



17<sup>th</sup> Annual Congress on  
**Neuroscience**  
July 18-19, 2022 | Webinar



**SCIENTIFIC TRACKS  
& ABSTRACTS**



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Celina F. Boutros, J Alzheimers Dis Parkinsonism 2022, Volume 11

## Cognitive impairment at 3, 6 and 12 month after the first-ever stroke among Lebanese survivors: Rate and risk factors

**Celina F. Boutros**

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**Introduction:** The objectives of this study were to calculate the rate of cognitive impairment among Lebanese stroke survivors at 3, 6 and 12 month post stroke, and to identify the characteristics and associated risk factors.

**Methods:** A multicenter longitudinal prospective study was conducted in 10 hospitals from Beirut and Mount Lebanon for a 15-month period. Mini-Mental State Examination, modified Rankin Scale, Short Form Health Survey (SF12), and NIHSS were used to assess the cognitive function, the disability degree, the quality of life, and the stroke severity, respectively. Univariate and multivariable analyses were performed to characterize the predictors of post stroke cognitive impairment.

**Results:** High rate of cognitive impairment was found during the first 3 months' post stroke (74.8%) where a severe damage occurred in 53.7% of survivors. A significant improvement of 37% was highlighted at 1-year post stroke ( $p < 0.001$ ). Age was the main predictor of severe cognitive decline in the three time periods ( $AOR \approx 3$ ,  $p < 0.05$ ). Severe cognitive impairment was positively associated with sedentary behavior ( $AOR = 3.062$ ,  $p = 0.033$ ), depression ( $HADS \geq 11$ ) ( $AOR = 2.536$ ,  $p = 0.049$ ), and high NIHSS scores ( $AOR = 3$ ,  $p = 0.009$ ). Mild cognitive impairment was induced by anxiety ( $HADS \geq 11$ ) ( $AOR = 2.7$ ,  $p = 0.023$ ) and depression ( $AOR = 3.5$ ,  $p = 0.017$ ). Left hemisphere stroke was an independent risk factor of severe cognitive impairment at 1-year post stroke. Inversely, females ( $AOR = 0.09$ ,  $p = 0.027$ ), high educational level ( $AOR = 0.2$ ,  $p < 0.02$ ), employment post stroke ( $AOR = 0.3$ ,  $p = 0.023$ ), high PCS of QoL ( $AOR = 0.8$ ,  $p < 0.001$ ), use of anti-diabetic treatment post stroke ( $AOR = 0.17$ ,  $p = 0.016$ ) play a protective role for the cognitive function.

### Biography

I am a BSN and MPH graduate from Lebanese University, and currently a Ph.D. student in Pathology and Clinical Research, Paris-Est Créteil University, Paris, France, working on neurologic, cognitive, psychiatric, and physical diseases. In addition, I am working as a Clinical Research Coordinator since 2018 at the Center for Infectious Diseases Research (CIDR), American University of Beirut Medical Center (AUBMC), Hamra, Beirut, Lebanon. Our field of research is Infectious and Immunology diseases.

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Pinar Sengul, J Alzheimers Dis Parkinsonism 2022, Volume 11

## Less risky decision making attitudes in vegans compared to non-vegans in iowa gambling task.

**Pinar Sengul**

Acibadem University, Turkey

Executive functions that are led mainly by the prefrontal cortex can be impaired either due to physical trauma or altered biochemistry in neurotransmitters, neuromodulators and neuropeptides. Hedonistic (pleasure-seeking) activities are related to increased dopaminergic activity in ventromedial prefrontal and subgenual anterior cingulate cortex. Cholinergic neurons in the medial prefrontal cortex are known to be of importance though it is not very well investigated yet. Since dopamine and acetylcholine are too large to pass through to blood brain barrier both of these neuromodulators are biosynthesised in the brain via precursors. Tyrosine and choline, the precursors of dopamine and acetylcholine respectively, can be synthesized endogenously. However, diet can also provide these nutrients, which can alter the balance with excess consumption of several food items. Tyrosine is found in meat and poultry, fish, cheese, soybeans, and nuts. It can be obtained both from animal and plant based food. However, an average portion of steak, pork chops, salmon and turkey exceed the recommended daily intake (RDI) of tyrosine by at least 200%. Whereas soya (RDI: 202%) being highest tyrosine abundant plant food, the rest (e.g. lentils, black beans, wild rice and pumpkin seeds) are less than 50% of the RDI when eaten individually. The same goes for choline, where choline can be obtained mostly from eggs, organ meats, caviar followed by shiitake mushrooms, soybeans, beef, wheat germ, and chicken. Omnivorous diets can easily exceed the recommended daily intake amount of tyrosine and choline compared to herbivorous and/or frugivorous diets. Excess intake of these amino acids and micronutrients can lead to excess biosynthesis of dopamine and acetylcholine in the brain. This surge of neuromodulators particularly in the forebrain where executive functions are led can cause behavioral modifications. It is widely known that dopamine plays a crucial role in the reward circuitry and when it is too much or too small, impulsive behaviour that leads to compulsive shopping, kleptomania, high sex drive, hyperactivity, and compulsive gambling. In this study, 252 individuals were asked to complete Iowa Gambling Task 2 (IGT2). Their starting cash was \$2000. In the end, high-risk takers ended up with less money than \$2000 and low risk takers were equal to or more than \$2000. Their diet preferences were asked and divided into two categories as vegans and non-vegans. The results showed that vegans significantly scored higher than non-vegans. Vegans mostly do not have excess choline and tyrosine levels in their bloodstream and in the central nervous system, hence they aren't afflicted by the modulations of the neurochemical and behavioural effects as much as their non-vegan counterparts. pinar.

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## Biography

Pinar Sengul is a neuropsychologist who is specialising in nutrition, limbic and executive systems. She has done her Bachelor of Science in Psychology at Isik University and Medical School Hamburg with Honour award. She has completed her Cognitive Neuroscience and Neuropsychology MSc degree with a Merit award at Birkbeck, University of London. Her dissertation was focused on memory and diet. She is currently writing a thesis for her PhD in Neuroscience. She is also doing a second degree (BA) in Philosophy and is particularly interested in Bioethics and vivisection regulations. She has published 5 scientific articles with 4 of them being her own research articles. Her most recent research article is published on Clinical Nutrition Open Science, Elsevier. She speaks Turkish and English bilingually, and fluent in German. She has intermediate fluency in American Sign Language. She translated the book "Why Vegan?" By Peter Singer from English into Turkish. In her free time, she reads loads of literature novels&poetry, and cheerleads in her brother Atilla Volga's rock music concerts.

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Vinicius Benatti Freire, J Alzheimers Dis Parkinsonism 2022, Volume 11

## Neuroplasticity in spinal trauma: A current narrative review of treatment

**Vinicius Benatti Freire**

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Neuroplasticity is a condition present from birth, being found in the central and peripheral nervous system, both physiologically and pathologically. Based on the findings, therapeutic and non-therapeutic attempts were tested in spinal cord trauma to recover locomotor function below the level of the injury. Depending on the classification of the injury, different levels of motor and sensory preservation can be expected, with possible total loss of these, as in the case of an ASIA A injury. Only 20% of ASIA A patients exhibit any spontaneous improvement within one year of injury, indicating the potential ability of small edges of spared tissue to mediate functional improvement. Spontaneous functional improvement is found in around 60% to 80% of patients with spinal cord injury, with partial preservation of motor function, corroborating the theory that spared projections can undergo spontaneous plasticity.

The work defined and showed other forms of the term neuroplasticity, talk about some pathological and non-pathological conditions and, finally, to show neuroplasticity and some of its treatments in the spinal cord injury process. For the elaboration of this work, a review of the narrative literature from 2000 to 2020 of the PubMed platform and analysis of two books was carried out. Animal/human studies were included that addressed pathologies, forms of treatment for spinal cord trauma and qualis from B1 to A1. Articles prior to 2000 that addressed neuroplasticity only to understand molecular mechanisms and articles that were not in English were excluded.

As a result, the main molecules and structures involved in the neuroplasticity process were found and, based on this knowledge, forms of treatment were developed to assist neuroplasticity and a possible functional recovery. We can mention the introduction of nanotechnology to optimize the treatment, as in the case of the use of albumin and PLGA nanoparticles or hydrogel nanoparticles, which represents an advance in which the treatment evolves from a systemic situation to a more localized one, reducing side effects and improving results for patients. It can be concluded that physiological barriers are already being overcome by the most recent forms of treatment and that soon new studies will be able to propose a form of treatment that can be protocolized for all patients.

### Biography

I am a medical student at Nove de Julho University Medicine, Campus Vergueiro, and, at the moment, I am part of the university's final year internship program. I have published two scientific papers and a book chapter. I am publishing another work that consists of a case report of a patient with normal pressure hydrocephalus and another book chapter, a more complete version of my original work. I am also a temporary member of the Brazilian Academy of Neurology. During the five years of medical education at the university, I was part of the mentoring program, where assistance was given to college students. I recently participated as a speaker at three conferences to present one of the published articles and a case report that is also in the process of being published.

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