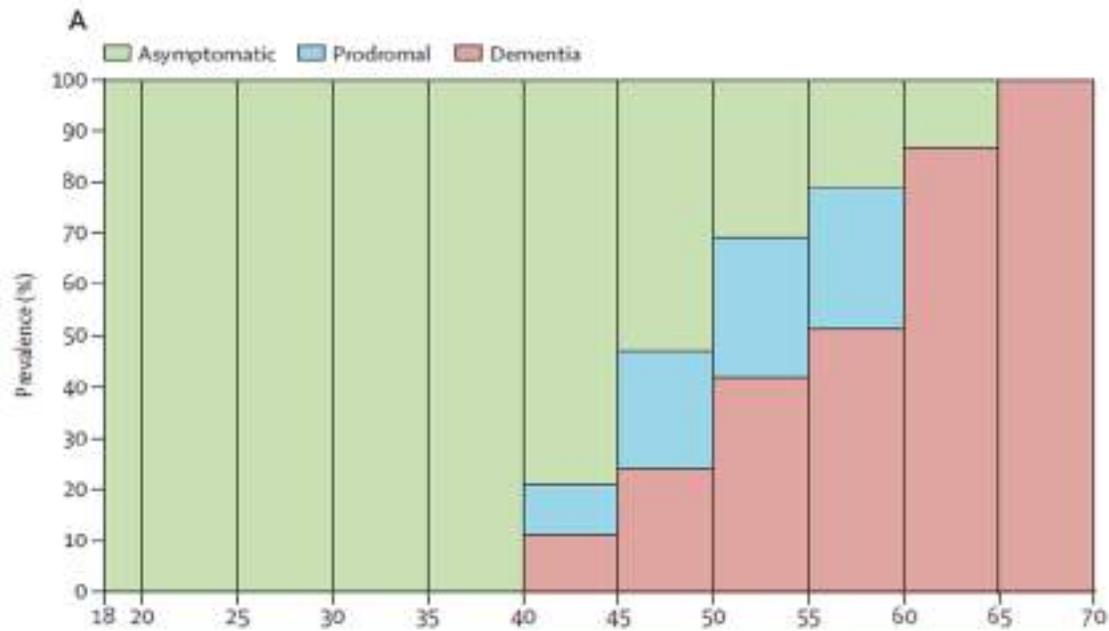


Alzheimer-en gaixotasuna

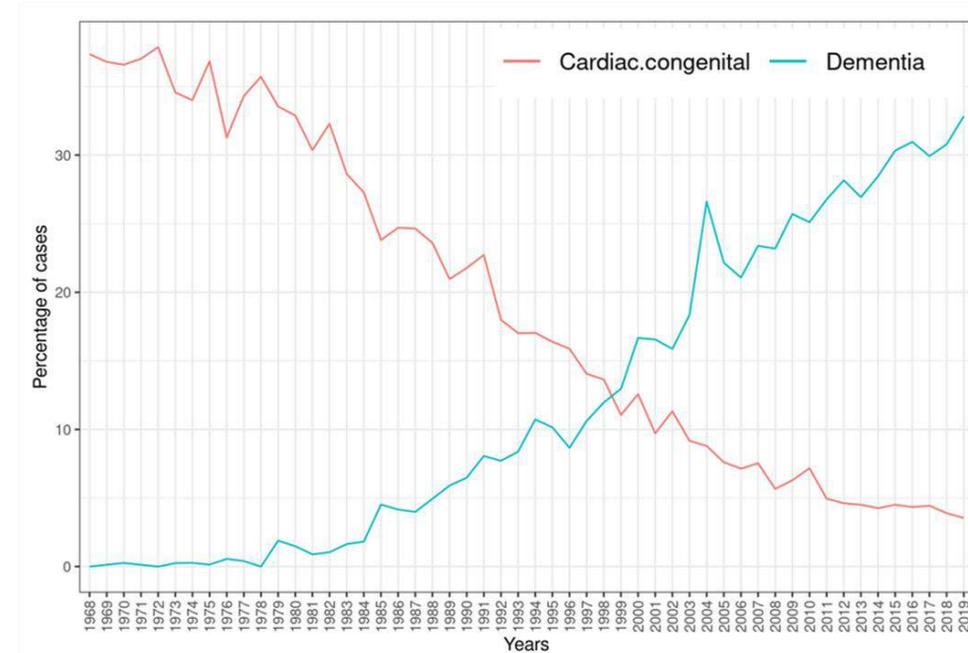


ALZHEIMER-EN GAIKOTASUNA DOWN-EN SINDROMEAREN BAITAN

ALZHEIMER-EN GAIXOTASUNA DOWN-EN SINDROMEAREN BAITAN

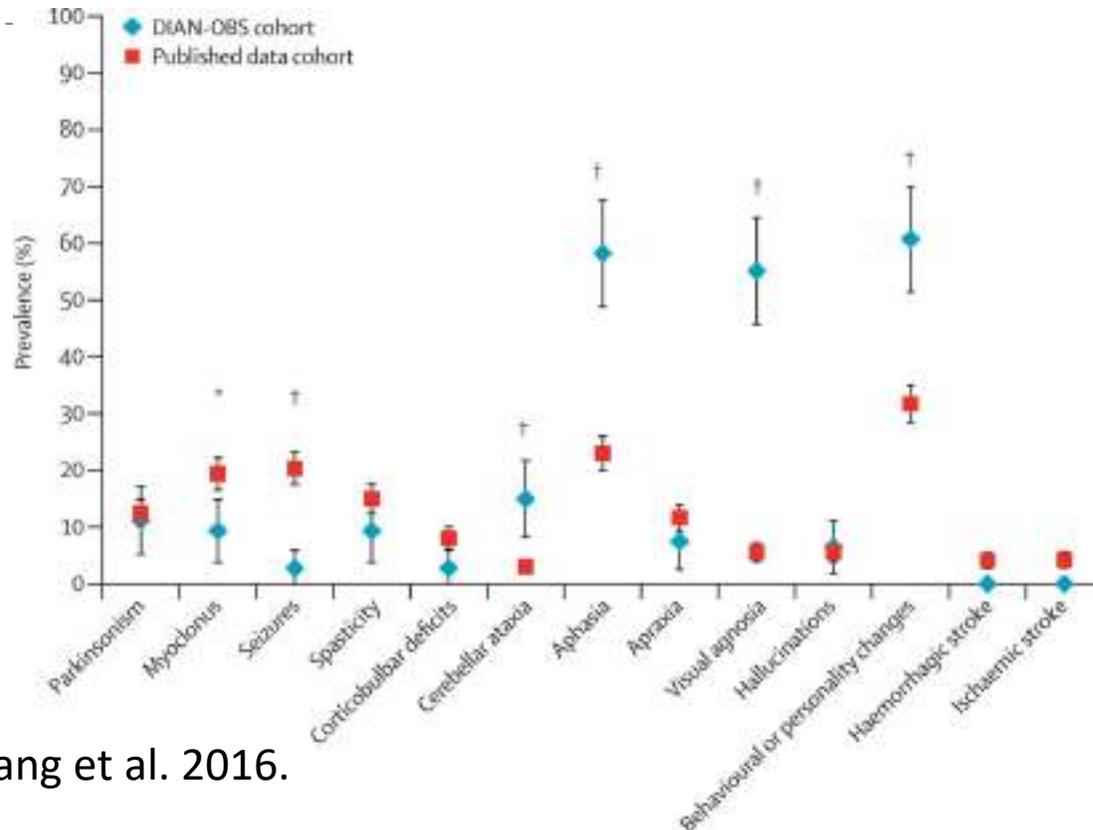


Fortea et al. 2021.



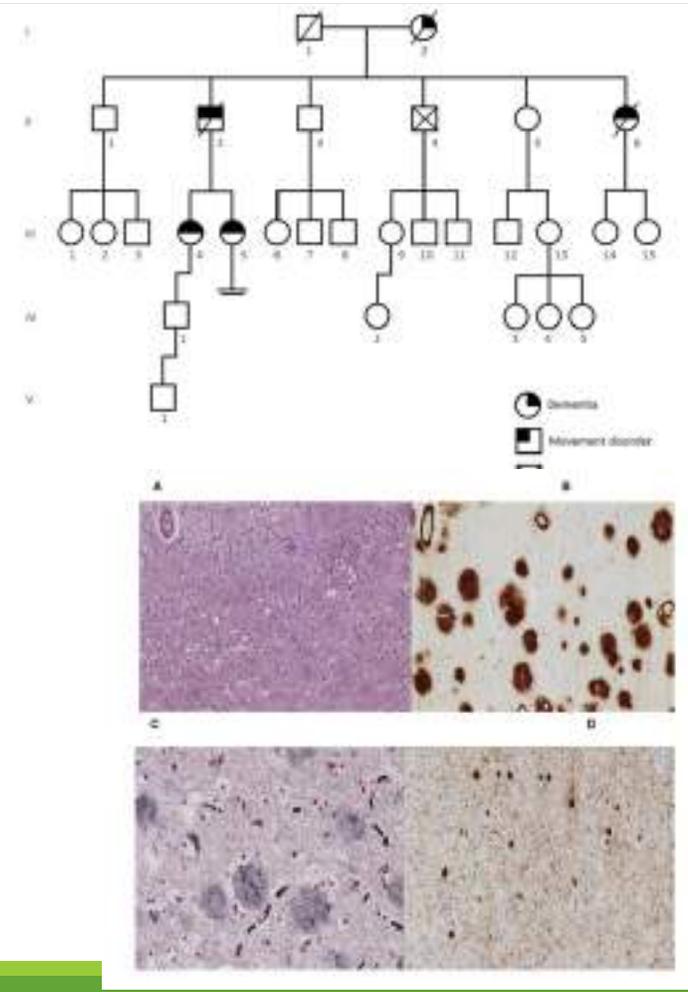
Iulita et al. 2022.

GENETIKOKI ZEHAZTUTAKO BESTE ALZHEIMERREN GAITZAREN KASUAK



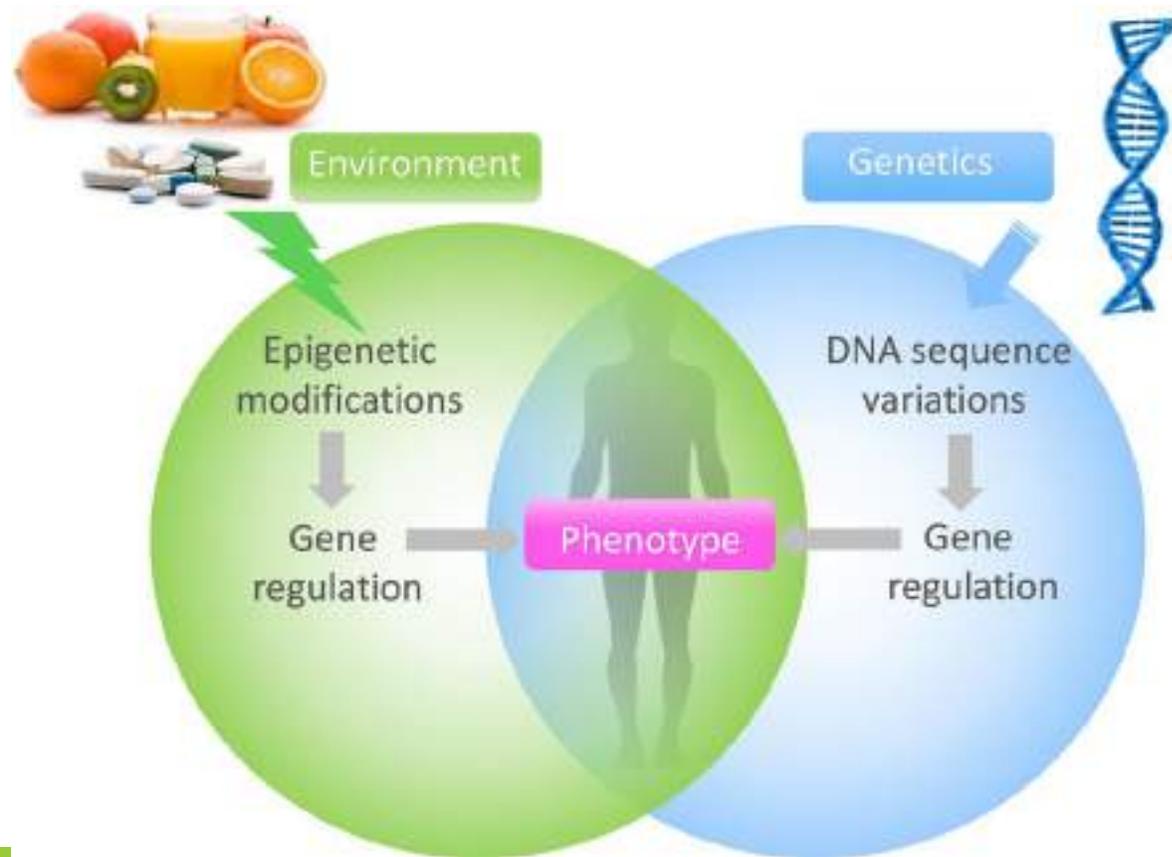
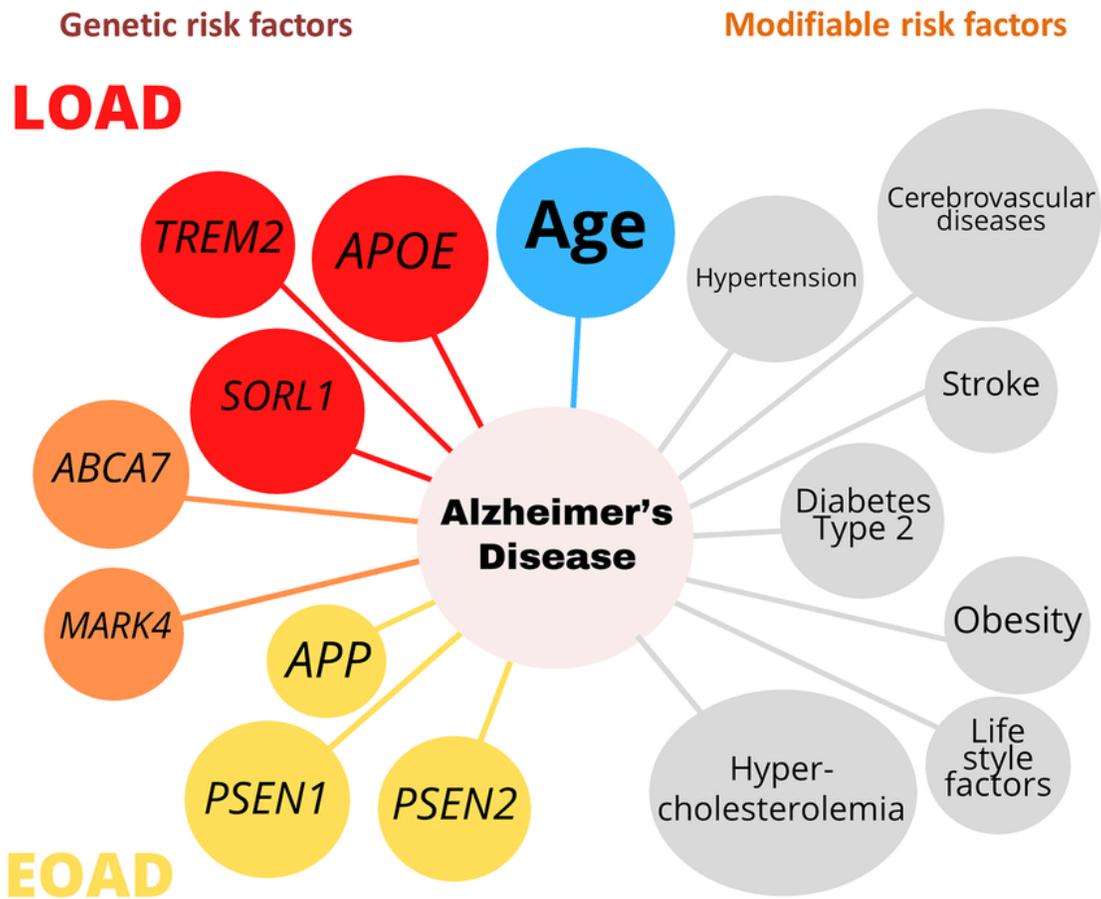
Tang et al. 2016.

**SINTOMA ATIPIKOAK
OHIKOAGOAK!**



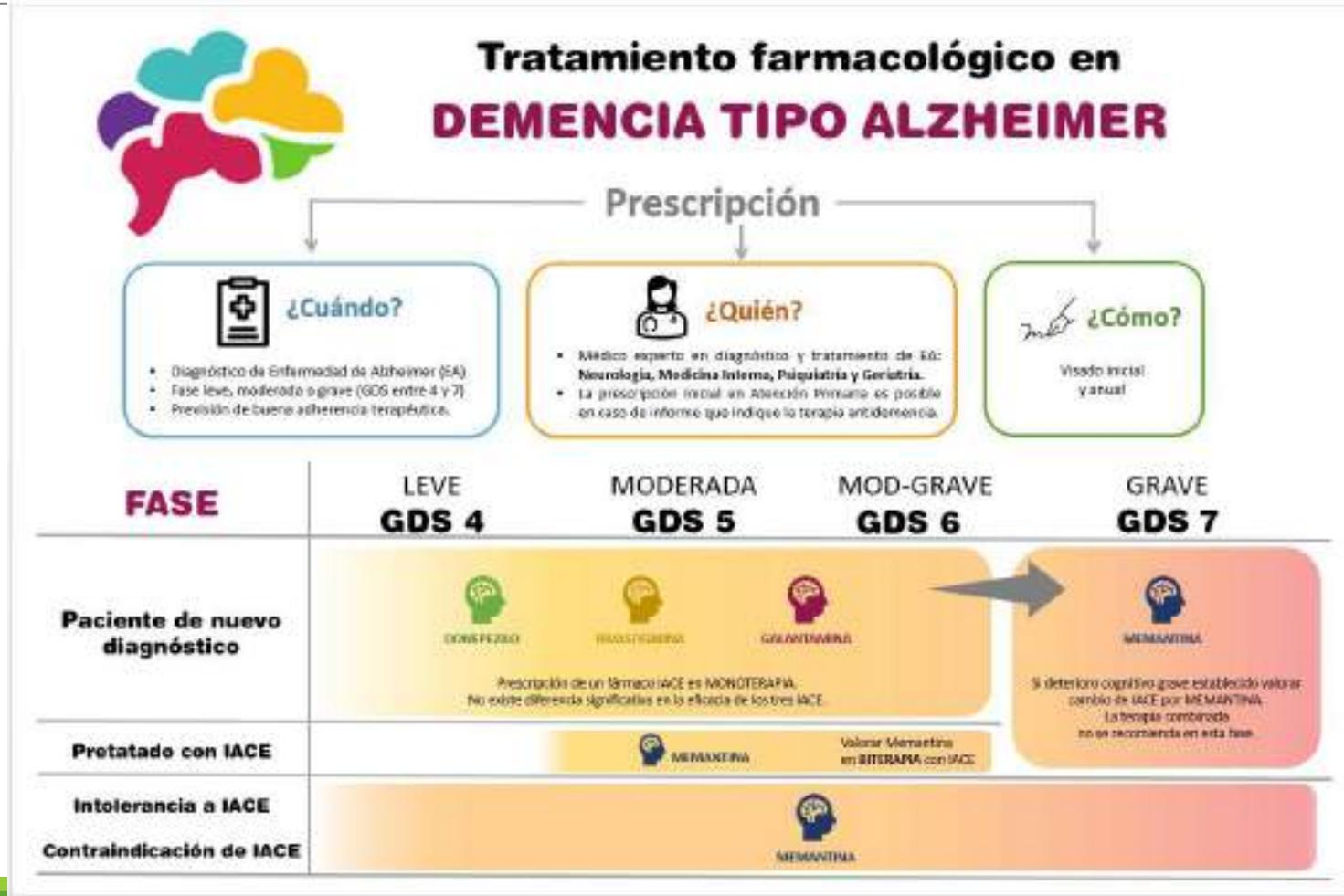
Altuna et al. 2022.

ARRISKU FAKTORE GENETIKOAK ETA EPIGENETIKAREN GARRANTZIA



GAUR EGUN ESKURAGAI DITUGUN TRATAMENDUAK

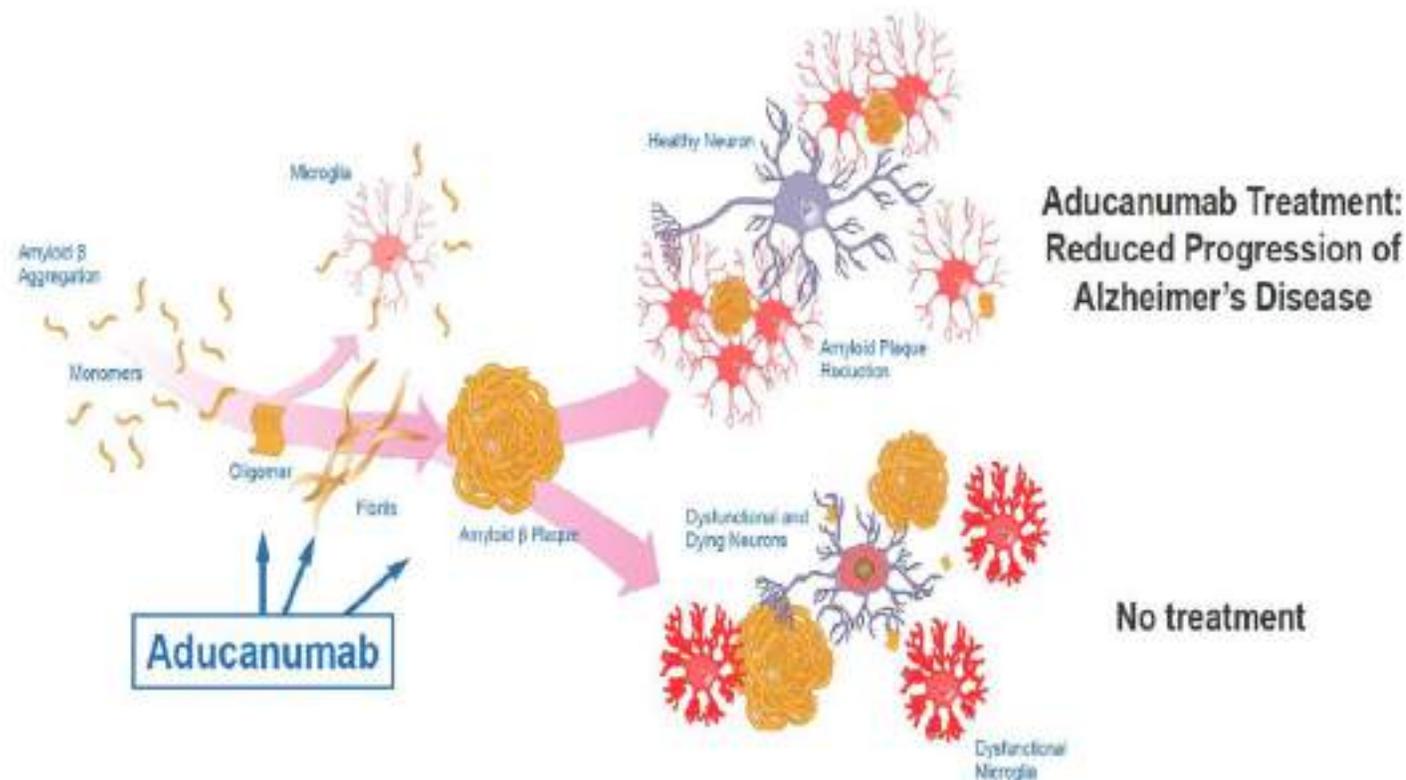
SINTOMAK APUR BAT HOBETZEKO GAITASUNA, EZ GAITZAREN BILAKAERA ALDATZEKO!



GAIOTASUNAREN BILAKERA ALDA DEZAKETEN BOTIKAK: ADUCANUMAB



Aducanumab: Targeting Alzheimer's Disease Pathology

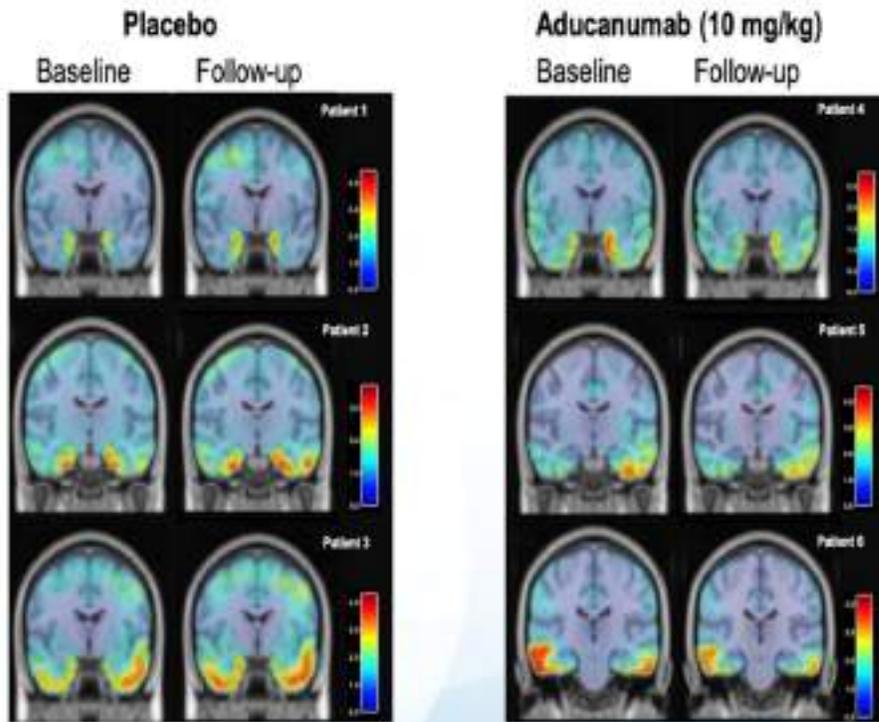


FDA k onartua.



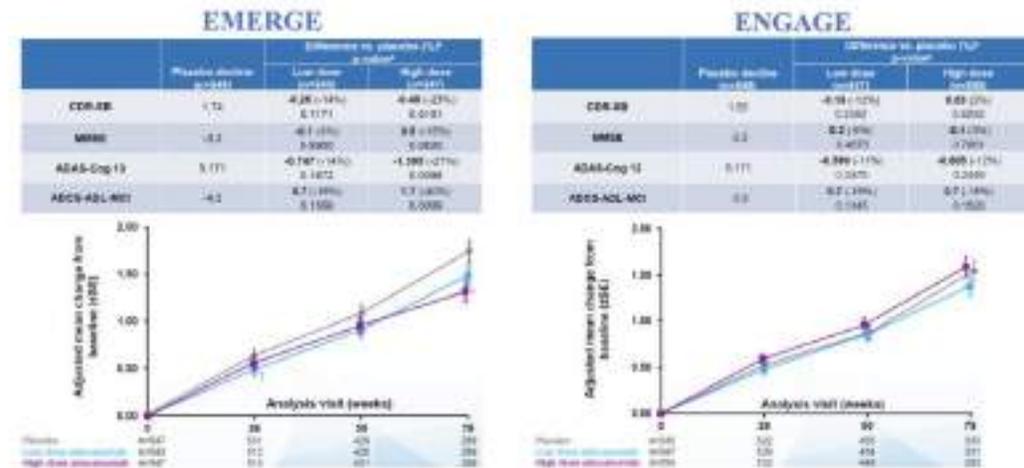
EMA k ez du onartu.

GAIKOTASUNAREN BILAKERA ALDA DEZAKETEN BOTIKAK: ADUCANUMAB



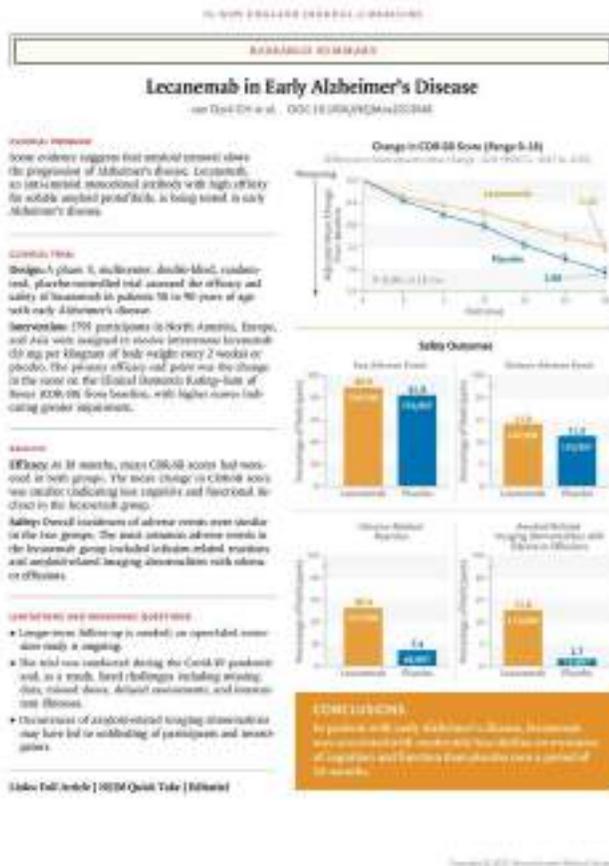
ZER GERTAZEN DA SINTOMA KOGNITIBOEKIN?

Aducanumab Phase 3 Studies: Clinical outcomes

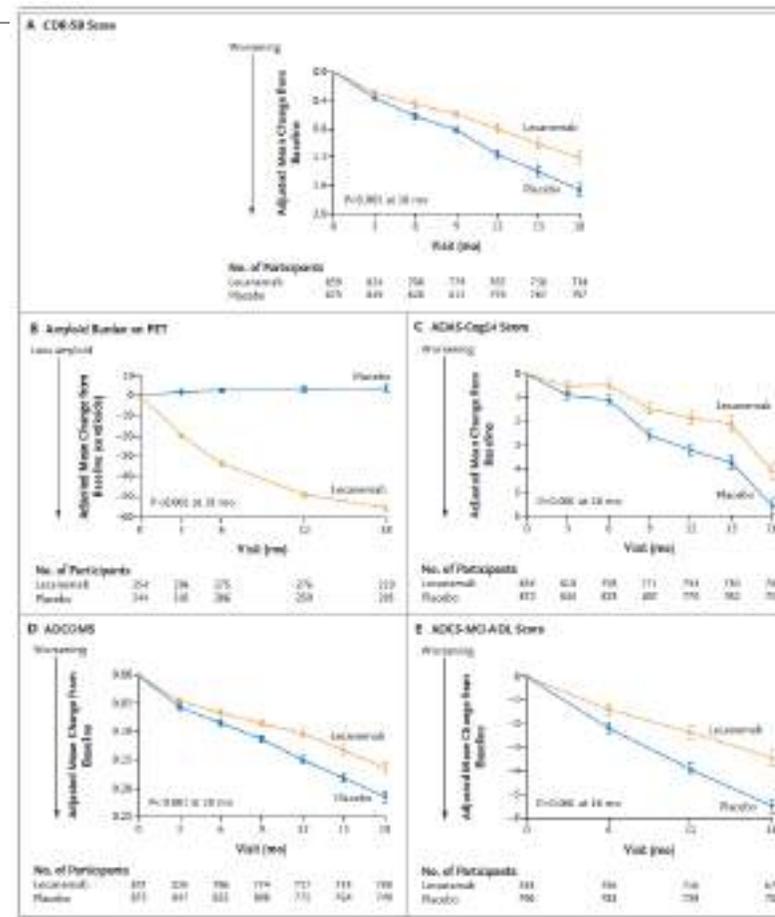


AMILOIDEA GUTXITU

GAIKOTASUNAREN BILAKERA ALDA DEZAKETEN BOTIKAK: LECANEMAB

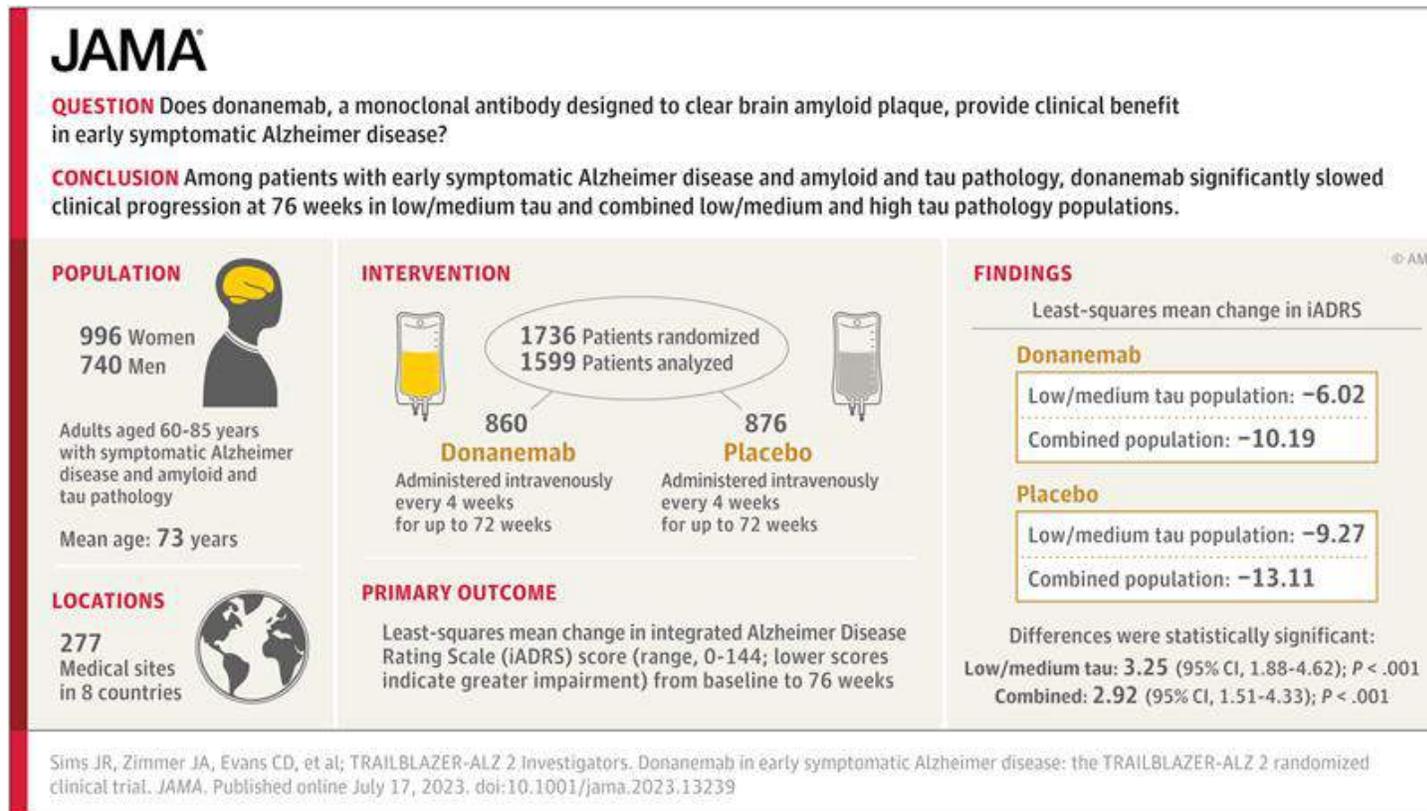


AMILOIDE PROTEINA GUTXITZA



SINTOMA KOGNITIBOAK HOBETZEA

GAIKOTASUNAREN BILAKERA ALDA DEZAKETEN BOTIKAK: DONANEMAB



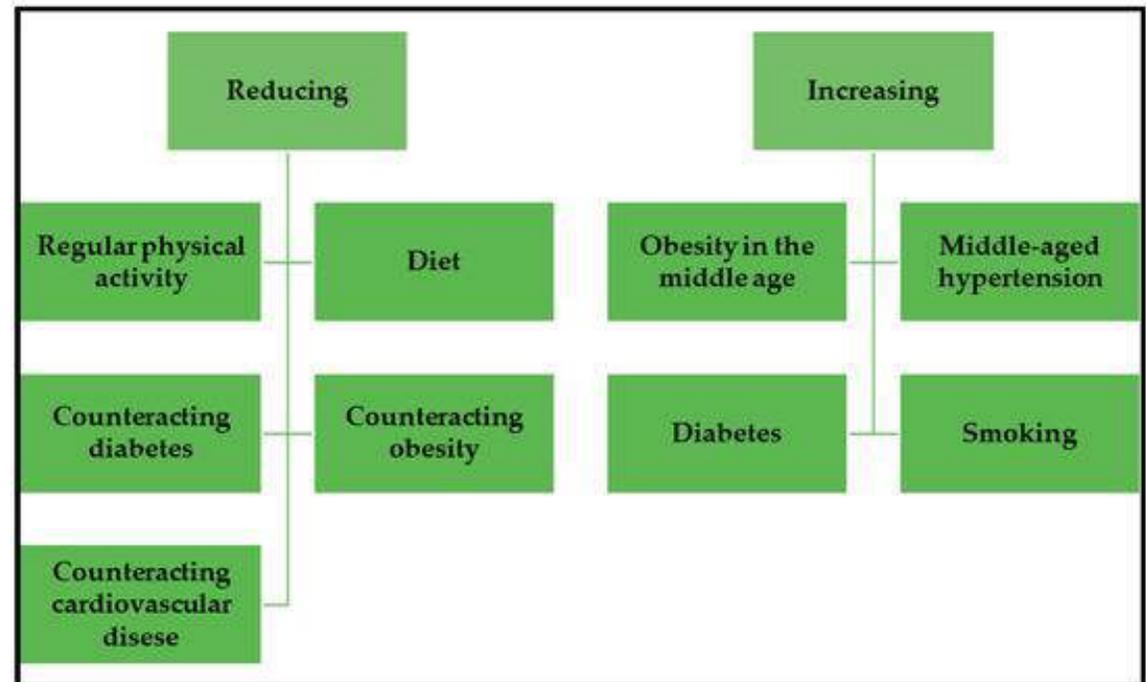
**SINTOMA
KOGNITIBOAK
HOBETZEA**



**AMILOIDE PROTEINA
GUTXITZEA**

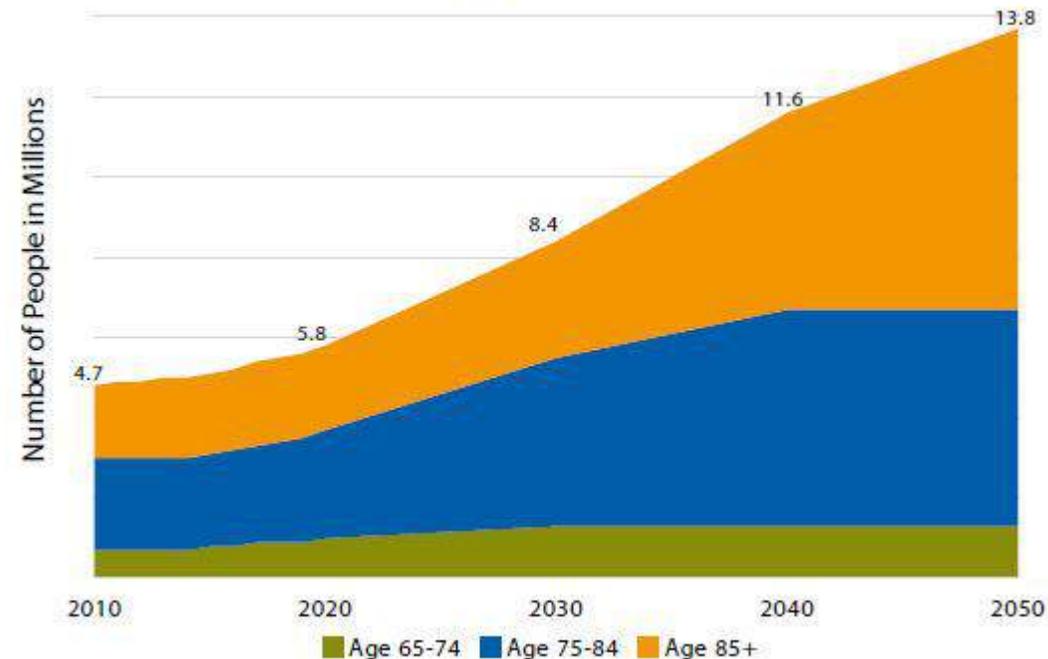
Alzheimerren gaixotasunaren arrisku faktoreak

ALDAGARRIAK ETA
ALDAEZINAK



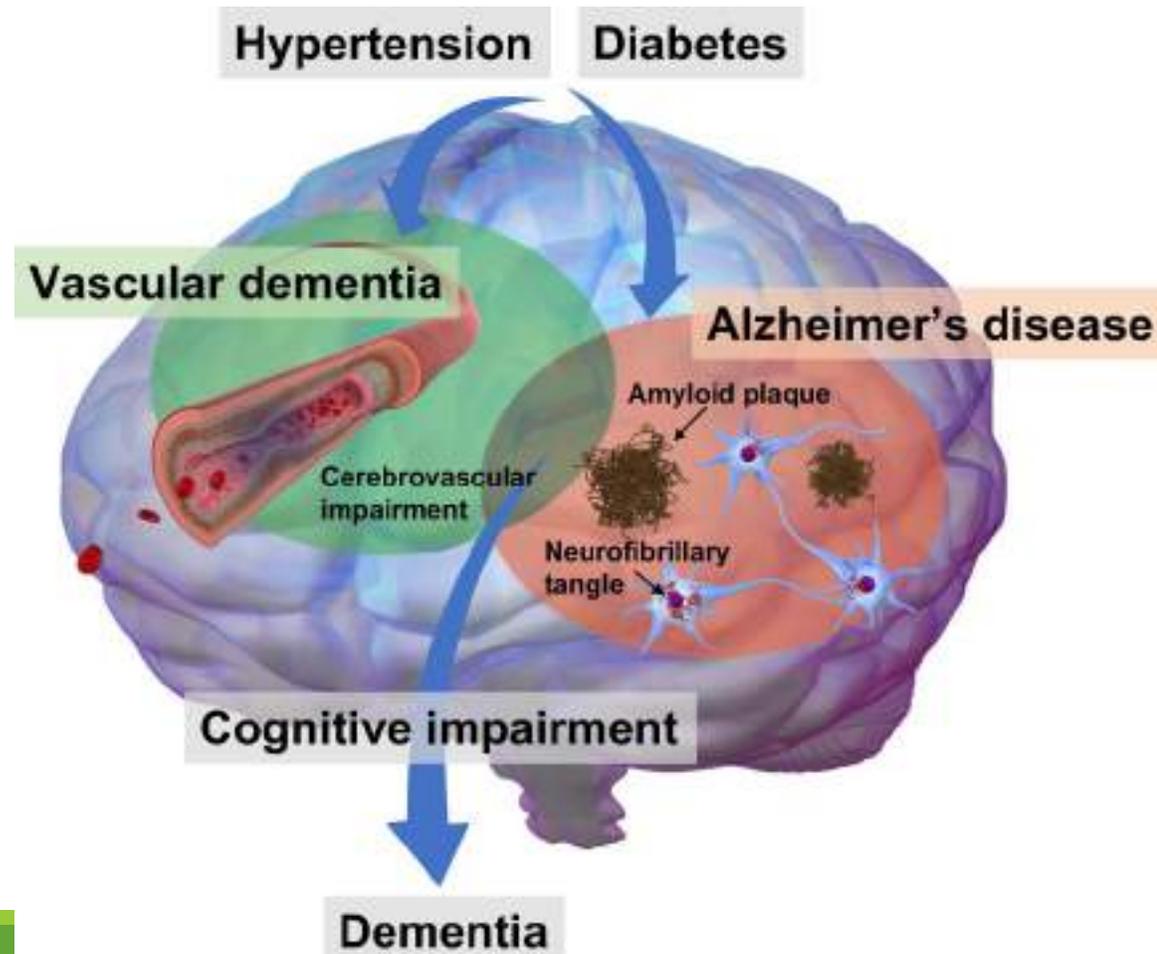
ALZHEIMERREN GAIKOTASUNA ADIN EZBERDINETAN

Projected Number of People Aged 65 or Older With Alzheimer's Disease, by Age Group, United States, 2010–2050



Source: Created from data in Hebert LE, Weuve J, Scherr PA, Evans DA. Alzheimer disease in the United States (2010–2050) estimated using the 2010 Census. *Neurology*. 2013;80(19):1778–1783.

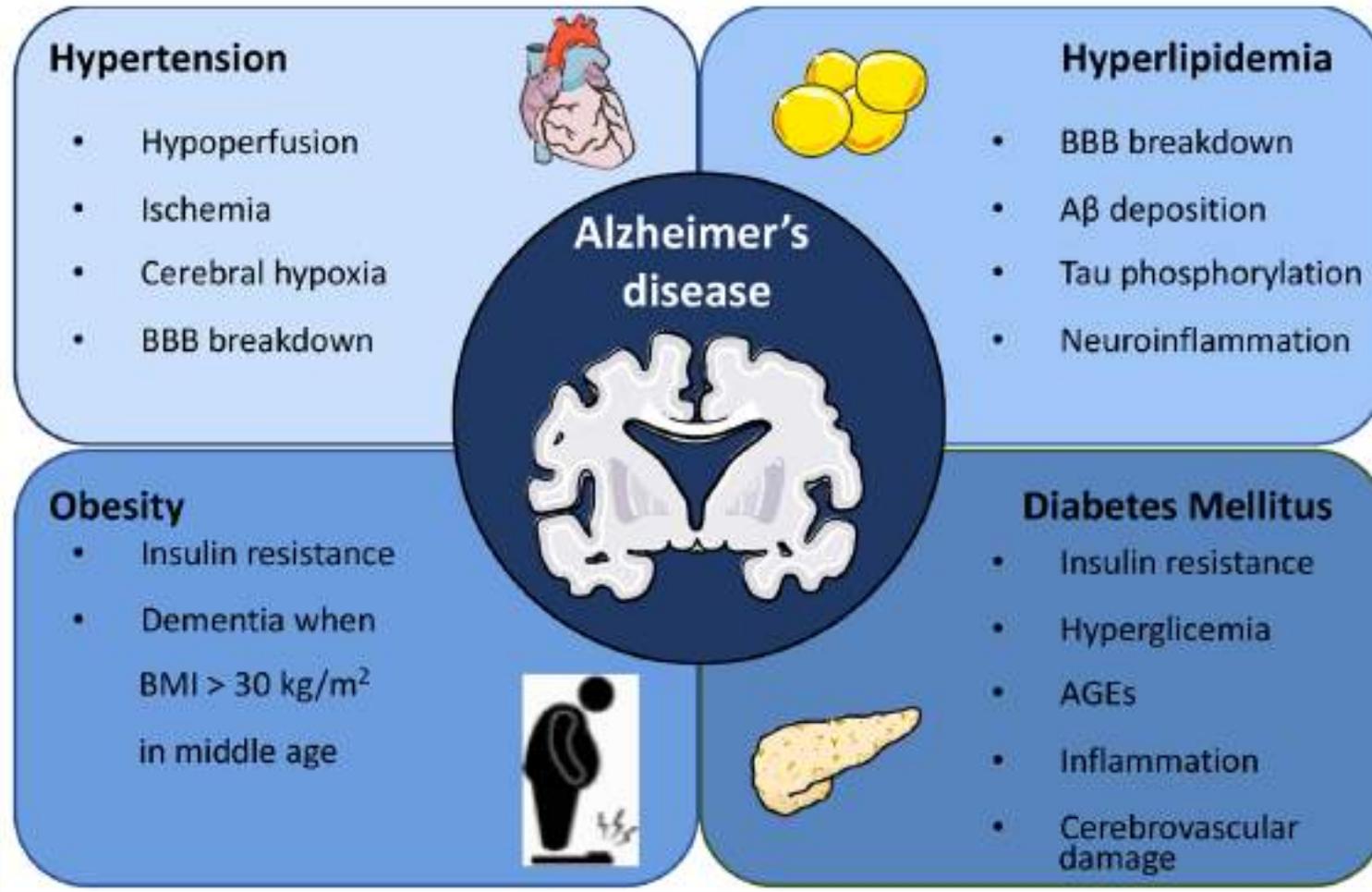
Arrisku faktore kardiobaskularrak eta Alzheimerren gaixotasunarekin duten lotura



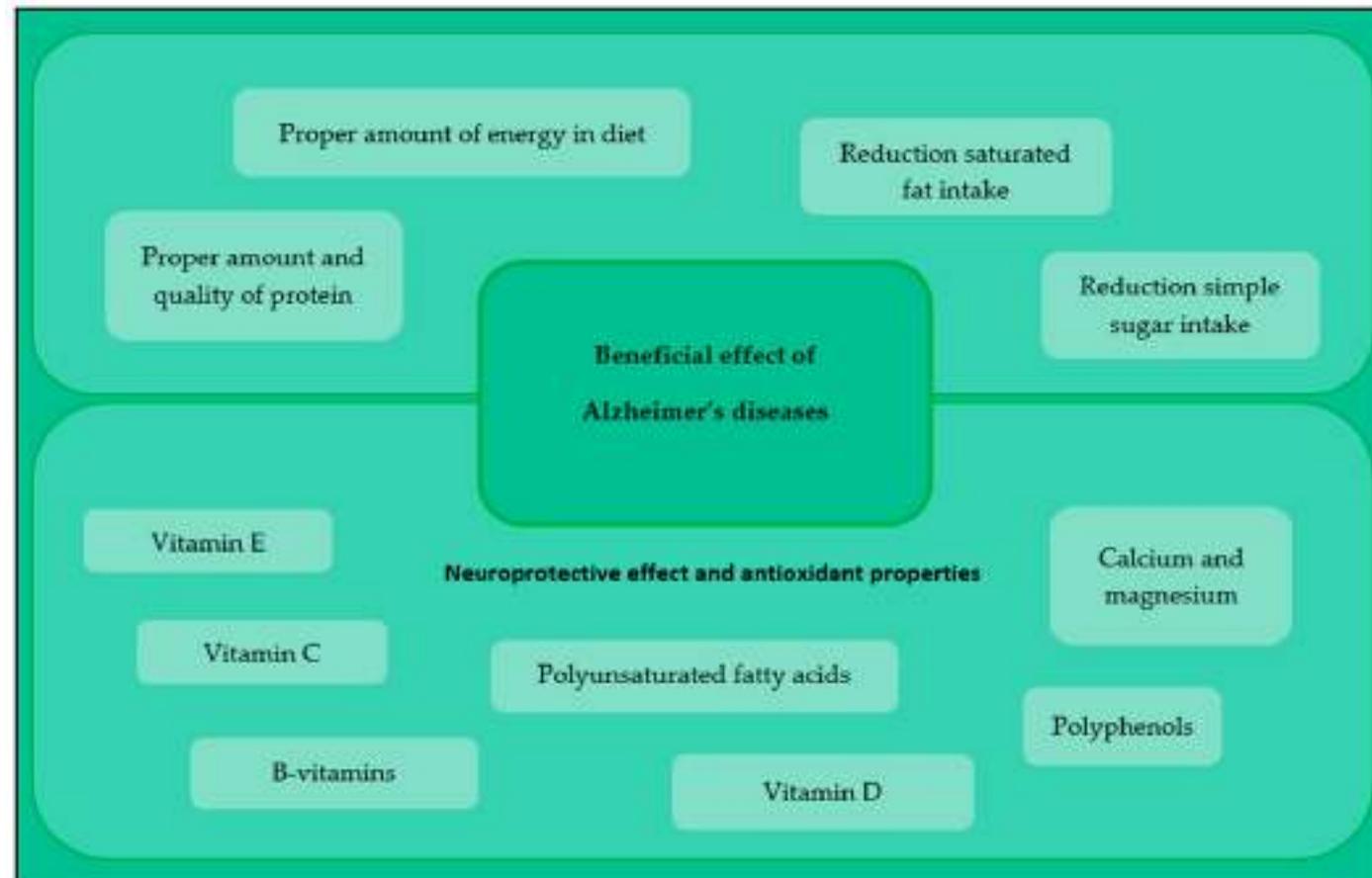
NOLA GUTXITU LITEKE NARRIADURA KOGNITIBOAREN ARRISKUA?



HIPERTENTSIO ARTERIALA, cita alzheimer HIPERKOLESTEROLEMIA, DIABETESA ETA GIZENTASUNA EKIDITEA POSIBLE DA



Elikagai neurobabesle eta antioxidatzaileak



ELIKAGAI OSASUNGARRIAK

Table 2. The influence of nutritional factors on the prevention of Alzheimer's disease.

Positive Dietary Factors	Negative Dietary Factors
<p data-bbox="443 682 1009 762">Foods rich in antioxidative and anti-inflammatory compounds:</p> <ul data-bbox="224 788 1217 1088" style="list-style-type: none"> <li data-bbox="224 788 996 825">• Vitamin E (e.g., cold pressed vegetable oils) <li data-bbox="224 829 1156 909">• Vitamin C (e.g., citrus fruits, berries, acerola, peppers, broccoli) <li data-bbox="224 913 1212 951">• B-vitamins (e.g., nuts, seeds, beans, whole grain product) <li data-bbox="224 955 1182 1035">• Polyunsaturated fatty acid (e.g., fish and seafood, nuts, camelina oil, linseed oil) <li data-bbox="224 1039 1217 1088">• Polyphenols (e.g., grapes, berry fruit, green tee, red wine) 	<ul data-bbox="1268 705 2270 1045" style="list-style-type: none"> <li data-bbox="1268 705 2249 742">• Highly processed products- fast food, ready-to-eat meals <li data-bbox="1268 746 2198 826">• Saturated fatty acid (e.g., animal fats, palm oil, highly processed food) <li data-bbox="1268 831 2270 911">• Trans fatty acids (e.g., partially hydrogenated fats in foods, meat) <li data-bbox="1268 915 1939 952">• Simple sugar (e.g., sweets and sugar) <li data-bbox="1268 956 2270 1045">• Poor quality food—risk of excess consumption of pollution and toxins, e.g., heavy metal

Mediterranean dietaren ezaugarri nagusiak



Dieta mediterraneoari atxikitzeak dituen onura kognitiboak

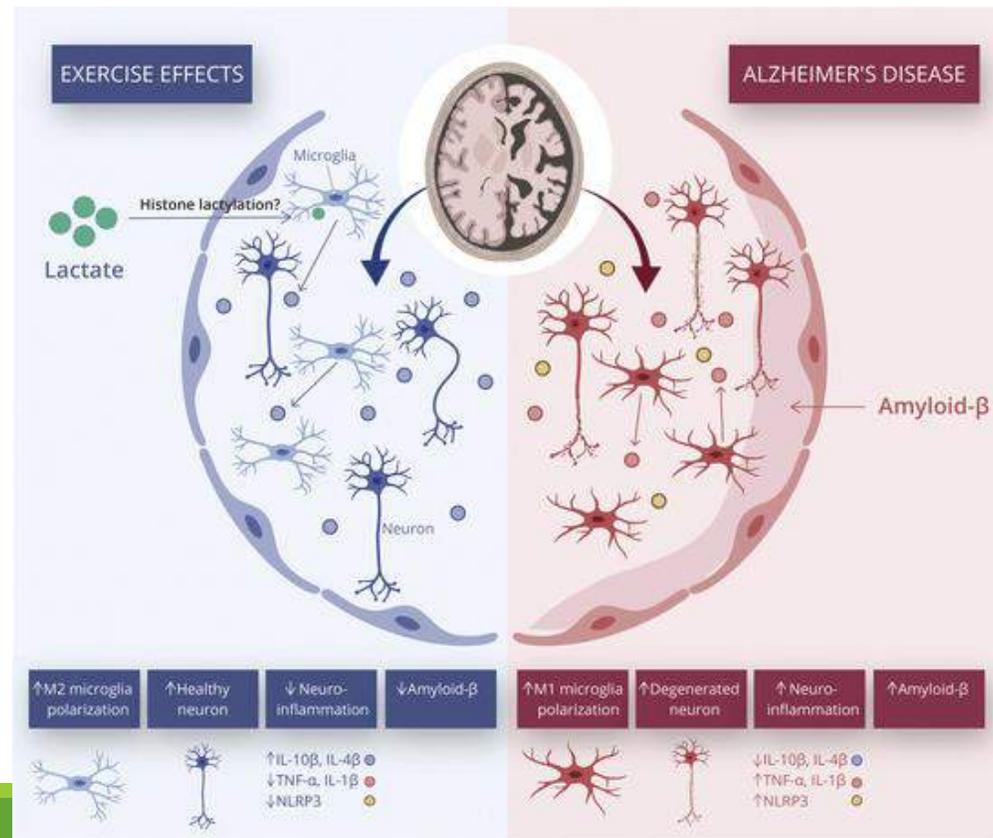
Mediterraneoko dietari gehiago atxikitzeak:

- % 25 txikiagoa narriadura kognitibo arinaren arriskuarekin.
- % 29 txikiagoa AGren arriskua.
- AEBetan, Mediterraneoko dietarekiko atxikimendu handia memoriako azterketa neuropsikologikoen hobekutzekin lotu DA.

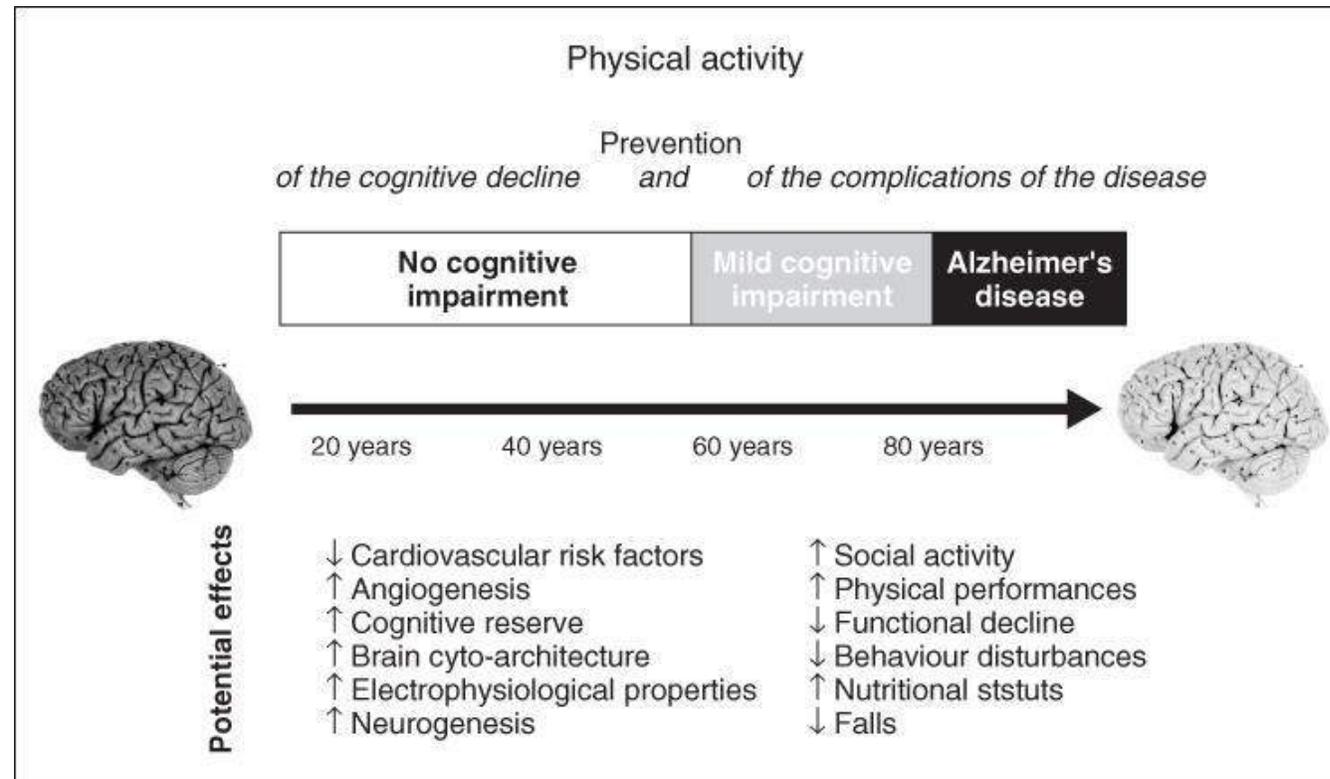
Mediterranean dietari gehiago atxikitzearen mesede biologikoak

- 1) **Beta-amiloideko biltegi txikiagoa garunean (autopsia).**
- 2) **Adin berean garun bolumen handiagoa izatea (neuroirudia/autopsia).**
 - materia grisaren bolumena, garunaren bolumen totala, kortikalaren lodiera, substantzia zuriaren bolumena, substantzia zuriaren osotasuna edo substantzia zuriaren hipertsintetasitatea.

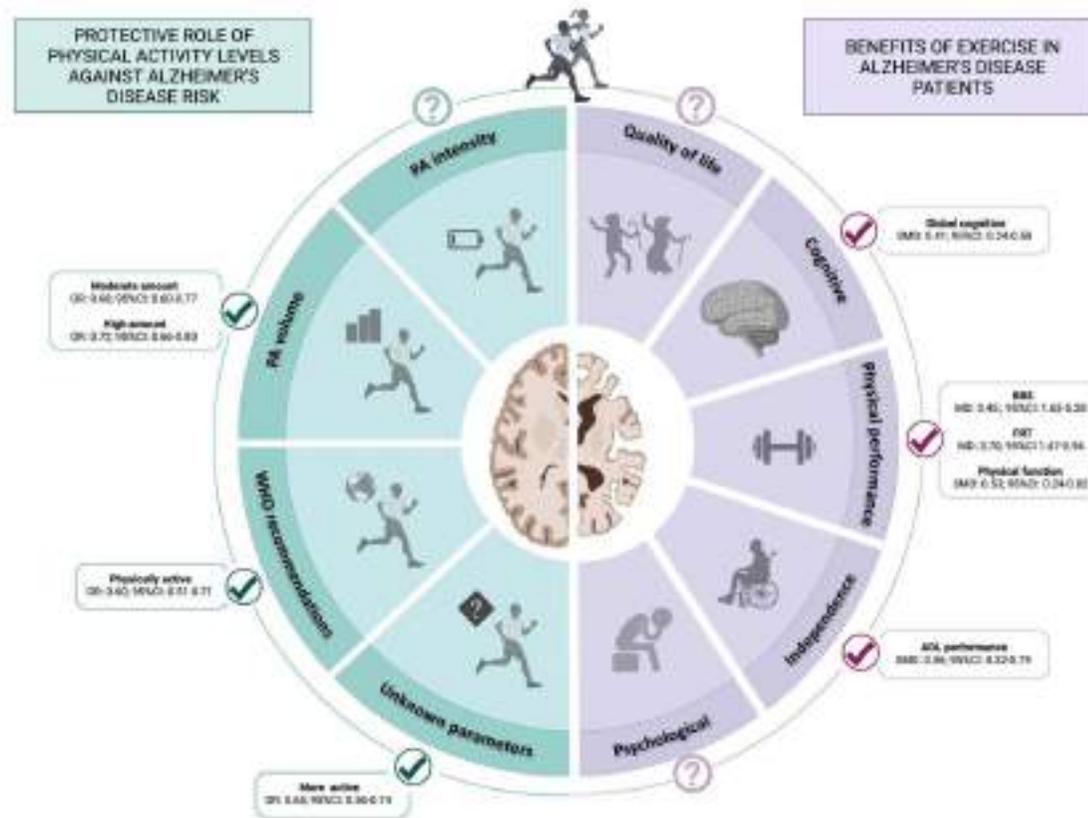
Ariketa fisikoa eta elikadura osasungarriak Alzheimerren gaixotasunaren arriskua gutxitu dezakete



Ariketa fisikoa eta elikadura osasungarriak Alzheimerren gaixotasunaren arriskua gutxitu dezakete



Ariketa fisikoa eta elikadura osasungarriak Alzheimerren gaixotasunaren arriskua gutxitu dezakete



FINGER AZTERKETA

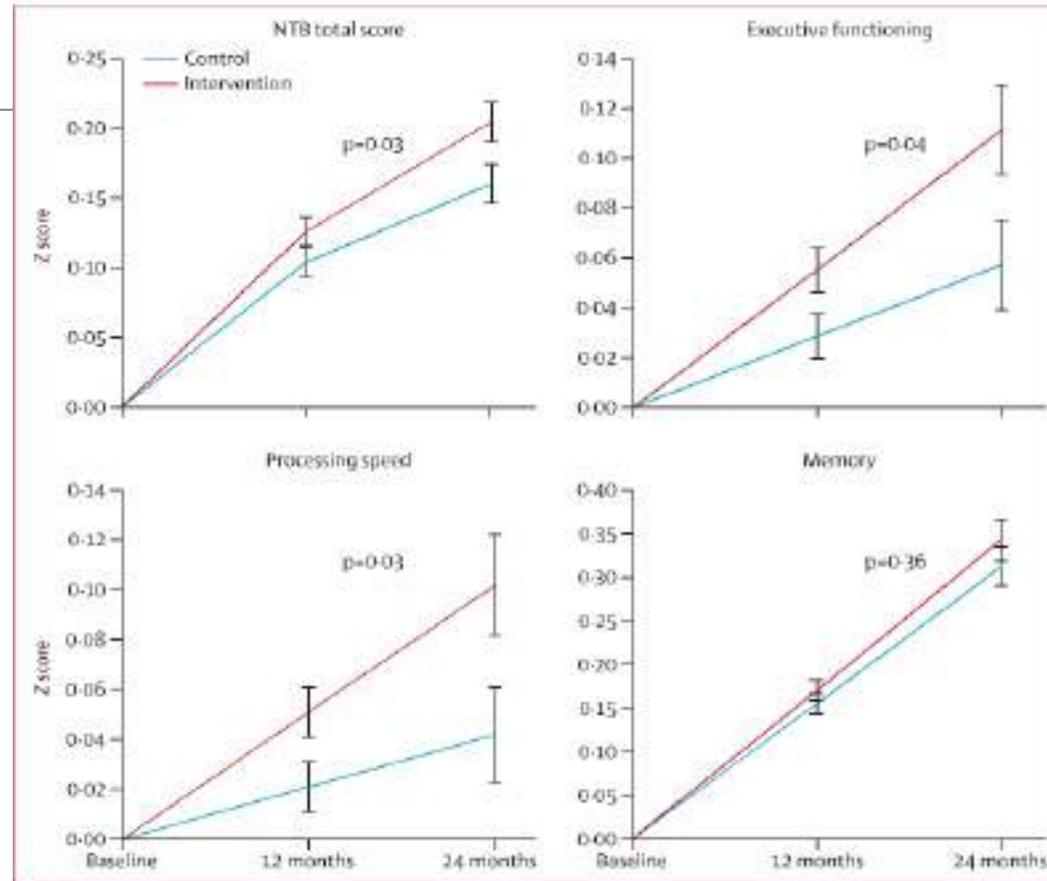


Figure 2: Change in cognitive performance during the 2 year intervention



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FINGER AZTERKETA



Illustration: Martina Krona
from the book "Brain Health" (Milla Kivipelto, Mai-Lis Hellénius)

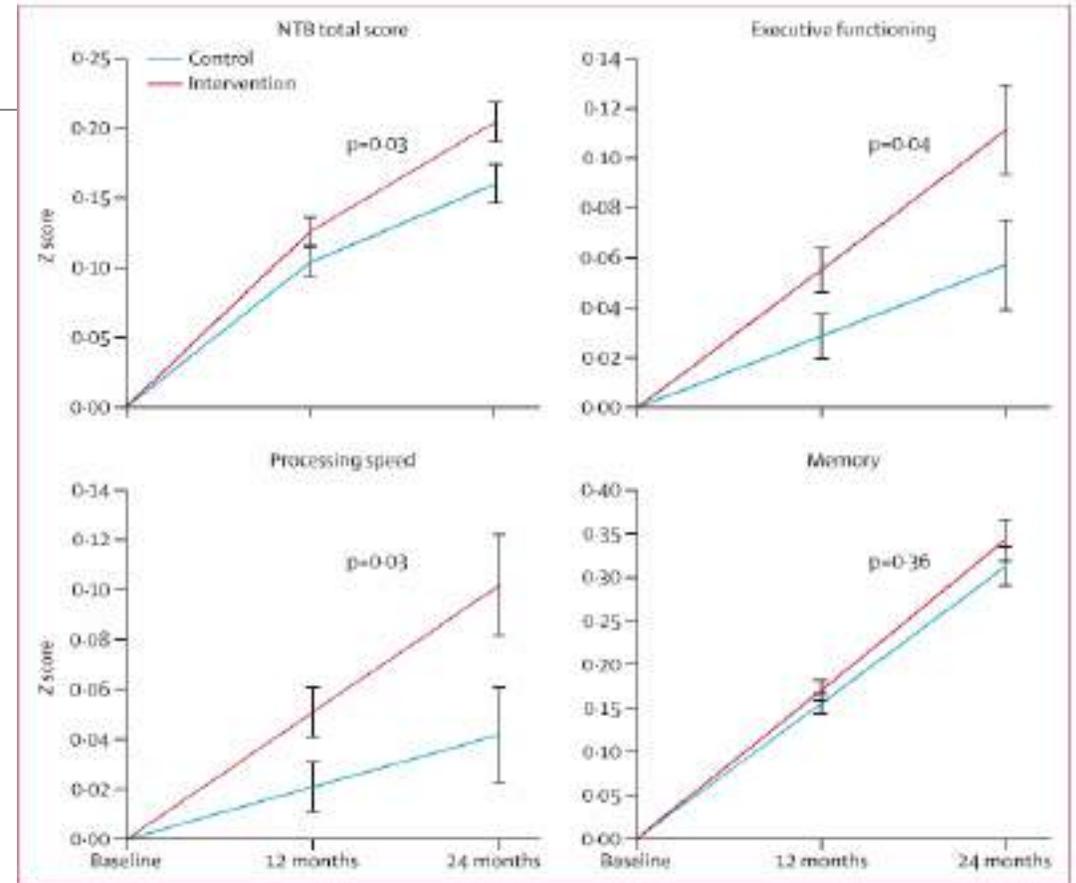
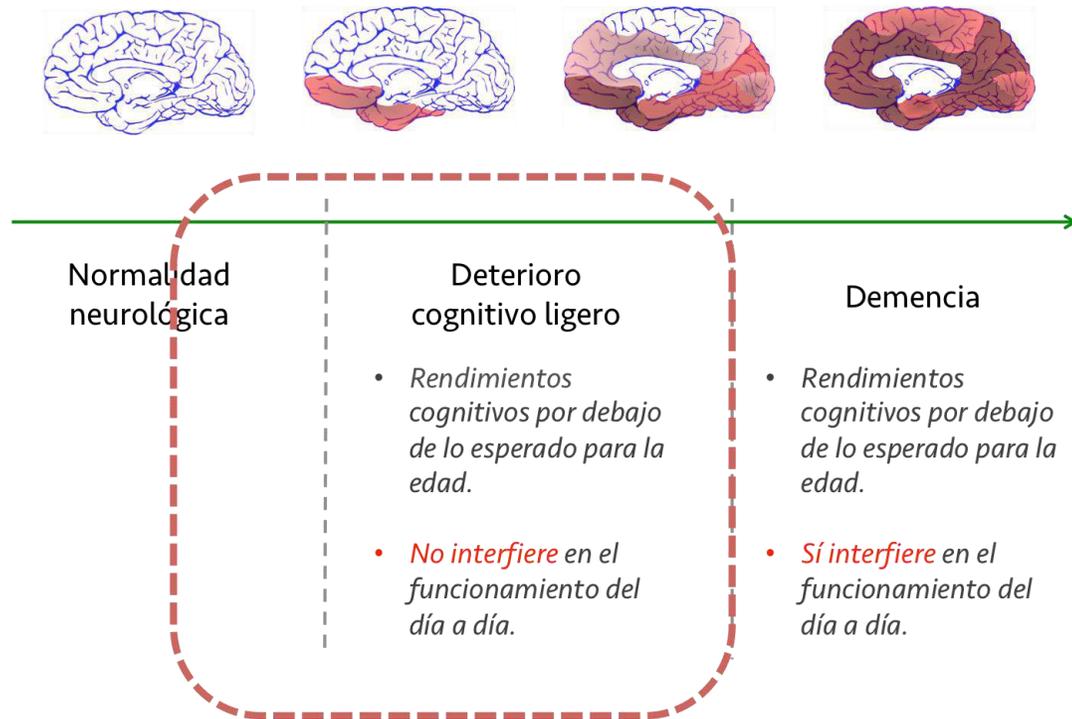


Figure 2: Change in cognitive performance during the 2 year intervention



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GOIZ ZAINDU

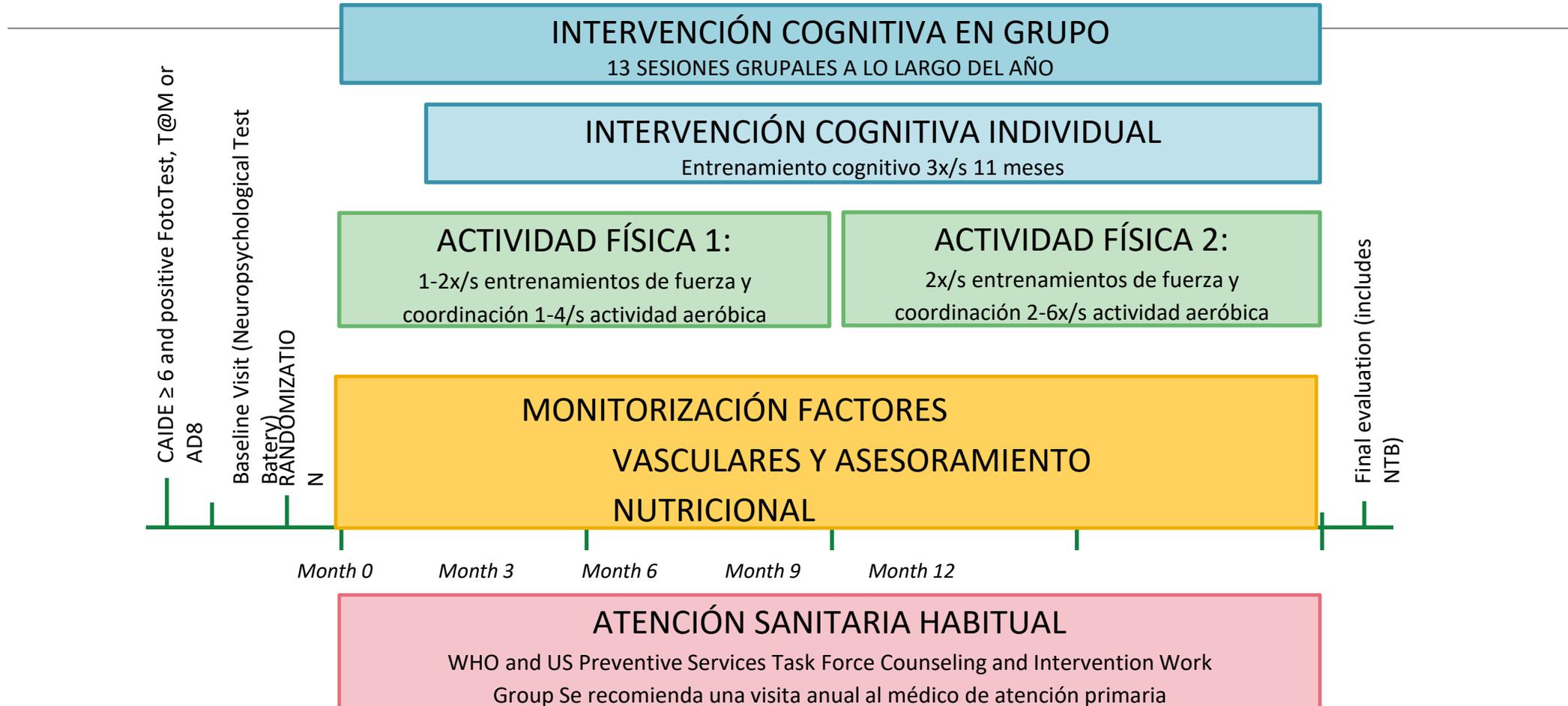


Ariketa fisikoa + elikadura + arrisku faktore kardiobaskularrak + aktibitate intelektualak

Iraupena: urte 1

Partaide: 125

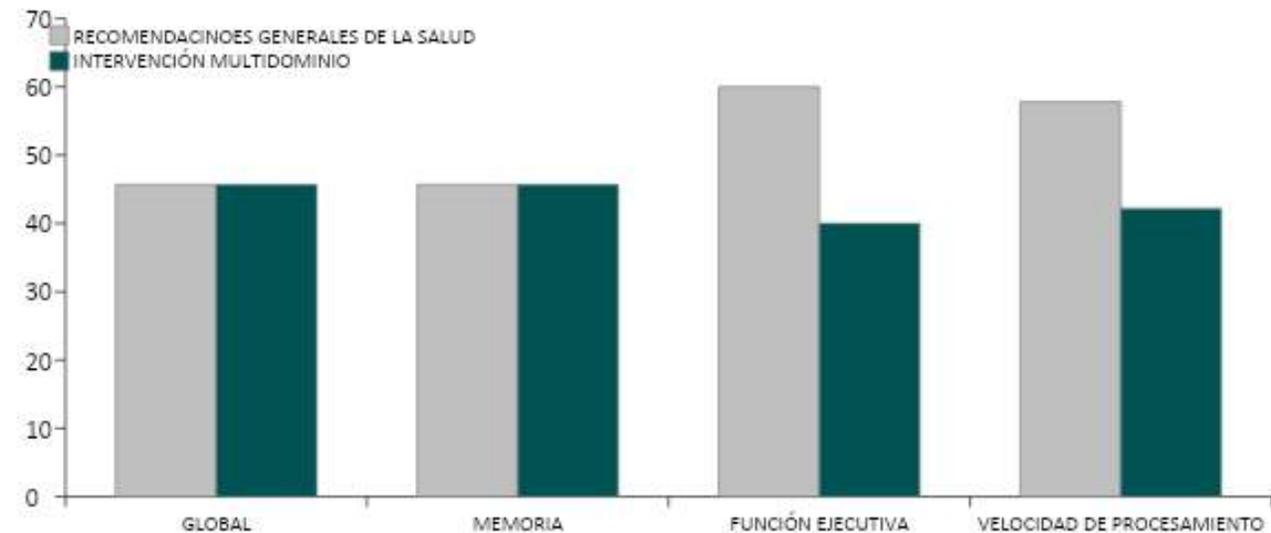
GOIZ ZAINDU



GOIZ ZAINDU IKERKETA EKIMENAREN EMAITZAK

Table 1. Características a la visita pre-intervención

Características	MI	RHA*
	n = 64	n = 61
Edad	76.07 (6.68)	75.22
Sexo: Mujer, n (%)	36 (59%)	37 (58%)
Educación: años	7.72 (2.92)	8.48 (4.11)
Ansiedad (HADS)	4 (2 - 8)	6 (3 - 8)
Depresión (HADS)	2 (1 - 5)	3 (1 - 6)
MMSE puntuación	27 (25 - 29)	26 (24 - 28)
Cognitive domain		
(NTB: z puntuación)		
Global	-0.07 (0.72)	0.02 (0.67)
Memoria global	-0.04 (0.84)	0.04 (0.74)
Función Ejecutiva	-0.10 (0.72)	0.04 (0.67)
Velocidad de Procesamiento	-0.05 (0.92)	0.03 (0.84)



Mean (standard deviation) or median (Pc25 – Pc75).

*No differences between groups, $p > .05$

CITA-ALZHEIMER WWFINGER EKIMENAREN PARTE DA



cita' GO-ON

Nork hartu dezakete parte?

NARRIADURA

EKIMEN batean parte hartu nahi duten

KOGNITIBOAREN

60 eta 85 urte bitarteko pertsona

BAITAN

IKERKETA

- **60 eta 85 urte bitarteko** pertsonentzat

Osasun arazo larririk edo eureon

- autonomia funtzionala mugatzen duen **arazorik ez izatea.**

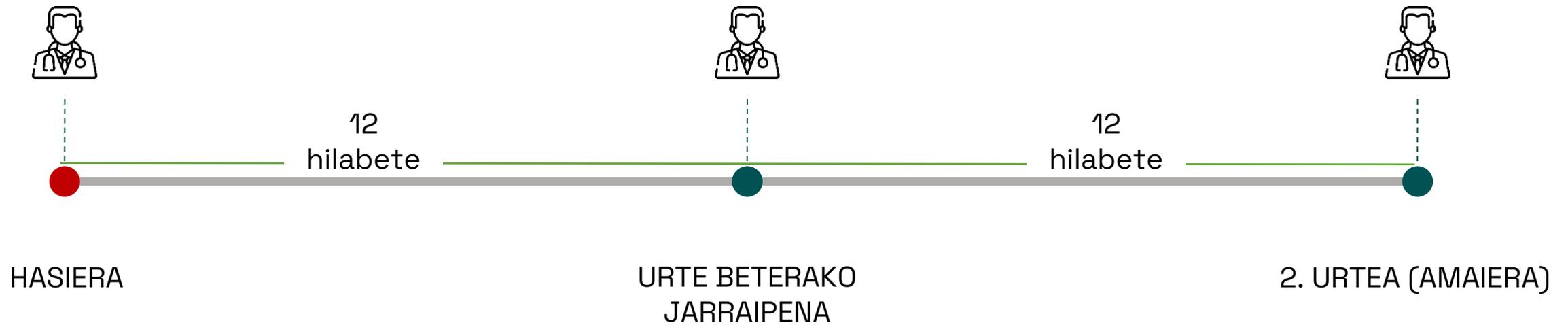
- **Arrisku faktore aldagarri bat izatea**



ZERTAN DATZA?

2 URTE

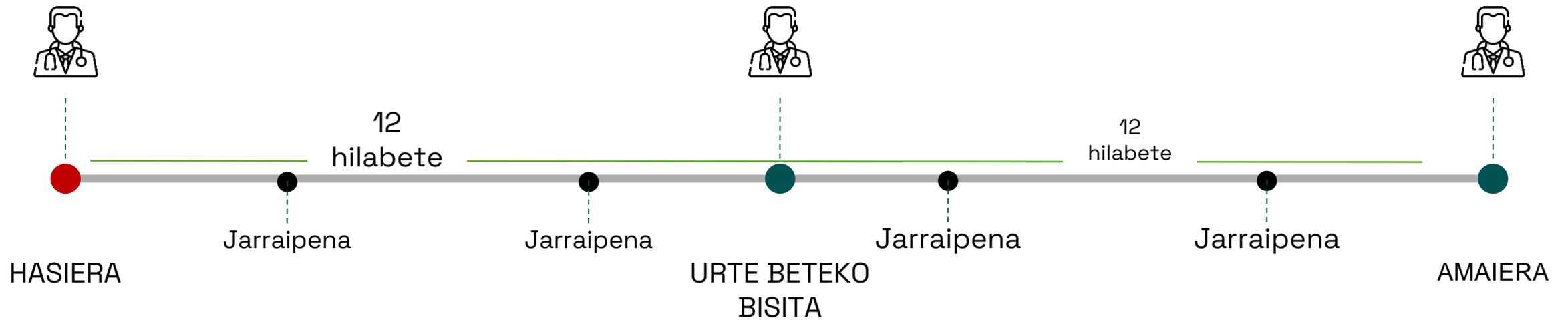
1. TALDEA



ZERTAN DATZA?

2 URTE

2. Taldea



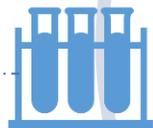
Zer da CITA GO-ON?

cita' alzheimer

Koordinatzailea
Azterketa NRL-NPS
Erresonantzia
magnetikoa + odoleko
analitika



Odoleko biomarkatzaileak



Universidad del País Vasco Euskal Herriko Unibertsitatea

Osasun sozioemozionala



Kardiobaskular arrisku faktoreak

biodonostia
Basque Research Institute
Instituto de Investigación Sanitaria



Jarduera fisikoa

upna
Universidad Pública de Navarra
Nafarroako Unibertsitate Publikoa

viviFrail

Co-funded by the
European Programme
of the European Union



Elikadura

basque
culinary
center

Aktibitatean programa

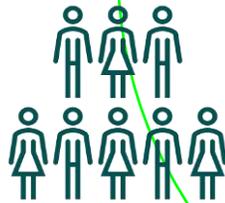
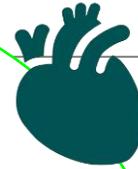
JARDUERA KOGNITIBOA

Taldekako tailerrak (90 min)

“*Exercita*” materiala .



ARRISKU KARDIOBASKULARREKO FAKTOREEN KONTROLA



JARDUERA SOZIOEMOZIONALA

Taldekako tailerrak (90 min)

JARDUERA FISIkoa

VIVIFRAIL



ELIKADURA



Aktibitatean programa

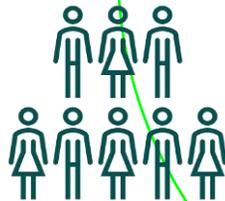
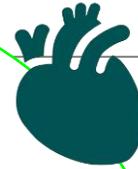
JARDUERA KOGNITIBOA

Taldekako tailerrak (90 min)

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ARRISKU KARDIOBASKULARREKO FAKTOREEN KONTROLA



JARDUERA SOZIOEMOZIONALA

Taldekako tailerrak (90 min)

JARDUERA FISIKOA

VIVIFRAIL



ELIKADURA

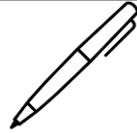


IZENA EMAN NAHI IZANEZ GERO



HITZALDIA

Hitzaldi informatiboa



GALDETEGIA

ONLINE

Parte hartzeko gure wb orrian galdegegia bete.

Fundaziotik zurekin harremanetan jarriko gara emaitzen berri emateko.



AURREZ-HAUTATUTAKO BISITA

CITA-alzhéimer

Bisitan (1h) azterketaren berri emango dizugu eta baimena sinatuko duzu.



EBALUAZIO MEDIKOA

CITA-alzhéimer

Parte hartzailea zara!
Bisita honetan, azterketa sakonagoa egingo dizugu



HASIERA

CITA-alzhéimer

Zer da CITA GO-ON?

<https://www.youtube.com/watch?v=cq4UyGXprls&t=19s>

<https://www.cita-alzheimer.org/eu/cita-go-on>

ONDORIOAK

- 1) Alzheimerren gaixotasuna eta gainerako narriadura kognitiboaren arazoak geroz eta ohikoagoak dira eta ezinbestekoa da beraiek ikertzea.
- 2) Diagnosi goiztiarra sustatzea ezinbestekoa da eta nola ez prebentzioa ere bai.
- 3) Tratamendu berriak datoz, baina oraindik asko daukagu ikasteko!

ESKERRIK ASKO!!!



maltuna@cita-alzheimer.org