

September 10-12, 2018 Rome, Italy

https://arc-2018.org/ aging@innovincinternational.com

> **Venue:** Hotel Rome Pisana Via della Pisana, 374 00163 Roma RM, Italy

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Hall Name - SALA MOSCOW		
09:00-09:45	Registrations	
09:45-10:00	Opening Ceremony	
KEYNOTE FORUM		
10:00-10:30	Title: The diagnosis, prevention and care of alcohol related dementia	
	Tony Rao, King's College London, UK	
10:30-11:00	Title: Communication as core to Managing and Main- taining Quality of Life throughout the Aging Process: Intimacy, family and Friend Relationships and Health Care Provider-Older Adult Interaction	
	Jon F. Nussbaum, Penn State University, USA	
	GROUP PHOTO	
Coffee Break 11:00 -11:15 @ T	he Hub	
Interventions	Sessions: for Productive Aging Healthy Ageing	
Session Chairs		
Tony Rao, King's College London, UK		
Jon F. Nussbaum, Penn State University, USA		
11:15-11:35	Title: Structured Life Review and Its Impact on Family Interactions	
	Laurie Dahley, Concordia College, USA	
11:35-11:55	Title: Metabolic remodeling of mice in hypoxic-hyper- capnic environment	
	Vadim E. Fraifeld, Ben-Gurion University of the Negev, Israel	

Monday September 10, 2018

11:55-12:15	Title: To contrast and reverse skeletal muscle atrophy by Full-Body In-Bed Gym
	Ugo Carraro, University of Padova, Italy
12:15-12:35	Title: A novel classification model of bone turnover status: (Patho) Physiological evidence and clinical implications
	Alexander Fisher, The Canberra Hospital and Australian National University Medical School, Australia
12:35-12:55	Title: Daily concerns in oral drug therapy for aged dysphagic patients
	Serena Logrippo, University of Camerino, Italy
12:55-13:15	Title: Cortical thickness and the correlation with man- ual motor performance in a Community-based sample of older adults in South America
	Telma Busch, Medical School, University of São Paulo, Brazil
Lunch Break 13:15 -13:55 @ Restaurant	
Age-Re	Sessions: elated Diseases Healthy Ageing
	Session Chairs
Noomi Katz, Ono Academic College, Israel	
Ugo Ca	rraro, University of Padova, Italy
13:55-14:15	Title: Yoga reverses osteoporosis
	Loren Fishman, Columbia University Medical School, USA
14:15-14:35	Title: Ageing and cancer: Role of tumor microenvironment
	Karel Smetana Jr, Charles University, 1st Faculty of Medicine, Czech Republic
14:35-14:55	Title: Molecular and Cellular Mechanisms of Age-Re- lated Macular Degeneration: Evidences from OXYS rats
	Darya Telegina, Institute of Cytology and Genetics SB RAS, Russia

Monday September 10, 2018

14:55-15:15	Title: Social isolation and risk for malnutrition among elderly people: Results from the AMEL study
	Christa Boulos, Sankt Joseph's University Beirut/Leba- non, Lebanon
15:15-15:35	Title: Serum 25-hydroxyvitamin D levels and the risk of depression: A systematic review and meta-analysis
	SANGYON (Sang-Yhun) JOO(Ju), The Catholic University of Korea, Republic of Korea
15:35-15:55	Title: Effects of Yoga Interventions Practiced in Heated and Thermoneutral Conditions on Endothelium-De- pendent Vasodilation: The Bikram Yoga Heart Study
	Stacy D. Hunter, Texas State University, Texas, USA
Coffee Break 15:55 -16:10 @ T	he Hub
16:10-16:30	Title: Implementation of Lifestyle Redesign® (LR) intervention for healthy elderly
	Noomi Katz, Ono Academic College, Israel
16:30-16:50	Title: Apathy in depressed older persons: Course and predictors -The NESDO study
	Isis Groeneweg-Koolhoven, Parnassia Group, Nether- lands
16:50-17:10	Title: With age, unmet basic needs negatively affect health-related quality of life in adults with HIV: Four- year prospective results from Positive Places, Healthy Places, Toronto, Canada
	Phan Sok, University of Toronto, Canada

Panel Discussions



Tuesday

September 11, 2018

KEYNOTE FO	RUM	
09:30-10:00	— Title: Can daily intake of a food supplement postpone the day for accepting a retirement home?	
	Kaj Winther, University of Copenhagen, Denmark	
Ar	Sessions: Dementia and Alzheimer's nti-Aging Strategies and Drug Development	
	Session Chairs	
Mary Guerrie	ro Austrom, Indiana University School of Medicine, USA	
Gabriela Topa	a, National Distance Education University (UNED), Spain	
10:00-10:20	— Title: Person centered care for people with Alzhei- mer's disease and dementia	
	Mary Guerriero Austrom, Indiana University School of Medicine, USA	
10:20-10:40	Title: Abnormal BI-RADS Breast Lesions in Libreville	
	Christopher Missling, Anavex Life Sciences Corp., USA	
Coffee Break 10:40 -10:55 @ Foyer		
10:55-11:15	— Title: Exposing people with dementia to biodynamic light: The impact of biodynamic lighting on neuropsy- chiatric symptoms	
	Ellen Elisabeth van Lieshout-van Dal, Tilburg University, Netherlands	
11:15-11:35	——— Title: sAAP-alpha peptide as a possible new target in Alzheimer's disease treatment: A theoretical ap- proach	
	Gesivaldo Santos, State University of Southwest of Bahia, Brazil	
11:35-11:55	Title: Zfra suppresses protein aggregation, inhibits inflammatory NF-κB activation, and restores memory deficits in Alzheimer's disease triple-transgenic mice	
	Nan-Shan Chang, National Cheng Kung University, Taiwan	

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11:55-12:15	Title: Isometric exercise training to improve cognitive performance in MCI and Alzheimer's disease
	Nicole Hess, University of New England, Australia
12:15-12:35	Title: Aging in Eastern Partnership Countries
	Ucha Vakhania, Coalition Homecare in Georgia, Georgia
12:35-12:55	Title: Chronic minoxidil treatment leads to function- al improvement and elastic fibre neosynthesis in the aorta of aged mice
	Gilles Faury, Université Grenoble Alpes, France
12:55-13:15	Title: Ageing and Early Retirement: Meta-Analytic Re- view of empirical evidence
	Gabriela Topa , National Distance Education University (UNED), Spain
Lunch Break 13:15 -14:00 @ R	estaurant
Poste	er Presentations (13:40 -14:20)
	Session Chairs
Diana van Heemst, Nethe	rlands Consortium for Healthy Ageing, Netherlands
Aurel Popa-Wagner, University of Medicine Essen, Germany	
14:20-14:40	Title: Stem cell therapies in preclinical models of stroke. Is the aged brain microenvironment refractory to cell therapy?
	Aurel Popa-Wagner, University of Medicine Essen, Germany
14:40-15:00	Title: A neuron-glial trans signaling mediates the LRRK2 induced, age-dependent loss of dopaminergic neurons
	Pejmun Haghighi, Buck Institute for Research on Aging, USA
15:00-15:20	Title: Effect of intranasally administered insulin on ce- rebral blood flow and perfusion; a randomized experi- ment in young and older adults
	Diana van Heemst, Netherlands Consortium for Healthy

Ageing, Netherlands

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Day Tuesday September 11, 2018

15:20-15:40	Title: A pro-longevity role for cellular senescence
	Antonello Lorenzini, University of Bologna, Italy
Coffee Break 15:40 -15:55 @ F	oyer
15:55-16:15	Title: Low supply of social support as risk factor for mortality in the older adults
	Yeda Duarte, University of Sao Paulo, Brazil
16:15-16:35	Title: Find a Sense of Home across the Pacific in Old Age—Chinese American Senior's Report of Life Satis- faction in a Foreign Land
	Qi Wang, South China University of Technology, China

Panel Discussions

Thanks Giving & Closing Cermony

Day-3 Networking

	Poster Pre	sentations (Day-2 @ 13:40 - 14:20)
ARC-001		Title: Sustainable, aging-friendly urban landscape-Assess- ment of Health-promoting Urban Nature in Rome, Italy
		Adrienn Veisz , Sapienz- University of Rome, Italy
ARC-002		Title: Mixed motivations to provide formal care to old- er adults: Lessons from a training program
		Shiri Shinan-Altman, Bar Ilan Universiy, Israel
ARC-003		Title: The relationship between kidney function and social frailty in community-dwelling older Japanese
		Sungchul Lee, National Center for Geriatrics and Ger- ontology, Japan
ARC-004		Title: Downregulation of WWOX leads to sequential aggregation of TRAPPC6AΔ, TIAF1 and SH3GLB2 that leads to amyloid beta plaque formation and tau aggregation <i>in vivo</i>
		Nan-Shan Chang, National Cheng Kung University
ARC-005		Title: Se.Ko.Ph. study: Falls in NH residents of three european countries
		Aladar lanes, Korian Italy
ARC-006		Title: Lifestyle factors associated with muscle mass loss in aged 40 years and older : Six-year retrospec-tive cohort study
		NARA LEE, Seoul St. Mary's Hospital, Korea
ARC-007		Title: Associations between Coffee Consumption and the Risk of Stroke: A Systematic Review and Me-ta-analysis
		So-Youn Kim, Yeouido St.Mary's Hospital, South Korea



September 10-12, 2018 | Rome, Italy

Day-1 Keynote Session





September 10-12, 2018 | Rome, Italy



Dr. Tony Rao Institute of Psychiatry, Psychology and Neuroscience, King's College, London, UK

The diagnosis, prevention and care of alcohol related dementia

Rates of alcohol misuse in the cohort of "baby boomers" born between 1946 and 1964 are rising rapidly. This population is currently over the age of 50 and presenting to services in larger numbers than previous generations. This is reflected in larger rises in alcohol misuse (including alcohol related admissions and deaths) for this population compared with younger people over the past 20 years, particularly in developed countries. As a consequence, rates of alcohol related cognitive impairment are also rising in baby boomers. Alcohol related dementia (ARD) is an under-recognised type of dementia with both clinical and public health in its detection, prevention and treatment. It often presents against a background of complex morbidity such as head injury and cerebrovascular disease and amnestic syndrome. There is considerable scope for improving the assessment of ARD within both mainstream and specialist mental health services, but ongoing challenges remain to ensure its early detection so that appropriate preventative and rehabilitative interventions can be put in place. Such detection can also reduce the mortality and morbidity associated with alcohol misuse in later life. This presentation will highlight barriers and solutions to addressing the growing burden of ARD in older people.

Biography

Dr Rao has been consultant old age psychiatrist for 20 years in an inner-city area with a high rate of alcohol misuse in older people. After completing an MSc in the clinical and public health aspects of addiction, he has led a strategy for alcohol misuse in older people at the Maudsley Hospital. Dr Rao has been Visiting Professor at London South Bank University and is currently Visiting Lecturer at the King's College, London. He has continued to develop an evidence base to develop training, research and clinical services to meet the needs of older people with substance misuse.



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Jon F. Nussbaum

Liberal Arts Professor of Communication Arts and Sciences & Human Development and Family Studies, Department of Communication Arts and Science, Penn State University, University Park, PA, USA

Communication as core to managing and maintaining Quality of Life throughout the aging process: Intimacy, family and friend relationships and health care provider-older Adult interaction

M aintaining a high quality of life throughout the aging process is dependent upon numerous dynamic, complex and interdependent physiological, psychological, societal, and interactive processes. For the past forty years, together with my graduate students and scholarly colleagues, I have placed Communication at the core of an older adult's ability to manage and to maintain a high quality of life. Solidly rounded within theory (Communication Accommodation Theory, Socioemotional Selectivity Theory, the Life Span Communication Perspective, to name a few), our work has investigated the mechanisms that support both direct and indirect links that competent communication with intimate others, family and friend relationships and heath care provider-older adult interactions lead to a higher quality of life. The empirical evidence leads to numerous pragmatic suggestions and interventions for older adults and their interactive partners.

Biography

Jon F. NussBaum (Purdue, 1981). Liberal Arts Professor of Communication Arts and Sciences & Human Development and Family Studies at the Pennsylvania State University. He has authored, co-authored, edited and co-edited 19 books, over 120 refereed journal articles and book chapters, and has presented well over 150 scientific papers at scholarly conferences in Communication, Psychology, Gerontology and Public Health. He is the former President of the International Communication Association; former President of the International Association of Language and Social Psychology; former editor of the *Journal of Communication*, a Fellow of the American Psychological Association, a Fellow of the International Communication Association, a Distinguished Scholar within the National Communication Association; served as a Distinguished Faculty member within the Schreyer Honors College at Penn State; a 1991 Fulbright Research Scholar to the United Kingdom; and has directed 37 dissertations.



September 10-12, 2018 | Rome, Italy

Day-1 Scientific Sessions



Structured life review and its impact on family interactions *Laurie Dahley*

Concordia College, USA

___ nd-of-life care challenges healthcare professionals to provide the highest quality of care in keeping with the patient's values, beliefs, and desires. Communication is vital in this effort to provide quality endof-life care. However, attempts to better understand the dynamics involved in end-of-life communication has focused on healthcare professionals and the patient or family. This research project explored dimensions associated with communication at end-of-life within the family system and a technique to enhance this communication. A structured strengths-based life review was implemented with an older adult in the presence of family members. Through the implementation of this technique, modeling of open communication and reframing of past traumatic events was employed. Utilizing qualitative research methodology, participants were interviewed following the implementation of this technique to discern the potential impacts on family interactions. Summative findings revealed the technique served a dual purpose. One addressing the communication and interactions amongst family members. This form of quided life review was found to have fostered an understanding of values and beliefs so as to influence future care decisions by the family. The secondary purpose was an improved self-esteem and identity for the older adult. Themes that emerged included: affirmation of prior knowledge, creating a living legacy. revealing new information, opening communication, enhanced understanding, affirmation of the older adult, testimonials, and bridging distant family relationships. A review of the themes and potential uses for this technique are discussed.

Biography

Laurie Dahley was a medical social worker with 25 years experience in end-of-life care in hospital, nursing home, and hospice programs. She completed her PhD at North Dakota State University in 2013 and published her research on life review and the potential implications of this technique. She is on faculty at Concordia College where she serves as Field Director for their Social Work Program. She is also currently serving as the President of the Minnesota Social Service Association which is the largest such association in the United States. She has presented regionally, nationally and internationally on this and other topics.



Metabolic remodeling of mice in hypoxic-hypercaphic environment

Fraifeld V.E.^{1,2*}, Tolstun D.A.¹, Timchenko A.N.¹, Tushinskaya T.V.¹, DubileyT.A.¹, V.V. BezrukovV.V.¹, Knyazer A.² and Muradian K.K.¹

¹State Institute of Gerontology of National Academy of Medical Sciences of Ukraine, Kiev, Ukraine ²Ben-Gurion University of the Negev, Beer-Sheva, Israel

Background: The naked-mole rat (NMR) has lately become a popular gerontological model because of its exceptional longevity and high resistance to cancer and other age-related diseases. The unique features of NMRs could, at least in part, be attributed to theirlow body metabolism and temperature, which in turn could be associated with their habitat: Poorly-ventilated underground burrows, with the self-generated severe hypoxic-hypercapnic environment (HHE).

Objective: To clarify if HHE typical for NMRs could induce similar metabolic changes in mice.

Methods: Effects of acute (3h) and chronic (30-60 days) HHE were studied in young (3-4 months), middle aged (8-12 months) and old (24-26 months) C57Bl/6 and CBA mice. Animals were kept on standardad libitum feedingin special containers with a restricted air ventilation resulted in HHE. The O_2 and CO_2 levels were monitored using corresponding blocks of gas-analyzer. Body surface temperature was measured by non-contact (non-traumatic) infrared thermometer. The gene expression was analysed by quantitative PCR.

Results: HHE induced a substantial decrease inmetabolic rate and body surface temperature. In acute experiments, O_2 consumption and CO_2 production rates declined by around 8% in response toeach percent of a CO_2 increase. Remarkably, the metabolic rate and body temperature remained stably low during the whole period of chronic HHE in all the age-groups, with no significant changes inspontaneous motor activity or percentage of sleeping mice. Despite the ad libitum feeding regime, the food consumption in HHE mice were substantially lower, resulting ina decrease in body mass. This could be associated witha declined expression of two hypothalamic appetite-stimulating peptides (neuropeptide Y and agouti-related peptide). Notably, chronic HHE induceda markednormalization of the blood glucose in the streptozotocin model of type-1 diabetes, accompanied by accelerated rate of skin wound healing. Promising results were also received in preliminary experiments with HHE treatment of Lewis carcinoma.

Conclusions: HHE typical for NMRs is one of few, if any, treatments ensuring substantial and longterm decline of metabolism, temperature and food consumption, irrespective to the mouse age. It could be a rewarding model of voluntary caloric restriction, overweight normalization and prevention of the metabolic syndrome and other age-associated conditions.

Biography

Fraifeld V.E. is the Head of the Lab for the Biology of Aging at the Shraga Segal Dept of Microbiology, Immunology and Genetics, Ben-Gurion University of the Negev, Beer Sheva, Israel and his Major research interests into Systems biology of aging, longevity, and age-related diseases; Cellular senescence; Wound healing and fibrosis; Experimental life span extension. Hea was the Member of the Editorial Board for Biogerontology, Frontiers in Neuroscience, Frontiers in Genetics, Oncotarget, Problems of Aging and Longevity. Authored over 70 peer-reviewed articles has been the Chair of the 8th European Congress of Biogerontology (March 10-13, 2013, Beer Sheva – Dead Sea, Israel)



To contrast and reverse skeletal muscle atrophy by Full-Body In-Bed Gym- A mandatory life-style for older olds and borderline mobility impaired persons

Ugo Carraro

Translational Myology Lab, University of Padova, Italy

Background: Older olds, that is octogenarians, spend small amounts of time for daily physical activity, contributing to aggravate their independence limitations up to force them to bed and to more and more frequent hospitalizations. All progressive muscle contractile impairments, including advanced agerelated muscle power decline, need permanent management.

Methods: Inspired by the proven capability to recover skeletal muscle contractility and strength by homebased functional electrical stimulation and guided by common sense, we suggested to older olds a 15–30 min daily routine of 12 easy and safe physical exercises.

Lessons learned: Since persons can do many of them in bed (full-body in-bed gym), hospitalized elderly can continue this kind of light training, that is an extension of the well-established cardiovascular-ventilation rehabilitation before and after admission. Monitoring arterial blood pressure before and after the daily routine demonstrate that peripheral resistance decreases in few minutes by the functional hyperemia of the trained body muscles.

Conclusions: Continued regularly, full-body in-bed gym, combined with functional electrical stimulation, helps to maintain the independence of frail older people and may reduce the risks of serious consequences of accidental falls.

References:

Carraro U, Gava K, Musumeci A, Baba A, Piccione F, Marcante A (2018) Safe Antiaging Full-Body In-Bed Gym and FES for Lazy Persons: Home In-Bed Exercises for Fighting Muscle Weakness in Advanced Age. In: Rehabilitation Medicine for Elderly Patients, Masiero S, Carraro U, Eds., pag. 43-52. ISBN 978-3-319-57405-9 ISBN 978-3-319-57406-6 (eBook) DOI 10.1007/978-3-319-57406-6.

Biography

Prof. Ugo Carraro is a world-class leader in molecular and structural analyses of skeletal muscle. He developed bi-dimensional gel electrophoresis for myosin light chains, in particular the embryonic isoform, and was the first to separate myosin heavy chain isoforms of mammal muscles. Consultant and collaborator for European Union-founded trials for rehabilitation managements of neuromuscular muscle diseases by Functional Electrical Stimulation.



A novel classification model of bone turnover status: (Patho) Physiological evidence and clinical implications

Alexander Fisher

Departments of Geriatric Medicine and Orthopaedic Surgery, The Canberra Hospital and Australian National University Medical School, ACT, Australia

A lthough altered bone and mineral metabolism is considered as one of the most important and modifiable risk factors for osteoporotic fractures, the diagnostic and prognostic value of measuring bone turnover markers (BTMs) is still disputed. Current international guidelines recommend BTMs only for monitoring the efficacy of osteoporosis treatment and compliance. Bone formation and resorption are coupled but not always remain in balance; in the elderly bone is lost because remodelling becomes unbalanced. However, most of the studies focused on separate BTMs, whereas the balance between bone formation and resorption was not characterized. Therefore, we sought to develop a practical model for classification bone turnover status and to evaluate its clinical usefulness. Our classification combines analysis of internationally recommended biomarkers of both bone formation (N-terminal propeptide of type1 procollagen, P1NP) and bone resorption (beta C-terminal cross-linked telopeptide of type I collagen, bCTX), using the cut-offs proposed as therapeutic targets, and their ratio. The circulating concentrations of these markers are related to and reflect the integrated formation and resorption processes of the skeleton, while the ratio P1NP/bCTX<100 (median value) representsa shift towards accelerated bone resorption.

Six subtypes of bone turnover status were identified: 1 - normal turnover (P1NP>32 µg/L, bCTX<0.250 µg/L and P1NP/bCTX>100.0]; 2- low bone formation (P1NP \leq 32 µg/L), normal bone resorption (bCTX<0.250 µg/L) and P1NP/bCTX>100.0 (subtype2A) or P1NP/bCTX<100.0 (subtype 2B); 3- low bone formation, high bone resorption (bCTX>0.250 µg/L) and P1NP/bCTX<100.0; 4- high bone turnover (both markers elevated) and P1NP/bCTX>100.0 (subtype 4A) or P1NP/bCTX<100.0 (subtype 4B).Assessment of 1223 hospitalised orthogeriatric patients (846 women, 377 men; mean age 78.1 \pm 9.50 years) revealed that, compared to subtypes 1 and 2A, subtypes 2B, 3 and 4B were strongly associated with nonvertebral fractures (odds ratios 2.0-3.2), subtypes 3, 4A and 4B predicted in-hospital mortality, subtypes 3 and 4B predicted also post-operative myocardial injury, high postoperative inflammatory response and prolonged hospital stay (LOS); subtype 4A was not discriminative for fractures but predicted LOS>20 days. Altered subtypes were also closely related to presence of specific comorbidities. The underlying mechanisms of these relationships are summarized, and the application of the current knowledge onsubtypes of bone turnover status to developing individualised preventive and therapeutic strategies discussed. Further research is clearly needed to establish optimal cut points of various biomarkers and improve the classification model.



Daily concerns in oral drug therapy for aged dysphagic patients

Serena Logrippo¹*, Giulia Bonacucina¹, Marco Cespi¹, Paolo Blasi¹, Roberta Ganzetti² and Giovanni Filipppo Palmieri

¹School of Pharmacy, Univeristy of Camerino, Italy ²Italian National Research Centers on Aging (INRCA) Hospital, Ancona, Italy

stimations of life expectancy demonstrate an increase in lifespan meaning a growing presence of elderly people.¹⁻² Diagnosing several diseases is common in aged population that, consequently, assumes drugs. One of the age-related complications in elderly is dysphagia that is described as an expression of cerebrovascular, neurodegenerative and age-related patalogies.³⁻⁴ Dysphagia is defined as swallowing disorders of liquids or solids. About that, solid oral dosage forms (SODFs) may be contemplated in.⁵ In case of dysphagic people, caregivers proceed crushing or compounding tablets and dispersing them into suitable vehicles to facilitate SODFs intake. Manipulations are thus necessary to provide alternatives in dosage forms intended to dysphagics (like liquid, semisolid or orodispersible forms). Compounding may determine some potential risks or errors such as drug toxicity and inactivation, or drug-drug and drugfood interactions, mucosae injuries, or dose inaccuracy. In this regard, we investigated some aspects related to drug administration in elderly people unable to swallow: inappropriate prescribing (IP), solid forms compounding as tablet splitting (TS) and enteral delivery (ED) of drug for enterally supplied patients. In our experience about IPs, the most common prescribed inappropriate dosage form was associated with diuretic furosemide (40%). It was given as tablets while liquid oral form was available. TS is a diffuse technique to dosage adjustements, for saving costs, reducing tablet size and facilitating intake. Our study about TS was performed on quetiapine fumarate 25 and 100mg tablets. Results demonstrated that, either for weight or for drug content uniformity, split tablets were not compliant with European Pharmacopoeia. Instead, after ED of compounded pravastatin sodium tablets through feeding tubes, the assumed drug amount was respected and ranged within the acceptance limits of Pharmacopoeia. Concluding, drug therapy in aged people with dysphagia requires some precautions to assure suitable prescribed forms and dosage accuracy.

References

- 1. Vaupel JW. Biodemography of human ageing. Nature. 2010; 464(7288):536–542.
- 2. Fernández-Ballesteros, Rocío, et al. Active aging: a global goal. Current Gerontology and Geriatrics Research. 2013; (2013).
- 3. Aslam, Muhammad, and Michael F. Vaezi. Dysphagia in the elderly. Gastroenterology & hepatology. 2013; 9(12):784-795.
- 4. Stegemann, S., M. Gosch, and J. Breitkreutz. Swallowing dysfunction and dysphagia is an unrecognized challenge for oral drug therapy. International journal of pharmaceutics. 2012; 430(1):197-206.
- 5. Kelly, Jennifer, David Wright, and John Wood. Medicine administration errors in patients with dysphagia in secondary care: a multicentre observational study. Journal of advanced nursing. 2011; 67(12):2615-2627.

Biography

Serena Logrippo is completing her PhD course in Pharmaceutical Sciences at University of Camerino (Italy). Her research is mainly focalized on the topic of dysphagia with a special attention for elderly people. Her background studies on pharmaceutical technology gave a chance to investigate in the pharmaceutical formulation field and to develop medicinal products intended to dysphagic people. She is co-author of some publications about this subject.



Cortical thickness and the correlation with manual motor performance in a Community-based sample of older adults in South America

Telma de Almeida Busch^{1*}, Joana Bisol Balardin², Anelise dos Santos Rodrigues³, Michel Satya Naslavsky⁴, Khallil Taverna Chaim¹, Yeda Aparecida Duarte⁵, Mayana Zatz³ and Edson Amaro Junior^{1,2}

¹Department of Radiology, Medical School, University of São Paulo, SP, Brazil ²Institute of Brain- Hospital Israelite Albert Einstein, SP, Brazil ³Department of Psychology, University of São Paulo, SP, Brazil ⁴Human Genome Research Center, University of São Paulo, São Paulo, SP, Brazil ⁵Department of Nursing, School of Nursing, University of São Paulo, São Paulo, SP, Brazil.

Objectives: This study aims to investigate the relationship between cortical thickness and manual motor performance in a sample of healthy elders from a large urban cohort.

Experimental design: We examined the correlation between cortical thickness, dexterity and handgrip considering age, sex, and education in a population-based sample of 303 right-handed older adults. Cortical thickness was measured using surface-based morphometry implemented in Freesurfer software.

Main points: Significant positive FDR-corrected correlations (p<0.05) were observed between right hand dexterity and left cortical thickness in the insula, postcentral, superior parietal and superior frontal gyrus. Moreover, significant positive correlations were observed between right hand dexterity and right cortical thickness in the inferior parietal gyrus, precuneus, superior frontal, precentral, superior temporal and insula. The dexterity of the left hand showed no significant association with cortical thickness, and no significant association was observed between the right or left handgrip and right or left cortical thickness. No significant effects of sex or education were observed.

Conclusion: Differences in hand dexterity contribute to differences in brain thickness even at the later stages of life, suggesting that motor skill could be a protecting factor for cortical thinning during the aging process.

Biography

Telma Busch has completed her PhD in Health Science in 2010 and her postdoctoral in Neuroscience studies from University of São Paulo (USP) in 2017. The research had the objective to study the correlation of the behavioral findings (function-strength and manual dexterity) with the thickness of the cortex in healthy octagene elderly of Sao Paulo. Master in gerontology with emphasis in anthropology by PUC-SP, acting mainly in the following theme: Aging and urban space. Title: Traps of the urban space. Coordinator and professor of post-graduation in Gerontology Albert Einstein Hospital and researcher at Institute of Brain- Hospital Israelita Albert Einstein, SP,



Yoga reverses osteoporosis

Loren M. Fishman, MD, B.Phil.,(oxon),* Yi-Hsueh Lu, Bernard Rosner and Gregory Chang

Manhattan Physical Medicine and Rehabilitation in New York City, USA

Background: Osteoporosis and osteopenia affect more than 200,000,000 people worldwide. Current medications are effective, but side-effects limit compliance to approximately 25% of the American population for whom insurance would purchase them.¹⁻¹⁰. The medications are also limited in the time for which they can be used, and do not improve balance or posture, the two main causes of fracture.

Methods: In an unfunded Internet-based study, we gave 741 people a 12-minute DVD with narration of 12 yoga poses (30 seconds/side) after gathering PTH, TH, SR, CMP, Vitamin D 25-hydroxyl, Vitamin D 1,25-dihydroxyl and urine NTX, a DEXA from at least a year prior to study onset, and a DEXA within 6 months of starting the study. We requested a DEXA 2 years after study onset, and X-rays at study onset and at 2 years. Eighteen patients had 7-Tesla bone quality studies.

Results: 227 people with all requisite labs normal and DEXA scans completed the study. 112 patients had before-and-after X-rays of hips and spine. Osteoporosis or osteopenia was present in 83% of the patients. Mean monthly change of T-scale for spine, femur and hip was lower in the period before study onset. In the study period bone mineral density gain was significant in spine (0.0029 g/cm2 P = .005 and femur (0.00022 g/cm2, P = .053) but in 1 cohort, although mean gain in hip bone mineral density was 50%, large individual differences raised the confidence interval and the gain was not significantfor total hip (0.000357 g/cm2). No serious yoga-related injuries were imaged or reported. Bone quality appeared qualitatively improved among yoga practitioners compared with non-yoga practitioners.

Conclusion: Yoga may be an effective means of raising bone mineral density and possibly bone quality.

Reference:

Siris ES, Yu J, Bognar K, Dekoven M, Shrestha A, Romley JA, Mod A. "Undertreatment of osteoporosis and the role of gastrointestinal events among elderly osteoporotic women with Medicare Part D drug coverage."Clin Interv Aging. 2015; 10:1813–18241.

Biography

LOREN FISHMAN, MD is Medical Director of Manhattan Physical Medicine and Rehabilitation in New York City, author of ten books and author or editor of more than 90 academic articles. He is a pioneer in the treatment of piriformis syndrome and rotator cuff tear and back pain. "... A Thomas Edison of yoga therapy," according to Pulitzer-Prize winning author William Broad, Dr. Fishman has done peer-reviewed clinical research on yoga and osteoporosis, scoliosis, and rotator cuff tear. Before becoming a physician, Dr. Fishman rcceived a degree in philosophy from Oxford University. Then he studied yoga in India with BKS Iyengar. Dr. Fishman is Associate Editor of Topics in Geriatric Rehabilitation and on the staff at Columbia College of Physicians and Surgeons.



Ageing and cancer: Role of tumor microenvironment

Karel Smetana, Jr.*, Lukáš Lacina, Barbora Dvořánková and Aleksi Šedo

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Cancer incidence is increasing worldwide, especially in highly developed countries of Europe, Asia, and America. This difficulty seems to be associated with ageing of settlement in these countries. Ageing is coupled with significant reduction of activity the gene repair machinery and the accumulation of mutations in genome of old people was observed. So, 40, 000 of mutations were detected in DNA of non-cancer persons of more than 60 years of age. It is not surprising that this age is associated with dramatic increase of cancer incidence⁽¹⁾. Majority of malignant tumors including cancer in patients in elderly is genetically heterogeneous and evolution of each tumor in course of disease progression and metastazation was noted. The cancer microenvironment formed by non-malignant cells and their products is participating in control of disease progression. The cancer-associated fibroblasts and their products as important factor of the cancer microenvironment are characterized in lecture. These cells can also represent a good target for new generation of anti-cancer therapy⁽²⁾.

References:

1. Smetana K Jr, Lacina L, Szabo P, Dvořánková B, Brož P, Šedo A. Ageing as an important risk factor for cancer. Anticancer Res. 36: 5009-5017 (2016).

2. Lacina L, Kodet O, Dvořánková B, Szabo P, Smetana K Jr. Ecology of melanoma cell. Histol Histopathol. 33: 247-254 (2018).

Biography

Karel Smetana, Jr. has completed his Ph.D. at the age of 30 years and D.Sc. at the age of 37 from Charles University in Prague. He is Professor of Anatomy, 1st Faculty of Medicine, Charles University in Prague where he is interested in cell biology, especially in cancer microenvironment. He has published more than 200 papers in reputed journals and his work was cited 1,700 times. He is managing editor of Folia Biologica and has been serving as an editorial board member of several journals.



Molecular and cellular mechanisms of age-related macular degeneration: Evidences from OXYS rats

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A ge-related macular degeneration (AMD) is a degenerative disease of the retina and the leading Cause of blindness in the elderly. A number of genetic and non-genetic factors influences on the pathogenesis of AMD, which remains poorly understood. A major obstacle for understanding of the pathophysiology of AMD is its complexity and a lack of an animal model that can adequately replicate key features of the human disease. Here we present data of the analysis of clinical, histological and molecular manifestations of AMD-like retinopathy in nontransgenic OXYS rats.

Using retinal RNA-seq data we found hundreds differentially expressed (DE) genes at the preclinical (20 d), the early (3 mo) and the advanced (18 mo) stages of retinopathy in OXYS rats.

Comparison of the RNA-Seq data from OXYS rats at different stages of retinopathy development demonstrated that each stage was characterized by a different set of DE genes and enrichment pathways. We showed that destructive alterations in RPE cells are a primary change during the development of retinopathy in OXYS rats. The cell death in the retina of OXYS rats is realized by apoptosis, necrosis and autophagy against the background of microglia phagocytic dysfunction and reactive gliosis. The estimation of age-related alterations of autophagy process in the retina has shown the increased levels of LC3A/B, Atg7, and Atg12 proteins in the OXYS retina at the age of 3 months and significantly decreased at the age of 18 months. Simultaneously with perturbation of the autophagic response, the necrosome subunits Ripk1 and Ripk3 were detected in the OXYS retina. Our study emphasizes the importance of autophagic pathway, imbalance in immune responses, aberrant migration of microglia in the pathogenesis of AMD and supports the view that the genetic background has a profound impact on AMD development and response to therapy. Supported by the RFBR № 18-315-00216.

Biography

Darya V. Telegina has completed his PhD at the age of 26 years fromInstitute of Cytology and Genetics SB RAS (ICG SB RAS). She is the reseacher of the laboratory molecular mechanism of aging in ICG SB RAS. She works under the guidance of prof. Nataliya G. Kolosova. Darya Telegina has published articles in reputed journals. Her scientific interests are the animal models of age-related human disease and reseaches of molecular and cellular mechanisms of the neurobiology of aging.



Social isolation and risk for malnutrition among elderly people: Results from the AMEL study

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Social isolation and loneliness are emerging issues among geriatric population. The relationships between both and their impact on health and nutritional status in older people are complex.

The purpose of the present study was to evaluate the association between three components of social isolation (social network, feeling of loneliness, commensality) and nutritional status. The AMEL (*Ageing and Malnutrition among Elderly Lebanese*) study, initially designed to investigate malnutrition among Lebanese Elderly, included a respresentative sample of 1200 randomly selected older adults aged 65 years and more and living in rural areas. Data were collected during face to face interview including nutritional status (Mini Nutritional Assessment), measures of social isolation (Lubben Social Network Scale), subjective loneliness (Jong- Gierveld Loneliness Scale), socio-demographic conditions, health and functional status.

The results showed that both social isolation and loneliness were independently associated with a higher risk of malnutrition (OR: 1.58; p=0.011 / OR: 1.15; p=0.020, respectively). However, no association was found between the frequency of sharing meals and risk of malnutrition.

In conclusion, our findings highlight the need for increasing awareness about social determinants of malnutrition among elderly people living in the community. To reduce the risk of social isolation and loneliness, participation in social activities and interaction with other has to be encouraged.

Biography

Christa BOULOS is a Specialist in Geriatric Medecine graduated from the University of Tuebingen (Germany). She worked in France as a Geriatrician and then moved to Lebanon where she teaches at the St Joseph University since 2005. In 2013 she completed her PhD thesis in the field of Geriatric Nutrition and she is currently working as Associate Professor in the Nutrition Department of the St Joseph University of Beirut. She has published many articles related to Nutrition in Elderly and is actually undergoing a research on the association between Lebanese Dietary Pattern and cognitive decline among Elderly in Lebanon



Serum 25-hydroxyvitamin D levels and the risk of depression: A systematic review and meta-analysis

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Objective: No quantitative systematic review or meta-analysis of population-based epidemiological studies has been conducted to assess the association between serum 25-hydroxyvitamin D (25(OH)D) levels and the risk of depression. This study aimed to summarize the current evidence from cross-sectional and prospective cohort studies that have evaluated the association between 25(OH)D levels and the risk of depression.

Methods: Relevant studies were identified by systematically searching the PubMed, EMBASE, Web of Science, and PsycINFO databases through April 2012. Cross-sectional and cohort studies that reported adjusted odds ratios (ORs) and 95% confidence intervals (CIs) for the association of interest were included. The reported risk estimates for 25(OH)D categories were recalculated, employing a comprehensive trend estimation from summarized dose-response data. A pooled OR was calculated separately for cross-sectional and cohort studies using random-effects models.

Results: In the meta-analysis, 25(OH)D levels were significantly inversely associated with depression in 5 of 11 case-control studies and 2 of 5 cohort studies. The pooled estimate of the adjusted OR of depression in 11 cross-sectional studies (n = 43,137) was 0.96 (95% CI = 0.94-0.99, I2 = 63%) for a 10 ng/ ml increase in 25(OH)D levels. The 5 included cohort studies comprised 12,648 participants, primarily elderly individuals, whose serum 25(OH)D levels were measured, and 2,663 experienced depression events during follow-up. The pooled adjusted OR of depression was 0.92 (95% CI = 0.87-0.98, I2 = 50%) for a 10 ng/ml increase in 25(OH)D levels.

Conclusions: Our results indicate an inverse association between serum 25(OH)D levels and the risk of depression. Further studies are warranted to establish whether this association is causal.

Biography

JOO has completed his PhD at the age of 44 years from Graduate Medical School of the Catholic University of Korea. He is secondary director of department of hospice and palliative medicine at Yeouido St. Mary's Hospital. He has published more than 10 papers in reputed journals and has been very interested in geriatrics and palliative medicine.



Effects of Yoga Interventions Practiced in Heated and Thermoneutral Conditions on Endothelium-Dependent Vasodilation: The Bikram Yoga Heart Study

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Background: We have previously documented improvements in endothelium-dependent vasodilation with a Bikram (hot) yoga intervention in middle-aged adults1. Presently, the effect of environmental temperature in hot yoga on endothelial function is unknown. The purpose of this investigation was to determine the effects of Bikram yoga interventions performed in the heated and thermoneutral conditions on endothelium-dependent vasodilation.

Methods: Fifty-two sedentary but apparently healthy adults aged 40-60 years were randomly assigned to one of three groups: Bikram yoga practiced at 40.5°C (n=19), Bikram yoga practiced at 23°C (n=14), or sedentary time-control (n=19). The yoga interventions consisted of 90-minute Bikram yoga classes 3 times a week for 12 weeks. Endothelium-dependent vasodilation was measured noninvasively using brachial artery flow-mediated dilation (FMD).

Results: Age, anthropometric variables, plasma lipid and glucose concentrations and brachial artery FMD at baseline were not different among the three groups. Body fat percentage determined via dual energy x-ray absorptiometry declined (p<0.01), and total (p=0.051) and LDL-cholesterol concentrations (p=0.09) tended to be reduced only in the hot yoga group after the intervention. Brachial artery FMD increased (P<0.05) in both yoga groups. There were no significant changes in any outcome variables in the time control group.

Conclusions: Bikram yoga practiced in heated and thermoneutral conditions produced similar improvements in endothelium-dependent vasodilation in healthy, middle-aged adults. These novels findings highlight the effectiveness of hatha yoga postures alone, in the absence of a heated practice environment, in improving vascular health and are of clinical significance given the increased propensity toward heat intolerance in aging adults.

Reference

1. Hunter SD, Dhindsa MS, Cunningham E, et al. The effect of Bikram yoga on endothelial function in young and middle-aged and older adults. J Bodyw Mov Ther. 2017;21(1):30-34.



Implementation of Lifestyle Redesign[®] (LR) intervention for healthy elderly

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Introduction: One of the most significant demographic phenomena has been the aging of the world's population. Elderly experience physical, cognitive, emotional and social changes that challenge their ability to maintain independence in daily activities. Occupational therapists at the University of Southern California (USC) developed the Lifestyle Redesign (LR), an intervention program shown to reduce disease prevalence and improve quality of life among elderly. The intervention assumes that age-related changes can be delayed by engaging in healthy lifestyles. The process of adjusting the LR program to an Israeli elderly population included a focus group of occupational therapists that adapted it to the Israeli culture and translated it into Hebrew.

Objectives: This study aimed to assess the feasibility and effectiveness of LR intervention among healthy elderlyin Israel.

Method: The pilot program was implemented with 18 independent, community-residing participants ages 60-80 (M=69.4), of whom 83% were women, 89% had a high school and above education and 60% lived with a partner. The intervention involved 14 weekly 2-hour group meetings and two individual sessions. Quantitative and qualitative data was collected before and after the intervention of 3 month.

Results: The quantitative data instruments were: MoCA, Up and Go" (TUG) Test, IADL questionnaire, QoL, (z=-1.92 p<.04), Health perception (z=-2.070 p<.038), and Satisfaction.On the other instruments no significant differences were found: On the MoCa, TUG and IADL they were high from the beginning; Participants reported implementing self-set goals to achieve ahealthier lifestyle. All were satisfied with the program and asked for more meetings.

Conclusion: The pilot study indicated that the Israeli Life Style Redesign intervention program was feasible and effective, suggesting that the LR program can be adapted to different cultures. Healthy elderly seems to participate willingly and transferring what they learned to other life situations.

Biography

Noomi Katz, PhD, OTR, Professor and Director of the Research Authority of Ono Academic College, Israel. Previously Director of the Research Institute for Health and Medical Professions at Ono Academic College. Professor Emeritus, School of Occupational Therapy, Hebrew University and Hadassah Jerusalem, Israel. Publications: 5 books and 20 chapters; about 120 articles; about 100 conference presentations. Co Editor with Prof Joan Toglia and among the authors of the book: Cognition, Occupation and Participation across the life span. Bethesda MD: AOTA Press, 2018, 4rd edition. Areas of interest and research: cognitive rehabilitation; cognitive models for intervention in occupational therapy; measurement and treatment of executive functions; assessment and intervention in neurological disabilities and mental health; Mild stroke sequel and Return to Work (RTW); Aging, healthy aging and cognition.



Apathy in depressed older persons: Course and predictors. The NESDO study

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Parnassia Group, Netherlands

pathy is a common behavioral syndrome, influencing different areas of daily functioning and often seen in depression. As a distinct clinical syndrome, apathy interferes with quality of life and is associated with divers negative health outcomes, including higher mortality and less benefit derived from rehabilitation and treatment of depression. In late-life depression, apathy may be very prominent. Since, knowledge on apathy within depressed older persons is very scarce, we wil discuss different studies examining apathy within a cohort of older depressed persons from the Netherland Study of Depressed Older Persons (NESDO). In a Cross-sectional study, base-line clinically relevant apathy was present in 75% of the older depressed persons and in 25% of the non-depressed older persons. Depressed and non-depressed older persons with apathy differed from each other with regard to associating factors. Further, we found the predictive factors for incident apathy to be different form those prediciting persistent apathy in the 2-year longitudinal study. Furthermore, apathy at baseline predicted a poor recovery of depression at follow-up. In addition, it appeared that apathy was also often present in depressed younger adults. Although, older depressed persons more often showed apathy, the same associated risk factors were largely found in both age groups. Clinical relevant apathy is often present in depressed older persons and has a negative impact on recovery of depression. It is important to recognize clinically relevant apathy in order to give adequate treatment.

Biography

Isis has completed her MD at the age of 26 from the Erasmus Medical Center in Rotterdam, registered at the age of 35 years as a psychiatrist and her PhD at the age of 49 years from Leids University Medical Center. She works as a psychiatrist for old age in a mental clinic in Rotterdam, is medical specialist trainer for psychiatrists specializing in old age psychiatry and leader of the specialism group old age within the Parnassia group organisation. She had published 8 papers in reputed journals and is peer reviewer for different journals form Dovepress.



With age, unmet basic needs negatively affect health-related quality of life in adults with HIV: Fouryear prospective results from Positive Places, Healthy Places, Toronto, Canada

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Background: Despite the hope from HAART, the health and well-being of HIV positive persons continues to be endangered, especially as they age.

Objective: To examine the effect of unmet basic needs on a four-year prospective measure of health-related quality of life (HRQoL) in the Positive Places, Healthy Places cohort in Toronto, Canada.

Methods: We defined basic needs as the ability to afford food, clothing, and housing without the risk of homelessness and categorized them into five risks: None, low, moderate, severe and highly severe. Participants were divided into three age groups: Young (20-34), mid-aged (35-49) and old (50+). The physical health summary (PHS) and mental health summary (MHS) scores derived from the 35-item HIV-Medical Health Outcome Study served as outcome measures. We conducted mixed method hierarchical linear regressions on PHS and MHS models, using Akaike Information Criterion (AIC), AIC Corrections (AICC) and Bayesian Information Criterion (BIC) to determine the final models.

Results: The baseline sample (2006) was N = 602, one-year sample (2007): N = 509 and four-year followup (2009): N = 438; giving a total sample of N = 1549. Mean age was 44.1 (SD = 8.4). Numbers in the mid-aged group were significantly higher than in the young and older age groups. All unmet basic need categories differed from year to year (p = 0.039, Figure 1). Over time, more basic needs were met but only the mid-aged group reached statistical significance (p = 0.031). In univariate analysis comparisons, unmet basic needs were negatively and significantly associated with lower physical health and mental health summary scores (Figure 2a/b). Using mixed method hierarchical linear regression for PHS and MHS models, we observed a significant reduction in scores when basic needs were unmet after adjusting for time, demographics, socioeconomics, living alone, social support, HIV and depression. We also noted that there was a significant interaction effect between old age and three categories of unmet needs (old age*moderate unmet; old age*highly severe unmet) in PHS model.

Conclusion: Our preliminary analysis results suggest that unmet basic needs have a significant and negative effect on both physical health and mental health summaries as one gets older. Apart from the aging process itself, unmet needs worsen the HRQoL of older persons with HIV.



Biography

Phan Sok, M.D., M.P.H., M.S.W., Ph.D. (C). Practiced medicine for more than 17 years. Staff physician and former Head of hospital HIV Department in Cambodia. Phan benefits from a uniquely global education: studied Medicine in Vietnam, Public Health and Social Work in the U.S. and, currently, is a Ph.D. candidate in Life Sciences at the University of Toronto. His research seeks to improve the health and wellbeing of older adults living with HIV who face age-related illness, HIV comorbidity, mental health challenges, HIV-related stigma, and difficult socio-economic conditions. Current projects involve addressing basic needs (i.e., food, clothing, affordable housing) and predicting outcome of illness in relation to CD4/HIV-1 viral load.





September 10-12, 2018 | Rome, Italy

Day-2 Keynote Session



September 10-12, 2018 | Rome, Raly



Kaj Winther

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Can daily intake of a food supplement postpone the day for accepting a retirement home?

Background: Aging causes limitations in physical and mental function which reduce the quality of life and the ability to remain in one'sprivate home without support from external sources. The aim of this survey was to investigate, in a middle-class population, if the consumption of a food supplement containing antiinflammatory and anti-oxidative properties (Hyben Vital) might improve the physical performance and quality of life for elderly inhabitants and influence their consumption of pain killers and sleep-inducing medication. If so, the day for accepting a place at a retirement home might be postponed for many senior citizens.

Methods: A herbal remedy, Hyben Vital, based on powdered seeds and shells from a subspecies of rose hip (5 gram daily) or placebo was supplied to 160 middle aged and elderly volunteers with osteoarthritis. Pain and daily activity (ADL) were evaluated using WOMAC questionnaires and Quality of life using SF-12. The consumption of pain killers and sleeping pills as well as sleeping quality was likewise estimated and so was cell longevity, defined as the life span of erythrocytes when measuring the leakage of hemoglobin from erythrocytes, during storage in a blood bank.

Results: Administration of the herbal remedy resulted in a significant reduction in pain when compared to placebo (p<0.042) and in improvements of ADL function(p<0.012) and quality of life (p<0.020). Moreover, active treatment resulted in a decline in the consumption of pain killers of 40% (p<0.020) and a significant improvement in sleeping quality (p<0.050) without any change in the consumption of sleeping pills. Active treatment alsoresulted in prolonged longevity of erythrocytes (p<0.050).

Conclusion: The present data suggest that the consumption of, a food supplement with anti-inflammatory and anti-oxidant capacity, can lower the private and public costs for medicines, as well as impact factors determining the day for accepting a retirement home.

Biography

Kaj Winther was earlier deeply involved in cardiovascular research with special reference to thrombosis and haemostasis and worked for a period at the Harvard Medical School, Boston on the topic "Circadian Variation in Myocardial Infraction." Later, he more and more focused on development and clinical testing of herbal remedies and different new foods. His interest in foods and herbal remedies is based on the fact that such factors can influence muscle and joint pain, quality of life and cell longevity and the consumption of which prescription medicine including the non-steroid anti-inflammatory drugs (NSAID`s) blamed for serious side effects.



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Person centered care for people with Alzheimer's disease and dementia

¹**Mary Guerriero Austrom, PhD*,** ²Sam Fazio, PhD, ³Douglas Pace, NHA and ⁴Michael LaMantia, MD

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n order to ensure that people living with Alzheimer's disease (AD) or a related dementia are receiving high quality care that is evidence based and up to date, the Alzheimer's Association together with content experts has updated their quality care guidelines. The topic areas are person-centered care, detection and diagnosis, assessment and care planning, medical management, information, education and support, ongoing care, staffing, therapeutic environment and safety, and transitions and coordination of care. While this session will provide an overview of the recommendations and how they can be used to increase the quality of care and quality of life for people with AD and related dementias, this discussion will focus on person centered care for ongoing medical management, as this was our content area of expertise. These recommendations were designed for the non-medical professional. The presentation will focus on how to deliver timely, individualized care to the person with dementia, including medication management and management of comorbid medical conditions in the context of the person's dementia. It will also focus on how to avoid use of antipsychotics and other medications unless the symptoms are severe, create safety risks for the person or others, or when the person hasn't responded to preferred non-pharmacological interventions.

Biography

Mary Guerriero Austrom (B.A., B.Ed. Brock University, St. Catharines, Ontario, Canada; M.A., Ph.D. York University, Toronto, Canada) is the Wesley P. Martin Professor of Alzheimer's Disease Education; Professor of Clinical Psychology in Clinical Psychiatry, Department of Psychiatry; Leader of the Outreach and Recruitment Core at the Indiana Alzheimer Disease Center; and the Associate Dean for Diversity Affairs at Indiana University School of Medicine. Dr. Guerriero Austrom is an expert in aging and Alzheimer's disease. Her clinical and research interests include developing non-pharmacological interventions for persons with dementia, families providing care at home, and professional caregivers. She is also interested in healthy aging, community engagement and volunteerism in late life. She is actively involved with several organizations nationally and internationally devoted to issues affecting the elderly and regularly speaks to groups nationally and internationally about her work.



ANAVEX®2-73, a Sigma-1 Receptor Agonist, and Clinical Alzheimer Disease Drug Candidate: A Small Molecule with a Wide Scope

Christopher U. Missling

President and CEO of Anavex Life Sciences Corp, USA

Background: Anavex Life Sciences Corp. is dedicated to the development of sigma-1 receptor therapeutics that target cellular homeostasis. Anavex holds the potential to treat several severe, often devastating, genetically caused neurological disorders.

Methods: ANAVEX[®]2-73, completed a successful Phase 2a clinical trial for Alzheimer's disease. Clinical data were analyzed with formal concept analysis (FCA), non-linear mixed effect (NLME) modeling and non-compartmental analysis methods. In addition, ANAVEX[®]2-73 have demonstrated positive results in behavioral and biomarkers readouts in a wide range of preclinical disease models, including a 6-OHDA lesions model for Parkinson's disease and MECP2 HET mouse model for Rett syndrome.

Results: ANAVEX[®]2-73 demonstrated favorable safety and tolerability through 109 weeks, and Alzheimer's patients with highest drug concentrations had improved cognition and function during 57 weeks and retained response at 109 weeks. In a prevention study in the Abeta-induced Alzheimer's disease model, ANAVEX[®]2-73 has demonstrated to prevent symptoms of Alzheimer's disease. In the Parkinson's disease model, ANAVEX[®]2-73 induces significant motor recovery, had neuroprotective effects on nigral dopaminergic neurons and induces restoration of dopaminergic fibers. In a younger cohort of the genetic Rett disease model, chronic dosing with ANAVEX[®]2-73 significantly improved performance in different motor and gait paradigms. Among the older cohort, relative visual acuity in ANAVEX[®]2-73-treated HET mice was returned to WT levels.

Conclusions: Data provides support to evaluate ANAVEX[®]2-73 in a Phase 2/3 study in Alzheimer's disease using the precision medicine paradigm. ANAVEX[®]2-73 has also received Orphan Drug Designation from the FDA for Rett syndrome. The Company is working closely with Michael J. Fox Foundation and Rettsyndrome.org and has received grants from both organizations and will also initiate double-blind placebo-controlled Phase 2 studies in Parkinson's disease and Rett syndrome.

Biography

Christopher U. Missling, PhD is President and CEO of Anavex Life Sciences Corp, has over 20 years of healthcare industry experience within large pharmaceutical companies and the biotech industry. Prior to joining Anavex, he served as the Chief Financial Officer of Curis and ImmunoGen. In addition, at Aventis (now Sanofi), Christopher's work is dedicated to finding potential cures for neurodegenerative and neurodevelopmental diseases like Alzheimer's disease, Parkinson's disease as well as Rett syndrome, Fragile X, Angelman's syndrome and infantile spasms. Dr. Missling is working with his team to advance new potential treatments through clinical trials. Dr. Missling has an MS and PhD from the University of Munich in Chemistry and an MBA from Northwestern University Kellogg School of Management and WHU Otto Beisheim School of Management.



Exposing people with dementia to biodynamic light: The impact of biodynamic lighting on neuropsychiatric symptoms

Ellen Elisabeth van Lieshout-van Dal

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The increase of neuropsychiatric symptoms in people with dementia count for 46% of the transit to more controlled environments. Medication to repress these symptoms is widely used. Research aiming at non-pharmacological interventions is important. A promising non-pharmacological intervention is lighting. In this study the effectiveness of biodynamic lighting, lighting with variable intensity and color following a normal daylight curve, on neuropsychiatric symptoms in people with dementia is studied. It was hypothesized that the exposure to biodynamic lighting would decrease the amount and/or the severity of the neuropsychiatric symptoms.

A biodynamic lighting innovation designed to stimulate circadian rhythm was installed in the common area of a clinical setting. Two conditions of 21 days with and without exposure to biodynamic lighting were monitored. After each condition, measures of presence, severity of symptoms and emotional impact were collected using the Neuro Psychiatric Inventory-Questionnaire.

Eighteen participants were included in the research and completed two conditions. Per respondent the total index of severity of neuropsychiatric symptoms was lower after exposure. Also on a group level a tendency was found for decreasing the total index of severity of the neuropsychiatric symptoms in the condition that received biodynamic lighting. Significance was only found in the severity scores of disinhibited behavior.

A biodynamic lighting intervention can be used to decrease the severity of neuropsychiatric symptoms, more specific disinhibited behavior. This is important because disinhibited behavior is related to a disturbed circadian rhythm, is distressing for caregivers and can accelerate the process leading to institutionalization. Patient and researcher exposed to biodynamic lighting in the clinical ward

Biography

Ellen is a psychologist since 2000. She worked in several psychiatric hospitals. Based on her affection for innovation in healthcare, she studied biodynamic light and dementia within the Innovate Dementia project. Innovate Dementia develops and implements innovations with the aim of improving quality of life and enabling people with dementia to live at home longer. Her research has gained promising results. Her follow-up study as part of a PhD trajectory will aim at the impact of biodynamic light innovations for home use on the sleep pattern and the psychological complaints of people with dementia and their carers.



sAAP-alpha peptide as a possible new target in Alzheimer's disease treatment: A theoretical approach

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efault mode network forms a complex associated with several brain areas (medial prefrontal cortex, inferolateral cortex, hippocampus etc.) and plays a great role in the development of activities related to attention, memory, consciousness, and introspection^{1,2}. Due to a high amount of glucose consumption, DMN is capable to couple the brain metabolism to insulin pathway signalization^{1,3}. The disruption of connectivity in DMN by the glucose reduction usage precedes alterations in two sub-product of amyloid precursor protein (APP), the beta-Amyloid (AB) and s-APP-alpha peptide3,4. In this study, we proposed the evaluation of a possible interaction between sAPP-alpha peptide and the insulin-signaling pathway as a new alternative cellular death in Alzheimer's Disease (AD). In order to compound a mechanistic model of the DMN action in AD, we evaluate the genome expression of the DMN using a computational tools approach, such as systems biology and molecular dynamic simulation. As a result, 101 genes have been joined to the new network, being visualized in yEd. By centratity, three sub-cluster related with the control of insulin signaling pathway was generated, showing that the non-amyloidogenic pathway (sAPPalpha) plays a key role in neuronal survivor associated with deprivation of glucose such as in oxidative stress and hypoxia⁵. the involvement of this protein in remodeling connection and cell adhesion process in CNS, which acts as an important synaptogenic agent, may be a possible neuroprotective factor to treat some consequences of AD⁶. After microarray analysis and a set of docking and dynamic simulations, we have found that sAPP-alpha binds with high affinity to the L1 insulin receptor's site, interfering with its signal, and probably producing synaptogenesis as well as increasing the synapsis stabilization. Thus, we are the first to propose sAPP-alpha stimulation as a new target for the treatment of AD by inducing neuroprotection and amyloid plaque prevention.

References

- 1. Kesler S. Default mode network as a potential biomarker of chemotherapy-related brain injury. Neurobiology of Aging. 2014;35.
- 2. Jung M, Kosaka H, Saito D, et al. Default mode network in young male adults with autism spectrum disorder: relationship with autism spectrum traits. Mol Autism. 2014;5(1):35.
- 3. Lord L-D, Expert P, Huckins JF, Turkheimer FE. Cerebral energy metabolism and the brain' s functional network architecture: an integrative review. Journal of Cerebral Blood Flow & Metabolism [Internet]. Nature Publishing Group; 2013;33(9):1347–54.
- 4. Zeidán-Chuliá F, Oliveira B-H, Salmina A, et al. Altered expression of Alzheimer's disease-related genes in the cerebellum of autistic patients: a model for disrupted brain connectome and therapy. Cell Death Dis.



2014;5(5):e1250.

- 5. Ray B, Long J, Sokol D, Lahiri D. Increased Secreted Amyloid Precursor Protein-β (sAPPβ) in Severe Autism: Proposal of a Specific, Anabolic Pathway and Putative Biomarker.PLoS ONE. 2011;6(6).
- 6. De Felice, FG., Vieira, MNN., Bomfim, TR., Decker, H., Velasco, PT.,Lambert, MP., et al. (2009). Protection of synapses against Alzheimer's-linked toxins: Insulin signaling prevents the pathogenic binding of A oligomers. PNAS. 2009; May 5; vol. 106 no. 18.

Biography

Dr. SANTOS, Gesivaldo did Bachelor's at Biological Science from University of Southwest of Bahia, master's at Physiology from University of São Paulo and doctorate at Biochemistry and Physiology from State University of Campinas. Has expertise in Neurophysiology, acting on the following subjects: Neurogenomic, memory, system biology



Zfra suppresses protein aggregation, inhibits inflammatory NF-κB activation, and restores memory deficits in Alzheimer's disease triple-transgenic mice

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7 inc finger-like protein that regulates apoptosis (Zfra) is a naturally occurring 31-amino-acid protein. Synthetic peptides Zfra1-31 and Zfra4-10 are known to effectively block the growth of many types of cancer cells. Ten-month-old triple-transgenic (3×Tg) mice for Alzheimer's disease (AD) received synthetic Zfra peptides via tail vein injections, followed by examining restoration of memory deficits. Zfra significantly downregulated TRAPPC6AΔ, SH3GLB2, tau, and amyloid β (Aβ) aggregates in the brains of 3×Tg mice and effectively restored their memory capabilities. Zfra inhibited melanoma-induced neuronal death in the hippocampus and plague formation in the cortex. Mechanistically, Zfra blocked the aggregation of amyloid B 42 and many serine-containing peptides in vitro, suppressed tumor necrosis factor-mediated NF-KB activation, and bound cytosolic proteins for accelerating their degradation in ubiguitin/proteasome-independent manner. As a binding protein of Zfra, downregulation of tumor suppressor WWOX has been implicated in the progression of neurodegeneration. Heterozygous Wwox mice develop neurodegeneration faster than that of 3xTg mice. Increased phosphorylation of WWOX at pY33, pT12, pS14 and pY287 is shown in the cortex and hippocampus. Whether the phosphorylation leads to inability of WWOX in blocking tau and AB aggregation remains to be established. Together, Zfra peptides exhibit a strong efficacy in blocking tau aggregation and amyloid AB formation and restore memory deficits in 3×Tg mice, suggesting its potential for treatment of AD. (Supported by MOST and NHRI, Taiwan, and DoD, USA)

Biography

Dr. Nan-Shan Chang is currently the Distinguished Professor of the Molecular Medicine Institute, National Cheng Kung University (NCKU) in Taiwan, and the Adjunct Professor with the SUNY Upstate Medical University and the NYS Institute for Basic Research in Developmental Disabilities, New York. Dr. Chang is most noted for his discovery of tumor suppressor WWOX in 2000. Awards: Breast cancer and neurofibromatosis research awards from the Department of Defense, USA, in 2008 and 2010; Distinguished Professor Award 2010, 2013, 2016 from NCKU; Distinguished Scientist Award 2011 from the Society of Experimental Biology & Medicine, USA.



Isometric exercise training to improve cognitive performance in MCI and Alzheimer's disease

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Background: Considerable research links untreated hypertension with cognitive decline and dementias¹⁻⁴. Whilst the literature suggests that various forms of exercise improves cognitive performance⁵⁻⁷ and reduces the effects of hypertension⁸⁻¹⁰, the effect of isometric exercise training (IET) on cognitive performance has not been tested. This is despite evidence that remote vascular restriction may stimulate endogenous neuro-protective pathways. Specifically, remote ischemic conditioning (RIC) administered to patients aged 80-95 years old with intracranial atherosclerosis stenosis was found to be safe and effective in stroke prevention11.

Objective: To investigate the impact of IET on resting haemodynamics and cognitive performance in elderly individuals with cognitive impairment or dementia.

Design: Single case, multiple baseline, across-subjects, pilot case-studies.

Participants and methods: Four older adults (Mage =77.8 years; SD = 7.9) with cognitive impairment or dementia (MRBANS total score =60.6; SD = 9.8) participated in 6 weeks of unilateral isometric-handgrip-training performed in four, 2 min bouts three times per week at 20% of their maximal voluntary effort (MVE). Haemodynamic measures were taken pre-training, during training, and post-training. Cognitive performance was assessed using the Repeatable Battery for the Assessment of Neurological Status (RBANS) administered twice pre-training, once post training, and once at follow up.

Results: No participant evidenced improvement in haemodynamic measures. Clinical improvement in cognitive performance was observed in one participant.

Conclusion: Surprisingly, our data suggests that IET at an intensity of 20% MVE is insufficient to reduce resting BP in elderly medicated hypertensives after 6 weeks of IET. Improvements in cognitive performance measures may have been attributed to neurohormonal pathways not associated with BP. Maybe insufficient brachial arterial occlusion occurs at 20% MVE, unlike RIC that stimulates full occlusion. We recommend that future trials investigate IET intensities of 40%-50% as this may be substantial to elicit sufficient brachial arterial occlusion to stimulate endogenous neuro-protective pathways.

References

- Power MC, Weuve J, Gagne JJ, McQueen MB, Viswanathan A, Blacker D. The association between blood pressure and incident Alzheimer disease: a systematic review and meta-analysis. Epidemiology (Cambridge, Mass). 2011;22(5):646.
- 2. Kivipelto M, Helkala E-L, Laakso MP, et al. Midlife vascular risk factors and Alzheimer's disease in later life: longitudinal, population based study. Bmj. 2001;322(7300):1447-1451.
- 3. Korf ES, White LR, Scheltens P, Launer LJ. Midlife Blood Pressure and the Risk of Hippocampal Atrophy The Honolulu Asia Aging Study. Hypertension. 2004;44(1):29-34.
- 4. DeCarli C. Mild cognitive impairment: prevalence, prognosis, aetiology, and treatment. The Lancet Neurology. 2003;2(1):15-21.



- 5. Hess NC, Dieberg G, McFarlane JR, Smart NA. The effect of exercise intervention on cognitive performance in persons at risk of, or with, dementia: A systematic review and meta-analysis. Healthy Aging Research. 2014;3(3):1-10.
- 6. Groot C, Hooghiemstra A, Raijmakers P, et al. The effect of physical activity on cognitive function in patients with dementia: A meta-analysis of randomized control trials. Ageing research reviews. 2016;25:13-23.
- 7. Smith PJ, Blumenthal JA, Hoffman BM, et al. Aerobic exercise and neurocognitive performance: a metaanalytic review of randomized controlled trials. Psychosom Med. 2010;72(3):239-252.
- 8. Cornelissen V, Smart N. Exercise Training for Blood Pressure: A Systematic Review and Meta-analysis. Journal of the American Heart Association. 2013;2(1).
- 9. Carlson DJ, Dieberg G, Hess NC, Millar PJ, Smart NA. Isometric exercise training for blood pressure management: a systematic review and meta-analysis. Paper presented at: Mayo Clinic Proceedings2014.
- 10. Olher RdRV, Bocalini DS, Bacurau RF, et al. Isometric handgrip does not elicit cardiovascular overload or postexercise hypotension in hypertensive older women. Clinical interventions in aging. 2013;8:649.
- 11. Meng R, Ding Y, Asmaro K, et al. Ischemic conditioning is safe and effective for octo-and nonagenarians in stroke prevention and treatment. Neurotherapeutics. 2015;12(3):667-677.

Biography

Nicole Hess is an early career researcher with interests in psychology, neuro psychology, learning disorders, and aging. She graduated B. Psych (Hons) in 2013 and completed her PhD in 2016 cum laude winning the chancellor's doctoral research medal at UNE. The title of her doctoral thesis was "physiological and cognitive responses to isometric resistance training in individuals experiencing memory difficulties or with mild cognitive impairment". Nicole has spent much of the past 10 years working with the elderly in dementia-respite and research settings. Nicole currently resides in Brisbane Australia pursuing further study and intellectual interests in counselling and psychotherapy, and in publishing.



Aging in Eastern Partnership Countries

Ucha Vakhania*, Tiphaine Coulardeau, Sebastian Schweitzer, Mykola Lytvynenko, Karine Gyadukyan, Leonid Kalitenya

Coalition Homecare in Georgia, Tbilisi, Georgia

Background:

Project title: Ageing and Intergenerational Solidarity - Advocating age-friendliness policies in Eastern Partnership countries.

Aim: to improve health and well-being of elderly people in Georgia, Ukraine, Armenia and Belarus.

Objectives:

- 1. To advocate age-friendly reforms in the participating countries; To raise awareness of human rights of elderly;
- 2. To promote inter-generational solidarity;
- 3. To exchange experience and practices related to elderly rights and senior care.

Methods:

Timeline: 1.04.2017 – 15.12.2017.

Location: Georgia, Ukraine, Armenia, Belarus.

Donor: EU

Implementing partners: Coalition Homecare in Georgia (lead partner, Georgia), Ukrainian Samaritan Union Kremenchuck Association (Ukraine), Shirak Diocese Social-Educational Centre (Armenia), Center for Social Innovation (Belarus).

Main activities:

- 1. International seminar on advocacy strategies for ageing;
- 2. Preparation and implementation of awareness raising campaign for elderly rights;1
- 3. Advocacy meetings on ageing;
- 4. International conference on ageing, demographic change and intergenerational dialogue.



Lessons learned:

During the international seminar and conference, the experts from EaP counties defined the following for improving quality of life of senior citizens:

Challenges	Recommendations
Unawareness and wrong perception of ageing	Promote a positive attitude towards ageing
Isolation of elderly people from the society	Promote active ageing as an alternative to isolation old age
Lack of appropriate social protection and services for the elderly	Promote a shift from bio-medical care to bio-psy- cho-social care

Conclusions/Nextsteps: In spite of considerable differences in many aspects the Eastern Partnership countries have similar demographic trends and aging related problems, which are probably linked to common "soviet" background. Therefore, along with the efforts taken on international level due attention should be paid to the regional cooperation on aging.

Biography

Ucha Vakhania, MD is the Executive Director of Taoba – CSO working in the field of elderly, also the executive director of Coalition Homecare in Georgia – the union of homecare provider institutions and the chairman of Georgian Platform on Care – the network of healthcare coalitions. He graduated from Tbilisi State Medical University (Georgia). He had a medical practice, worked as a general director of healthcare institution. From the 2000s he directs innovative projects, regularly collaborates with the Parliament of Georgia, the Ministry of Health, municipalities, CSOs, and media to promote the development of healthcare and social policy reforms and new services, and to advocate elderly rights.



Chronic minoxidil treatment leads to functional improvement and elastic fibre neosynthesis in the aorta of aged mice

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rterial stiffening, a hallmark of normal arterial aging, is caused by lifelong degradation of elastin and lelastic fibre. Elastin is no longer synthesized after the end of childhood. Accumulated elastin/elastic fibre undergo mechanically- or enzymatically-driven degradation during adulthood and ageing. Minoxidil, an ATP-dependent K+ channel opener, has been shown to stimulate elastin expression in cultured aortic smooth muscle cells and in the aorta of young adult rats. However, the potential of minoxidil for reinduction of elastic fibre synthesis in aged animals has never been investigated. Therefore, we have studied the effect of a 10-week chronic oral treatment with minoxidil (120mg/L in drinking water) on the blood pressure, and the aortic structure and function, in young adult (6-month-old) and aged (24-monthold) male C57Bl6 mice. Minoxidil treatment lowered the blood pressure in all animals, maintained elastic lamellae integrity, increased tropoelastin (both in young adult and aged mice), fibulin-5 and lysyl-oxidase mRNA levels, re-induced a moderate expression of elastin, lowered the levels of AGE-related molecules and decreased the glycation capacity of aortic elastin in aged animals. This was accompanied by the formation of newly synthesized elastic fibres, of diverse orientations in the aorta wall of aged mice only (Fig. 1), not in adults. By contrast, minoxidil change the collagen content and distribution. The ascending aorta of aged mice also underwent a minoxidil-induced aortic increase in diameter and decrease in wall thickness. This reversed in part the age-associated thickening and returned the strain-stress curve closer to that of young adult mice. In conclusion, our results suggest that minoxidil presents an interesting anti-ageing potential.





Figure 1: Weigert staining of ascending aorta cross-sections from 24-month-old mouse untreated (A) or after treatment with minoxidil: newly synthesized elastic fibres, including radially-oriented ones, were observed (B). Objective: 40x.



Ageing and Early Retirement: Meta-Analytic Review of empirical evidence

Gabriela Topa

National Distance Education University (UNED), Madrid, Spain

Background: In this study, meta-analytic procedures were used to examine the relationships between early retirement and their antecedents and consequences, following the P-E fit framework.

Methods: Our review of the literature was generated with 119 empirical studies, containing a total amount of 597,705 participants, with a mean sample size of 3,984 participants (SD = 13650.2) and 585 independent effect sizes (ESs), which included 150 independent samples.

Results: A small ES for antecedents of early retirement (income, poor physical and mental health, financial security, family pull, job satisfaction, and job stress) was obtained (ranging from r = -.13 to r = .19), whereas a medium ES was obtained for social timing for retirement, and organizational preassures (ranging from r = .28 to r = .21). Regarding early retirement consequences, lower ESs were obtained, ranging from r = .08 to r = .18 for the relationships with consequences, and medium ESs only for social participation (r = .25).

Conclusions: Potential moderator variables were examined, and it was found that they explained only a small percentage of variability of primary studies. Results are discussed, and theoretical and empirical implications are suggested.

Biography

Gabriela Topa is an associate professor of social and organizational psychology at the National Distance Education University (UNED). She obtained her Ph.D. in 2004. Her doctoral dissertation focused on Psychological contract breach among Spanish professional soldiers. Her current research is devoted to retirement, bridge employment, and financial planning for retirement. She has developed both empirical and meta-analytical research. Her work has been published in Journal of Vocational Behavior, Journal of Neuroscience, Psychology and Economics, European Journal of Work and Organizational Psychology, Journal of Aging and Health, Personality and Individual Differences, PlosONE, and Voluntas, among others. She is Associate Editor of Frontiers in Psychology, Organizational Section, BMC Public Health, Cogent Psychology and Psychology Research and Applications.



Stem cell therapies in preclinical models of stroke. Is the aged brain microenvironment refractory to cell therapy?

Aurel Popa-Wagner

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ttractive therapeutic strategies to enhance post-stroke recovery of aged brains include methods of cellular therapy that can enhance the endogenous restorative mechanisms of the injured brain. The translational failure of experimental therapies in post-stroke aged subjects might at least partially be related to the aged brain microenvironment. However, we have shown that G-CSF alone is effective in improving behavioral recovery after stroke in aged rats. In subsequent experiments we tested the hypothesis that treating post-stroke aged rats with the combination of bone marrow-derived mononuclear cells (BM MNC) or bone marrow-derived mesenchymal cells BM MSC and G-CSF might improve the long term (56 days) functional outcome. To this end, 1x106 syngeneic BM MSC and BM MNC per kg bodyweight (BW) in combination with G-CSF (50µg/kg, continued for 28 days) were administered via the jugular vein to Spraque-Dawley rats six hours post-stroke. Infarct volume was measured by magnetic resonance imaging 3 and 48 days post-stroke and additionally by immunohistochemistry at day 56. Functional recovery was tested during the entire recovery period. Daily G-CSF treatment led to robust and consistent improvement of neurological function, but did not alter final infarct volumes. The combination of G-CSF and BM MNC, did not further improve post-stroke recovery. The lack of an additional benefit may be due to a hitherto not well investigated interaction between both approaches and, to a minor extent, to the insensitivity of the aged brains to regenerative mechanisms. Also considering recent findings on other approaches involving the use of iPS cells for treatment of post-stroke aged animal models featuring relevant co-morbidities, we conclude that such therapies need to be optimized in order to achieve more efficiency to treat the acutely injured aged brain.

Biography

Old age is associated with an enhanced susceptibility to systemic vascular disorders like stroke and poor recovery from brain injuries. Therefore, the aim of Prof. Popa-Wagner's group is to unravel cellular and molecular mechanisms underlying aging progression and its significance for brain diseases. His group has a long-standing interest in molecular mechanisms of brain remodelling in the aged rat brain. Recently Prof. Popa-Wagner became interested in systemic aging by aiming to model gene regulatory networks for regenerative processes after brain injury in aged animals. Another avenue of recent research is cellular therapy of stroke by using bone marrowderive mesenchymal and mononuclear cells. Dr. Popa-Wagner received his PhD in biochemistry at Institute of Biochemistry, University of Karlsruhe, Germany, followed by postdoctoral training at Ethel Percy Andrus Gerontology Center, University of Southern California, Los Angeles, USA. Subsequently, DR. Popa-Wagner held tenure-track Assistant Professor at the University of Medicine Erlangen, Germany and Associate Professor at the Department of Neurology, Medical University, Greifswald, Ernst-Moritz-Arndt University, Greifswald. In 1996, he was appointed Professor of Experimental Neurology at the Clinic of Neurology, Medical University, Greifswald, Ernst-Moritz-Arndt University, Greifswald. Since 1998 he has been appointed Professor of Biochemistry, University of Medicine and Pharmacy, Craiova, Romania. In 2012, he joined the the Department of Psychiatry, University of Medicine, Rostock, Germany and from 2017 he joined the Chair of Vascular Neurology and Dementia at the Clinic of Neurology, Medical University, Essen, Germany.



A neuron-glial trans signaling mediates the LRRK2 induced, age-dependent loss of dopaminergic neurons

Pejmun Haghighi, PhD

Buck Institute for Research on Aging, USA

utations in Leucine-Rich Repeat Kinase 2 (LRRK2) have emerged as some of the most frequently detected and most highly associative mutations causing familial Parkinson's disease in many family cohorts across the globe. While a number of studies have demonstrated the toxic effect of pathogenic LRRK2 mutations on dopaminergic (DA) neurons, we know little about the signaling events that lead to age-dependent degeneration of DA neurons. Taking advantage of the genetic tools in Drosophila, we show that a DA neuron-induced trans-activation of bone morphogenic protein (BMP) cascade in glia mediates the LRRK2-induced degeneration of DA neurons. Our findings indicate that transgenic expression of LRRK2 in DA neurons enhances the translation of Furin 1, a proprotein convertase, which is capable of processing of the BMP ligand glass-bottom-boat (Gbb). We demonstrate that transgenic overepxression of either Furin 1 or Gbb can result in a similar age-dependent loss of DA neurons as in the case of pathogenic LRRK2. In addition, we find dominant genetic interaction between LRRK2 gainof-function and Furin 1 and members of the BMP signaling cascade: partical removal of Furin 1 or core BMP signaling members in DA neurons can ameliorate the toxic effects of LRRK2. Interestingly, we find that phosphorylated form of the BMP transcription factor Mad (pMad), that is an index of BMP signaling activation, accumulates in glia surrounding DA neurons rather than in DA neurons themselves. We, threfore, propose that a LRRK2-induced trans-activation of a BMP signaling cascade in glia is essential for mediating the age-dependent toxic effect of LRRK2, which ultimately causes DA neuron loss. Our findings, therefore, discover a novel molecular mechanism and present new avenues for therapeutic design aimed at tackling Parkinson's disease. This work was supported by an NIH grant (R01NS082793) and by Buck Institute Funds to Haghighi lab.

Biography

Dr. Haghighi completed his PhD at McGill University in Montreal, Canada, before joining UNiversity of California in Berkeley as postdoctoral fellow. Dr. Haghighi was recruited to McGill University in 2004 and joined the Buck Institute as a Professor in 2013.



Effect of intranasally administered insulin on cerebral blood flow and perfusion; A randomized experiment in young and older adults

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nsulin, a vasoactive modulator regulating peripheral and cerebral blood flow, has been consistently linked to aging and longevity. In this proof of principle study, using a randomized, double-blinded, placebo-controlled crossover design, we explored the effects of intranasally administered insulin (40IU) on cerebral blood flow (CBF) and perfusion in older (60-69 years, n=11) and younger (20-26 years, n=8) adults. Changes in CBF through the major cerebropetal arteries were assessed via phase contrast MR-angiography, and regional cortical tissue perfusion via pseudo-continuous arterial spin labelling. Total flow through the major cerebropetal arteries was unchanged in both young and old. In the older participants, intranasal insulin compared to placebo increased perfusion through the occipital gray matter (65.2±11.0 mL/100g/min vs 61.2±10.1 mL/100g/min, P=0.001), and in the thalamus (68.28±6.75 mL/100g/min versus 63.31±6.84 mL/100g/min, P=0.003). Thus, intranasal insulin improved tissue perfusion of the occipital cortical brain region and the thalamus in older adults.

Biography

Diana van Heemst received her Ph.D. (2000) in Biology from the University of Wageningen, the Netherlands. Diana van Heemst has a track record in translational research, as evidenced by her role in several national and international research consortia that focus on the integration of clinical and basic studies, notably the H2020 project THYRAGE of which she is the project coordinator. Her work has resulted in more than 160 peer-reviewed publications (h-index 33). Of special interest is her research regarding the neuro-endocrine regulation of human longevity and metabolic health.



A pro-longevity role for cellular senescence

Antonello Lorenzini

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Cellular senescence is a fundamental process that has both physiological and detrimental roles. It is involved in tissue development and in tumor prevention although during aging is becoming a detrimental process contributing to the decline of tissue functions. On previous investigations, we have uncovered a better capacity to detect DNA damage in cells from long-lived mammals. Here we find that cells from long-lived species, if faced with DNA damage, respond with a more vigorous induction of senescence. We suggest that cellular senescence may have a positive role during development contributing in this way to the evolution of longevity. In this analysis, we have also addressed the possible pro longevity role of apoptosis observing a not significant positive relationship with species life span.

Biography

ANTONELLO LORENZINI is a researcher at Department of Biomedical and Neuromotor Sciences in University of Bologna, Italy. His focus is on cellular mechanisms that ensure longevity and on the extracellular and intracellular signaling that regulate them. With Dr Cristofalo he has studied the intercellular signaling regulating cell proliferation and senescence and the differential proliferative capacity of mammals. With Dr Sell, he has investigated the endocrine modulation of life span trying to separate the influence of GH from that of IGF-1. Now he operates in Department of Biomedical and Neuromotor Sciences of the University of Bologna where his main research focus is the understanding of how DNA damage signaling interact with cell cycle progression.



Low supply of social support as risk factor for mortality in the older adults

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University of Sao Paulo, Brazil

Objectives: To determine the relationship between social support and mortality in older adults, independent of other health conditions.

Method: This was a longitudinal study using the database of the 2006 SABE Study (Heath, Well-being and Aging), composed of 1413 individuals aged 60 years and over, living in São Paulo/Brazil. The present study used a questionnaire constructed for the SABE Study, which was reviewed by experts of Latin America and the Caribbean. The social network was evaluated using the variables: social support received; social support offered; number of members in the social network. The covariates included were age, gender, living arrangements, marital status, income, education, comorbidity, depressive symptoms, cognition and functional difficulties. Death as an outcome was evaluated after four years of follow-up.

Results: From a total of 1413 older adults at baseline, 268 died in a mean follow-up period of 3,9 years (SE = 0,03). In the model adjusted offering social support and having networks composed of 9 or more members reduced the risk of death in the older adults.

Conclusions: This study suggest that older adult who are offered support can benefit from mutual exchanges since reciprocity in relationships improves psychological well-being and is indicative of the quality of relationships. Thus, the older adults are part of a group of people whose role is not only to receive, but also to provide help to others, and the support offered seems to be as important as that received.



Find a Sense of Home across the Pacific in Old Age-Chinese American Senior's Report of Life Satisfaction in a Foreign Land

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Finding a sense of home for international migrants is challenging. It is even more so for older adults who migrate to a foreign country later in life to follow their adult children. This study examines Chinese immigrant elders' report of their sense of home and life-satisfaction. Based on 21 intensive interviews and 107 surveys with elderly immigrants of Chinese descent, this research finds that a comfortable living condition in a natural and built environment contribute to Chinese elders narrative of a sense of home. The lack of English language, however, makes immigrant Chinese elders feel very unsettled. Being together with children and having good social benefits are major pull factors that contribute to immigrant elders' decision to settle down in a foreign country. Those who report a stronger sense of home tend to report a higher level of life satisfaction. In conclusion, the authors argue that immigrant elders are defining their sense of home with a greater sense of independence from their adult children. Favorable social policies toward older adults, such as Medicare, Medicaid, low income housing, and social services, are important factors that make older immigrants feel a sense of home in a foreign land, although the inability to communicate is a barrier complete sense of home for transnational migrants in old age.

Biography

Qi Wang obtained her PhD in Sociology in 2017 from Georgia State University, U.S.A. She is now serving as an assistant researcher in the Think Tank of IPP (Institute of Public Policy) in South China University of Technology, China. Her research interests include but not limited to aging environments, long-term care services, aging policies, and inter-generational relationships. She specializes aging and public policies in global perspectives.



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Sustainable, aging-friendly urban landscape-Assessment of the quality of life through green open spaces in elderly people in Rome, Italy

Adrienn Veisz

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The trend of the population aging, caused by a decline in fertility and a 20-year increase in the average life span, is already well reported. Today, the proportion of people over 65 years of age is higher in rural areas, but because of the rapid urbanization, the number of elderlies living in urbanized territories are increasing. In Italy, 69.12 % of the entire population were living in urban areas, while 22.0 percentage of the population were aged 65 and over, in 2016. The unstoppable and uncontrolled urban expansion of the last century has contributed to the more overcrowded formation of the cities while the urban dwellers became disconnected from the nature. It generates many emerging environment and health hazards, that can have an elevated impact on the aging population. The crises, regarding the urban and suburban landscape, call for solution. The WHO guidelines for age-friendliness, in 2007 declared: "The outside environment and public buildings have a major impact on the mobility, independence and quality of life of older people and affect their ability to age in place". Theorists confirm that urban green spaces have beneficial effects on human health, social identity, promotes physical activity, improves well-being, while an active lifestyle delays age at dementia. This study aims to summarize the available evidence of beneficial effects of urban green spaces and to assess the quality of life in elderly people in Rome by analyzing the urban landscape.

Biography

Adrienn Veisz has started to learn about the connection between the human environment and its influence for the well-being while she spent an exchange period at the University of Copenhagen in 2010. Her M.Sc. thesis was also written about the healing gardens and she graduated as a landscape architect at the Corvinus University of Budapest (Hungary) in 2013. Her first article about Healing Environments was published in a reputed neuroscience journal in 2014. Now she is a PhD student at the Sapienza, University of Rome (Italy), where she is dealing with the Aging Friendly Cities.



Mixed motivations to provide formal care to older adults:Lessons from a training program

***Dr. Shiri Shinan-Altman¹, Ph.D.,** AviyaRiabzev, M.A and Professor Liat Ayalon, Ph.D.

¹Louis and Gabi Weisfeld School of Social Work, Bar Ilan University, Ramat-Gan 52900, Israel.

Background: With the aging of the population the demand for long term services is increasing accordingly and the recruitment of paid caregivers to older adults has become a critical issue. Hence, there is a great need to train people in the care of older adults.

Objectives: To examine motivations to participate in a new program which aims to train young people (ages 19-25) to become paid caregivers for older adults.

Design: The study is based on focus groups with program participants (N=33), on phone interviews with former participants (N=8) and face-to-face interviews with staff members (N=14). Transcripts were analyzed using qualitative content analysis.

Results: Three major themes emerged: (a) 'Motivations to participate in the program', referred to participants' motivations to work with older adults. (b) 'Reduced motivations due to ambiguity of roles', referred to the unclear definition of the care worker's role which created a decrease in participants' motivations to provide care. (c) 'Inadequate financial compensation', concerned participants' reduced motivation to participate in the program as a result of financial promises that were not realized.

Conclusions: Ambiguity in defining and marketing the role of the long-term care worker challenges many of the participants and results in reduced motivation to take the paid career role. It also is important not to stress the weakness of older adults as a motive for participation in the program, as this further increases negative stigma of old age.



The relationship between kidney function and social frailty in community-dwelling older Japanese

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hronic kidney disease (CKD) is increasingly being recognized as an important comorbidity in older adults. The previous study showed the prevalence of physical frailty increased as CKD progressed. However, few research reported relationship between CKD and social frailty. The aim of this study was to evaluate the relationship between CKD and social frailty in community-dwelling older adults. The participants were 4544 residents (community-dwelling older adults without dialysis) who completed baseline assessments. Social frailty was defined by using responses to 5 questions (going out less frequently, rarely visiting friends, feeling unhelpful to friends or family, living alone, and not talking with someone every day). Participants showing none of these components were considered non-frail (reference); those showing 1 component were considered pre-frail; and those showing 2 or more components were considered frail. The estimated glomerular filtration rate (eGFR, mL/min/1.73 m2) was determined according to the creatinine level, and participants were classified into three mutually exclusive categories: eGFR≥ 60.0 and 45 59, < 45. Multinomial logistic regression was used to examine the relationships between kidney function and social frailty. (Up to 250 words) After multivariate adjustment, participants with eGFR< 45 were associated with pre-frail (odds ratio [OR], 1.612; confidence interval [CI], 1.074-2.417) and frail (OR, 2.491; CI, 1.564-3.967). In adition, participoants with eGFR45-59 were related with pre-frail (OR, 1.443; CI, 1.122-1.857) and frail (OR, 1.198; CI, 0.996-1.441). This study showd that kidney function was associated with socsial frailty in community-dwelling older Japanese.

Biography

Lee has a degree in Nagoya City University and has been working as a researcher at the present research institute for 8 years and has been writing about 20 papers for the past five years.



Downregulation of WWOX leads to sequential aggregation of TRAPPC6AA, TIAF1 and SH3GLB2 that leads to amyloid beta plaque formation and tau aggregation *in vivo*

Nan-Shan Chang

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ull mutations of tumor suppressor WWOX gene leads to severe neural diseases and early death in N humans. WWOX protects neurons from degeneration by binding tau and tau-hyperphosphorylating enzymes GSK3B, ERK, and JNK1, and promotes neuronal differentiation. WWOX may start to downregulate in the cortex and hippocampus in mid-aged normal individuals. We determined that when WWOX is downregulated in the brain, a cascade of protein aggregation occurs in the mitochondria, including TRAPPC6A Δ (trafficking protein particle complex 6A delta, TPC6A Δ) and TGFB1-induced anti-apoptotic factor 1 (TIAF1). TPC6AA aggregates first and then TIAF1, followed by activating caspases, then amyloid precursor protein (APP) degradation, and formation of amyloid beta (AB) plaques and tau tangles. We identified SH3GLB2 (SH3-Domain GRB2-Like Endophilin B2), whose aggregation is downstream that of TIAF1. The aggregates can be found in the human AD hippocampi and in the triple-transgenic mice for AD. Alteration of Tyr77 to Phe77 in SH3GLB2 abolishes TGF-B-mediated polymerization, suggesting that Tyr77 phosphorylation is needed for SH3GLB2 aggregation. Activation of p53 by PRIMA-1 abolishes SH3GLB2 aggregation, whereas inhibition of p53 activation by Pifithrin- μ induces the aggregation. Induction of autophagy by thapsigargin accelerates SH3GLB2 aggregation. Transiently overexpressed SH3GLB2 causes apoptosis. Neurotoxin MPP+ induces neuronal death in vivo due in part to SH3GLB2 aggregation. Tumor suppressors p53 and WWOX are partners in cancer suppression. Loss of WWOX causes p53 instability. Conceivably, dysregulation of both p53 and WWOX results in initiation of the TPC6A Δ /TIAF1/SH3GLB2 aggregation cascade and leads to the formation of AB plaques and tau tangles of the neurodegeneration pathway. (Supported by MOST and NHRI, Taiwan, and DoD, USA)

Biography

Dr. Nan-Shan Chang is currently the Distinguished Professor of the Molecular Medicine Institute, National Cheng Kung University (NCKU) in Taiwan, and the Adjunct Professor with the SUNY Upstate Medical University and the NYS Institute for Basic Research in Developmental Disabilities, New York. Dr. Chang is most noted for his discovery of tumor suppressor WWOX in 2000. Awards: Breast cancer and neurofibromatosis research awards from the Department of Defense, USA, in 2008 and 2010; Distinguished Professor Award 2010, 2013, 2016 from NCKU; Distinguished Scientist Award 2011 from the Society of Experimental Biology & Medicine, USA.



Se.Ko.Ph. study: Falls in NH residents of three European countries

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all rates among institution residents are much higher than among community-dwellers, with the incidence of falls in institutional settings being 1.5 falls per bed per year.

The aim of our research was to investigate risk factors for falls in elderly people living in residential nursing homes.

An observational, prospective, multicentre study was conducted between March 2010 and March 2011, investigating falls in 1017 elderly residents living in residential nursing homes (4 Italian, 4 French and 5 German nursing homes). A number of risk factors were assessed as well as details of the fall (dynamics, reasons, location and time of occurrence).

371 fallers (1091 falls) were recorded during the study (36.5%). Most falls did not result in any significant trauma (62.1%), Fractures were detected in 3.0% of fallers, most frequently being hip fracture. To evaluate which group of variables was associated with falls, six models were created and statistically analyzed using logistic regression.

The final model was generated considering the variables of the six models with statistical significance: Faecal incontinence, visual deficit, dementia and Tinetti score.

Logistic regression showed that age and sex does not predict fall risk. Subjects with faecal incontinence had a lower risk of falling, while subjects afflicted with dementia and visual impairment showed an increased risk of falling.

All subjects showed a Tinetti score <19 points, indicating a high risk of falling. However, higher Tinetti scores were found to be related to an increased fall risk. It could be assumed that subjects with lowest Tinetti scores were not at risk of fall due to their poorer clinical conditions.



Lifestyle factors associated with muscle mass loss in aged 40 years and older: Six-year retrospective cohort study

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Background: Aging-related muscle loss is a public health problem. We investigated the lifestyle factors associated with changes in skeletal muscle mass in the middle-aged and older adults, retrospectively.

Methods: Healthy men (n=2270) and women (n=881) aged 40 years and older who underwent health examinations at the Health Promotion Center at Seoul St. Mary's Hospital, Korea from 2010 to 2016 or 2011 to 2017 were included in this study. Lifestyle and health status were evaluated through a standardized questionnaire. Body composition including muscle mass was estimated using bioelectrical impedance analysis at baseline and after a 6-year follow-up. Relative change in appendicular skeletal muscle mass (ASM) was calculated as the difference in ASM between the baseline and follow-up, divided by the baseline value and multiplied by 100. Sarcopenic status was defined when ASM decreased more than 0.5% per year. Logistic regression analysis was executed to examine the association between sarcopenic status and lifestyle factors.

Results: The number of muscle mass loss more than 3% for 6 years was 467 (=20.6%) in men and 215 (=24.4%) in women. We found the significant association between current smoking and muscle mass loss in women (OR 4.01, 95% CI : 1.56-10.30, p = 0.004). The odds ratio was statistically significant after adjustment for age, body mass index, exercise, calorie intake, diabetes mellitus, alcohol intake, menopause and depression (OR 3.39, 95% CI : 1.20-9.62, p = 0.015).

Conclusion: Current smoking could negatively influence on muscle mass in women. In order to prevent and manage sarcopenia, smoking cessation can be helpful.

Biography

NARA LEE has completed her MD at the age of 27 years from College of Medicine, Chosun University. She is the resident doctor of Department of Family Medicine, Seoul St. Mary's Hospital, College of Medicine, The Catholic University of Korea.



Associations between Coffee Consumption and the Risk of Stroke: A Systematic Review and Meta-analysis

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Background: Epidemiological studies have reported inconsistent findings regarding the association between habitual coffee consumption and the risk of stroke. However, a quantitative, systematic review of these studies has never been performed. Our objective was to conduct a systematic review, including a meta-analysis, of observational studies that assessed the association between coffee consumption and the risk of stroke.

Methods: We identified relevant studies in a literature search of the PubMed, EMBASE, Web of Science, and PsycINFO databases through August 2011. The bibliographies of the retrieved articles were also reviewed. We included longitudinal observational studies that reported risk ratio (RR) estimates with 95% confidence intervals (CIs) for the associations of interest. Study-specific RRs were combined using a random-effects model. Between-study heterogeneity was assessed using Q and I2 statistics.

Results: The pooled RR of stroke for the highest versus the lowest/nondrinker category of coffee consumption was 1.07 (95% CI, 0.91-1.26). There was significant heterogeneity among the studies (P<0.1). In the subgroup analyses, a borderline significant association was observed among the 11 studies of total stroke (RR=0.90, 95% CI, 0.81-1.00). Furthermore, a significant protective effect was also noted in a fixed-effects meta-analysis of 10 cohort studies (RR=0.88, 95% CI, 0.78-0.98). The risk (morbidity/mortality) of stroke decreased by 15% for the consumers of the largest amount of coffee compared with the lowest/ nondrinkers in a fixed-effects meta-analysis of 5 studies (RR=0.85, 95% CI, 0.76-0.95).

Conclusion: This meta-analysis suggests that high coffee consumption may reduce the risk of stroke.

Biography

So-Youn Kim has graduated from the Catholic University of Korea, College of Medicine at the age of 25 and is currently in training as a resident in the Department of Family Medicine, Yeouido St. Mary's Hospital, College of Medicine, The Catholic University of Korea years from Andhra University and postdoctoral studies from Stanford University School of Medicine.





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