9th International Conference on

ALZHEIMER'S DISEASE & DEMENTIA

October 16-18, 2017 | Rome, Italy

Scientific Tracks & Abstracts

Day 1

Dementia 2017

Sessions:

Alzheimers: Causes, Prevention and Management of Dementia

Session Chair
Mustafa Cankurtaran
Hacettepe University, Turkey

Session Introduction

Title: **Aromatherapy versus pharmaceutical interventions for Dementia related behaviors**
Vanessa Veit, Massachusetts College of Pharmacology, USA

Title: **Memory is really not lost in Alzheimer's patients as memory is related to the mind which is infinite, immortal and is not limited to the body or the brain**
Shyamala Mruthinti, Emory University, USA

Title: **GAPDH mRNA expression in blood of Moroccan AD cases**
Nadia El Kadmiri, IBN ZOHR University, Morocco

Title: **Unified theory of Alzheimer's disease: Evolution is the key to Alzheimer's prevention and early treatment**
Jennie Ann Freiman, Mount Sinai School of Medicine, USA

Title: **Gender differences in persons with Dementia including Alzheimer's disease who go missing: Implications for managing Dementia**
Stephen J Morewitz, California State University, USA

Vanessa Veit, J Alzheimers Dis Parkinsonism 2017, 7:6(Suppl)
DOI: 10.4172/2161-0460-C1-033

Aromatherapy versus pharmaceutical interventions for Dementia related behaviors

Vanessa Veit
Massachusetts College of Pharmacology, USA

The elderly population is expected to double in the next thirty years increasing the number of individuals with the diagnosis of dementia. By proxy, dementia related behaviors such as agitation, anxiety and restless will also increase. Currently, pharmaceutical management of these behaviors include Ativan, Haldol and other psychotropic drugs which have side effects that place individuals at risk for falls and at times even aggravate the behaviors. Although, not widely researched, aromatherapy is a safe alternative to treating Dementia related behaviors. The purpose of this integrative literature review is to investigate the correlation and efficacy of aromatherapy with dementia related behaviors and discuss the safety issues with psychotropic medications. Fourteen articles supporting the notion that aromatherapy is a quality alternative to the use of psychotropic drugs. Findings show aromatherapy has a calming effect on the body which can be measured physiologically as well as psychotropic medications increase mortality risks.

Biography

Vanessa Veit has completed her MSN at the age of 41 years from Massachusetts College of Pharmacology and Health Sciences in May 2017. She has experience in hospice and as a Director of Nursing in Long Term Care.

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Notes:

Shyamala Mruthinti, J Alzheimers Dis Parkinsonism 2017, 7:6(Suppl)
DOI: 10.4172/2161-0460-C1-033

Memory is really not lost in Alzheimer's patients as memory is related to the mind which is infinite, immortal and is not limited to the body or the brain

Shyamala Mruthinti
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Alzheimer 's disease is the disease of an old age characterized by short-- term memory loss or forgetfulness, disorientation, depression, aloofness and lack of motivation. There is an estimated 46.8 million people worldwide living with dementia in 2015. There are over 9.9 million new cases of dementia each year worldwide, implying one new case every 3.2 seconds. This number will almost double every 20 years, reaching an epidemic proportions if not intervened soon. To date, AD cannot be cured nor can be reversed. Current medications are often prescribed to manage its symptoms, but no medication has been shown to halt or delay the progression of the disease. It seems we are back to square one in combating this devastating disease and perhaps need to understand the disease commencement and progression from multiple angles rather than pin pointing to any specific gene, protein or genetic factor associated with AD--pathogenesis. Perhaps we need to go deeper in understanding the disease itself, which is associated with loss of memory which is connected with the mind. Scientists mistake mind as an organ or the brain, but essentially mind is not an organ nor is limited to the brain or the body. Mind is infinite, all pervasive in nature, subtle and vibrant like the limitless sky or an ocean! Mind cannot be lost as it is immortal and infinite; but appears limited and mortal due to our own limited perception of the mind dictated by five senses. The Infinite mind becomes finite after entering the body similar to the water from an ocean takes the shape of the glass when the glass is filled. Mind uses neurons for its operation and seems limited as long as it is entrapped in five senses, but can experience its infinity during deep meditation when senses are controlled. Mind is trapped inside the hollow empty chamber of the brain due to loss of synaptic connections between the neurons similar to a goods train which cannot run on broken railway tracks! It has been shown that mind and its thoughts are like wind. On stormy night the wind can destroy the house and depressive, angry thoughts and stress can cause synaptic connection loss between neurons. Meditation, Yoga and Music on the other hand restores lost connectivity between neurons and boosts immune system and improves overall health of the body and mind. Yoga training improves body flexibility, posture, bone & joint strength, improves blood flow, heart rate, lowers blood pressure, blood sugar and boosts immune function leading to relaxation of body and mind. Number of studies have shown that music enhances immune regulation, neurotransmission and renders positive effect on mental, physical and emotional states. Our brain has billions of neurons which are meticulously coordinated like symphony of orchestra. While food we eat nourishes our gross-physical body, thoughts of the mind have greater impact on both body and mind oscillating between good health and bad health based on positive or negative thoughts. Thoughts are like wind which is soothing on a cool evening breeze, yet powerful and destructive on a stormy night. Lost synaptic connections between neurons are re-wired by healing music therapy as demonstrated by world famous music therapy healer composer, yoga master; Shri. Ganapati Sachidananda Swamiji of Mysore Ashram who has composed > 5,000 musical tunes specific for each disease type. He has established 78 Music healing centers all over the world and gave thousands of meditation healing concerts. His musical tunes have helped several coma patients, autistic children and other cognitive related disorders and cancer patients. In summation: Psycho-Neuro-Immno-Therapeutic holistic approaches involving both traditional medicine combined with Yoga-Meditation & Music seems to be more ideal, safe and effective therapeutic strategy to cure dementia related disorders.

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Nadia El Kadmiri et al., J Alzheimers Dis Parkinsonism 2017, 7:6(Suppl)
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GAPDH mRNA expression in blood of Moroccan AD cases

Nadia El Kadmiri[1,2], Meryam El Khachibi[2], Ilham Slassi [2,1], Bouchra El Moutawakil [2,1], Sellama Nadifi [2] and **Abdelaziz Soukri[3]**
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Introduction: Proteomics studies have been conducted to identify proteins affecting the degree of neurodegeneration and could contribute to discover and define predictive biomarker signatures for AD. Several studies have highlighted the high affinity interactions between GAPDH - β-amyloid in Alzheimer disease. The aim of our study to assess the mRNA expression of GAPDH in the blood of Moroccan AD cases.

Methods: A quantitative Real Time PCR was performed to evaluate the mRNA expression of GAPDH in samples of AD cases and healthy controls.

Results: the mRNA expression level of GAPDH in AD cases was significantly different as compared to healthy controls ($P < 0.05$). Conclusion: Our results reveal that GAPDH undergoes several modifications in neurodegeneration mechanism, that affect its chemical structure and its biological activity, which could contribute as a biomarker for AD.

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Jennie Ann Freiman, J Alzheimers Dis Parkinsonism 2017, 7:6(Suppl)
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Unified theory of Alzheimer's disease: Evolution is the key to Alzheimer's prevention and early treatment

Jennie Ann Freiman
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The Unified Theory of Alzheimer's Disease (UTAD) defines what drives Alzheimer's, bringing all known causal risk factors into a logical, biological context which in turn provides an actionable prevention and early treatment strategy. UTAD identifies five broad categories of contributing lifestyle factors, all of which are necessary for ongoing growth and function of the hippocampal memory center. The specific lifestyle led by each person, each with a unique set of deficits, means there are as many causes of Alzheimer's as there are lifestyles. Individual measures such as increasing exercise or adopting a Mediterranean diet are minimally successful because they address only one aspect of the risk complex. Standard medications cannot compensate for disease-causing deficiencies because a healthy lifestyle cannot be put in a pill. Likewise, clinical trials continue to disappoint because they offer too little, too late, and treat symptoms and results of the disorder, rather than root causes. Alzheimer's is preventable, and in its early stages, treatable, due to hippocampal neurogenesis and neuronal rejuvenation, but only with a systematic approach. Through education and fundamental rethinking of what drives Alzheimer's, we can move away from dependence on drug solutions to empowering healthy choices. UTAD rejects the conventional dogma that has driven Alzheimer's research and treatment in favor of a doctrine based on evolutionary needs of the ancestral brain, which dominated human history for almost 2 million years. UTAD was published by Dr. Michael Nehls in 2016 in the Journal of Molecular Psychiatry and has been successfully adopted by medical practitioners.

Biography

Jennie Ann Freiman and Michael Nehls (Germany) are co-writing a book on UTAD for health practitioners who wish to incorporate the plan into their professional practice, and for lay people proactive in their care. Freiman received her M.D from the Mount Sinai School of Medicine in NY. After a successful career in gynecology, she launched Oobroo Inc, a wellness company, and writes and blogs on wellness issues. Prevention and early treatment of Alzheimer's disease is her passion. Freiman has previously published in the New England Journal of Medicine and many lay publications.

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Stephen J Morewitz, J Alzheimers Dis Parkinsonism 2017, 7:6(Suppl)
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Gender differences in persons with Dementia including Alzheimer's disease who go missing: Implications for managing Dementia

Stephen J Morewitz
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Background: Researchers are beginning to investigate the social and behavioral risk factors among persons with dementia including Alzheimer's disease. Missing persons with Alzheimer's disease and other dementias may become disoriented, injured, or the victims of foul play. Individuals with severe mental impairments at time that they go missing may severely injure or kill themselves, especially within the first 24 hours after they go missing.

Methods: The present investigation is part of the Missing Persons Project, which is based on a random sample of 998 missing-persons reports that were filed between 1991 and 2011 and published in the North American Missing Persons Network and the National Center for Missing & Exploited Children websites. This study tests the null hypothesis there are no gender differences among persons with dementia including Alzheimer's disease who go missing. Each missing-persons report was coded using a 228-item protocol. The coded data were entered into a data file and Chi-Square and correlational analyses were then performed using Systat 9 for Windows program (1999).

Results: The null hypothesis was rejected. Males with dementia including Alzheimer's disease (68.3%) were more likely to go missing than females with the same mental disorder (31.61%) (Chi-square=22.81, df=1, p<.000). These results remained statistically significant after controlling for possible intervening factors.

Conclusions: These findings suggest that males with dementia including Alzheimer's disease are more likely than females with the same mental disorder to go missing. This investigation assesses the implications of these findings for enhanced mental management of demetia and the injury/death prevention.

Biography

Stephen J Morewitz completed his PhD at the age of 29 years from the University of Chicago. He is a Lecturer in the Department of Nursing and Health Sciences at the California State University, East Bay. He is an award-winning researcher with more than 100 publications, including 12 books.

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Notes:

Sessions:

Alzheimers Disease Diagnosis, Imaging and Clinical Trails

Session Chair
Mustafa Cankurtaran
Hacettepe University, Turkey

Session Introduction

Title: **Midlife insulin resistance increases the risk for brain amyloid accumulation in carriers and non-carriers of APOEε4 genotype – A follow-up study of 15 years**

Laura Ekblad, University of Turku, Finland

Title: **Can musical or painting interventions reduce pain or improve mood, quality of life and cognition in patients with mild Alzheimer's disease?**

Isabelle ROUCH, Saint Etienne University Hospital, France

Title: **Effectiveness and cost-effectiveness of an in-home respite care program in supporting informal caregivers of people with Dementia: Design of a comparative study**

Sophie Vandepitte, Ghent University, Belgium

Title: **Interactions of intracellular amyloid beta peptides and biomarkers of Alzheimer disease in cerebrospinal fluid**

Zdenka Kristofikova, National Institute of Mental Health, Czech Republic

Title: **Computerised analysis of conversational trouble and repair in people with dementia and their carers**

Helen Chenery, Bond University, Australia

Title: **Microbiological and immunological aspects of Alzheimer's disease**

Oleksandr Makarenko, University of Pereyaslav-Khmelnitskiy, Ukraine

Laura L Ekblad et al., J Alzheimers Dis Parkinsonism 2017, 7:6(Suppl)
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Midlife insulin resistance increases the risk for brain amyloid accumulation in carriers and non-carriers of APOEε4 genotype – A follow-up study of 15 years

Laura L Ekblad[1], Jarkko Johansson[1,2], Semi Helin[1], Prof Matti Viitanen[3,4], Hanna Laine[3,5], Pauli Puukka[6], Prof Antti Jula[6] and **Prof Juha O Rinne[1,7]**

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Aims: The aim of this study was to examine if midlife insulin resistance is an independent risk factor for brain amyloid accumulation after 15 years, and whether this risk is modulated by APOEε4 genotype.

Methods: In this observational study 60 non-demented elderly volunteers from the Finnish nationwide Health 2000 study (mean age at baseline 55.4 years, 55.5 % women) were examined with [11C]Pittsburgh compound B PET imaging in 2014–2016. The participants were recruited according to their Homeostatic Model Assessment of Insulin resistance (HOMA-IR) values in the year 2000, and their APOEε4 genotype. The exposure group (IR+, n=30) consisted of individuals with HOMA-IR > 2.17 at baseline (highest tertile of the Health 2000 study population), and the control group (IR-, n=30) of individuals with HOMA-IR < 1.25 at baseline (lowest tertile of HOMA-IR). 50% (n=15) of individuals in both groups were APOEε4 carriers.

Results: 33.3% of the IR- group, and 60.0% of the IR+ group had an amyloid positive PET scan at a mean age of 71 years (relative risk 1.8, 95 % CI 1.0–3.2, p=0.04). The increased risk was similar in carriers and non-carriers of APOEε4 genotype. Baseline insulin resistance predicted a higher PIB composite score at follow-up after multivariate adjustments for other cognitive and metabolic risk factors (β=0.31, 95% CI 0.07–0.55, p=0.01).

Conclusions: The results indicate that midlife insulin resistance is an independent risk factor for brain amyloid accumulation in non-demented elderly individuals, suggesting that midlife insulin resistance is a risk factor for Alzheimer´s disease.

Biography

Laura Ekblad has graduated from the Medical faculty of the University of Turku in 2007. She has worked at the geriatric and internal medicine departments at the Turku City Hospital, at the neurological department at the Turku University Hospital, and as a family doctor at the Turku Health Care Centre She has started her PhD at the Turku PET Centre in 2013 on the topic "Insulin resistance, cognition and brain amyloid accumulation". She has published two articles on insulin resistance and cognition, and is expecting to finnish her PhD in January 2018.

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Notes:

Isabelle Rouch et al., J Alzheimers Dis Parkinsonism 2017, 7:6(Suppl)
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Can musical or painting interventions reduce pain or improve mood, quality of life and cognition in patients with mild Alzheimer's disease?

Isabelle Rouch, Elodie Pongan, Yohana Leveque, Jean Claude Getenet, Malou Navez, Beatrice Trombert, Nicolas Auguste, Hanane el Haouari, Pierre Krolak-Salmon, Jean-Michel Dorey, Barbara Tillmann and **Bernard Laurent**
Saint Etienne University Hospital, France

Among non-pharmacological therapies, musical intervention is often used for patients with Alzheimer's disease and patients presenting chronic pain. However, their efficacy is still under debate.

Aim: To determine the efficacy of choral singing versus painting sessions on chronic pain, mood, quality of life and cognition in patients with Alzheimer's disease (AD).

Design: Multicenter randomized controlled trial

Methods: Fifty-nine mild AD patients were randomized to a 12-week singing (SG; N= 32) or painting group (PG; N=27). Chronic pain, anxiety, depression, quality of life, were assessed before, after and 1 month after the sessions. Cognitive abilities were assessed before and after interventions. The evolution of these different measures was assessed with mixed linear models. 0nly significant effects p<.05 were reported here below.

Results: Both singing and painting interventions led to significant pain reduction (Time effect: F = 9.74;p<0.0001), reduced anxiety (Time effect: F = 10.52; p < 0.0001), improved Quality of Life (Time effect: F = 6.61;p = 0,002) and improved executive function (F = 14.82;p < 0,0001). Depression was reduced over time in SG only (Time x Group effect: F = 3.81; p = 0.03). Verbal Memory performance remained stable over time in SG, but decreased in PG (Time x group effect: F= 9.29;p=0.004).

Conclusion: Findings suggest that singing and painting interventions may reduce pain and improve mood, quality of life and cognition in patients with mild AD, with differential effects of painting for depression and singing for memory performance.

Biography

Isabelle Rouch has completed her MD in Epidemiology and Public Health and her PhD in neuroepidemiology from Bordeaux medical University. She is working as a physician in the Memory Centre of the Neurology Unit from Saint Etienne University Hospital.

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Sophie Vandepitte et al., J Alzheimers Dis Parkinsonism 2017, 7:6(Suppl)
DOI: 10.4172/2161-0460-C1-033

Effectiveness and cost-effectiveness of an in-home respite care program in supporting informal caregivers of people with dementia: Design of a comparative study

Sophie Vandepitte, Nele Van Den Noortgate, Koen Putman, Sofie Verhaeghe and **Lieven Annemans**
Ghent University, Belgium

Background: Dementia is a major public health problem with serious physical and emotional consequences for patients and their informal caregivers. Although informal caregiving can be very satisfying, it is also a highly demanding task often leading to substantial burden and potentially causing physical and mental problems when caregiving demands exceed resources. To prevent caregivers from getting overburdened, it is important to support them. Preliminary evidence suggests that community-based respite services can actually be important to alleviate caregiver burden.

Methods: A quasi-experimental study was designed to assess (cost)-effectiveness of an innovative in-home respite care program. The primary outcome is caregiver burden. Secondary outcomes are: quality of life of caregivers, frequency of behavioral problems of persons with dementia and caregivers' reactions to them, intention to institutionalize the care-recipient, time to nursing home placement, resource use, and willingness to pay. When the trial demonstrates a difference in outcomes, cost-effectiveness analyses will be conducted in a separate economic evaluation plan. Finally, the model based cost-effectiveness analyses will allow to extrapolate effects over a longer time horizon than the duration of the trial.

Discussion: To date no well powered studies measured (cost)-effectiveness of an in-home respite care program. This trial will help in bridging this information gap. Conclusions based on this trial can help clinicians, patient groups and policy-makers in elaborating future directions of dementia care.

Biography

Sophie Vandepitte is currently working on her PhD at the University of Ghent, faculty of medicine and health sciences (Belgium) after graduating as Master of Science in Health Education and Health Promotion (Magna cum laude). Her PhD research is focused on investigating the potential impact of support for informal caregivers of persons with dementia in terms of effectiveness and cost-effectiveness. During her PhD she has already published three papers in reputed journals and serves currently as an associate editor of the Journal of Alzheimer Disease.

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Zdenka Kristofikova et al., J Alzheimers Dis Parkinsonism 2017, 7:6(Suppl)
DOI: 10.4172/2161-0460-C1-033

Interactions of intracellular amyloid beta peptides and biomarkers of Alzheimer disease in cerebrospinal fluid

Zdenka Kristofikova[1], **Jan Ricny**[1], **Zuzana Bednarikova**[2] and **Z Gazova**[2]
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Ideal biomarker of Alzheimer disease (AD) does not exist yet. Cerebrospinal fluid (CSF) levels of amyloid β 1-42 (Aβ 1-42), τ and phospho-τ are often used standards (senzitivity > 85% and specificity > 75-85% are expected for a good biomarker). We evaluated new biomarkers based on interactions of Aβ and its intracellular binding partners (mitochondrial 17β-hydroxysteroid dehydrogenase type 10 (17β-HSD10) and τ) and on abilities of amyloid peptides/proteins to oligomerize/aggregate. In young patients with neuroinflammatry diseases, no changes in Aβ were found. Increased concentrations of 17β-HSD10 were observed only in people with multiple sclerosis in later stages probably as a compensatory response to attacts of immune system. In old patients with neuroinflammatory diseases, changes in Aβ (but not in τ/phospho-τ or 17β-HSD10) were similar to those in AD. Results can be interpreted by age- and neuroinflammation-dependent alterations in extracellular Aβ and a key role of Aβ in interactions. Changes observed in MCI-AD (Aβ, τ/phospho-τ, Aβ – τ complexes, 17β-HSD10, thioflavinT-based to intrinsic amyloid fluorescence signals ratio) were similar to those in AD. Results suggest early changes in intracellular Aβ and accumulations of amyloid peptides/proteins in the brain, in addition to increased oligomerization/aggregation. Both fluorescences are probably based on different amyloid structures (ThioflavinT-based on oligomers, instrinsic amyloid fluorescence on aggregates partly accumulated in the brain). Characteristic of new biomarkers of AD are as follows: Aβ – τ complexes (senzitivity 68.6% and specificity 73.3%), 17β-HSD10 (80.0% and 73.3%), 17β-HSD10 – Aβ complexes (66.7% and 68.8%), ThioflavinT-based to intrinsic amyloid fluorescence signals ratio (61.1% and 70.8%).

Biography

Zdenka Kristofikova studied at Czech Technical Univerzity in Prague (Ing., Department of Nuclear Chemistry) and at Univerzity of Defence, Faculty of Military Health Sciences in Hradec Kralove (PhD, Department of Toxicology), both in the Czech Republic. She works at National Institute of Mental Health (as a senior researcher and a head of working group) and is interested in Alzheimer disease. She has published many publications based on neurochemical analyses of the human or rodent brain tissue (e.g. validations of various pharmacological and genetic animal models of Alzheimer disease) and of cerebrospinal fluid (evaluations of new biomarkers of Alzheimer disease).

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Helen Chenery, J Alzheimers Dis Parkinsonism 2017, 7:6(Suppl)
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Computerized analysis of conversational trouble and repair in people with dementia and their carers

Helen Chenery
Bond University, Australia

Smartphones, the growth in third party software solutions (termed apps), big data analytics and other digital health technologies promise to transform the treatment of a range of health conditions such as Alzheimer's disease and other dementias. For people living with dementia, the gradual decline of communication abilities contributes to reduced quality of life and increased social isolation. For their carers, communication difficulties are listed as one of top stressors that contribute to their burden of care. Yet relatively little research has been published describing the application of digital technology to understanding and eventually even assisting the communication particularly the conversational, difficulties in dementia. In this research, we analyzed transcripts of conversations from 20 people with dementia and their carers using an automated discourse analysis tool called Discursis™. Discursis measures the recurrence of conversational (semantic) content over the time course of the conversation. Discursis metrics were compared with coded instances of trouble and repair in the conversations. This analysis allowed the identification of a list of specific Discursis metrics which signaled trouble and repair sequences in the conversations thereby generating a computerized script that highlighted periods of significant conversational breakdown between people with dementia and their carers. These results are an important precursor to developing a smart communication assistive device for people with dementia and their carers.

Biography

Helen Chenery has a Masters and PhD from The University of Queensland and researches in the area of Language Neuroscience specifically language disorders that result from acquired neurological damage or disease. She has published over 120 papers in refereed journals. She is currently an Executive Dean of the Faculty of Health Sciences and Medicine at Bond University.

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Oleksandr Makarenko et al., J Alzheimers Dis Parkinsonism 2017, 7:6(Suppl)
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Microbiological and immunological aspects of Alzheimer's disease

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[2]Taras Shevchenko National University of Kyiv, Ukraine
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Bacteriological and immunological feces study of 28 AD-patients and 60 men 69±1,2 years old as a control group was conducted. At 28.6±0.6% of AD patients had been showed a significant ($p < 0.05$) reducing the number of anaerobic representatives microbiota (*Bacteroides spp., Fusobacterium spp., Clostridium spp.*), quantitative and qualitative changes of opportunistic microbiota (*Klebsiella spp., Proteus spp., Citrobacter spp., Enterococcus spp.*) compared with the control group. The degree of contamination by individual representatives was ≥ 104 CFU/g, which was significantly higher than in control group. At 42.8±0.7% of AD-patients was found dysbiosis of III degree, significant reduction in the number of obligate anaerobic microorganisms, decrease in the number of lactobacilli in the range 5.7×103–1.4×104 CFU/g and significant increase in the degree of intestinal colonization typical opportunistic E.coli. in comparison with the control group, All AD-patients have diagnostically significant total intestinal colonization by opportunistic microorganisms (>104 CFU/g). At 25,0±1,1% of them were identified the association of hemolytic *Staphylococcus aureus* and *Candida spp*, at 75.0±1.2% – *Klebsiella, Hafnia, Serratia, Proteus, Morganella, Citrobacter*.

Biography

Makarenko O M has taken PhD degree at the age of 30 at the Moscow Medical Stomatological Institute, M.D. degree at the age of 40 at the Institute of Higher Nervous Activity in Moscow. He carries out his post-dock researches at the Institute of higher nervous activity and Taras Shevchenko National University of Kyiv. He is a professor of the psychology department, the author of more than 200 articles in reputed journals and 5 monographs (Lambert Academic Publishing).

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Notes:

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Scientific Tracks & Abstracts
Day 2

Dementia 2017

Sessions:

Geriatrics and Care Practice and Awareness

Session Chair
David Truswell
PLIAS Resettlement, UK

Session Introduction

Title: **Masked hypertension is associated with cognitive decline in geriatric age**
Mustafa Cankurtaran, Hacettepe University, Turkey

Title: **Stochastic modeling of signaling pathways and gene expression mechanisms in Alzheimer's disease using continuous time markov chains**
Sahil Doshi, Upper St. Clair High School, USA

Title: **A study on stress, burden, social support and the desire to institutionalization among caregivers of persons with Dementia**
Sherin Yohannan, National Institute of Mental Health and Neurosciences, India

Title: **Paratonia in Flemish nursing homes: State of the art**
Bieke Van Deun, Ghent University, Belgium

Title: **Oral Narratives of Indigenous female cargivers for a loved one diagnosed with Alzheimer's disease and other dementias (ADOD)**
Danielle Alcock, Western University, Canada

Title: **The risk of fall by dementia, comorbidities, and sedative medicines among home-dwelling older people in Denmark - A Danish register-based case-control study**
Jindong Ding Petersen, University of Southern Denmark, Denmark

Title: **Survey of cognitive rehabilitation practices in the state of Kuwait**
Fahad Safah Kayed Manee, Kuwait University, Kuwait

Title: **Dignity-preserving dementia care: A metasynthesis**
Oscar Tranvag, University of Bergen, Norway

Title: **The role of animal models in neuropsychiatric research**
Tejkalová Hana, National Institute of Mental Health, Czech Republic

Mustafa Cankurtaran et al., J Alzheimers Dis Parkinsonism 2017, 7:6(Suppl)
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Masked hypertension is associated with cognitive decline in geriatric age

Mustafa Cankurtaran, Mert Esme, Burcu Balam Yavuz, Bunyamin Yavuz, Serkan Asil, Rana Tuna Dogrul, Fatih Sumer, Mustafa Kemal Kilic, Muhammed Cemal Kizilarslanoglu, Hacer Dogan Varan, Aykut Sagir, Cafer Balci and **Meltem Halil**
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[3]Gazi University, Turkey

Background: Masked hypertension is described as high ambulatory blood pressure measurements (ABPM) where office blood pressure measurements are normal. Effect of hypertension on cognitive functions is well known. However, the effect of masked hypertension on cognitive functions is still unknown. The aim of this study is to examine the relationship between masked hypertension and cognitive functions.

Methods: One hundred-two normotensive patients admitted to the Geriatric Medicine outpatient clinic were included. Exclusion criteria were hypertension, dementia, major depression, and usage of antihypertensive medication. All patients underwent ABPM procedures and average daytime blood pressure, mean blood pressure at night and the 24-hours average blood pressure measurements were recorded. Comprehensive geriatric assessment tests and neuropsychological tests were administered. The diagnosis of masked hypertension was based on the definitions in the 2013 guideline of the European Society of Cardiology (ESC).

Results: 44 patients (43%) were diagnosed with masked hypertension. Patients with masked hypertension had significantly lower scores on Mini-Mental State Examination (MMSE) test, Quick Mild Cognitive Impairment Test (QMCI) and Categorical Fluency Test than the normotensive patients ($p = 0.011$; $p = 0.046$; and $p = 0.004$; respectively). Montreal Cognitive Assessment Scale (MOCA) test score was lower in masked hypertension, although this was not statistically significant.

Conclusions: This study shows that geriatric patients with masked hypertension, compared to normotensive patients have decreased cognitive functions. ABPM should be performed to normotensive geriatric patients for detecting possible masked hypertension and in patients with masked hypertension, cognitive assessment is essential to diagnose possible cognitive dysfunction at early stage.

Biography

Mustafa Cankurtaran is the head of the Geriatric Medicine Department in Hacettepe University. He received his medical degree at 1997 from Hacettepe University. He completed his Internal Medicine Residency in 2001 and Geriatric Medicine residency in 2004 at the same university. He is currently working as a lecturer and academician in Hacettepe University Department of Internal Medicine Division of Geriatric Medicine. He has published more than 50 papers in reputed journals. His special interest is in Alzheimer's disease, malnutrition, pain management, and other geriatric syndromes.

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Stochastic modeling of signaling pathways and gene expression mechanisms in Alzheimer's disease using continuous time markov chains

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Upper St. Clair High School, USA

As the sixth-largest cause of death in the U.S., Alzheimer's Disease (AD) is one of the most debilitating neurodegenerative disorders that has incited significant research within the scientific community. While researchers have discovered hallmarks of AD such as amyloid beta plaques and tau hyperphosphorylation, the initial molecular events that result in AD still remain unclear. Among current research, a major factor that has been attributed to AD pathogenesis is the presence of oxidative species that enhance expression of amyloid beta-producing enzymes such as BACE1 and impair expression of amyloid beta-clearing enzymes such as neprilysin. Oxidative species affect gene expression through signaling pathways composed of kinases, and this project focuses on the JNK signaling pathway's role in activating BACE1 expression. Using a Continuous Time Markov Chain (CTMC), a method for simulating stochastic processes where events occur independently of the past, the JNK pathway and BACE1 gene expression network are simulated as three different Markov chains that simultaneously execute reactions in distinct regions of the network. In order to portray the intracellular environment pertaining to AD accurately, oxidative species and enzyme denaturation are randomly added to the network, resetting the Markov chains with altered reaction transition intensities that leads the cell toward a state of further chaos and dysfunction. Results have shown that while each individual event occurs probabilistically, oxidative species hyperactivate the JNK pathway, leading to increased amyloid beta production, so such simulations could serve to explore the molecular origins of AD further.

Biography

Sahil Doshi is a rising senior at Upper St. Clair High School who has been researching Alzheimer's Disease and its pathological origins for the past two years. He recently earned honorable mention at the MIT THINK Scholars Program for developing a molecular dynamics simulation and was invited to present at the International Conference for Systems and Synthetic Biology in Munich, Germany for his computational modeling work. Prior to that, he was named America's Top Young Scientist in 2014 for a carbon dioxide battery and presented it to President Obama at the White House Science Fair.

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Notes:

Sherin Yohannan, J Alzheimers Dis Parkinsonism 2017, 7:6(Suppl)
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A study on stress, burden, social support and the desire to institutionalization among caregivers of persons with dementia

Sherin Yohannan
National Institute of Mental Health and Neurosciences, India

Demographic trends regarding the issue of aging underscore the fact that both current situations and future trends directly concern all of us. Dementia is seriously disabling for those who have it and is often devastating for their caregivers and families. Improving the awareness and understanding of dementia across all levels of society is needed to decrease discrimination and to improve the quality of life by reducing stress, burden and increase in the social support for people with dementia and their caregivers. The present study has adopted a descriptive research design for the purpose of the study covering 50 caregivers to assess the stress, burden, social support, and desire to institutionalization among caregivers of persons with dementia who are seeking treatment from geriatric clinic services in NIMHANS. Data gathered by using standardized scales like The Perceived Stress Scale, Multidimensional Scale of Perceived Social Support, The Zarit Burden Interview, and The Desire to institutionalization scale. Results show that there is a significant relation between burden, stress, social support from family, friends, significant others and desire to institutionalization among the caregivers of persons with dementia. Results indicate that this personal stressful feeling of caregiver burden which may be high and more troublesome in countries like India gives way to thought about institutionalization of patients with dementia. The results of the study might have been influenced by culture and inadequate availability of dementia care facilities in India and thus warrants further similar studies to be conducted in India and other developing countries

Biography

Sherin Yohannan, PhD scholar in the department of Psychiatric Social Work, NIMHANS, Bangalore, India. My research area is on Dementia care. Currently I am working on the topic " Psychosocial support for families of persons with dementia through home based care programme". I completed my M.Phil. in Psychiatric social work from NIMHANS in 2015 and my dissertation was on stress, burden, social support and desire to institutionalization among caregivers of persons with dementia. I have completed my Masters in Social Work with the specialization in Medical and Psychiatric Social Work from BCM College, India in the year 2012.

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Notes:

Bieke Van Deun, J Alzheimers Dis Parkinsonism 2017, 7:6(Suppl)
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Paratonia in Flemish Nursing homes: State of the art

Bieke Van Deun
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Besides well-known cognitive challenges, motor abilities are affected in dementia due to several underlying movement disorders. A major underlying motor problem is paratonia, a form of hypertonia characterized by a variable, involuntary resistance against passive movement. Paratonia is often associated with contractures, decubitus and difficulties in comfortable positioning and daily care procedures. The body of knowledge with regard to paratonia is scarce and thereby evidence-based management is lacking. In an online survey, physiotherapists working in nursing homes in Flanders (Belgium) were inquired for the eventual presence of any implemented (standardized) paratonia policy or protocol and for their clinical appreciation of currently used 'therapeutic' strategies and positioning methods/aids. Though paratonia was estimated to be present in 40% of the nursing home residents suffering from dementia, only a minority (17%) of nursing homes seems to have a standardized paratonia policy. With respect to the most applied and appraised therapeutic interventions, positioning and soft passive mobilization could be withheld. For a lying or seated position, respectively C-shaped positioning cushions and a multiposition wheelchair were the most commonly applied and positively appraised positioning aids. According to the respondents, active movement should be encouraged as long as possible, and several relaxation techniques may be of use. Crucial for the success of any therapeutic intervention for paratonia, a multidisciplinary involvement is highlighted as prerequisite, comprising a good communication and cooperation between all staff members. The need for fundamental and clinical research and demand for practical guidelines was highly endorsed by this survey.

Biography

Bieke Van Deun has a Master of Science degree in Motor Rehabilitation and Physiotherapy. She has been working as a physiotherapist in a hospital and a nursing home for 10 years. At present, she is a PhD student at the Department of Rehabilitation Sciences and Physiotherapy of the Ghent University. Her research topic is paratonia in dementia.

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Notes:

Danielle Alcock, J Alzheimers Dis Parkinsonism 2017, 7:6(Suppl)
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Oral Narratives of Indigenous female cargivers for a loved one diagnosed with Alzheimer's disease and other dementias (ADOD)

Danielle Alcock
Western University, Canada

This research has three objectives:

1. Use oral narratives of caregivers to determine what improvements can be made such as continuity of care
2. Collaborate with caregivers to develop workshops and resource materials to empower Indigenous caregivers as advocates navigating the healthcare system and
3. Share results with healthcare providers to educate them on what improvements they can make to provide culturally safe care and support. My research is an original contribution since no research exists focused on ADOD and the experiences of female caregivers using a non-biomedical approach. This research is distinct because it is community based and collaborates with health organizations in Southwestern Ontario.

ADOD is found to be more common amongst Indigenous populations and affects more men than women (Hulko et al, 2010, Pollitt, 1997, Radford et al., 2015). Caregivers have a higher risk of depression and illness as they try to manage their shifted roles and identities for caring for a loved one (Matè, 2012:176; Leibing and Cohen, 2006:45; Lipton and Marshall, 2013:61) especially since most who take on the role are women (Hughes, Louw and Sabat, 2012:5). My research works with caregivers to improve their quality of life, since the health and well-being of the caregiver is paramount to the quality of life of their loved ones.

Biography

Danielle Alcock is Anishanaabe and a member of the Chippewas of Rama First Nation. She is a PhD candidate at Western University in the department of Anthropology. Danielle's research is sociocultural focused on story telling, Indigenous methodologies and community partnership. She is a doctoral recipient of the Alzheimer's Society Research Program Scholarship for 2016-2019.

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Notes:

Jindong Ding Petersen et al., J Alzheimers Dis Parkinsonism 2017, 7:6(Suppl)
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The risk of fall by dementia, comorbidities and sedative medicines among home-dwelling older people in Denmark - A Danish register-based case-control study

Jindong Ding Petersen, Volkert Siersma, René dePont Christensen, Maria Much Storveen, Connie Thurøe Nielsen, Mikkel Vass and **Frans Boch Waldorff**
University of Southern Denmark, Denmark

Dementia as a risk factor for fall is relatively well studied among hospitalized/ institutionalized but not among home-dwelling older people on a national level. Additionally, comorbidities and sedative medicines as common coexisting components in people with dementia for excess risk of falling are also lacking. We therefore conducted a population- and register-based case-control study among older people in Denmark (65+). Cases were individuals with a first time fall in 2009-2014, and matched with age, sex, and municipality with six controls. We excluded those who had fall in 2008, and/or lived in a nursing home at the beginning year of the index time. Dementia, comorbidity, and sedative medicines were ICD-10 codes or ATC-codes linked from the national registers. A history of fall was extracted from the national accident register and supplemented with hospital emergency room register. Of 115,590 cases and 693,540 controls, adjusted for education, marriage and comorbidities, our preliminary results showed that dementia had a 1.83-fold higher risk of falling [OR=1.83, 95%CI (1.78-1.88), p<0.001]. Additionally, among people with comorbidities coexisting with dementia, a tendency of decreasing risk trend along the number of comorbidities (0, 1, 2, ≥3) was observed (OR=1.98, 1.90, 1.63, 1.56 resp.). Among people with sedative medicines (0, 1, ≥2), a similar decreasing fall risk trend was also observed (OR=1.97, 1.94, 1.74 resp.). Dementia is a significant risk factor for home-dwelling older people in Denmark. The increasing number of comorbidities and sedative medicines may potentially limit the frequency of patients' daily activities and subsequently decreasing the risk of falls.

Biography

Jindong Ding Petersen is current a PhD student from University of Southern Denmark, and is expected to complete her PhD in December 2018. She has published 3 papers in Epidemology study field.

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Notes:

Fahad Safah Kayed Manee, J Alzheimers Dis Parkinsonism 2017, 7:6(Suppl)
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Survey of cognitive rehabilitation practices in the state of Kuwait

Fahad Safah Kayed Manee
Kuwait University, Kuwait

Rehabilitation professionals must be astute at recognizing, assessing, and treating individuals with cognitive deficits. No research is available to examine cognitive rehabilitation practices applied to individuals with neurological conditions in Kuwait. Objectives of this study were to identify the use of cognitive assessments, the availability of resources, and the barriers to cognitive rehabilitation practices in Kuwait. Face-to-face interviews were conducted with health care professionals working with adult individuals with neurological conditions. These professionals included occupational therapists, speech-language pathologists, psychiatrists, and neurologists. Results of this study showed that the most commonly used cognitive based assessments are MMSE (41%), and MoCA and LOTCA (15.2%). The only clinical assessment used is the Line-Bisection Test (2.2%). The most used occupation-based assessments are FIM (6.5%), COPM (4.3%), the Interest Checklist (2.2%), and the Barthel Index (2.2%). Resources related to cognitive rehabilitation in Kuwait that are unavailable to practitioners include journal clubs (91%), special interest groups (89%), and continuing education programs (82.6%). Barriers to cognitive rehabilitation practice included lack of sufficient funds for continuing education, lack of time, lack of standardized assessments, and lack of interprofessional teamwork. Conclusion many adults in Kuwait live with cognitive impairment. There is a need to develop appropriate evidence-based cognitive rehabilitation clinical guidelines in Kuwait.

Biography

Fahad Manee has completed his PhD at the age of 36 years from Texas Woman's University majoring in Occupational Therapy. He is a Faculty of Allied Health Sciences in The Occupational Therapy Department at Kuwait University. He has published more than 7 papers in reputed peer review journals. He served as a chair of the Occupational Therapy Department.

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Notes:

Oscar Tranvag, J Alzheimers Dis Parkinsonism 2017, 7:6(Suppl)
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Dignity-preserving dementia care: A metasynthesis

Oscar Tranvag
University of Bergen, Norway

Background: Research indicates the essentiality of dignity as a vital component for quality of life. Estimates show 47 million people living with dementia worldwide. World Health Organization, United Nations, European Union, UNESCO and Alzheimer's Disease International emphasize dignity as an inherent human quality, an essential need and fundamental human right. Several countries are now preparing for the growing challenges within dementia care by developing national plans, placing dignity-preservation as a fundamental aspect. However, these documents do not specify the underlying components of dignity-preserving dementia care, as perceived by healthcare professionals within dementia care practice.

Aim: The aim was to develop a theory-model concerning crucial aspects inherent in dignity-preserving dementia care as perceived and practiced by nurses and allied healthcare professionals (HCP) documented in previous empirical qualitative studies.

Method: Noblit and Hare's meta-ethnography was utilized to synthesize 10 qualitative articles from various cultural contexts, exploring nurse and allied HCP perception concerning dignity-preserving dementia care practice. Constructing a theoretical under- standing of the findings, Katie Eriksson's Theory of Caritative Caring was utilized as theoretical framework.

Results: Advocating autonomy and integrity of each person with dementia, involving hav- ing compassion for the person, confirming the person's worthiness and sense of self, as well as creating a humane and purposeful environment, was found a primary foundation for dignity-preserving dementia care. Balancing individual choices among persons no longer able to make sound decisions, against the duty of making choices on behalf of the person, was considered dignifying in certain situations – employ- ing persuation and/or a certain degree of mild restraint in order to meet the person's essential needs.

Conclusion: Sheltering human worth – remembering those who forget, was identified as a comprehensive motive and core value within dignity-preserving dementia care.

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Notes:

Tejkalová Hana et al., J Alzheimers Dis Parkinsonism 2017, 7:6(Suppl)
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The role of animal models in neuropsychiatric research

Tejkalová Hana[1], **František Jelínek**[2], **Jan Klaschka**[3] and **Jiří Horáček**[1]
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[2]Veterinary Histopathological Laboratory, Prague
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At present, animal models are viewed as useful and widespread tools in translational neuroscience research and CNS drug development. To mimic brain pathogenesis and the spectrum of quantifiable disease endpoints in human neurodevelopmental disorders many model studies are done, using mainly rodents. We can evaluate many patterns in the ethogram exhibited by the species used in specific experimental situations. It has recently become increasingly important to develop translational models that enable multiple behavioural domains to be explored in parallel together, combined with other data obtained from various animal tissues to evaluate useful biochemical and morphology analyses. The results of these translational models depend on well-defined requirements for animal models that take into account the ethological approach, the biology of experimental animals used, the life history of individuals and many other factors in order to produce a good project with valuable data. Alzheimer disease (AD) is characterized by gradual cognitive decline, sensory and motor deficits and is the primary cause of dementia. To examine the role of early neuroinflammation in neurodevelopmental diseases, a translational model with neonatal subchronic lipopolysaccharide (LPS) insult was used. Our finding suggests that LPS may have long-lasting effects on the future development of behavioural parameters together with altered morphological markers. Animal models of neuropsychiatric and neurology disorders are indispensable tools for studying target key neurobehavioural domains of these diseases and help to provide better insights into the complexity of brain functions, brain pathogenesis and find novel biomarkers and therapies.

Biography

H Tejkalova obtained both her degree at the age of 24 and her later PhD. from the Faculty of Science, Charles University in Prague. She is a senior researcher at the National Institute of Mental Health (NIMH). She has published nearly 50 papers in reputed journals (total citations 177, inc. self-citations). Her research activities involve the use of behaviour in the animal modelling of psychiatric disorders, especially schizophrenia. She also acted as the Czech representative in FELASA from 2010 until 2014.

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Notes:

9th International Conference on

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Scientific Tracks & Abstracts
Day 3

Dementia 2017

Sessions:

Amyloid Protein in Alzheimer's and Dementia

Session Chair
Linda Levine Madori
St. Thomas Aquinas College, USA

Session Introduction

Title: **The TTAP Method; A proven structured non-pharmaceutical approach to enhancing cognition and socialization in mild-moderate Stages of Alzheimer's disease**

Linda Levine Madori, St. Thomas Aquinas College, USA

Title: **Alzheimer's cognitive impairment can be recovered by decreasing homocysteic acid In blood**

Tohru Hasegawa, Saga Woman Junior College, Japan

Title: **Efficacy and safety of MMFS-01, a synapse density enhancer, for reversing age-related cognitive decline: a randomized, double-blind, placebo-controlled trial**

Guosong Liu, Tsinghua University, China

Title: **Interaction of soluble and Amyloid form of serum Amyloid a protein to neuro 2a cells**

Asokan Chinnasamy, Sokoto State University, Nigeria

Linda Levine Madori, J Alzheimers Dis Parkinsonism 2017, 7:6(Suppl)
DOI: 10.4172/2161-0460-C1-033

The TTAP Method; A proven structured non-pharmaceutical approach to enhancing cognition and socialization in mild-moderate Stages of Alzheimer's disease

Linda Levine Madori
St.Thomas Aquinas College, USA

This Paper will establish through an examination of neurobiology the how and why the creative art therapies most effectively be utilized in the treatment with those individuals afflicted with early to middle stages of dementia, specifically Alzheimer's Disease, which currently comprises approximately 80% of all dementia's. An in-depth overview on how Therapeutic Thematic Arts Programming© (TTAP Method) stimulates both right and left brain functioning in the early stages to middle stages of Alzheimer's disease will be analyzed from various clinical studies done in 2011, 2012 , 2013. This paper will cover the most recent and basic functional organization of the brain, neuroplasticity, including neurons, neurotransmitters and areas of the brain involved in transforming perceptual inputs into physiological responses and behaviors (Damasio, 1998, 1999; Golomb, J.,1996, Grober, E., 1999; Kandel, Schwartz & Jessel, 2000; LeDoux, 2000; Levine Madori, 2007-2014). A review the innovative new methodology, the TTAP Method© which utilizes person centered themes within the therapeutic process to engaged participants in a twelve step process that incorporates mediation & mindfulness, drawing, sculpture, movement, phototherapy and other forms of the creative arts into an ongoing enriching non-pharmaceutical approach for this special and rapidly growing population. This method substantiates how art therapy is quickly becoming a powerful window into brain functioning and self-discovery (Cozolino, 2012, Luzebrink, 2013, Hass-Cohen, 2014).

Biography

Linda Levine Madori is a two time Fulbright Scholar, Professor, Author, Researcher and Trainer of a non-pharmaceutical approach utilizing all the creative arts for brain stimulation and enhancing socialization found in her first book titled; Therapeutic Thematic Arts Programming, in 2007 (TTAP Method.com). Her second book; Transcending Dementia through the TTAP Method; A New Psychology of Art, Brain and Cognition, expands on the current significant research demonstrating cost effectiveness utilizing this innovative multimodal approach for the geriatric and Alzheimer's population.

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Notes:

Tohru Hasegawa, J Alzheimers Dis Parkinsonism 2017, 7:6(Suppl)
DOI: 10.4172/2161-0460-C1-033

Alzheimer's cognitive impairment can be recovered by decreasing homocysteic acid in blood

Tohru Hasegawa
Saga Woman Junior College, Japan

Recent big two clinical trials of amyloid beta treatment for Alzheimer's disease are all failed to recover the cognitive impairment, it has forced us to reconsider the central hypothesis of amyloid pathogen for Alzheimer's disease. We recently published that human Alzheimer's patients showed the strong relationship between Mini Mental State Examination (MMSE) scores and blood homocysteic acid (HA) level. 6 AD patients (all female: age 77, 82, 86, 87, 91, 91) were given green tea powder 1g at every meal for 2 months. Their blood HA level and MMSE score were measured before and after taking green tea powder. The relationship between blood HA level change and MMSE score change was investigated. The strong statistically significant negative relationship between blood HA level change and MMSE score change: r=-0.96, p=0.00018, n=6. From our observation, it showed that blood HA level change induced MMSE score change, that is, Alzheimer's cognitive ability was controlled by blood HA level. Now we can present that some healthy food, that is named HBF, can recovered 100% Alzheimer's cognitive impairment by the decreasing the homocysteic acid in a peripheral blood. Now we have made a relative large open trial of AD patients. 91 patients were enrolled. Their cognitive recovery was measured by NM scale (New Clinical Scale for Rating of Mental States). All patients who took HBF showed the recovery of their behaviors. From this open-trial of HBF, (1) Alzheimer's cognitive impairment could be recovered at even end stage. (2) Alzheimer's disease is induced by homocysteic acid.

Biography

Tohru Hasegawa got his PhD degree from Okayama Medical School at 1980. He was Associate Professor of Saga Medical School from 1981 to 2000, and he was a Professor of Saga Woman Junior College from 2000 to 2011. He is a Professor Emeritus of Saga Woman Junior College from 2011. He investigated the pathogenic process of Alzheimer's disease and he found that homocysteic acid in blood is one of pathogens of AD.

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Notes:

Guosong Liu, J Alzheimers Dis Parkinsonism 2017, 7:6(Suppl)
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Efficacy and safety of MMFS-01, a synapse density enhancer, for reversing age-related cognitive decline: A randomized, double-blind, placebo-controlled trial

Guosong Liu
Tsinghua University, China

Background: Age-related cognitive decline is a major problem in elderly, affecting quality of life. Pre-clinical studies show that MMFS-01, a synapse density enhancer, is effective at reversing cognitive decline in aging rodents.

Objective: Since brain atrophy during aging is strongly associated with both cognitive decline and sleep disorder, we evaluated the efficacy of MMFS-01 in its ability to reverse cognitive decline and improve sleep.

Methods: We conducted a randomized, double-blind, placebo-controlled, parallel-designed trial in elderly subjects (age 50-70) with complaints of memory impairment, sleep disorder, and anxiety. Subjects were treated with MMFS-01 (n=23) or placebo (n=21) for 12 weeks and cognitive ability, sleep quality, and emotion were evaluated. Overall cognitive ability was determined by a composite score of tests in four major cognitive domains.

Results: With MMFS-01 treatment, overall cognitive ability improved significantly relative to placebo (p=0.002; Cohen's d=0.92). Age-related cognitive fluctuation was also reduced. Although the study population had more severe executive function deficits than age-matched controls, MMFS-01 treatment nearly restored impaired executive function, demonstrating that MMFS-01 was clinically significant. Sleep quality and anxiety were improved in MMFS-01 treatment group; however, similar degrees of improvement were also observed in the placebo control group.

Conclusions: The current study demonstrates the potential of MMFS-01 for treating age-related cognitive decline in elderly.

Biography

Guosong Liu received his PhD in Physiological Sciences from the University of California, Los Angeles in 1990. He completed post-doctoral scientific training at Stanford University and then went on to a faculty position at Massachusetts Institute of Technology. Liu continued a vigorous scientific research program at Tsinghua University, and leads and oversee - as CEO - the multiple clinical development programs of Neurocentria. Dr. Liu is a world renowned expert in synaptic physiology, learning, and memory. His research focuses primarily on discovering principles that regulate synapse density in the brain under physiological and pathological conditions and developing novel strategies for treating neurodegeneration and preventing brain atrophy.

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Notes:

Asokan Chinnasamy, J Alzheimers Dis Parkinsonism 2017, 7:6(Suppl)
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Interaction of soluble and amyloid form of serum amyloid a protein to BC3H1 cells

Asokan Chinnasamy
Sokoto State University, Nigeria

The BC3H1 smooth muscle cells of mice brain, the study was carried out membrane binding. Th is is important in relation to the activity of membrane proteins because losing the activity of such systems will ultimately lead to malfunction or death of the cell. Th e interactions of Serum Amyloid A (SAA) and Serum Amyloid A protofi brils with BC3H1 cells of the mouse are dealt with in detail to study the binding of SAA protofi brils in various conditions. Th e FACScan and MTT assay results have shown the SAA and SAA fi brils binding and cell toxicity with the BC3H1 cells with diff erent concentrations of Serum amyloid P component and Amyloid enhancing factor. Specifi cally, cells were incubated with 1.25-6.25 µM SAA-FITC and SAA protofi brils-FITC assayed. Th e 50% viable BC3H1 cells at 4-6 µM with an LD50 of 3.5 µM. Th e interaction of serum amyloid A fi brils with a cell surface binding site/receptor might alter the local environment to cause cellular dysfunction and to be more favorable for amyloid formation. Th e RAGE (receptor for advanced glycation endproducts) a polyvalent receptor in the immunoglobulin super family has been implicated in binding with the isoform of SAA (SAA1.1) which has the highest fi birillogenic property. Th e present study concludes the SAA fi brils more binding and cell cytotoxicity than SAA protein.

Biography

Asokan Chinnasamy has completed his PhD at the age of 27 years from University of Madras and Postdoctoral studies from Columbia University, USA. He is the Associate Professor, Department of Biochemistry, Sokoto State University, Nigeria. He has published more than 36 papers in reputed journals and has been serving as an Editorial Board Member of reputed journals.

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Notes: