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# Healthy Ageing Current Awareness Update

February 2024

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**We need your views:** The software KLS currently use to produce our Current Awareness products is being decommissioned shortly and we need to upgrade to a more expensive system to provide continuation of service. To ensure that our current awareness products are meeting your needs, we are taking this opportunity to review their use. **Please take a few moments to complete our survey.**

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Welcome to the monthly **Healthy Ageing Current Awareness Update** (HACAU), produced by **UKHSA Knowledge and Library Services**. The purpose of this update is to provide you with the latest, best evidence about healthy ageing and dementia risk reduction, to help you make informed decisions.

If you have any queries, please contact us at [libraries@ukhsa.gov.uk](mailto:libraries@ukhsa.gov.uk), and if you would like to request a literature search, please use the **Knowledge and Library Services Enquiries Portal**.

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## COVID-19 and ageing

### [WHO pandemic treaty: “Torrent of fake news” has put negotiations at risk, says WHO chief](#)

Negotiations of an international treaty intended to prepare for and prevent future pandemics are in danger of falling apart as misinformation fuels opposition to the initiative, senior World Health Organization officials said last week

### [\[Media Watch\] The big fail](#)

In their introduction to the excellent [The big fail: how our supply chains collapsed when we needed them most](#), which may well come to be regarded as the definitive account of the US response to the COVID-19 pandemic, veteran journalists Joe Nocera and Bethany McClean point out that more US citizens died during the first year of Joe Biden's presidency than during the last year of Donald Trump's

### [Is Vaccination Approaching a Dangerous Tipping Point?](#)

This Viewpoint discusses declining vaccination rates in the US, specifically against COVID-19, and the ways in which clinicians and the Food and Drug Administration can counter the current large volume of vaccine misinformation.

### [Emerging Enterovirus A71 Subgenogroup B5 Causing Severe Hand, Foot, and Mouth Disease, Vietnam, 2023](#)

N. Chau et al.

### [Covid-19: Vaccines have saved at least 1.4 million lives in Europe, WHO reports](#)

Vaccination against covid-19 has reduced deaths in Europe by at least 57% and saved at least 1.4 million lives, the World Health Organization has estimated. A preprint study by researchers from WHO/Europe reports that the known death toll from covid of 2.5 million in the WHO European Region could have been as high as four million without vaccines

### [Parechovirus A Circulation and Testing Capacities in Europe, 2015–2021](#)

L. Bubba et al.

### [Measles Cases and Deaths Increased Worldwide From 2021 to 2022](#)

This Medical News story discusses the latest data on measles cases, deaths, and vaccination coverage worldwide.

### [Disproportionate Death Rates Reported in US Prisons Early in the COVID-19 Pandemic](#)

COVID-19 was a principal driver behind a 77% higher mortality rate in 2020 than in 2019 among people incarcerated in US prisons, according to data from 48 Departments of

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Corrections. The researchers noted that increased mortality among the general population was much lower early in the pandemic—23% between 2020 and 2021.

### Surveillance for Unexplained Deaths of Possible Infectious Etiologies During the COVID-19 Pandemic—Minnesota, 2020-2021

Public Health Reports, Ahead of Print. Objectives: Surveillance systems for unexplained deaths that might have an infectious etiology are rare. We examined the Minnesota Department of Health Unexplained Deaths and Critical Illnesses of Possible Infectious Etiology and Medical Examiner Infectious Deaths (UNEX/MED-X) surveillance system,—a system that expanded postmortem surveillance for infectious

### Impact of Meningococcal ACWY Vaccination Program during 2017–18 Epidemic, Western Australia, Australia

K. Ewe et al.

### Population-Based Evaluation of Vaccine Effectiveness against SARS-CoV-2 Infection, Severe Illness, and Death, Taiwan

C. Lee et al.

### Does Paxlovid Prevent Long COVID?

This Medical News article discusses 2 new observational studies that examined associations with SARS-CoV-2 antiviral medications and long COVID.

### Using Throat Swabs Improved Sensitivity in Detecting SARS-CoV-2

Collecting both nasal and throat specimens from people with COVID-19 symptoms resulted in more sensitive rapid antigen testing than when collecting only a nasal specimen, according to findings involving about 2900 participants aged 16 years or older in Denmark.

### The Comprehensive Primary Care Plus Model and Health Care Spending, Service Use, and Quality

This study tests whether the Centers for Medicare & Medicaid Services' Comprehensive Primary Care Plus model, which provided payment, data feedback, learning, and health information technology supports for more than 3000 US primary care practices, was associated with lower health care spending and utilization and improved quality of care.

### Program Offering Free COVID-19 and Flu Services Expands Nationwide

The Home Test to Treat program—a public health effort funded by the US National Institutes of Health—is now open to adults around the country after being piloted in select locations earlier this year, the agency announced. It's the first public health program that provides at-home testing for both COVID-19 and influenza on a national scale.

### Prevalence of SARS-CoV-2 Infection among Children and Adults in 15 US Communities, 2021

J. Justman et al.

### Public Health Impact of Paxlovid as Treatment for COVID-19, United States

Y. Bai et al.

### Adapting COVID-19 Contact Tracing Protocols to Accommodate Resource Constraints, Philadelphia, Pennsylvania, USA, 2021

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S. Jeon et al.

### The Next Generation of COVID-19 Vaccines May be Inhaled

This Medical News story discusses experimental mucosal COVID-19 vaccines.

### Many Eligible Patients Do Not Use Statins for Primary Prevention

Although about 36% of US adults qualified for statin use between 1999 and 2018, few eligible people were treated with the medication to prevent an initial cardiovascular event, based on an analysis of national survey results from about 22 000 participants aged 20 years or older.

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Healthy lifestyle and dementia prevention

### Head-to-head study of diagnostic accuracy of plasma and cerebrospinal fluid p-tau217 versus p-tau181 and p-tau231 in a memory clinic cohort

**BACKGROUND AND OBJECTIVE:** Phosphorylated tau (p-tau) 217 has recently received attention because it seems more reliable than other p-tau variants for identifying Alzheimer's disease (AD) pathology. Thus, we aimed to compare the diagnostic accuracy of plasma and CSF p-tau217 with p-tau181 and p-tau231 in a memory clinic cohort.

### Is the Montreal cognitive assessment culturally valid in a diverse geriatric primary care setting? Lessons from the Bronx

**CONCLUSIONS:** Current MoCA cutpoints were inappropriately high in a culturally/linguistically diverse urban setting, leading to a high false-positive rate. Lower Spanish and English MoCA cutpoints may improve diagnostic accuracy for identifying cognitive impairment in this group, highlighting the need for the creation and validation of accurate cognitive screeners for ethnoculturally and

### Algorithmic identification of persons with dementia for research recruitment: ethical considerations

Underdiagnosis, misdiagnosis, and patterns of social inequality that translate into unequal access to health systems all pose barriers to identifying and recruiting diverse and representative populations into research on Alzheimer's disease and Alzheimer's disease related dementias

### Mediators of Periodontitis complementing the development of Neural Disorders

As a common oral health concern, periodontitis has been a source of attention for the global health community because of its linkage with systemic and neurological diseases. The purpose of the present study is to reveal the mediating role of specific cytokines, neuropeptides, and pathogens in the association of chronic periodontitis and neural disorders

### The effects of the interplay between vitamins, antibiotics, and gut microbiota on the pathogenesis and progression of dementia: A systematic review and meta-analysis

**CONCLUSION:** This systematic review concluded that vitamins, gut microbiota and antibiotics have a close association with the development of dementia. More research is

required to establish causality and elucidate the underlying mechanisms because there is still little evidence connecting the interactions of vitamins, medications, and microbiota with dementia

### Characterization of parent and youth-reported eating disorder symptoms and premorbid factors in the Adolescent Brain Cognitive Development Study

CONCLUSION: Identifying the landscape of ED symptoms across demographic groups, reporters and their premorbid factors in late childhood is critical to inform prevention and early intervention efforts, with particularly important implications for historically understudied racial and sexual minority groups.

### Genome-wide QTL mapping across three tissues highlights several Alzheimer's and Parkinson's disease loci potentially acting via DNA methylation

DNA methylation (DNAm) is an epigenetic mark with essential roles in disease development and predisposition. Here, we created genome-wide maps of methylation quantitative trait loci (meQTL) in three peripheral tissues and used Mendelian randomization (MR) analyses to assess the potential causal relationships between DNAm and risk for two common neurodegenerative disorders, i.e

### Effect of cognitive impairment at admission on activities of daily living at discharge in older patients with heart failure

CONCLUSIONS: Our study showed that the presence or absence of CI may influence ADL improvement in rehabilitation interventions aimed at improving ADL in older patients with HF.

### Older Adults' and Family Caregivers' Technological Arrangements on Risk of Institutionalization

Internet-enabled resources could facilitate older adults' ability to live in the community longer, but studies have often overlooked how family caregivers utilize the internet to assist older care recipients. We examined whether different family-level arrangements of internet use may affect the risk of institutionalization among older adults

### How does cognitive behavior therapy for dissociative seizures work? A mediation analysis of the CODES trial

CONCLUSIONS: Our findings largely confirmed the logic model underlying the development of CBT for patients with DS. Interventions could be additionally developed to specifically address beliefs about emotions to assess whether it improves outcomes.

### Agricultural activities and risk of Alzheimer's disease: the TRACTOR project, a nationwide retrospective cohort study

Data regarding Alzheimer's disease (AD) occurrence in farming populations is lacking. This study aimed to investigate whether, among the entire French farm manager (FM) workforce, certain agricultural activities are more strongly associated with AD than others, using nationwide data from the TRACTOR (Tracking and monitoring occupational risks in agriculture) project

### Temperature-induced Artifacts in Tau Phosphorylation: Implications for Reliable Alzheimer's Disease Research

In preclinical research on Alzheimer's disease and related tauopathies, tau phosphorylation analysis is routinely employed in both cellular and animal models. However, recognizing the

sensitivity of tau phosphorylation to various extrinsic factors, notably temperature, is vital for experimental accuracy

### Careful considerations for the treatment of posttraumatic stress disorder during and following pregnancy

INTRODUCTION: The focus on perinatal mental health has expanded recently, though there is less research on post-traumatic stress disorder (PTSD). Therefore, a review of the literature was undertaken and coupled with expert clinical insights to discuss current clinical practice recommendations for PTSD in the perinatal period.

### Current Perspectives: Obesity and Neurodegeneration - Links and Risks

Obesity is increasing in prevalence across all age groups. Long-term obesity can lead to the development of metabolic and cardiovascular diseases through its effects on adipose, skeletal muscle, and liver tissue. Pathological mechanisms associated with obesity include immune response and inflammation as well as oxidative stress and consequent endothelial and mitochondrial dysfunction

### Integrating Causal Discovery and Clinically-Relevant Insights to Explore Directional Relationships between Autistic Features, Sex at Birth, and Cognitive Abilities

Prevalence in autism spectrum disorder (ASD) diagnosis has long been strongly male-biased. Yet, consensus has not been reached on mechanisms and clinical features that underlie sex-based discrepancies

### Identification of Rare Damaging Missense and Loss of Function Variants in GWAS Loci Using Genome Sequencing Data from Two Cohorts of Familial Late-Onset Alzheimer's Disease

CONCLUSIONS: Although rare variants were found in both family groups, many families had no gene variant segregating within the family, indicating that the genetic basis for AD has yet to be fully defined.

### Proteomic aging clock (PAC) predicts age-related outcomes in middle-aged and older adults

BACKGROUND: Beyond mere prognostication, optimal biomarkers of aging provide insights into qualitative and quantitative features of biological aging and might therefore offer useful information for the testing and ultimately clinical use of gerotherapeutics

### Variability in exercise is linked to improved age-related dysfunctions: A potential role for the constrained-disorder principle-based second-generation artificial intelligence system

Objective: Regular physical activity (PA) promotes mental and physical health. Nevertheless, inactivity is a worldwide pandemic, and methods to augment exercise benefits are required. The constrained disorder principle (CDP) characterizes biological systems based on their inherent variability

### The Importance of Sleep for Successful Neurorehabilitation after Stroke

Sleep has important clinical implications for neurorehabilitation after stroke. We aimed to systematically explore sleep (including naps) as an essential factor in the neurorehabilitation of patients after stroke. After titles and abstracts were screened, 49 full texts were reviewed, and 7 were included in this review. Data were extracted and assessed for quality and risk of bias

### Forensic Evaluation of a Single Episode of a Disorder of Arousal in a Sleepwalking Defense: Cognitive Function Versus Prior Clinical History

Introduction The clinical diagnosis of disorders of arousal (DOA) is based primarily on a clinical history including amnesia for episodes. The presence of amnesia means the patient cannot provide direct evidence. In a forensic setting, when the defendant has been charged criminally with violent actions or sexual related assaults allegedly during sleep, a sleepwalking defense may be presented

### Glycogen storage disease type III: a mixed-methods study to assess the burden of disease

CONCLUSION: Individuals with GSD III experience a broad spectrum of symptoms and disease impacts. There is an unmet need for therapies that improve metabolic control, reduce the burden of dietary management, reduce fatigue and liver problems, and improve muscle strength and function.

### Ketogenic diet attenuates cognitive dysfunctions induced by hypoglycemia via inhibiting endoplasmic reticulum stress-dependent pathways

Hypoglycemia can potentially cause severe damage to the central nervous system. The ketogenic diet (KD), characterized by high-fat and extremely low-carbohydrate content, can modulate homeostasis and nutrient metabolism, thereby influencing body health. However, the effects and underlying mechanisms of KD on hypoglycemia-induced brain injury have not been thoroughly investigated

### Comment on 'Relationship between eating problems and the risk of dementia: a retrospective study'

No abstract

### The Effect of Central Sensitization on Postoperative Neurocognitive Dysfunction in Hospitalized Elderly Patients: A Prospective Cohort Clinical Trial

CONCLUSION: Hospitalized elderly patients with clinical symptoms of CS scores may have increased risk of PNCD following TKA.

### Cognitive functioning and psychosomatic syndromes in a subjective tinnitus sample

INTRODUCTION: Tinnitus is the perception of a sound in the absence of any corresponding external sound source. Current research suggests a relationship among emotional, cognitive, and psychosomatic symptoms and the occurrence or maintenance of chronic tinnitus

### Enhancing public sector enterprise risk management through interactive information processing

INTRODUCTION: Federal agencies are increasingly expected to adopt enterprise risk management (ERM). However, public sector adoption of ERM has typically focused on the economic efficiency of tax-financed activities based on control-based practices

### Vicarious experiences of long COVID: A protection motivation theory analysis for vaccination intentions

CONCLUSION: The protection from long COVID through vaccination are relevant aspects for individual decisions and health communication.

### Disentangling pain and fatigue in chronic fatigue syndrome: a resting state connectivity study before and after cognitive behavioral therapy

CONCLUSIONS: These results provide insight into the dissociable neural mechanisms underlying fatigue and pain symptoms in ME/CFS and how they are affected by CBT in successfully treated patients. Further investigation of how and in whom behavioral and

biomedical treatments affect these networks is warranted to improve and individualize existing or new treatments for ME/CFS.

### Montelukast Ameliorates 2K1C-Hypertension Induced Endothelial Dysfunction and Associated Vascular Dementia

CONCLUSION: The 2K1C tactic caused renovascular hypertension and associated VaD, which was mitigated via targeted regulation of CysLT1 receptors by montelukast administration. Therefore, montelukast may be taken into consideration for the evaluation of its complete potential in renovascular-hypertension-induced VaD.

### Symptom Attribution and Neuropsychological Outcomes Among Treatment-Seeking Veterans With a History of Traumatic Brain Injury

CONCLUSIONS: These findings suggest that veterans who routinely attribute neurobehavioral symptoms to their TBI are at greater risk of experiencing poor long-term outcomes, including elevated symptom endorsement and worse objective cognition

### Increased fiber density of the fornix in patients with chronic tinnitus revealed by diffusion-weighted MRI

Up to 45% of the elderly population suffer from chronic tinnitus - the phantom perception of sound that is often perceived as ringing, whistling, or hissing "in the ear" without external stimulation. Previous research investigated white matter changes in tinnitus patients using diffusion-weighted magnetic resonance imaging (DWI) to assess measures such as fractional anisotropy (a measure of

### Occupational characteristics and disability-free survival after retirement age: an exploratory analysis from the ASPREE study

CONCLUSION: This exploratory study found a reduction in disability-free survival among people who worked in 'elementary' occupations, with specific risks associated with occupations involving high accident risks and adverse social climate.

### "It doesn't feel like exercise": a realist process evaluation of factors that support long-term attendance at dance classes designed for healthy ageing

CONCLUSION: The RIPE Dance program provides effective and enjoyable 'exercise in disguise' for older people with diverse mobility profiles.

### Hearing impairment and risk of dementia in The HUNT Study (HUNT4 70+): a Norwegian cohort study

BACKGROUND: Hearing impairment is strongly associated with future dementia. No studies have reported objectively measured hearing impairment in a cohort with a long period of follow-up (>20 years), and few have reported follow-up over 10 years. Hence, there is a need for high quality studies with sufficient follow-up time and data to account for reverse causality and confounding

### A Case Report: Lithium-Induced Neurotoxicity, a Differential to Always Consider

Lithium, a mood stabilizer commonly prescribed for bipolar disorder, has a narrow therapeutic index that increases the risk of toxicity for patients who are prescribed this medication. Patients presenting with lithium toxicity could have a wide array of symptoms triggered by several factors that mimic other neurological conditions



## Tiger nut/coconut dietary intervention as antidotal nutritional remediation strategy against neurobehavioural deficits following organophosphate-induced gut-brain axis dysregulation in mice

Organophosphate poisoning remains a global health crisis without efficacious treatments to prevent neurotoxicity. We examined whether antidotal tiger nut and coconut dietary intervention could ameliorate neurobehavioral deficits from organophosphate dichlorvos-induced gut-brain axis dysregulation in a mouse model

## Lateral prefrontal cortex thickness is associated with stress but not cognitive fatigue in exhaustion disorder

INTRODUCTION: Impaired executive functioning, including cognitive fatigue, is a core feature of the long-term stress-related condition exhaustion disorder (ED). Recent research suggests that a key area for executive control, the lateral prefrontal cortex (LPFC), may be mechanistically linked to cognitive fatigue due to stress

## Effects of testosterone replacement on lipid profile, hepatotoxicity, oxidative stress, and cognitive performance in castrated wistar rats

CONCLUSIONS: Testosterone replacement either alone or in combination with Spirulina improved castration-induced metabolic, oxidative, and cognitive alterations.

## A Multi-Stage Dyadic Qualitative Analysis to Disentangle How Dietary Behaviors of Asian American Young Adults are Influenced by Family

The dietary behaviors of Asian American (AA) young adults, who face a growing non-communicable disease burden, are impacted by complex socio-ecological forces. Family plays a crucial role in the lifestyle behaviors of AA young adults; however, little is known on the methods, contributors, and impact of familial dietary influence

## Micronutrient status and protein-energy malnutrition in free-living older adults: a current perspective

PURPOSE OF REVIEW: This review addresses the newest findings on micronutrient status and protein-energy malnutrition in the increasingly aging global population; understanding the nutritional challenges they face is vital for healthcare, well being, and public health.

## Decision-making concerning involuntary oral care in older individuals with dementia

Many older individuals with dementia show care-resistant behavior for oral care. Providing care despite resistance is considered to be involuntary care. The Dutch law, 'Wet zorg en dwang' (care and coercion), states that care must be ceased in the presence of resistance, unless there is (a risk of) serious harm

## Silica Nanoparticle Exposure Implicates $\beta$ -Amyloid (1-42) Inbound and the Accelerating Alzheimer's Disease Progression in Mice Overexpressing Mutated Forms of Human Amyloid Precursor Protein and Presenilin 1 Genes

The increasing nanoparticle (NP) applications in the biomedical field have become an emerging concern regarding human health. NP exposure may play a role in the accelerating Alzheimer's disease (AD) progression; however, the etiology of this disorder is complex and remains largely unclear

## How promising are the latest monoclonal antibodies targeting amyloid- $\beta$ for the treatment of early Alzheimer's disease?

**INTRODUCTION:** Monoclonal antibodies targeting amyloid- $\beta$  are the first disease-modifying treatments for Alzheimer disease to have received FDA-approval. There are three different drugs approved or pending FDA-approval: aducanumab, lecanemab, and donanemab. These three drugs are each in different stages of regulatory approval by the FDA.

### Seizure-induced LIN28A disrupts pattern separation via aberrant hippocampal neurogenesis

Prolonged seizures can disrupt stem cell behavior in the adult hippocampus, an important brain structure for spatial memory. Here, using a mouse model of pilocarpine-induced status epilepticus (SE), we characterized spatiotemporal expression of Lin28a mRNA and proteins after SE

### Marked Decreased Tracer Binding in 123I-FP-CIT SPECT Scans From Lisdexafetamine Dimesylate Interaction: A Case Report

**CONCLUSIONS:** This case suggests that lisdexafetamine dimesylate may have a strong interference with 123I-FP-CIT SPECT, decreasing the tracer binding to the dopamine transporter and presenting false positive results.

### A review of the personality traits in post-concussion syndrome

**CONCLUSION:** Personality traits may help predict the development and persistence of PCS following mTBI. Understanding the personality traits roles in PCS could assist the development of targeted interventions for the prevention and treatment of PCS

### Risk of Neuropsychiatric Symptoms Among People Who Develop Cognitive Impairment With and Without a History of Post-traumatic Stress Disorder

We aimed to prospectively assess the change in neuropsychiatric symptoms among people who develop cognitive impairment and have a history of post-traumatic stress disorder (PTSD). We analyzed longitudinal data from the National Alzheimer's Coordinating Center Unified Data Set (March 2015 to December 2021)

### Predicting Discharge Destination in Older People From Acute General Medical Wards: A Systematic Review of the Psychometric Properties of 23 Assessment Tools

**BACKGROUND:** Predicting discharge in older people from general medicine wards is challenging. It requires consideration of function, mobility, and cognitive levels, which vary within the cohort and may fluctuate over a short period

### Introducing a multicomponent staff training intervention to reduce antipsychotic medication: Care home management pre and post intervention views of systemic impact, and preliminary RE-AIM evaluation

**CONCLUSION:** Funding, systemic working across families, clinical and social teams and effective systems of governance are urgently required to sustain models like PROCUIDA-Demencia. The RE-AIM preliminary evaluation outlined care home managers' long-term sustainable practice and positive impact on the dementia care system

### Luteoloside inhibits A $\beta$ 1-42 fibrillogenesis, disintegrates preformed fibrils, and alleviates amyloid-induced cytotoxicity

Abnormal aggregation and fibrillogenesis of amyloid- $\beta$  protein (A $\beta$ ) can cause Alzheimer's disease (AD). Thus, the discovery of effective drugs that inhibit A $\beta$  fibrillogenesis in the brain is crucial for the treatment of AD. Luteoloside, as one of the polyphenolic compounds, is found to have a certain therapeutic effect on nervous system diseases

### Interaction modes of human orexin 2 receptor with selective and nonselective antagonists studied by NMR spectroscopy

Orexin neuropeptides have many physiological roles in the sleep-wake cycle, feeding behavior, reward demands, and stress responses by activating cognitive receptors, the orexin receptors (OX1R and OX2R), distributed in the brain. There are only subtle differences between OX1R and OX2R in the orthosteric site, which has hindered the rational development of subtype-selective antagonists

### Risk of dementia among antidepressant elderly users: A population-based cohort analysis in Spain

The use of antidepressants with anticholinergic effects has been associated with an increased risk of dementia. However, the results published are contradictory. The aim of the study is to compare the risk of developing dementia in elderly who were prescribed tricyclic antidepressants (TCA) versus those who were prescribed selective serotonin reuptake inhibitors (SSRIs) and other antidepressants

### Energy Consumption Displays in Electric Vehicles: Differential Effects on Estimating Consumption and Experienced Energy Dynamics Awareness

CONCLUSION: The study indicates that experienced EDA is immediately affected by displays with higher information value, but performance might need more time and training. More research is needed to investigate the cognitive processes related to EDA and to examine how distinct display elements enhance EDA.

### Frailty and Kidney Transplant Waitlisting: A Single-Center Experience

CONCLUSIONS: Our unique approach of using 2 validated scores, SPPB and GFI, together addressed many components of frailty evaluation, including physical, cognitive, and psychosocial components. We used PT as a targeted intervention for addressing both the physical and non-physical impairments among frail KT candidates

### Association between oral health status and functional independence measure on admission in convalescent hospitalized patients

CONCLUSIONS: The convalescent period is an opportune time to provide intensive dental care due to the generally stable condition and extended hospital stay. Our results suggest that oral health management, such as dysphagia rehabilitation and denture treatment, is important for maintaining and improving independence, a key objective of convalescent rehabilitation, and malnutrition improvement.

### Improving movement behavior in office workers: effects of two multi-level cluster-RCT interventions on mental health

CONCLUSIONS: The multi-level interventions improved mental wellbeing among this population of office workers, reaching statistical significance in the iSED group. The size of the effect can be regarded meaningful, considering favorable mental health and high PA level at baseline

### D-Cycloserine enhances the bidirectional range of NMDAR-dependent hippocampal synaptic plasticity

The partial N-methyl-D-aspartate receptor (NMDAR) agonist D-Cycloserine (DCS) has been evaluated for the treatment of a wide variety of psychiatric disorders, including dementia, schizophrenia, depression and for the augmentation of exposure-based psychotherapy

### Development and preliminary validation of a novel eating disorder screening tool for vegetarians and vegans: the V-EDS

CONCLUSIONS: This study provided strong initial support for the psychometric validity and theoretical assumptions of the novel V-EDS screening tool. The V-EDS has the potential to increase early intervention rates for vegetarians and vegans experiencing eating disorder symptoms, further supporting advocacy and treatment approaches for these expanding dietary groups.

### Analysing the Need for Long-Term Care: Potential of Data from Long-Term Care Assessments of the Bavarian Medical Service for Public Health Research and Practice

CONCLUSIONS: The data available from the German Medical Service may be highly relevant to health research and policy and may provide a basis for planning interventions in long-term care.

### Health protective behaviours during the COVID-19 pandemic: Risk adaptation or habituation?

Many epidemiological works show that human behaviours play a fundamental role in the spread of infectious diseases. However, we still do not know much about how people modify their Health Protective Behaviours (HPB), such as hygiene or social distancing measures, over time in response to the health threat during an epidemic

### Transition to healthier lifestyle associated with reduced risk of incident dementia and decreased hippocampal atrophy

CONCLUSIONS: Earlier transitions to healthier lifestyle were associated with reduced risk of incident dementia and decreased hippocampal atrophy.

### COVID-19 Pandemic Impact on the Trajectories of Cognitive Decline and Depression Symptoms in Long-Term Care Facility Residents

CONCLUSIONS AND IMPLICATIONS: Our study identified a notable yet modest increase in cognitive decline and depressive symptoms among NH residents in Iowa during the COVID-19 pandemic. Although statistically significant, the changes were small and may not have clinical relevance over 1 year

### Associations of orthostatic hypotension and frailty with dementia and mortality in older adults: a population-based cohort study

CONCLUSIONS: Older adults with OH, whether robust or frail, may have a higher dementia risk than those without OH. Older adults with OH, when having frailty, may have a higher mortality rate than those without OH. The concurrent assessments of OH and frailty may provide prognostic values in terms of dementia and mortality risk in older adults.

### Diagnostic accuracy of the Clock Drawing Test in screening for early post-stroke neurocognitive disorder: the Nor-COAST study

CONCLUSIONS: The CDT is not accurate enough to diagnose post-stroke neurocognitive disorder but shows acceptable accuracy in identifying major neurocognitive disorder. Performance on the CDT was associated with performance on MoCA; however, the CDT is inferior to MoCA in identifying post-stroke neurocognitive disorder.

### Implementation considerations for a point-of-care *Neisseria gonorrhoeae* rapid diagnostic test at primary healthcare level in South Africa: a qualitative study

**CONCLUSIONS:** The collective action and participation by healthcare workers in the implementation of the NG-LFA revealed adaptive execution within the current facility environment including team compositions, facility-staff receptivity, and STI management experiences

### Effect of low-frequency noise exposure on cognitive function: a systematic review and meta-analysis

**CONCLUSIONS:** Our study findings suggest that low-frequency noise can negatively impact higher-order cognitive functions, such as logical reasoning, mathematical calculation, and data processing. Therefore, it becomes important to consider the potential negative consequences of low-frequency noise in everyday situations, and proactive measures should be taken to address this issue and mitigate the

### Trajectories of health conditions and their associations with the risk of cognitive impairment among older adults: insights from a national prospective cohort study

**CONCLUSIONS:** The results suggest that tracking trajectories of depressive symptoms, instrumental functioning limitations, and multimorbidity status may be a potential and feasible screening method for identifying older adults at risk of cognitive impairment.

### Cerebrospinal fluid proteomics in patients with Alzheimer's disease reveals five molecular subtypes with distinct genetic risk profiles

Alzheimer's disease (AD) is heterogenous at the molecular level. Understanding this heterogeneity is critical for AD drug development. Here we define AD molecular subtypes using mass spectrometry proteomics in cerebrospinal fluid, based on 1,058 proteins, with different levels in individuals with AD (n = 419) compared to controls (n = 187)

### Neurocognitive correlates of semantic memory navigation in Parkinson's disease

Cognitive studies on Parkinson's disease (PD) reveal abnormal semantic processing. Most research, however, fails to indicate which conceptual properties are most affected and capture patients' neurocognitive profiles. Here, we asked persons with PD, healthy controls, and individuals with behavioral variant frontotemporal dementia (bvFTD, as a disease control group) to read concepts (e.g

### GR/Ahi1 regulates WDR68-DYRK1A binding and mediates cognitive impairment in prenatally stressed offspring

Accumulating research shows that prenatal exposure to maternal stress increases the risk of behavioral and mental health problems for offspring later in life. However, how prenatal stress affects offspring behavior remains unknown. Here, we found that prenatal stress (PNS) leads to reduced Ahi1, decreased synaptic plasticity and cognitive impairment in offspring

### Gamma Amino Butyric Acid (GABA) and Ferulic Acid Esterase (FAE) Producing Psychobiotic Bacteria Isolated from Cereal-Based Fermented Food

Gut microbiota plays an important role in regulating enteric, immune and neural pathways. Many neuropsychiatric disorders such as anxiety, depression, autism and cognitive behaviour are associated with gut dysbiosis. Gamma-aminobutyric acid (GABA) and short-chain fatty acids produced by gut bacteria influence gastrointestinal and neurological functions

### Worm in the Eye: A Case Report of Ocular Neurocysticercosis With Adherent Retinal Cyst

Neurocysticercosis is caused by *Cysticercus cellulosae*, the larval stage of *Taenia solium*, commonly referred to as the pork tapeworm. These larvae form cysts in several organs, including the brain, spinal cord, and eye. Neurocysticercosis is recognized by the World Health Organization as a public health issue and stands as the foremost preventable cause of epilepsy worldwide

### A Study of Clinical Profile, Radiological and Electroencephalographic Characteristics of Sporadic Creutzfeldt-Jakob Disease From a Tertiary Care Hospital

Background Sporadic Creutzfeldt-Jakob disease (CJD), the most common form of human prion disease, is the archetypal diagnosis in this category. However, the spectrum of possible diagnoses is wide, encompassing various treatable conditions

### Do we all synch alike? Brain-body-environment interactions in ASD

Autism Spectrum Disorder (ASD) is characterized by rigidity of routines and restricted interests, and atypical social communication and interaction. Recent evidence for altered synchronization of neuro-oscillatory brain activity with regularities in the environment and of altered peripheral nervous system function in ASD present promising novel directions for studying pathophysiology and its

### High doses of a national preschool program are associated with the long-term mitigation of adverse outcomes in cognitive development and life satisfaction among children who experience early stunting: a multi-site longitudinal study in Vietnam

CONCLUSION: The current findings raise the possibility that generic preschool programs delivered at high dose may provide a scalable and sustainable intervention to support the life opportunities of children who experience early stunting.

### Prioritizing determinants of cognitive function in healthy middle-aged and older adults: insights from a machine learning regression approach in the Canadian longitudinal study on aging

CONCLUSION: Greater prioritization and integration of demographic and socioeconomic factors and lifestyle and health behaviors, such greater access to healthy foods and enhancing aid programs for low-income and immigrant families, into future health interventions and policies can produce the greatest gains in preserving healthy cognitive function in mid to late life.

### Effect of cognitive behavior therapy training and psychological nursing on the midwifery process in the delivery room

CONCLUSION: CBT training and psychological care for mothers in the midwifery process can effectively improve anxiety and depression, shorten labor duration, reduce postnatal complications, and improve nursing satisfaction and nurse-patient relationships. Its clinical application is effective and has popularization value, providing a new way to protect maternal mental health.

### Brain-derived neurotrophic factor, sex hormones and cognitive decline in male patients with schizophrenia receiving continuous antipsychotic therapy

CONCLUSION: Sex hormones and BDNF levels may also be linked to cognitive function in patients with chronic SCZ.

### Rare case of chronic naphthalene ball ingestion in a young Indian woman

Chronic oral abuse of naphthalene balls is extremely rare. It is associated with different types of metabolic toxicity, neurological deficits and multiple organ failure. However, the

psychological implication of naphthalene abuse is poorly understood. This is a unique case report of a 29-year-old lady who presented with a 17 year history of naphthalene ball consumption

### Association of medication adherence quality measures for diabetes, hypertension, and hyperlipidemia with cognitive decline

CONCLUSION: Not achieving CMS Star Medication Adherence quality measures for diabetes, hypertension, and hyperlipidemia therapies was associated with increased risk of cognitive decline outcomes.

### The individual-level effects of social media campaigns related to healthy eating, physical activity, and healthy weight: A narrative review

CONCLUSION: Social media campaigns focused on promoting healthy eating, PA, and healthy weight had mixed effects on individual-level cognitive, behavioral, and anthropometric outcomes. Various limitations of the included studies make it difficult to ascertain which factors influence campaign effectiveness

### Associations between body mass index and episodic memory for recent eating, mindful eating, and cognitive distraction: A cross-sectional study

CONCLUSIONS: These findings provide evidence in a large global sample for associations between BMI and (i) mindful eating, and (ii) disinhibited eating. Future research should evaluate whether mindful eating demonstrates a prospective association with body weight and should consider mechanisms of action.

### Urine metabolomics phenotyping and urinary biomarker exploratory in mild cognitive impairment and Alzheimer's disease

INTRODUCTION: Alzheimer's disease is a prevalent disease with a heavy global burden and is suggested to be a metabolic disease in the brain in recent years. The metabolome is considered to be the most promising phenotype which reflects changes in genetic, transcript, and protein profiles as well as environmental effects

### White matter hyperintensity genetic risk factor TRIM47 regulates autophagy in brain endothelial cells

White matter hyperintensity (WMH) is strongly correlated with age-related dementia and hypertension, but its pathogenesis remains obscure. GWAS identified TRIM47 at 17q25 locus as a top genetic risk factor for WMH formation. TRIM family is a class of E3 ubiquitin ligase with pivotal functions in autophagy, which is critical for brain endothelial cell (ECs) remodeling during hypertension

### Substantial decline of phasic dopamine signaling in senescent male rats does not impact dopamine-dependent Pavlovian conditioning

Normal aging is associated with cognitive decline which impacts financial decision making. One of the underlying features of decision making is probability estimation, in which nucleus accumbens dopamine signaling has been implicated

### Characterizing Molecular and Synaptic Signatures in mouse models of Late-Onset Alzheimer's Disease Independent of Amyloid and Tau Pathology

INTRODUCTION: MODEL-AD is creating and distributing novel mouse models with humanized, clinically relevant genetic risk factors to more accurately mimic LOAD than commonly used transgenic models.

### **In vivo validation of late-onset Alzheimer's disease genetic risk factors**

**INTRODUCTION:** Genome-wide association studies have identified over 70 genetic loci associated with late-onset Alzheimer's disease (LOAD), but few candidate polymorphisms have been functionally assessed for disease relevance and mechanism of action.

### **Identification of new ciliary signaling pathways in the brain and insights into neurological disorders**

Primary cilia are conserved sensory hubs essential for signaling transduction and embryonic development. Ciliary dysfunction causes a variety of developmental syndromes with neurological features and cognitive impairment, whose basis mostly remains unknown. Despite connections to neural function, the primary cilium remains an overlooked organelle in the brain

### **Weight reduction and dietary improvements in a cluster-randomised controlled trial for adults with intellectual disabilities**

**CONCLUSIONS:** A significant difference in WC was observed between the groups, accompanied by changes in blood parameters and dietary habits.

### **The quiet quitting scale: Development and initial validation**

**CONCLUSION:** QQS, a three-factor nine-item scale, has robust psychometric properties. QQS is an easy-to-administer, brief, reliable and valid tool to measure employees' quiet quitting. We recommend the use of the QQS in different societies and cultures to assess the validity of the instrument.

### **Seven Tesla MRI in Alzheimer's disease research: State of the art and future directions: A narrative review**

Seven tesla magnetic resonance imaging (7T MRI) is known to offer a superior spatial resolution and a signal-to-noise ratio relative to any other non-invasive imaging technique and provides the possibility for neuroimaging researchers to observe disease-related structural changes, which were previously only apparent on post-mortem tissue analyses

### **A mixed methods systematic review on the effects of arts interventions for children and young people at-risk of offending, or who have offended on behavioural, psychosocial, cognitive and offending outcomes: A systematic review**

**BACKGROUND:** Young people who enter the justice system experience complex health and social needs, and offending behaviour is increasingly recognised as a public health problem. Arts interventions can be used with the aim of preventing or reducing offending or reoffending.

### **A comparison of the effectiveness of cognitive behavioural interventions based on delivery features for elevated symptoms of depression in adolescents: A systematic review**

**BACKGROUND:** Depression is a public health problem and common amongst adolescents. Cognitive behavioural therapy (CBT) is widely used to treat adolescent depression but existing research does not provide clear conclusions regarding the relative effectiveness of different delivery modalities.

### **"Guttman Cognitest®," a digital solution for assessing cognitive performance in adult population: A feasibility and usability pilot study**



**CONCLUSIONS:** Guttman Cognitest<sup>®</sup> has been shown to be effective and well-perceived, with a high potential for sustained engagement in tracking changes in cognitive function.

### **Sporadic Creutzfeldt-Jakob disease: Brain MRI lesion features from 2 cases reports**

Sporadic Creutzfeldt-Jakob disease (sCJD) is an uncommon prion disease, also a fatal degenerative brain disorder. We aimed to illustrate 2 clinical cases, a 60-year-old female and a 57-year-old male, who came to the hospital due to rapidly progressive cognitive decline. A 1.5T brain MRI in both patients detected cortical and basal ganglia signal abnormalities with diffuse, asymmetrical features

### **Impaired perceptual discrimination of complex objects in older adults at risk for dementia**

Tau pathology accumulates in the perirhinal cortex (PRC) of the medial temporal lobe (MTL) during the earliest stages of the Alzheimer's disease (AD), appearing decades before clinical diagnosis. Here, we leveraged perceptual discrimination tasks that target PRC function to detect subtle cognitive impairment even in nominally healthy older adults

### **Combined effects of mild hypothermia and nitrous-oxide-induced narcosis on manual and cognitive performance**

Divers are at enhanced risk of suffering from acute cognitive deteriorations, due to the low ambient temperatures, and the narcotic action of inert gases inspired at high pressures. Yet, the behavioral effects of cold and inert-gas narcosis have commonly been assessed in isolation, and during short-term provocations

### **Discrimination of Frailty Phenotype by Kinect<sup>TM</sup>-Based Stepping Parameters**

**CONCLUSIONS:** Stepping parameters evaluated using Kinect<sup>TM</sup> provided acceptable ability in identifying frailty phenotype, making it a practical screening tool in primary care and home settings.

### **Protocol of the MOVI-ageing randomized controlled trial: a home-based e-Health intervention of cognitively demanding exercise for the improvement of cardiorespiratory fitness and cognitive function in older individuals**

**OBJECTIVE:** To describe the protocol of the MOVI-ageing randomized controlled trial, a home-based eHealth intervention of cognitive-demanding exercise for older adults, in improving global cognitive function and basic cognitive functions, cardiorespiratory fitness, and muscle fitness.

### **Risk factors, preventive interventions, overlapping symptoms, and clinical measures of delirium in elderly patients**

Delirium is an acute reversible neuropsychiatric syndrome caused by multiple factors. It is associated with many adverse clinical outcomes including cognitive impairment, functional decline, prolonged hospitalization, and increased nursing service. The prevalence of delirium was high in department of cardiology, geriatric, and intensive care unit of hospital

### **Diagnostic and prognostic implications of non-high-density lipoprotein cholesterol and homocysteine levels for cognitive impairment in thalamic infarction**

**CONCLUSION:** Non-HDL-C and Hcy levels are positively correlated with cognitive impairment in patients with thalamic infarction. Non-HDL-C and Hcy levels can be used in the diagnosis of cognitive impairment in patients with thalamic infarction, and the combined detection effect is better

### Undersampling and cumulative class re-decision methods to improve detection of agitation in people with dementia

Agitation is one of the most prevalent symptoms in people with dementia (PwD) that can place themselves and the caregiver's safety at risk. Developing objective agitation detection approaches is important to support health and safety of PwD living in a residential setting

### PKC $\epsilon$ activator protects hippocampal microvascular disruption and memory defect in 3 $\times$ Tg-Alzheimer's disease mice with cerebral microinfarcts

CONCLUSION: In conclusion, in 3 $\times$ Tg mice with cerebral microinfarcts, sustained hypoxia (increased HIF-1 $\alpha$  and VEGF signals) is dominant with arteriolar wall thickening, and DCPLA has a protective effect on sustained hypoxia.

### Different impulse control disorder evolution patterns and white matter microstructural damage in the progression of Parkinson's disease

CONCLUSION: Four early ICD evolution patterns are identified in de novo PD, with different prognoses and brain white matter microstructural damage patterns, and they may predict motor progression and cognitive decline in PD patients.

### A systematic review of cognitive behavioral therapy-based interventions for comorbid chronic pain and clinically relevant psychological distress

CONCLUSION: The available evidence suggests that traditional Cognitive Behavioral Therapy may produce significant benefits for the improvement of depression, anxiety, and quality of life, but not for pain intensity and pain catastrophizing. More evidence is needed to determine the effects of MBI, ACT, and BATD.

### Angiotensin-II drives changes in microglia-vascular interactions in rats with heart failure

Activation of microglia, the resident immune cells of the central nervous system, leading to the subsequent release of pro-inflammatory cytokines, has been linked to cardiac remodeling, autonomic disbalance, and cognitive deficits in heart failure (HF)

### Age, Sex and Alzheimer's disease: A longitudinal study of 3 $\times$ Tg-AD mice reveals sex-specific disease trajectories and inflammatory responses mirrored in postmortem brains from Alzheimer's patients

CONCLUSIONS: Our data demonstrate that chronic inflammation and complement activation are associated with increased mortality, revealing that age-related changes in immune response act as a primary driver of sex differences in Alzheimer's disease trajectories

### Phosphorylation regulates tau's phase separation behavior and interactions with chromatin

Tau is a microtubule-associated protein often found in neurofibrillary tangles (NFTs) in the brains of patients with Alzheimer's disease (AD). Beyond this context, mounting evidence suggests that tau localizes into the nucleus, where it may play a role in DNA protection and heterochromatin regulation

### Progressive lifespan modifications in the corpus callosum following a single juvenile concussion in male mice monitored by diffusion MRI

CONCLUSION: For the first time, we demonstrate progressive perturbations to WM of male mice after a single juvenile concussion across the mouse lifespan. The CC alterations were dependent on concussion severity with elevated sensitivity in the anterior CC that was related to astrocyte and microglial morphology

### Within-subject changes in methylome profile identify individual signatures of early-life adversity, with a potential to predict neuropsychiatric outcome

BACKGROUND: Adverse early-life experiences (ELA), including poverty, trauma and neglect, affect a majority of the world's children. Whereas the impact of ELA on cognitive and emotional health throughout the lifespan is well-established, it is not clear how distinct types of ELA influence child development, and there are no tools to predict for an individual child their vulnerability or resilience

### Fluoride - a scoping review for Nordic Nutrition Recommendations 2023

Fluoride has a well-documented role in the prevention and treatment of dental caries, but the mechanism is attributed to local effects on the tooth enamel surface rather than systemic effects. Fluoride is not considered essential for humans, no deficiencies are known, and no optimal range, which will not result in moderate fluorosis in some individuals, can be set

### Mississippi church leaders' perceptions of challenges and barriers to the use of consumer wearables among community members

CONCLUSION: More expansive adoption of wearable devices in Mississippi will depend on the ability of the public health professionals, policy-makers and manufacturers to address the barriers that were identified by this study, thereby enabling the community to have full access to the potential benefits of these technologies.

### Exploring dietary approaches in the prevention and management of Amyotrophic Lateral Sclerosis: A literature review

Amyotrophic lateral sclerosis (ALS) is a fatal and complex neurodegenerative disease of upper and lower motor neurons of the central nervous system. The pathogenesis of this multifaceted disease is unknown. However, diet has emerged as a modifiable risk factor that has neuroprotective effects towards other neurological disorders such as Alzheimer's, Parkinson's and dementia

### TSP-GNN: a novel neuropsychiatric disorder classification framework based on task-specific prior knowledge and graph neural network

Neuropsychiatric disorder (ND) is often accompanied by abnormal functional connectivity (FC) patterns in specific task contexts. The distinctive task-specific FC patterns can provide valuable features for ND classification models using deep learning. However, most previous studies rely solely on the whole-brain FC matrix without considering the prior knowledge of task-specific FC patterns

### Link between metacognition and social cognition in schizophrenia: a systematic review and meta-analysis

CONCLUSION: Despite discrepancies among the included studies, no publication bias was detected. The results suggest that metacognition and social cognition are distinct but related constructs. Those processes should be assessed and treated together, along with neurocognition, in schizophrenia.

### A hybrid computational approach to anticipate individuals in sequential problem solving

Human-awareness is an ever more important requirement for AI systems that are designed to assist humans with daily physical interactions and problem solving. This is especially true for patients that need support to stay as independent as possible

### Participant completion of longitudinal assessments in an online cognitive aging registry: The role of medical conditions

INTRODUCTION: This study aimed to understand whether older adults' longitudinal completion of assessments in an online Alzheimer's disease and related dementias (ADRD)-related registry is influenced by self-reported medical conditions.

### The Comorbidity of Patient-Reported Crohn's Disease Activity and Depression: The Role of Health Behavior Mediators

CONCLUSIONS: Smoking and lower levels of physical activity are potential mediators of the unidirectional association between a nonsomatic symptom of depression—a negative view of the self—and patient-reported CD activity. Evaluating and treating specific symptoms of depression may reduce the frequency of CD exacerbations.

### Validity and reliability of the persian version of the modified telephone interview for cognitive status among community-dwelling older adults in Iran

CONCLUSION: The development and validation of a P-TICS-M tool can be useful in identifying older adult people with cognitive impairment. Demographic characteristics (level of education, age) can also affect the cutoff point of this tool.

### Allopregnanalone pleiotropic action in neurons and astrocytes: calcium signaling as a unifying mechanism

CONCLUSION: Collectively, the cellular, mitochondrial, transcriptional, and pharmacological profiles provide evidence in support of calcium signaling as a unifying mechanism for Allo pleiotropic actions in the brain.

### The effect of a music-based caregiving intervention on pain intensity in nursing home patients with dementia. A cluster-randomized controlled study

Treatment of chronic pain in patients with dementia is challenging because they have reduced ability to report pain and are particularly vulnerable to side effects of analgesics. Different types of music-based therapy have been recommended and are used as an alternative to analgesics, but the evidence is lacking

### Alzheimer, Parkinson, dementia, and phytochemicals: insight review

Alzheimer's, Parkinson's, and dementia are the leading neurodegenerative diseases that threaten the world with the aging population. Although the pathophysiology of each disease is unique, the steps to be taken to prevent diseases are similar. One of the changes that a person can make alone is to gain the habit of an antioxidant-rich diet

### Age and Type of Task-Based Impact of Mental Fatigue on Balance: Systematic Review and Meta-Analysis

The role of cognition in balance control suggests that mental fatigue may negatively affect balance. However, cognitive involvement in balance control varies with the type or difficulty of the balance task and age. Steady-state balance tasks, such as quiet standing, are well-learned tasks executed automatically through reflex activities controlled by the brainstem and spinal cord

### Momentary skills use predicts decreased binge eating and purging early in day treatment: An ecological momentary assessment study

OBJECTIVE: Emerging research indicates that skills acquisition may be important to behavior change in cognitive behavior therapy (CBT) for eating disorders. This study

investigated whether skills use assessed in real time during the initial 4 weeks of CBT-based day treatment was associated with momentary eating disorder behavior change and rapid response to treatment.

### The association of cumulative vasoactive drugs and neurodevelopmental outcomes in preterm Infants <29 weeks gestation

CONCLUSION: High VISct scores may have negative effect on cognitive and language neurodevelopmental outcomes.

### Programme Dementia Prevention (pdp): A Nationwide Program for Personalized Prevention in Luxembourg

CONCLUSIONS: We provide evidence supporting the feasibility of implementing a nationwide dementia prevention program and achieving successful recruitment of the target population by establishing a network of different healthcare providers.

### The Oxytocin Puzzle: Unlocking Alzheimer's Disease

Alzheimer's disease is a multi-factorial disease that disrupts many aspects of human behavior. In this comment, we highlight the work by Koulousakis et al. published in a recent issue of the Journal of Alzheimer's Disease

### Causal Association Between Sepsis and Neurodegenerative Diseases: A Bidirectional Two-Sample Mendelian Randomization Study

CONCLUSIONS: The present study contributes to a deeper comprehension of the intricate interplay between sepsis and neurodegenerative disorders, thereby offering potential avenues for the development of therapeutic agents that can effectively mitigate the multifarious complications associated with sepsis.

### Alpha-Synuclein Pre-Formed Fibrils Injected into Prefrontal Cortex Primarily Spread to Cortical and Subcortical Structures

CONCLUSIONS: This model of cortical-dominant pathology aids in our understanding of how local  $\alpha$ -syn aggregation might impact some symptoms in PDD and DLB.

### Cognition and depression in older people with diabetes

Cognitive dysfunction, dementia and depression are typical comorbidities of diabetes and are more common in older people with diabetes than in the general population. Both comorbid diseases have a substantial impact on the therapy of diabetes and lead to a reduction of the functional level in everyday life, the quality of life and are associated with increased mortality

### Revisiting Associations Among Parent and Adolescent Religiosity and Early Adolescent Suicide Risk in the United States

The contributions of religion to reduced suicide risk have been studied in adults and adolescents, though to our knowledge no comprehensive investigation has been conducted in early adolescents, at a time coinciding with emergence of suicide risk trajectories

### The therapeutic potential of dietary intervention: based on the mechanism of a tryptophan derivative-indole propionic acid on metabolic disorders

Tryptophan (TRP) contributes to individual immune homeostasis and good condition via three complex metabolism pathways (5-hydroxytryptamine (5-HT), kynurenine (KP), and gut

microbiota pathway). Indole propionic acid (IPA), one of the TRP derivatives of the microbiota pathway, has raised more attention because of its impact on metabolic disorders

### Danish translation and cultural adaptation of the Psoriatic arthritis UnclutteRed screening Evaluation (PURE-4) scale

CONCLUSIONS: A Danish version of the PURE-4 questionnaire was produced. The translation and cultural adaptation of PURE-4 constitute the first step in the validation of the questionnaire in Danish patients with psoriasis.

### Potential diagnostic markers and therapeutic targets for periodontitis and Alzheimer's disease based on bioinformatics analysis

CONCLUSION: This study reveals commonalities in common hub genes and immune infiltration between periodontitis and AD, and the analysis of six hub genes and immune cells may provide new insights into potential therapeutic directions for the pathogenesis of periodontitis complicated by AD.

### Vitamin B12 supplementation during pregnancy for maternal and child health outcomes

BACKGROUND: Vitamin B(12) deficiency is a major public health problem worldwide, with the highest burden in elderly people, pregnant women, and young children. Due to its role in DNA synthesis and methylation, folate metabolism, and erythropoiesis, vitamin B(12) supplementation during pregnancy may confer longer-term benefits to maternal and child health outcomes.

### Has COVID-19 really affected the physical and mental health of university students? One-year follow-up results after the pandemic declaration

BACKGROUND: The COVID-19 pandemic affected the whole world and various isolation measures were applied during this period. One of the groups that were physically and mentally affected by this period was students.

### Equilibrium of Dietary Patterns Between Alzheimer's Disease Patients and Healthy People: A Comprehensive Analysis Using Multiple Factor Analysis and Classification Modeling

CONCLUSIONS: The findings from MFA indicated that the diversity or equilibrium of daily diet might play a potential role in AD development. RF and SLR classifications exhibit among the processed foods, especially deli meats and food made with meat items, are associated with AD.

### Diagnosis Framework for Probable Alzheimer's Disease and Mild Cognitive Impairment Based on Multi-Dimensional Emotion Features

CONCLUSIONS: Our method demonstrated an excellent predictive power to differentiate HC/MCI/AD by fusion of multiple emotion features. The proposed model provides a cost-effective and automated method that can assist in detecting probable AD and MCI from normal aging.

### Rethinking Dementia Risk Prediction: A Critical Evaluation of a Multimodal Machine Learning Predictive Model

A recent study by Ding et al. explores the integration of artificial intelligence (AI) in predicting dementia risk over a 10-year period using a multimodal approach. While revealing the potential of machine learning models in identifying high-risk individuals through neuropsychological testing, MRI imaging, and clinical risk factors, the imperative of dynamic frailty assessment emerges for

### Validation of the "Perceptions Regarding pRE-Symptomatic Alzheimer's Disease Screening" (PRE-ADS) Questionnaire in the German Population: Attitudes, Motivations, and Barriers to Pre-Symptomatic Dementia Screening

CONCLUSIONS: The PRE-ADS-D is a reliable and valid tool to measure attitudes, motives, and barriers regarding pre-symptomatic dementia screening in the German-speaking general population. Additionally, the subscale "Acceptability of Screening" demonstrated good construct validity and reliability, suggesting its promising potential as a practical tool in clinical practice.

### Safe discontinuation of psychotropic drugs in older people? : New evidence and practical approach

CONCLUSION: Safe deprescribing of antipsychotic drugs in patients with dementia is justified if non-pharmacological treatment options are sustainably implemented, and for sedative drugs in well-informed, highly motivated and cooperative patients.

### Moving from supported to independent living: what are the barriers and facilitators for individuals with psychosis?

CONCLUSION: This study highlights that a large group of individuals with psychosis in supported housing is unlikely to move to independent living. Older men with cognitive impairments and who show continuous severe positive symptoms are the least likely to move living independently. Tailored interventions for these at-risk individuals could increase their chances of moving to independent living.

### Understanding the relationship between type-2 diabetes, MRI markers of neurodegeneration and small vessel disease, and dementia risk: a mediation analysis

To explore to which extent neurodegeneration and cerebral small vessel disease (SVD) could mediate the association between type-2 diabetes and higher dementia risk. The analytical sample consisted in 2228 participants, out of the Three-City study, aged 65 and older, free of dementia at baseline who underwent brain MRI

### Integrative Analysis of the Age-Related Dysregulated Genes Reveals an Inflammation and Immunity-Associated Regulatory Network in Alzheimer's Disease

Alzheimer's disease (AD) is a neurodegenerative disease with a long incubation period. While extensive research has led to the construction of long non-coding RNA (lncRNA)-associated competing endogenous RNA (ceRNA) regulatory networks, which primarily derived from differential analyses between clinical AD patients and control individuals or mice, there remains a critical knowledge gap pertaining

### Reading the mind in the eyes in patients with idiopathic REM sleep behavior disorder

CONCLUSIONS: The changes in RME had a relationship with cognitive impairments, especially memory, in patients with iRBD.

### Cognitive reactivity as a risk factor for non-suicidal self-injury in young adults

CONCLUSION: In sum, results demonstrated significant but unique effects of affective and cognitive reactivity to stress on NSSI.

### Long-term cognitive outcome after elective hip or knee total joint arthroplasty: A population-based observational study

CONCLUSION: There is no systematic accelerated memory decline at 3 years after TJA compared with surgical or nonsurgical controls.

## Ovarian Insufficiency: Clinical Spectrum and Management Challenges

The term "ovarian insufficiency" describes the decline of ovarian function resulting in fertility loss and the marked decrease of ovarian steroid hormone production. From a clinical standpoint, ovarian insufficiency presents in three different settings. The first is natural menopause at midlife occurring at the average age of 51 years

## First-in-Class Selenium-Containing Potent Serotonin Receptor 5-HT<sub>6</sub> Agents with a Beneficial Neuroprotective Profile against Alzheimer's Disease

Alzheimer's disease (AD) has a complex and not-fully-understood etiology. Recently, the serotonin receptor 5-HT<sub>6</sub> emerged as a promising target for AD treatment; thus, here a new series of 5-HT<sub>6</sub>R ligands with a 1,3,5-triazine core and selenoether linkers was explored

## Caring burden and quality of life among the caregivers of people living with dementia - a cross-sectional study in Udupi district of Karnataka

Dementia is a chronic disorder of the brain that affects cognitive performance. The caregivers of individuals with dementia experience a greater burden that affects their Quality of Life (QoL). This cross-sectional study conducted in India was designed to assess the caring burden and QoL among the caregivers of people with dementia, as well as to ascertain the relationship between QoL scores and

## Nanotechnology in the diagnostic and therapy for Alzheimer's disease

Alzheimer's disease (AD) is a neurodegenerative disorder primarily characterized by  $\beta$ -amyloid plaque, intraneuronal tangles, significant neuronal loss and cognitive deficit. Treatment in the early stages of the disease is crucial for preventing or perhaps reversing the neurodegeneration in the AD cases. However, none of the current diagnostic procedures are capable of early diagnosis of AD

## Fluoxetine alters rat's milk properties causing impact on offspring's development

Fluoxetine is an antidepressant used to treat several conditions including postpartum depression. This disease causes cognitive, emotional, behavioral and physical changes, negatively affecting the mother, child and family life

## Transition of patients with recently diagnosed Dementia from inpatient to outpatient setting- a scoping review

INTRODUCTION: After being diagnosed with dementia, patients need a medical professional to empathetically address their fears and get initial questions answered. This scoping review therefore addresses how patients newly diagnosed with dementia are cared for in the general practitioner (GP) setting and how the communication between different healthcare professionals and the GP is handled.

## Social support and cognitive activity and their associations with incident cognitive impairment in cognitively normal older adults

CONCLUSION: The results of this nationwide cohort provide consistent evidence linking social support, and cognitive activity to reduced risk of subsequent cognitive impairment incidence. These findings provide additional evidence to inform the social strategies to prevent cognitive impairment incidence in elderly people.



### Sex-dependent effect of sublethal copper concentrations on de novo cholesterol synthesis in astrocytes and their possible links to variations in cholesterol and amyloid precursor protein levels in neuronal membranes

CONCLUSIONS: Our findings confirm that Cu stimulates Cho synthesis in astrocytes, both in a ROS-dependent and -independent manner. Moreover, female astrocytes displayed elevated levels of HMGCR, and de novo Cho synthesis compared to males following TBH and Cu treatments

### Normalized affective responsiveness following deep brain stimulation of the medial forebrain bundle in depression

Deep brain stimulation (DBS) of the supero-lateral medial forebrain bundle (sIMFB) is associated with rapid and sustained antidepressant effects in treatment-resistant depression (TRD). Beyond that, improvements in social functioning have been reported. However, it is unclear whether social skills, the basis of successful social functioning, are systematically altered following sIMFB DBS

### Integrative Multi-omics Analysis to Characterize Herpes Virus Infection Increases the Risk of Alzheimer's Disease

Evidence suggests that herpes virus infection is associated with an increased risk of Alzheimer's disease (AD), and innate and adaptive immunity plays an important role in the association. Although there have been many studies, the mechanism of the association is still unclear

### Cell type-specific roles of APOE4 in Alzheimer disease

The  $\epsilon 4$  allele of the apolipoprotein E gene (APOE), which translates to the APOE4 isoform, is the strongest genetic risk factor for late-onset Alzheimer disease (AD). Within the CNS, APOE is produced by a variety of cell types under different conditions, posing a challenge for studying its roles in AD pathogenesis

### The challenge of a mature final diagnosis of hearing loss severity and early cochlear implantation

CONCLUSION: Although early CI may yield better auditory performance, the final diagnosis should be made only after repeated subjective and objective measurements as well as family feedback on the child's auditory performance, especially in preterm children

### Efficacy of dual-task augmented reality rehabilitation in non-hospitalized adults with self-reported long COVID fatigue and cognitive impairment: a pilot study

CONCLUSION: The preliminary results from this study suggest that dual-task rehabilitation could be a feasible protocol to support cognitive symptoms recovery after COVID-19 and could be helpful in those individuals suffering from persisting and invalidating symptoms.

### Sex difference in the association between BMI and cognitive impairment in Chinese older adults

CONCLUSION: A U-shaped relationship was observed between BMI and CI in older adults, more pronounced in the male population, suggesting that male older adults may need to manage their BMI more rigorously.

### Meeting 24-h movement behavior guidelines is linked to academic engagement, psychological functioning, and cognitive difficulties in youth with internalizing problems

**CONCLUSION:** Meeting 24-HMB guidelines in an isolated or integrative manner was associated with improved academic engagement, psychological functioning, and reduced cognitive difficulties. These findings highlight the importance of the promotion of 24-HMB guidelines in youth with internalizing problems

### The plasma derived exosomal miRNA-483-5p/502-5p serve as potential MCI biomarkers in aging

Alzheimer's disease (AD) is the leading cause of dementia and is rapidly becoming one of the most costly, fatal diseases, which is typically discovered in the late stage of molecular pathology, at which point medication intervention is irreversible

### Comparing analog and digital neurocognitive tests with older adults: a study of the ISPOCD battery vs. a digital test battery from Mindmore

**CONCLUSIONS:** The digital test battery developed by Mindmore offers several advantages, including rapid access to test results, easy comprehension, and use for participants, thereby increased accessibility of cognitive screening.

### Understanding health care pathways of patients with sepsis: protocol of a mixed-methods analysis of health care utilization, experiences, and needs of patients with and after sepsis

**BACKGROUND:** Sepsis is associated with about 20% of deaths worldwide. It often presents with non-specific initial symptoms, making its emergency treatment an interdisciplinary and cross-sectoral challenge. Three in four sepsis survivors suffers from new cognitive, psychological, or physical sequelae for which specific treatment concepts are scarce

### Iron and risk of dementia: Mendelian randomisation analysis in UK Biobank

**BACKGROUND:** Brain iron deposition is common in dementia, but whether serum iron is a causal risk factor is unknown. We aimed to determine whether genetic predisposition to higher serum iron status biomarkers increased risk of dementia and atrophy of grey matter.

### The magnitude and variability of neurocognitive performance in first-episode psychosis: a systematic review and meta-analysis of longitudinal studies

Neurocognitive deficits are a core feature of psychotic disorders, but it is unclear whether they affect all individuals uniformly. The aim of this systematic review and meta-analysis was to synthesize the evidence on the magnitude, progression, and variability of neurocognitive functioning in individuals with first-episode psychosis (FEP)

### Rescue of ApoE4-related lysosomal autophagic failure in Alzheimer's disease by targeted small molecules

Homozygosity for the  $\epsilon 4$  allele of APOE increases the odds of developing Alzheimer's by 12 to 15 times relative to the most common  $\epsilon 3;\epsilon 3$  genotype, and its association with higher plaque loads comports with evidence that APOE $\epsilon 4$  compromises autophagy. The ApoE4 protein specifically binds a cis element ("CLEAR") in the promoters of several autophagy genes to block their transcription

### Exploring the Combined Effect of Exercise and Apigenin on Aluminium-Induced Neurotoxicity in Zebrafish

Aluminium (AL) is a strong environmental neurotoxin linked to neurodegenerative disorders. Widespread industrial use leads to its presence in water systems, causing bioaccumulation in organisms. This, in turn, results in the bioaccumulation of AL in various organisms. Several studies have highlighted the benefits of enhanced physical activity in combating neurodegenerative diseases

## Data-driven modelling of neurodegenerative disease progression: thinking outside the black box

Data-driven disease progression models are an emerging set of computational tools that reconstruct disease timelines for long-term chronic diseases, providing unique insights into disease processes and their underlying mechanisms

## Protocol for the STEADY intervention for type 1 diabetes and disordered eating: Safe management of people with Type 1 diabetes and EATING Disorders studY

This paper describes the protocol to test the feasibility of the Safe management of people with Type 1 diabetes and EATING Disorders studY (STEADY) intervention. STEADY is a novel complex intervention for people with type 1 diabetes and disordered eating (T1DE) of mild to moderate severity

## Alzheimer's disease-associated P460L variant of EphA1 dysregulates receptor activity and blood-brain barrier function

INTRODUCTION: Genome-wide association studies link susceptibility to late-onset Alzheimer's disease (LOAD) with EphA1. Sequencing identified a non-synonymous substitution P460L as a LOAD risk variant. Other Ephs regulate vascular permeability and immune cell recruitment. We hypothesized that P460L dysregulates EphA1 receptor activity and impacts neuroinflammation.

## Genome-wide association studies identify novel loci in rapidly progressive Alzheimer's disease

INTRODUCTION: Recent data suggest that distinct prion-like amyloid beta and tau strains are associated with rapidly progressive Alzheimer's disease (rpAD). The role of genetic factors in rpAD is largely unknown.

## Traffic-related air pollution and dementia incidence in the Adult Changes in Thought Study

BACKGROUND: While epidemiologic evidence links higher levels of exposure to fine particulate matter (PM<sub>2.5</sub>) to decreased cognitive function, fewer studies have investigated links with traffic-related air pollution (TRAP), and none have examined ultrafine particles (UFP,  $\leq 100$  nm) and late-life dementia incidence.

## Perivascular macrophages in cerebrovascular diseases

Cerebrovascular diseases are a major cause of stroke and dementia, both requiring long-term care. These diseases involve multiple pathophysiologies, with mitochondrial dysfunction being a crucial contributor to the initiation of inflammation, apoptosis, and oxidative stress, resulting in injuries to neurovascular units that include neuronal cell death, endothelial cell death, glial activation,

## Muscarinic receptor activation promotes destabilization and updating of object location memories in mice

The storage of long-term memories is a dynamic process. Reminder cues can destabilize previously consolidated memories, rendering them labile and modifiable. However, memories that are strongly encoded or relatively remote at the time of reactivation can resist destabilization only being rendered labile under conditions that favour memory updating

## Impulsivity across psychiatric disorders in young adults

PURPOSE: Impulsivity is a common cognitive issue across several psychiatric illnesses but is most frequently associated with the DSM-5 Disruptive, Impulse Control and Conduct

Disorders, ADHD, and addictive disorders. We hypothesized that a wide range of psychiatric disorders would be associated with elevated impulsivity, not just those commonly linked to impulsiveness

### Cognitive and psychiatric adverse events during adjunctive cenobamate treatment in phase 2 and phase 3 clinical studies

CONCLUSIONS: Cognitive and psychiatric TEAEs were reported by similar numbers of cenobamate- and placebo-treated patients during double-blind adjunctive cenobamate treatment (< 4 % of patients), and exposure-adjusted incidence rates of these TEAEs remained low during open-label cenobamate treatment for up to 7 years. Treatment discontinuations due to these TEAEs were rare

### Betaine alleviates cognitive impairment induced by homocysteine through attenuating NLRP3-mediated microglial pyroptosis in an m6A-YTHDF2-dependent manner

Dementia, with homocysteine (Hcy) as an important risk factor, is a severe public health problem in the aging society. Betaine serves as a methyl donor and plays an important role in reducing Hcy. However, the effects and mechanisms of betaine on Hcy-induced cognitive impairment remain unclear. Firstly, SD rats were injected with Hcy (400 µg/kg) through vena caudalis, and betaine (2

### Drug repurposing for neurodegenerative diseases using Zebrafish behavioral profiles

Drug repurposing can accelerate drug development while reducing the cost and risk of toxicity typically associated with de novo drug design. Several disorders lacking pharmacological solutions and exhibiting poor results in clinical trials - such as Alzheimer's disease (AD) - could benefit from a cost-effective approach to finding new therapeutics

### Human Endometrial Regenerative Cells for Neurological Disorders: Hype or Hope?

Despite enormous efforts, no effective medication has been found to significantly halt or even slow the progression of neurological diseases, such as acquired (e.g., traumatic brain injury, spinal cord injury, etc.) and chronic (e.g., Parkinson's disease, Alzheimer's disease, etc.) central nervous system disorders

### Neurodevelopmental outcomes in congenital heart disease: Usefulness of biomarkers of brain injury

CONCLUSIONS: children with a history of cardiac surgery for CHD in the first year of life are at risk of adverse neurodevelopmental outcomes. Patients with genetic syndromes, ANEs or univentricular heart had poorer outcomes. Postoperative ANEs may contribute to poorer outcomes. Elevation of S100B levels in the postoperative period was associated with poorer neurodevelopmental outcomes at 2 years

### A computational approach to analyzing the functional and structural impacts of Tripeptidyl-Peptidase 1 missense mutations in neuronal ceroid lipofuscinosis

Neuronal ceroid-lipofuscinosis (NCLs) are a group of severe neurodegenerative conditions, most likely present in infantile, late infantile, juvenile, and adult-onset forms. Their phenotypic characteristics comprise eyesight damage, reduced motor activity and cognitive function, and sometimes tend to die in the initial stage

### Development and validation of a predictive model based on clinical and MpMRI findings to reduce additional systematic prostate biopsy

**CONCLUSIONS:** The combined model based on clinical and mpMRI findings improved csPCa prediction and might be useful in making a decision about which patient could safely avoid unnecessary SB in addition to MRTB in biopsy-naïve patients.

### **The links between physical activity and prosocial behavior: an fNIRS hyperscanning study**

The prevalence of physically inactive lifestyles in modern society raises concerns about the potential association with poor brain health, particularly in the lateral prefrontal cortex, which is crucial for human prosocial behavior

### **Risk of Alzheimer's disease is associated with longitudinal changes in plasma biomarkers in the multi-ethnic Washington Heights-Hamilton Heights-Inwood Columbia Aging Project (WHICAP) cohort**

**BACKGROUND:** Alzheimer's disease (AD) biomarkers can help differentiate cognitively unimpaired (CU) individuals from mild cognitive impairment (MCI) and dementia. The role of AD biomarkers in predicting cognitive impairment and AD needs examination.

### **Activation of LXRs alleviates neuropathic pain-induced cognitive dysfunction by modulation of microglia polarization and synaptic plasticity via PI3K/AKT pathway**

**CONCLUSIONS:** LXRs activation alleviates neuropathic pain-induced cognitive impairment by modulating microglia polarization, neuroinflammation, and synaptic plasticity, at least partly via activation of PI3K/AKT signaling in the hippocampus. LXRs may be promising targets for addressing pain-related cognitive deficits.

### **Novel computerized measure of apathy associates with care partner burden and instrumental activities of daily living in Parkinson's disease**

**CONCLUSIONS:** Specific components of the PACT are related to patient and care partner outcomes in PD. The main advantage of this measure is to minimize the confounds of poor insight and care partner distress. We propose future research directions to refine the PACT for potential use in research and clinical practice.

### **Effectiveness of CBT for reducing depression and anxiety in people with epilepsy: A systematic review and meta-analysis of randomized controlled trials**

**CONCLUSION:** The result of our study showed that Cognitive behavioral therapy is a superior therapy for treating anxiety and depression in epilepsy patients. CBT was effective in improving Quality of life in patients with epilepsy. However, the sample size varied across the trials, additional high-quality studies are needed in the future.

### **Prevalence and associated factors of cerebral microbleeds in a rural population of the United States**

**CONCLUSIONS:** CMBs were prevalent in our white population. Old age, hypertension, anticoagulant treatment, thrombocytopenia, and a history of vascular diseases including stroke, were associated with CMBs.

### **Pilot testing implementation of the pain management clinical practice guideline in nursing homes**

Pain is a common symptom for older adults living with dementia in nursing homes. Unfortunately, there are many challenges to pain assessment, diagnosis and management for these individuals. The purpose of this study was to pilot test the implementation of the newly published Pain Management Clinical Practice Guideline from AMDA: The Society of Post Acute and Long-Term Care using our theoretically

## Neurologic Complications in Adult Cancer Survivorship

Over the past decade, the improvement in cancer diagnostics and therapeutics has extended the overall survival of patients diagnosed with cancer including brain cancer. However, despite these unprecedented medical successes, patients continue to experience numerous neurologic complications after treatment that interfere with their independence, functionality, and overall quality of life

## Global, regional, and national burden of HIV and other sexually transmitted infections in older adults aged 60-89 years from 1990 to 2019: results from the Global Burden of Disease Study 2019

BACKGROUND: Sexually active older adults are often more susceptible to HIV and other sexually transmitted infections (STIs) due to various health conditions (especially a weakened immune system) and low use of condoms. We aimed to assess the global, regional, and national burdens and trends of HIV and other STIs in older adults from 1990 to 2019.

## Alterations in Alzheimer's disease microglia transcriptome might be involved in bone pathophysiology

Aging is a major risk factor for multiple chronic disorders in the elderly population, including Alzheimer's disease (AD) and Osteoporosis. AD is a progressive neurodegenerative disease characterized by memory loss. In addition to dementia, several studies have shown that AD patients experience an increased rate of musculoskeletal co-morbidities, such as osteoporosis

## Chronic Hyponatremia and Brain Structure and Function Before and After Treatment

CONCLUSIONS: Resolution of hyponatremia was associated with improved cognition and reductions in brain volumes and neuronal activity. Impaired cognition during hyponatremia is closely linked to increased neuronal activity rather than to tissue volumes. Furthermore, the hippocampus appears to be particularly susceptible to hyponatremia, exhibiting pronounced changes in tissue volume.

## Unraveling how the adolescent brain deals with criticism using Dynamic Causal Modeling

Sensitivity to criticism, which can be defined as a negative evaluation that a person receives from someone else, is considered a risk factor for the development of psychiatric disorders in adolescents. They may be more vulnerable to social evaluation than adults and exhibit more inadequate emotion regulation strategies such as rumination

## Realist synthesis protocol on the effectiveness of a rapid response system in managing mental state deterioration in acute hospital settings

INTRODUCTION: Patient mental state deterioration impacts patient outcomes, staff and increases costs for healthcare organisations. Mental state is broadly defined to include not only mental health but a broad range of cognitive, emotional and psychological well-being factors. Mental state deterioration is inconsistently identified and managed within acute and tertiary medical settings

## Robot assisted Fetoscopic Laser Coagulation: Improvements in navigation, re-location and coagulation

Fetoscopic Laser Coagulation (FLC) for Twin to Twin Transfusion Syndrome is a challenging intervention due to the working conditions: low quality images acquired from a 3

mm fetoscope inside a turbid liquid environment, local view of the placental surface, unstable surgical field and delicate tissue layers

### Severe CNS involvement in a subset of long-term treated children with infantile-onset Pompe disease

INTRODUCTION: The standard of care for patients with infantile-onset Pompe disease (IOPD) is enzyme replacement therapy (ERT), which does not cross the blood brain barrier. While neuromuscular manifestations of IOPD are well-described, central nervous system (CNS) manifestations of this disorder are far less characterized

### Ocular biomarkers of cognitive decline based on deep-learning retinal vessel segmentation

CONCLUSIONS: Establishment of a predictive model based on the extraction of vascular features from fundus images has a high recognizability and predictive power for cognitive function and can be used as a screening method for CI.

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## Living well with dementia

### Associations between resting heart rate and cognitive decline in Chinese oldest old individuals: a longitudinal cohort study

CONCLUSIONS: Our study demonstrates RHR more than 70 bpm present significant risk effect on cognitive decline, and this relationship is modified by PA. Elder population with physical inactivity and higher RHR should be paid more attention to prevent cognitive decline.

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## Mental health and ageing

### The use of technology to address loneliness and social isolation among older adults: the role of social care providers

CONCLUSIONS: Technology was employed in a variety of ways during the pandemic to address loneliness and social isolation among older adults; many service providers continue to use technology in a hybrid system of care now that pandemic-related social restrictions have been lifted

### Clinical characteristics and outcomes of COVID-19 patients with preexisting dementia: a large multicenter propensity-matched Brazilian cohort study

CONCLUSION: Clinical manifestations of COVID-19 differ between older inpatients with and without dementia. We observed that dementia alone could not explain the higher short-term mortality following severe COVID-19

### Physical activity and health-related quality of life in older adults: depression as a mediator

**CONCLUSIONS:** This study suggested that leisure-time, household, and work-related PA were negatively associated with depression, while positively affecting HRQoL in Chinese older adults. The relationships between different types and intensities of PA and HRQoL were mediated by depression. Interventions aimed at promoting purposeful exercise and different types of PA may have mental health benefits

#### Why did middle-aged and older people retire since the first COVID-19 lockdown? A qualitative study of participants from the Health and Employment After Fifty study

**CONCLUSIONS:** The decision to retire during the pandemic was multi-factorial although changes to work during lockdown were of great importance. Post-pandemic, our findings suggest that there are modifiable aspects of work, including appreciation and fair pay and work conditions, that employers and policy makers could encourage to retain their older workers.

#### The use of youth healthcare services and its association with health-related quality of life, physical and mental health and over-the-counter analgesics use in 13-19-year-old adolescents: a cross-sectional study

**CONCLUSIONS:** Our results show that more girls than boys use youth healthcare services. When adolescents experience pain, have mental problems, use OTCA, or report low levels of HRQoL, they have greater odds of using youth healthcare services. Youth healthcare services offer excellent opportunities to support and follow up with adolescents

#### Improving quality of life in the elderly: hearing loss treatment with cochlear implants

**CONCLUSIONS:** Better hearing improved individuals' quality of life, ability to communicate verbally and their ability to function independently. They felt less lonely and less handicapped by their hearing loss. Benefits were independent of age group. Cochlear implants should be considered as a routine treatment option for those over 60 years with bilateral severe to profound hearing loss.

#### Exploring discrimination, social acceptance, and its impact on the psychological well-being of older men who have sex with men: A cross-sectional study

**CONCLUSIONS:** The study highlights the impact of discrimination and social acceptance on the psychological well-being of older MSM. The findings suggest that interventions aimed at reducing discrimination and promoting social acceptance may improve the psychological well-being of older MSM

#### Factors influencing psychological concerns about COVID-19 in South Korea: direct and indirect damage during the early stages of pandemic

**CONCLUSION:** The prevalence of concerns regarding direct and indirect damage caused by the COVID-19 pandemic differed according to population characteristics. Some factors had a marked influence on direct and indirect concerns. Our findings could inform psychological interventions and policies for future pandemics

#### "What if I get sick, where shall I go?": a qualitative investigation of healthcare engagement among young gay and bisexual men in Nairobi, Kenya

**CONCLUSION:** During engagement with healthcare, YMSM experience various barriers that may cause them to postpone or avoid seeking care hence resulting in poor health outcomes. There is need to equip HCPs with knowledge, skills and cultural competencies to enable them offer equitable services to YMSM



### Translation and validation of the audiovisual version of the Montreal cognitive assessment in older adults in Brazil

CONCLUSIONS: The translated audiovisual MoCA is a valid and reliable cognitive screening test that can be administered remotely in older adults in Brazil. The test demonstrated a great ability to discriminate older adults with MCI from cognitively healthy adults

### The moderating effect of mental health and health insurance ownership on the relationships between physical multimorbidity and healthcare utilisation and catastrophic health expenditure in India

CONCLUSIONS: The coexistence of mental health conditions in people with physical multimorbidity increases the demands of healthcare service utilisation and can lead to CHE. The findings point to the need for multidisciplinary interventions for individuals with physical multimorbidity, ensuring their mental health needs are also addressed

### Survival analysis of older adults with dementia: predicting factors after unplanned hospitalization in Maharaj Nakorn Chiang Mai Hospital

CONCLUSIONS: We identified several notable predictors of mortality. Healthcare providers can use the findings of this study to identify patients who may be at higher risk of mortality and develop targeted interventions which may improve patient outcomes.

### Frail older people with decreased cognition can perceive reduced self-determination in self-care and social relationships

CONCLUSION: Perceiving self-determination when being old, frail and having decreased cognition is possible but is dependent upon which activities that are involved. Organizing healthcare needs according to the older people's wants and wishes is crucial regardless of people having a cognitive decline or not when the effort is to enable the people to be as self-determined as they want

### Cognitive function and its associated factors among patients with cancer pain: a multicentre cross-sectional study in China

CONCLUSIONS: CI associated with CP is notably prevalent in China. Those older, with a smoking history, inadequate sleep, more severe pain, depression and anxiety, have a heightened risk of CI. Consequently, interventions need to be personalised, addressing these key determinants.

### Association between social integration and loneliness among the female migrant older adults with children: the mediating effect of social support

CONCLUSION: The female MOAC's loneliness was at a relatively lower level in this study. It was found that social integration was negatively associated with loneliness, and social support mediated the relationship between them. Helping female MOAC integrate into the inflow city and improving their social support could be beneficial for alleviating their loneliness.

### Factors related to quality of life in community-dwelling adults in Sleman Regency, Special Region of Yogyakarta, Indonesia: Results from a cross-sectional study

CONCLUSION: The QoL of community-dwelling adults in Indonesia is associated with activities of daily living and instrumental activities of daily living, as well as the absence of chronic disease and depression. Efforts should be made to prevent chronic disease and

delay functional decline through healthy lifestyles and routine physical and mental health screenings.

### Analysis of clinical factors associated with Kampo formula-induced pseudoaldosteronism based on self-reported information from the Japanese Adverse Drug Event Report database

Drug-induced pseudoaldosteronism is a typical adverse effect of Kampo formulas. Previous research described the potential risks of Kampo formula-linked pseudoaldosteronism. However, few studies assessed the risk factors using a real-world database and a data-mining approach

### Developing, implementing, and evaluating the visiting Neighbors' program in rural Appalachia: A quality improvement protocol

INTRODUCTION: Older adults living alone in rural areas frequently experience health declines, social isolation, and limited access to services. To address these challenges, our medical academic university supported a quality improvement project for developing and evaluating the Visiting Neighbors program in two rural Appalachian counties

### Acoustic stimulation during sleep predicts long-lasting increases in memory performance and beneficial amyloid response in older adults

BACKGROUND: Sleep and neurodegeneration are assumed to be locked in a bi-directional vicious cycle. Improving sleep could break this cycle and help to prevent neurodegeneration. We tested multi-night phase-locked acoustic stimulation (PLAS) during slow wave sleep (SWS) as a non-invasive method to improve SWS, memory performance and plasma amyloid levels.

### Social deprivation and exclusion in Parkinson's disease: a cross-sectional and longitudinal study

CONCLUSIONS: For the treatment of PD, we should consider the impact of social deprivation and exclusion on QoL and their association with mental and physical functioning. However, the relevance of social deprivation as a prodromal phenomenon requires further investigation.

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## Physical activity and ageing

### The combination of physical activity with fruit and vegetable intake associated with life satisfaction among middle-aged and older adults: a 16-year population-based cohort study

CONCLUSIONS: Our findings show the significant combined association of PA and F&V intake on LS among older adults. In addition, older adults who engaged in higher frequency, duration, and intensity of daily PA combined more than seven times a week of F&V intake had significantly higher LS than those who only engaged in low PA or only intake less F&V

### Lifestyle patterns, nutritional, and metabolic syndrome determinants in a sample of the older Iranian population

**CONCLUSION:** The results of our study indicated two distinct classes within the patients. In class I, aging patients with MetS exhibited characteristics such as engagement in physical activity and having a traditional pattern for diet

### Community ambulation in older adults and people with OA - a model verification using Canadian Longitudinal Study on Aging (CLSA) data

**CONCLUSIONS:** The community ambulation model post-stroke was verified with adults aged 65+ and for those with OA. The models of community ambulation can be used to frame and conceptualize community ambulation research and clinical interventions.

### Association between timed up-and-go test and subsequent pneumonia: A cohort study

**CONCLUSION:** The TUG test result was not associated with future pneumonia or ventilator care and may not be useful for predicting pneumonia in community-dwelling elderly individuals. Further studies are needed to identify additional functional tools for sarcopenia associated with future pneumonia occurrences.

### Biophysical and nutritional combination treatment for myosteatosis in patients with sarcopenia: a study protocol for single-blinded randomised controlled trial

**INTRODUCTION:** Sarcopenia is characterised by age-related loss of skeletal muscle and function and is associated with risks of adverse outcomes. The prevalence of sarcopenia increases due to ageing population and effective interventions is in need

### Association of physical activity with socio-economic status and chronic disease in older adults in China: cross-sectional findings from the survey of CLASS 2020 after the outbreak of COVID-19

**CONCLUSIONS:** Economic status, geography, and living areas (urban and rural) significantly influenced the distribution of physical activities in China. Particularly, economic status and living areas acted as direct factors

### Trends in obesity, leisure-time physical activity, and sedentary behavior in Korean adults: Korea national health and nutritional examinations survey from 2014 to 2021

**CONCLUSION:** From 2014 to 2021, obesity and sedentary behavior significantly increased and adherence to LTPA decreased among Korean adults. Given these concerning trends, comprehensive interventions are needed at the national level to encourage healthy lifestyle behaviors.

### Physical activity among older adults with multimorbidity: Evidence from a population-based health survey

**CONCLUSIONS:** The study highlights sociodemographic disparities in the sufficient level of physical activity among multimorbidity, suggesting the importance of considering these factors when planning public policies aimed at promoting physical activity.

### Developing a list of core competencies for medical aspects of healthcare delivery in care homes: scoping review and Delphi process

**CONCLUSION:** The resulting competencies provide the basis of a curriculum for doctors working in long-term care homes for older people. They are specialty agnostic and could be used to train general practitioners or medical specialty doctors.

### The effects of neuromuscular electrical stimulation on hospitalised adults: systematic review and meta-analysis of randomised controlled trials

**CONCLUSIONS:** NMES is a promising intervention component that might help to reduce or prevent hospital-acquired disability.

### **Mobile applications to prescribe physical exercise in frail older adults: review of the available tools in app stores**

**CONCLUSION:** Apps can be valuable tool in prescribing exercise for frail older adults living in the community. However, few apps seem useful on a large scale, and there is limited evidence to support their effectiveness. It is important to invest in adapting Information and Communication Technologies to this population group.

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## Employment, volunteering and ageing

### **Providing information about medication changes upon discharge from a geriatric unit: the community healthcare professionals' point of view**

**INTRODUCTION:** It is well known that polypharmacy is associated with adverse drug events. Accordingly, specialist geriatric units have to pay particular attention to the appropriateness of prescription and the withdrawal of potentially inappropriate medications

### **Perceptions of senior nursing students on how the COVID-19 pandemic influenced their clinical practice in the Northwest Province, South Africa: a qualitative study**

**CONCLUSION:** The COVID-19 pandemic influenced how students viewed and experienced clinical training, which in turn had an impact on their learning experiences. These effects also had some impact on their experiences and decisions to continue working as professional nurses.

### **Burnout among public health workers in Canada: a cross-sectional study**

**CONCLUSION:** The high levels of burnout among our large sample of Canadian public health workers and its association with work-related factors suggest that public health organizations should consider interventions that mitigate burnout and promote recovery.

### **The impact of Renin-Angiotensin System Inhibitors on bone fracture risk: a nationwide nested case-control study**

**CONCLUSIONS:** The present study established a significant association between RASi use and reduced fracture incidence, thus highlighting the potential clinical utility of RASi use as a preventive strategy in elderly patients at risk for osteoporotic fractures.

### **Multidimensional characteristics of musculoskeletal pain and risk of hip fractures among elderly adults: the first longitudinal evidence from CHARLS**

**CONCLUSION:** In the Chinese population, the risk of hip fracture was found to be associated with both the location and extent of musculoskeletal pain, as well as with other factors such as age and demographic characteristics

### **Multimorbidity patterns and disability and healthcare use in Europe: do the associations change with the regional socioeconomic status?**

Multimorbidity, the concurrence of several chronic conditions, is a rising concern that increases the years lived with disability and poses a burden on healthcare systems. Little is

known on how it interacts with socioeconomic deprivation, previously associated with poor health-related outcomes

### Assessment of quality of life for frail, elderly patients post-ICU discharge: a protocol for a scoping review

INTRODUCTION: Rises in average life expectancy, increased comorbidities and frailty among older patients lead to higher admission rates to intensive care units (ICU). During an ICU stay, loss of physical and cognitive functions may occur, causing prolonged rehabilitation. Some functions may be lost permanently, affecting quality of life (QoL)

### Dose the increasing burden of social endowment affect sustainable development of economy?

The rapid increase in the number of older people under the background of population aging has gradually changed the disease spectrum of society, making aging diseases more prevalent, and increasing the demand for health care services, medical and health services, and health insurance among older people, ultimately leading to increasing household and social spending on old age

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Musculoskeletal health, falls prevention and ageing

### The association between admission mean corpuscular volume and preoperative deep venous thrombosis in geriatrics hip fracture: a retrospective study

CONCLUSION: MCV was linearly associated with preoperative DVT in geriatric patients with hip fractures and could be considered a predictor of DVT risk. The MCV may contribute to risk assessment and preventing adverse outcomes in the elderly.

### Effects of liposomal bupivacaine in preoperative fascia iliac block on postoperative pain and delirium in elderly patients undergoing hip fracture surgery: a study protocol for a randomised, parallel controlled prospective clinical study

INTRODUCTION: Postoperative delirium (POD) is the most common acute fluctuating mental state change after hip fractures in older adults. Postoperative pain is a Grade A risk factor for POD and is closely related to the prognosis of patients undergoing hip fracture surgery

### Preoperative prognostic nutritional index value as a predictive factor for postoperative delirium in older adult patients with hip fractures: a secondary analysis

CONCLUSION: Preoperative PNI value is related to POD in older adult patients with hip fractures.

### Correction: Assessment of fall-associated risk factors in the Muslim community-dwelling older adults of Peshawar, Khyber Pakhtunkhwa, Pakistan

No abstract

### Incidence of urinary incontinence after hip fracture surgery and associated risk factors: a prospective study

**CONCLUSION:** The incidence of UI in older patients after HFS is significant. Patient management protocols should consider AUR and UTIs to reduce or eliminate the incidence of UI in older patients undergoing HFS.

### **New horizons in subdural haematoma**

Subdural haematoma (SDH) is a common injury sustained by older people living with frailty and multimorbidity, and typically following falls from a standing height. Anticoagulant and antiplatelet use are commonly indicated in older people with SDH, but few data inform decision-making surrounding these agents in the context of intracranial bleeding

### **The impact of falls on activities of daily living in older adults: A retrospective cohort analysis**

**CONCLUSIONS:** Falls are associated with increased ADL impairment, and this impairment can persist over time. It is crucial that all older adults, and particularly those at higher risk of post-fall ADL impairment have access to comprehensive fall risk assessment and evidence-based fall prevention interventions, to help mitigate the negative impacts on ADL function.

### **Association between obesity and fracture risk in Chinese women above 50 years of age: a prospective cohort study**

**CONCLUSIONS:** Abdominal obesity increased the risk of all-cause fractures in Chinese women  $\geq 50$  years old. Intervention strategies and measures to prevent or address abdominal obesity would be helpful to decrease the fracture incidence.

### **A problem of gendered injustice? Objective and subjective poverty among older women and men across European welfare regimes**

Using European Social Survey data, this article studies the prevalence of objective and subjective poverty among older women and men (60+ years) in 21 European countries. Objective poverty refers to whether one's disposable income falls below the poverty line, whereas subjective poverty relates to the capacity to make ends meet

### **Elderly patients with non-specific complaints at the emergency department have a high risk for admission and 30-days mortality**

**CONCLUSION:** Older patients who present with NSC at the ED are associated with a high risk for admission and 30-days mortality. In addition, patients with NSC have a longer LOS at the ED, a high admission rate and the highest number of bed-days once admitted. This study indicates that ED staff should be more vigilant when an elderly patient presents with NSC at the ED

### **How age and health status impact attitudes towards aging and technologies in care: a quantitative analysis**

**CONCLUSIONS:** The findings suggest that the benefits of assistive technologies in private or professional care contexts should be communicated and implemented tailored to the respective user group's needs. Moreover, the results allow us to derive practical implications within the geriatric care context.

### **Frailty predicts all-cause and cause-specific mortality among older adults in Austria: 8-year mortality follow-up of the Austrian Health Interview Survey (ATHIS 2014)**

**CONCLUSIONS:** The FI predicts all-cause and cause-specific mortality (CVD, other causes) well, which points to its relevance as a potential screening tool for risk stratification among community-dwelling older adults.

### Emotion regulation, hope, and optimism during the third wave of the COVID-19 pandemic: The role of age and personality

CONCLUSIONS: These findings confirm older adults' advantage in facing the emotional and psychological fallout of the COVID-19 pandemic in its third wave. They also underscore the importance of considering personality to depict individual profiles prone to experiencing long-term negative emotional/psychological consequences of emergencies as COVID-19.

### The association between frailty, long-term care home characteristics and COVID-19 mortality before and after SARS-CoV-2 vaccination: a retrospective cohort study

BACKGROUND: The relative contributions of long-term care (LTC) resident frailty and home-level characteristics on COVID-19 mortality has not been well studied. We examined the association between resident frailty and home-level characteristics with 30-day COVID-19 mortality before and after the availability of SARS-CoV-2 vaccination in LTC.

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## Ageism and discrimination

### Multicentre external validation of the prognostic model kidney failure risk equation in patients with CKD stages 3 and 4 in Peru: a retrospective cohort study

CONCLUSIONS: The four-variable KFRE models have good discrimination but poor calibration in the Peruvian population. The model underestimates the risk of kidney failure in the short term and overestimates it in the long term

### Association of Kawasaki disease with urbanization level and family characteristics in Taiwan: A nested case-control study using national-level data

Kawasaki disease (KD) is an inflammatory vasculitis disorder of unknown etiology. It is a rare but fatal disease and the leading cause of acquired coronary heart disease in children under the age of 5 years. We examined the association of KD with the demographics of family members, parents' characteristics, and perinatal factors in Taiwanese children

### Social and clinical vulnerability in stroke and STEMI management during the COVID-19 pandemic: a registry-based study

CONCLUSIONS: This study revealed pre-existing inequalities in care management times for vulnerable STEMI and stroke patients; however, these inequalities were neither accentuated nor reduced during the first COVID-19 wave. Measures implemented during the crisis did not alter the structured emergency pathway for these patients.

### Stepping into the shoes of older people: a scoping review of simulating ageing experiences for healthcare professional students

CONCLUSIONS: Teaching in Care of Older People is important in HCP undergraduate curricula and should be a positive experience promoting successful ageing while raising awareness of ageism. Ageing suits have a positive impact on students' attitudes and empathic skills towards older people

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