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26th Edition of International Conference on

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Posters

Lauren Quesenberry et al., J Neurol Neurosci 2018, Volume 9
DOI: 10.21767/2171-6625-C2-012

Renegade children: Identity negotiations of three Christian lesbians from the American south

Lauren Quesenberry and **Courtland C Lee**
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This poster session focuses on a study of the identity formation of three specific lesbian/bisexual women who were raised in the Southeast region of the United States characterized by a strong Christian fundamentalist/evangelical influence. Narrowing in on the intersection between religion, sexual orientation, geographic region and/or culture (amidst a variety of other factors having to do with the personal lives of these three participants), this poster will highlight therapeutic implications for counselors and psychologists. Beginning with the basics of identity politics and theory, intersectionality is a concept coined by Crenshaw (1989) to describe the way that issues like racism, sexism etc. seem to overlap and create multiple levels of social injustices. Research findings suggest that each minority class a person possesses compounds and interacts, thereby increasing threats of discrimination. This conceptualization of identity formation challenges the hierarchal nature of power within society and provides the following implications for psychological practitioners: practitioner cultural competence is a dire necessity. When working with persons who are participants in one or more minority classes, the following frameworks must be integral to the counseling process: feminist theory, multicultural counseling theory, relational-cultural theory etc. (i.e. empowerment modality used to dismantle the ways in which an individual has been silenced or blamed for his/her sexual orientation as "choice," etc.). Understand the dangers of prioritizing culture over other factors/identities (sexuality, SES, etc.) which may reinstate powerlessness (i.e. lack of access to services, problems within that culture).

Recent Publications

1. Cass V C (1979) Homosexuality identity formation: A theoretical model. Journal of Homosexuality 4(3):219-25.
2. Dahl A L and Galliher R V (2009) LGBQQ young adult experiences of religious and sexual identity integration. Journal of LGBT Issues in Counseling 3(2):92-112.
3. Szymanski D M (2005) Heterosexism and sexism as correlates of psychological distress in lesbians. Journal of Counseling and Development 83(3):355-360.
4. Parker K (2013) The hell train: a journey from holy roller to feminist lesbian. In, Whitlock R U Queer south rising: Voices of a contested place. ISBN: 9781623961695.

Biography

Lauren Quesenberry is a second-year student in the Clinical Mental Health Counseling Program at The Chicago School of Professional Psychology, Washington DC. She obtained a Master of Arts in Women's Studies Gender Studies from Loyola University Chicago in 2011 and a Bachelor of Arts in English and Minor in Psychology from Gardner-Webb University in 2009. Her areas of professional and academic focus include women's trauma/recovery and LGBTQ populations.

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Notes:

Mariannina Amato, J Neurol Neurosci 2018, Volume 9
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3D therapy® in the children

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The latest research in the field of neurosciences on empathy, tuning, emotional understanding and high executive functions found in 3D therapy is an effective implementation. 3D therapy applies the 3D printer in the realization of 3D objects that will be therapeutic elements. The 3D object is the result of emotional involvement in the therapeutic session. The evoked dysfunctional emotion is transposed as a graphic on a sheet by the same child. The method has a sequential process that is activated with adequate visual and verbal stimulation (phase A) the child's emotional involvement and blocked emotion that causes discomfort. The emotion evoked, transposed on a graph, is materialized in a 3D object (phase Bx) placed in front of the child. The observation of the object unleashes in the child (phase Cx), a strong emotional impact that goes from amazement/wonder to surprise/novelty, an impact that calls for a dynamic process of visual and tactile observation (phase D). It follows a comparison and narration, with a continuous search for solution to the problem (phase E), up to the understanding and emotional stabilization (phase F) with the assimilation of new information on one's self, made more and more cohesive and integrated. The observation process involves the activation of mirror neurons that reflect the objective emotions, made clear and real by the 3D object, and the executive functions that plan a research strategy and solution to understand and integrate the emotional elements producing a real change in the self of the child.

Biography

Mariannina Amato graduated in Psychology and specialized in Psychotherapy. She is an ASPIC-APA member. She currently works in the Child Neuropsychiatry of the ASP-CZ. She graduated in Psychology at the Sapienza of Rome in 1990, specialized in Clinical Psychology of Community and Integrated Humanistic Psychotherapy in ASPIC School in Rome in 2003. She attended the Master in Health Management 2014, the courses of Psychodiagnostics and Family Mediation in 1998. She expert in child psychology, problems of sexual abuse, foster care and family mediation at the Court of Lamezia Terme and Catanzaro from 1998 to today. Since 2007 she work as Psychologist and Psychotherapist at the OU of Obstetrics Gynecology. Currently she work as a psychologist in the Child Neuropsychiatry of Lamezia Terme, Italy.

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Notes:

Nibras Rothwell et al., J Neurol Neurosci 2018, Volume 9
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Are middle - aged university students disadvantaged in comparison to younger students in terms of their cognitive functioning and behavioural characteristics?

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Previous research has shown that younger adults often perform better than older adults on tests of cognitive function including those of memory, attention, and executive function. However, there has been less research that has investigated the differences between younger and middle aged adults, especially those currently in education. This study aimed to bridge this gap. A group of 20 younger students (aged between 19 and 25) was compared to a group of 20 middle-aged learners (aged between 35 and 55). Both groups were required to complete a selection of tests from the Cambridge Neuropsychological Test Automated Battery (CANTAB). In addition, both groups were required to complete five standardised questionnaires that measured further aspects of cognition and behaviour, including resilience and self-esteem. In terms of the CANTAB tests the younger group generally outperformed the middle-aged group, although not significantly. However, in of one of the more complex executive function tasks, a test of multitasking, the middle-aged group seemed to have particular difficulties responding accurately to conflicting stimuli and multiple significant differences were found. In terms of the behavioural measures, the younger participants scored significantly higher on self-esteem, but middle-aged participants had significantly higher scores on the BUSS measure of academic tenacity and on the CD-Risc and Resilience Scale. While this was a small pilot study, it does suggest that there may be genuine differences between younger and middle aged students in certain aspects of cognition and behaviour that warrant further exploration.

Biography

Nibras Rothwell is a PhD student in Psychology Department at University of Bolton. She is interested in Psychology, Neuropsychology, Neurocognition, Educational Psychology and Human Memory in general. She has completed professional academic degrees in teaching, interpreting and translation, British airlines experience, case working, leadership, advice, advisory, a quality and assurance assessment, and English law interpretation. She has been living, communicating and working in various countries and has gained excellent experience. Her educational background and experiences made her ambitious to investigate more aspects in human brain, cognitive abilities, performance and behaviour.

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Notes:

Francesca Sardina et al., J Neurol Neurosci 2018, Volume 9
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The kinase HIPK2 regulates spastin protein: Implications in hereditary spastic paraplegia

Francesca Sardina[1], Davide Valente[2], Manuela Ferrara[1], Alessandra Pisciottani[1], Marco Crescenzi[3], Silvia Soddu[2] and **Cinzia Rinaldo[1, 2]**
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The alteration of axonal-transport is an early and causal event in many neurodegenerative diseases (ND). Among the mechanisms contributing to axonal-transport defects, the loss of microtubules dynamism is one of the key mechanisms. Spastin is a microtubule severing protein involved in cytokinesis and in axonal-transport. Mutations in *SPG4* gene encoding spastin are found in patients with hereditary spastic paraplegia (HSP), an autosomal dominant ND. Recently, it has been shown that to increase spastin levels rescues the pathological phenotypes in HSP-patient-derived cells suggesting that intervening to modulate spastin levels may be a valid therapeutic strategy in ND characterized by spastin misregulation. We found that spastin is regulated by the kinase HIPK2 in neural compartment. HIPK2 depletion leads to spastin down regulation in a proteasome-dependent manner and impairs axonal-transport. Wild-type-HIPK2 overexpression, but not kinase-defective-HIPK2, increases spastin levels and rescues axonal transport defects in spastin-deficient motor neurons. Mechanistically, we showed that HIPK2 phosphorylates spastin at S268. This phosphorylation stabilizes spastin and prevents its polyubiquitination and proteasome degradation. These results, in addition to expanding our understanding of the HIPK2/spastin axis in neural compartment, might provide the basis for the development of a new therapeutic approach to treat HSP.

Recent Publications

1. V Colicchia, M Petroni, G Guarguaglini, F Sardina, M Sahun Roncero, M Carbonari, B Ricci, C Heil, C Capalbo, F Belardinilli, A Coppa, G Peruzzi, I Screpanti, P Lavia, A Gulino and G Giannini (2017) PARP inhibitors enhance replication stress and cause mitotic catastrophe in MYCN-dependent neuroblastoma. Oncogene 36:4682-4691.
2. M Petroni, F Sardina, C Heil, M Sahún-Roncero, V Colicchia, V Veschi , S Albini, D Fruci, B Ricci, A Soriani, L Di Marcotullio, I Screpanti, A Gulino and G Giannini (2016) The MRN complex is transcriptionally regulated by MYCN during neural cell proliferation to control replication stress. Cell Death Differ. 23(2):197-206.

Biography

Francesca Sardina is interested in the study of DNA damage response during neuronal development and carcinogenesis. In this last years, she started to characterize the role of HIPK2, a kinase controlling DNA damage and cytokinesis, in the regulation of spastin protein closely involved in Hereditary spastic paraplegia, a neurodegenerative disease. Her studies could open the way to develop new and innovative therapeutic approaches in the field of neurodegenerative diseases.

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Notes:

Imane Ghafir El Idrissi et al., J Neurol Neurosci 2018, Volume 9
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Drug discovery for Alzheimer's disease: A focus on small molecule able to disrupt PrPC - Aβos binding, to block PrPC-dependent cognitive defects

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[2]Università degli Studi di Bari Aldo Moro, Italy
[3]University of Sheffield, UK

Alzheimer's disease (AD) is characterized by a severe loss of memory function. It has been proposed that AD associated memory loss is caused by soluble amyloid-beta oligomers (OS), especially during early stages of AD before significant neuronal cell death has occurred. It has been shown that PrPC mediates the toxic effect of Aβ oligomers and is required for Aβ oligomer-induced suppression of synaptic plasticity, synapse damage, and neuronal cell death Aβos binding to PrPC results in Fyn activation which leads to NR2B subunit of NMDARs phosphorylation and in tau hyperphosphorylation, the second pathological hallmarks of AD. Treatment with PrPC antibodies against the Aβ oligomer binding site prevents the inhibition of long-term potentiation and reverses cognitive deficits in AD transgenic mice. Copper ion (Cu^{2+}) is another important plyer in this scenario. In fact, the PrPC in its copper-loaded state binds to the NMDAR complex to allosterically reduce its glycine affinity, thereby increasing desensitization. When copper is chelated (i.e., by BCS or monomeric Aβ1–42) or when PrPC is absent or functionally compromised (by GPI anchor cleavage or binding to Aβ oligomers), glycine affinity is enhanced, reducing receptor desensitization and producing pathologically large, steady-state currents that contribute to neuronal damage. There has been considerable interest in identification of compounds that bind to PrPC, stabilizing its native fold and thereby acting as pharmacological chaperones to block prion propagation and pathogenesis. However, compounds binding PrPC could also inhibit the binding of toxic species and may have a role in treating AD. The work outlined here details investigations into a group of around 100 compounds. These were screened in HEK 293 and N2a differentiate cells, wild type expressing PrPC in order to establish and optimize their *in vitro* ability to disrupt Aβ1-42-PrPC binding, establish their structure-activity relationship and identify a lead compound.

Recent Publications

1. Chen RJ, et al. (2013) Alzheimer's Amyloid β Oligomers Rescue Cellular Prion Protein Induced Tau Reduction via the Fyn Pathway. ACS Chem Neurosci. 18;4(9):1287-96.
2. LM Smith, et al. (2017) Binding Sites for Amyloid-β Oligomers and Synaptic Toxicity. Cold Spring Harb Perspect Med. Cold Spring Harb Perspect Med. 7(5).
3. M Larson, et al. (2012) The Complex PrPC-Fyn Couples Human Oligomeric Aβ with Pathological Tau Changes in Alzheimer's Disease. The Journal of Neuroscience 32:16857–16871.
4. Chung E et al. (2010) Anti-PrPC monoclonal antibody infusion as a novel treatment for cognitive deficits in an Alzheimer's disease model mouse. BMC Neurosci. 14(11):130.
5. You H, et al. (2012) Aβ neurotoxicity depends on interactions between copper ions, prion protein, and N-methyl-D-aspartate receptors. Proc Natl Acad Sci USA 109(5):1737-42.

Biography

Imane Ghafir El Idrissi is a third year PhD student in Pharmaceutical and Medical Biomolecular Sciences at the University of Bari, Italy. Her thesis is entitled as "Role of Prion protein and Involvement of metal ions in the onset of Alzheimer's disease". On 5th February 2018, she has been awarded with a scholarship in the call for PhD mobility for study/research at University of Sheffield (UK) within the framework of the GLOBAL-DOC project. From October 2014 to September 2018, she is involved in a Marie Skłodowska-Curie Action: Industry Academia Partnerships and Pathways (IAPP) Grant Agreement 612347 title D3i4AD and she spent one year in Sheffield (UK), from October 2015 to March 2016 and from November 2016 to June 2017, during which she developed a cell-based assay, by using HEK 293 cells, useful for a high-throughput screening of small molecules able to disrupt the binding of Aβ1-42 to PrPC, under the supervision of Prof Beining Chen and Prof Nicola Antonio Colabufo.

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Muhammad Imran Naseer et al., J Neurol Neurosci 2018, Volume 9
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Wiedemann-Steiner syndrome with a novel compound heterozygous mutation in *KMT2A* gene having intellectual disability and microcephaly in a consanguineous family

Muhammad Imran Naseer, Fehmida Bibi, Mahmood Rasool, Angham Abdulrahman Abdulkareem, Adeel G Chaudhary and **Mohammad H Al-Qahtani**
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Wiedemann–Steiner syndrome (WSS) is an autosomal dominant disorder characterized by short stature, hypertrichosis, intellectual disability, developmental delay, along with facial dysmorphism. *KMT2A* gene (OMIM: 159555) is one of the known genes that are responsible for WSS and still new phenotypic features continue to be added in this conditions. Here in this study we report a novel compound heterozygous c.2017G>C (p.Ala673Pro) in exon 3 and c.3180G>T (p.Glu1060Asp), mutations in exon 4 of the *KMT2A* gene in two affected girls in Saudi family with microcephaly, speech disorders, walking difficulty and intellectual disability. Whole exome sequencing (WES) results showed two rare, missense variants in compound heterozygous state in the *KMT2A* gene in these two affected girls whereas the both the parents were heterozygous. A compound heterozygous c.2017G>C in exon 3 and c.3180G>T in exon 4 of the *KMT2A* mutation confirm the typical WSS phenotype. Furthermore, the WES results were validated by using the Sanger sequencing analysis in affected and parents along with 100 unrelated control from normal population. Our results showed similar type of genotype and phenotype of the patient is compared with the earlier reported patients in the literature, in an attempt to broaden our knowledge of this rare syndrome.

Recent Publications

1. Aggarwal A, Rodriguez-Buritica DF and Northrup H (2017) Wiedemann-Steiner syndrome: Novel pathogenic variant and review of literature, European Journal of Medical Genetics 60(6):285-288.
2. Dunkerton S, Field M, Cho V, Bertram E, Whittle B, Groves A and Goel H (2015) A de novo Mutation in *KMT2A* (MLL) in monozygotic twins with Wiedemann-Steiner syndrome. American Journal of Medical Genetics Part A 167A(9):2182-7.
3. Enokizono T, Ohto T, Tanaka R, et al. (2017) Preaxial polydactyly in an individual with Wiedemann-Steine syndrome caused by a novel nonsense mutation in *KMT2A*, American Journal of Medical Genetics. Part A 173(10)2821-2825.
4. Miyake N, Tsurusaki Y, Koshimizu E, Okamoto N, et al. (2016) Delineation of clinical features in Wiedemann-Steiner syndrome caused by KMT2A mutations. Clinical Genetics 89(1):115-9.
5. Sun Y, Hu G, Liu H, Zhang X, Huang Z, Yan H, Wang L, Fan Y, Gu X and Yu Y (2017) Further delineation of the phenotype of truncating KMT2A mutations: The extended Wiedemann-Steiner syndrome, American Journal of Medical Genetics. Part A 173(2):510-514.

Biography

Muhammad Imran Naseer joined the CEGMR as a Neuroscientist from Gyeongsang National University, South Korea. His area of expertise includes molecular, cellular and developmental neuroscience. His PhD work was based on the effect of ethanol on siRNA-Mediated GABAB1 receptor expression for downstream signaling pathways, apoptotic neurodegeneration, maternal epileptic seizure and role of GABAB1 receptor expression in early development of pre and postnatal rat brain. Currently, he is involved in neurogenetic research program at CEGMR working on common neurologic disorders including Progressive Myoclonic, Juvenile Myoclonic, Idiopathic Generalized Epilepsy, microcephaly and other neurodegenerative and neurodevelopmental disorders in the western region of Saudi Arabia using microarray platform for array CGH, CNV/SNP analysis and next generation for expression and whole exome sequencing analysis. Further aim is to study the role of GABAB receptors and KIFs genes in early neurological defects related to neurodegenerative disorders in the Saudi Arabia including epilepsy, microcephaly, Alzheimer's and mental retardation.

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Odeya Damri et al., J Neurol Neurosci 2018, Volume 9
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Inter-relationship between consequences of mild brain mitochondrial-dysfunction and agents that promote mitochondrial respiration

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Mitochondrial-function is at the nexus of pathways regulating synaptic-plasticity and cellular resilience. The involvement of brain mitochondrial-dysfunction along with increased reactive oxygen species (ROS) levels, accumulating mtDNA mutations and attenuated autophagy are implicated in psychiatric and neurodegenerative diseases. We aimed to model mild mitochondrial-dysfunction assumed to occur in bipolar-disorder (BPD) using exposure of human neuronal cells (SHSY5Y) to rotenone (an inhibitor of mitochondrial-respiration complex-I) and to find out whether ROS scavengers and/or autophagy enhancers can ameliorate neuronal mild mitochondrial-dysfunction. Incubation with an extremely low rotenone dose (10 pM) for 72 and 96 hours did not affect cell viability but induced a dual effect on mitochondrial-respiration. Exposure for 72 hours induced an overshooting several-fold increase in basal, maximal and ATP-linked oxygen-consumption-rate (OCR) but not in non-mitochondrial OCR while exposure for 96 hours significantly decreased all OCR parameters. The autophagy enhancers lithium, trehalose, rapamycin and resveratrol added for the last 24 of the 72 hours exposure to rotenone counteracted rotenone`s effect on OCR parameters. Only lithium added for the last 48 of the 96 hours exposure to rotenone reversed rotenone's effect on OCR parameters. The effect of 10 pM rotenone mimics BPD studies in which neuronal cell death is not discerned despite reproducible reports of mitochondrial-dysfunction. The enhancing effect of the low dose of rotenone on mitochondrial-respiration parameters is interpretable as the cells compensatory response to the very mild mitochondrial-dysfunction. Our regime differs from the rotenone-induced Parkinson's model (10 pM vs. at least 10 nM) by not affecting ROS levels nor cell viability but reducing most OCR parameters following 96 hours of exposure. The effect of lithium reversing rotenone's effect on OCR parameters is compatible with lithium's known positive effects on mitochondrial-function, in general, and oxidative phosphorylation complexes, in particular.

Recent Publications

1. Toker L, et al. (2014) Inositol-related gene knockouts mimic lithium's effect on mitochondrial function. Neuropsychopharmacology 39:319-328.
2. Maurer I C, Schippel P and Volz H P (2009) Lithium-induced enhancement of mitochondrial oxidative phosphorylation in human brain tissue. Bipolar Disord 11:515-522.
3. Clay H B, Sillivan S and Konradi C (2011) Mitochondrial dysfunction and pathology in bipolar disorder and schizophrenia. Int J Dev Neurosci 29:311-324.
4. Arnold B, et al. (2011) Integrating multiple aspects of mitochondrial dynamics in neurons: age-related differences and dynamic changes in a chronic rotenone model. Neurobiol Dis 41:189-200.
5. Park, et al. (2013) Potential autophagy enhancers protect against fipronil-induced apoptosis in SH-SY5Y cells. Toxicol Lett 223:25-34.

Biography

Odeya Damri is in her last year of PhD in Ben Gurion University. Her research is focusing on psychiatric disorders, in general, and bipolar, in particular. During her MSc she published two articles which focusing on understanding the mechanism of lithium in mice model. With the guidance of the supervisor, the prof. Galila Agam, she attempts to establish a model for manic depression in mice based on mitochondrial minor injury while examining weather ROS scavengers or autophagy enhancers alleviate mitochondrial changes. In addition to that she is teaching biochemistry for the fifth year.

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Serena Asslih et al., J Neurol Neurosci 2018, Volume 9
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A quest to model *in vivo* mild mitochondrial dysfunction in mice

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Despite the high prevalence (~1% of the adult population) of bipolar-disorder its pathophysiology or the mechanism by which effective medications exert their therapeutic effect has not yet been unraveled but data from other groups and ours indicate brain mitochondrial dysfunction in the patients and beneficial effects of mood stabilizers (anti-bipolar drugs) on mitochondrial function. We therefore aim to model mild mitochondrial dysfunction in mice using the oxidative phosphorylation (OxPhos) complex I inhibitor, rotenone, to induce affective-like behavior. Adult ICR mice were treated daily with 0.25, 0.5, 0.75, 1.2 and1.5 mg/kg/day rotenone for four, six and eight weeks following which the mice were subjected to a battery of behavioral tests [open field, elevated plus maze (EPM), sweet-solution (saccharin) preference (SSP), rotarod, forced-swim test (FST) and amphetamine-induced hyperactivity] and neurochemical assays. Chronic administration of all rotenone doses for four weeks did not affect spontaneous activity or time spent in the center of the open field, SSP or behavior in the EPM. 0.5 mg/kg/day for four weeks induced a trend for attenuation of amphetamine-induced hyperactivity. 0.75 mg/kg/day for four or six weeks reduced the immobility time in the FST and protein levels of all mitochondrial respiration complexes except for complex IV in the hippocampus with an inverse effect in the frontal-cortex. As for mitochondrial-respiration – there was a trend for upregulation in the hippocampus and down regulation in the frontal-cortex. Eight weeks of treatment significantly increased the immobility-time and reduced mitochondrial -respiration without affecting protein levels of LC-3II and mitochondrial-respiration complexes. In conclusion, 0.75 mg/kg/day rotenone exhibited dichotomial effect on depressive-like behavior reminiscent of bipolarity. We are currently investigating whether Reactive Oxygen-Species (ROS)-scavengers and/or autophagy enhancers rescue the bipolar-like behavior and neurochemical markers.

Recent Publications

1. Cataldo A M, et al. (2010) Abnormalities in mitochondrial structure in cells from patients with bipolar disorder. Am JPathol 177:575-585.
2. Betarbet R, et al. (2000) Chronic systemic pesticide exposure reproduces features of Parkinson's disease. Nature Neuroscience 3:1301-1306.
3. Fattal O, et al. (2006) Review of the literature on major mental disorders in adult patients with mitochondrial diseases. Psychosomatics 47:1-7.
4. Grover S, et al. (2006) Mania as a first presentation in mitochondrial myopathy. Psych Clin Neurosci 60:774-775.
5. Kato T, et al. (1997) Increased levels of a mitochondrial DNA deletion in the brain of patients with bipolar disorder. Biol Psych 42:871-875.

Biography

Serena Asslih is an MSc student at Ben-Gurion University, Israel. She carries out a behavioral and molecular research project aiming at mimicking mitochondrial dysfunction robustly reported in bipolar disorder under Prof Galila Agam's mentorship. In parallel, to achieve knowledge and practice in the preclinical world, which is her central interest, she took upon herself shift duties in hospital laboratories.

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JOINT EVENT

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e-Posters

Adriana Thomas, J Neurol Neurosci 2018, Volume 9
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A narrative study of immigrant psychologists' experiences of working professionally in the cultural context of Aotearoa, New Zealand

Adriana Thomas
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Despite a growing interest in immigration, cross-cultural therapy and an increasing number of foreign-born therapists around the world, the experience of migrant therapists has received very little attention. Most of the literature on cultural competence places emphasis on advising therapists from dominant cultural groups on appropriate ways of working with ethnic minority clients. On the other hand, there is little research or clinical discussion on the impact of being a migrant as a therapist. The purpose of this study is to explore the experiences of migrant psychologists/psychotherapists who have trained overseas and are working in New Zealand in a bicultural and multicultural context. A qualitative semi-structured narrative approach was utilized during in-depth interviews in which participants divided their accounts into stages. Narrative and thematic analysis was utilized to explore and understand the experiences of migrant psychologists/psychotherapists working in New Zealand. Participants in this study described challenges in the early stages of migrating and working in New Zealand such as cultural differences when working therapeutically. Over time, several participants gained access to support, made new professional connections and had opportunities for further learning and career advancement.

Biography

Adriana Thomas is in the final year of completing a Doctorate in Clinical Psychology at The University of Auckland. Her current research interests include migration, cross-cultural therapy and the therapeutic relationship. Her honours research on immigrant counselling psychologists experiences' of the therapeutic relationship with their New Zealand clients was presented at the 8th International Conference of the World Council for Psychotherapy in Asia 2015, in Malaysia.

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Basavaraja Papanna et al., J Neurol Neurosci 2018, Volume 9
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Prevalence of Huntington's disease in Asia: A systematic review meta-analysis

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The epidemiological studies on Huntington's disease (HD) suggest that prevalence rates in the Asian population are significantly lower than the western population. There are preliminary observations that would propose that HD is underestimated in some Asian countries due to stigma related to diagnosis, normalization of behaviors, or use of restricted methods (genetic and neurological) for confirming the diagnosis of HD. This systematic review of epidemiological data of HD prevalence in Asia has highlighted the level of impact of HD on the Asian population. Original articles and reviews about HD prevalence in the Asian population were found through available databases such as EMBASE, Medline, and PsycInfo. Relevant articles were analyzed with the scrutiny of references including specific keywords. A meta-analysis was performed on prevalence rates to find the degree of similarities with I2. Point prevalence was measured as the number of people affected by HD on 100,000 populations. Results show the highest point prevalence of HD in the Indian subpopulations of Pakistan, Punjab, and Gujarat with 1.35 (OR95%CI=1.14-1.57) (Table 1). The lowest point prevalence was found in the Chinese population with 0.25 (OR95%CI=0.16-0.36). Europe remains at a high prevalence compared to Asian countries with 1.00 (OR95%CI=0.82-1.19). Results also show that the prevalence rates have statistical significant variability in all Asian countries (I2=93.90%, p=<0.001). The overall prevalence in the world is 0.61 (OR95%CI=0.43-0.81). Our study reveals that Huntington's disease affects the population in Asia to a lesser extent than Europe, although some countries like Indian subpopulations of Pakistan, Punjab, and Gujarat present with the highest global prevalence. The plausible explanation is that some countries did not adopt genetic and neurological testing while affected individuals will not self-refer to HD screening for fear of social stigma and negative influence in marriage.

Recent Publications

1. Leung CM, Chan YW, Chang CM, Yu YL and Chen CN (1992) Huntington's disease in Chinese: a hypothesis of its origin. J Neurol Neurosurg Psychiatry 55:681-684.
2. Chen Y-Y, Lai and C-H (2010) Nationwide population-based epidemiological study of Huntington's disease in Taiwan. Neuroepidemiology 35:250-254.
3. Shiwach RS and Lindenbaum RH (1990) Prevalence of Huntington's disease among UK immigrants from the Indian subcontinent. The British Journal of Psychiatry 15(4):598-599.
4. Nakashima K, et al. (1996) Epidemiological and genetic studies of Huntington's disease in the San-in area of Japan. Neuroepidemiology 15(3):126-31.
5. Adachi Y and Nakashima K (1999) Population genetic study of Huntington's disease-prevalence and founder's effect in the San-in area, western Japan. Nihon Rinsho, Japanese Journal of Clinical Medicine 57(4):900-4.

Biography

Basavaraja Papanna is a Medical laureate with Postgraduate training and degree in Neurosciences. He is the Member of the Neuroscience Committee at the Royal College of Psychiatry in United Kingdom. His research interests and publications include Neuropsychiatry, Huntington Disease, General Adult Psychiatry, and Sleep Disorders. He is conducting a research study in the epidemiology of Huntington's diseases in Asia using genetic diagnostic methods.

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Roberto Panichi et al., J Neurol Neurosci 2018, Volume 9
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New insights into the impact of neo synthesized 17 beta-estradiol on cerebellar function

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[3]University of Alabama at Birmingham, USA

Statement of the Problem: It is widely accepted that the steroid 17 beta-estradiol might regulate behavioral processes by influencing structural and functional proprieties of neuronal circuits. When synthesized de novo in brain tissue by an aromatase-dependent conversion of testosterone, the 17 beta-estradiol (E2), may act through fast nongenomic mechanisms involving specific E2 membrane receptors. However, it is still unclear if the E2 impacts the functioning of brain structures in which it is slightly synthesized like in the cerebellum of adult animal in some species including humans and rodents.

Aim: The aim of this study is to determinate whether E2 affects the vestibulo ocular reflex (VOR) adaptation, a simple model of a cerebellar dependent learning and underlying parallel fiber-Purkinje cell (PF) synaptic plasticity.

Methodology: We investigated the acute effect of blocking E2 synthesis on gain increase and decrease in VOR adaptation using an oral dose of the aromatase inhibitor letrozole in peri-pubertal and post-pubertal male rats (within this period cerebellar aromatase is very low expressed and localized to Purkinje cells). We also assessed the effect of letrozole on synaptic plasticity at the PF synapse *in vitro*, using cerebellar slices from peri-pubertal male rats.

Findings: We found that letrozole acutely impaired gain increase and decrease in VOR adaptation without altering basal ocular-motor performance and that these effects were similar in peri-pubertal and post-pubertal rats. Moreover, letrozole prevented long-term potentiation at the PF synapse (PF-LTP) without affecting long-term depression.

Conclusion & Significance: Thus, in adult male rats, E2 affects VOR adaptation and regulate exclusively PF-LTP. These findings suggest that E2 might modulate VOR adaptation by acting on cerebellar and extra-cerebellar synaptic plasticity sites and point to a novel mechanism used by the central nervous system to rapidly regulate adaptive behaviors through low and extremely localized E2 production.

Recent Publications

1. Dieni C V, Ferraresi A, Sullivan J A, Grassi S, Pettorossi V E and Panichi R (2018) Acute inhibition of estradiol synthesis impacts vestibulo-ocular reflex adaptation and cerebellar long-term potentiation in male rats. Brain Structure and Function 223:837-850.
2. Luine V (2016) Estradiol: Mediator of memories, spine density and cognitive resilience to stress in female rodents. Journal of Steroid Biochemistry and Molecular Biology 160:189-195.
3. Munetomo A, Hojo Y, Higo S, Kato A, Yoshida K, Shirasawa T, Shimizu T, Barron A, Kimoto T and Kawato S (2015) Aging-induced changes in sex-steroidogenic enzymes and sex-steroid receptors in the cortex, hypothalamus and cerebellum. Journal of Physiological Sciences 65:253-263.
4. Rudolph L M, Cornil C A, Mittelman-Smith M A, Rainville J R, Remage-Healey L, Sinchak K and Micevych P E (2016) Actions of Steroids: New Neurotransmitters. Journal of Neuroscience 36:11449-11458.
5. Tuscher J J, Luine V, Frankfurt M and Frick K M (2016) Estradiol-mediated spine changes in the dorsal hippocampus and medial prefrontal cortex of ovariectomized female mice depend on ERK and mTOR activation in the dorsal hippocampus. Journal of Neuroscience 36:1483-1489.

Biography

Roberto Panichi is a senior Assistant Professor at the Department of Experimental Medicine, Section of Physiology and Biochemistry at the University of Perugia, Italy. He has a PhD in Neurophysiology and Electrophysiology and his studies focus on understanding the processes by which the central nervous system acquires new skills in human and animal models as well. He spent many years studying the internal space representation and its relationship with ocular and other sensory-motor responses, building up a unique model for describing the adaptation in vestibular ocular reflex and self-motion perception. Regarding his cellular studies are targeted to characterize the activation patterns leading to some form of neural plasticity in vestibular nuclei, cerebellum and hippocampus with the main goal to clarify the relationship between cellular and behavioral adaptation.

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Elena I Zakharova et al., J Neurol Neurosci 2018, Volume 9
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Neurotransmitter reorganization of cognitive functions as the basis of brain adaptation under chronic hypoperfusion, dopaminergic and cholinergic systems

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Neurotransmitter organization of cognitive functions under chronic cerebral hypoperfusion (carotid ligation, 2VO model) can differ from norm and its own pharmacotherapy is required to treat delayed cognitive dysfunctions. In rats, the dopaminergic (DA) and cholinergic (ACh) mechanisms of rapid one-trial, working long-term memories and learning were studied on 2VO model. 6-7 days (7d) or 1 month (1M) after carotid ligation, rats were trained on the spatial contextual model in the Morris water maze and taken to a neurochemical experiment 2-3 days after the end of training. In synaptosomal subfractions of the cortex and hippocampus, the activity of the DA and ACh neurons markers, respectively, of tyrosine hydroxylase and choline acetyltransferase was estimated. The rats of control group (sham operated, SO) were divided into an upper quartile (the most capable rats); lower quartile (the incapable rats) and two middle quartiles according to their cognitive abilities. SO rats in each quartile had its own specificity of DA-ACh synaptic links (correlations) with cognitive functions, including also the same and differently directed links (positive-negative correlations). In the 7D group, the learning-memory was significantly impaired and the lower quartile rats dominated; DA influences on the functions completely disappeared, ACh influences significantly reduced or emerged new ones. In the 1M group, the functions were restored, but the level of upper quartile was reached only for long-term memory; only a few DA or ACh synaptic links were restored; new, including nonDA and nonACh links, dominated. DA and ACh reorganization of functions in 2VO rats was the result of degeneration or synaptogenesis of corresponding synaptic populations. A working hypothesis is that the neurotransmitter reorganization of cognitive functions is an obligatory consequence of the brain adaptation to hypoperfusion and altered blood supply of the brain. Such studies are required to determine the pharmacotherapy of delayed disturbance of cognitions.

Recent Publications

1. Liu Y, Dong YH Lyu PY, Chen WH and Li R (2018) Hypertension-induced cerebral small vessel disease leading to cognitive impairment. Chin Med J (Engl). 131:615-619.
2. Miyanohara J, Kakae M, Nagayasu K, Nakagawa T, Mori Y, Arai K, Shirakawa H and Kaneko S (2018) TRPM2 channel aggravates CNS inflammation and cognitive impairment via activation of microglia in chronic cerebral hypoperfusion. J Neurosci pii 2451-2417.
3. Duncombe J, Kitamura A, Hase Y, Ihara M, Kalaria RN and Horsburgh K (2017) Chronic cerebral hypoperfusion: a key mechanism leading to vascular cognitive impairment and dementia. Closing the translational gap between rodent models and human vascular cognitive impairment and dementia. Clin Sci (Lond) 131:2451-2468.
4. Du SQ, Wang XR, Xiao LY, Tu JF, Zhu W, He T and Liu CZ (2017) Molecular mechanisms of vascular dementia: what can be learned from animal models of chronic cerebral hypoperfusion? Mol Neurobiol 54:3670-3682.
5. Jayant S and Sharma B (2016) Selective modulator of cannabinoid receptor type 2 reduces memory impairment and infarct size during cerebral hypoperfusion and vascular dementia. Curr Neurovasc Res 13:289-302.

Biography

Elena I Zakharova is a Specialist in Neurophysiology and Neurochemistry. Using the original method of synaptic fractionation, she previously participated in studies that revealed a different cholinergic synaptic organization of cognitive functions in the brain of intact animals with different cognitive abilities. Under the leadership of MD Alexander Dudchenko (hypoxia, ischemia, biochemistry, molecular biology) and together with PhD Zinaida Storozheva (neurophysiology, neurodegenerative diseases, learning models) and PhD Mikhail Monakov (cerebral hypoperfusion, ischemia, surgery), she revealed a significant cholinergic reorganization of learning and memory under cerebral hypoperfusion in rats on the 2VO model. This suggested that the neurotransmitter reorganization of functions can play an important role in brain adaptation in these pathological conditions and that the new influences of neurotransmitters can maintain the damaged cognition. It was necessary to investigate other neurotransmitter systems and in more detail in the same pathological conditions.

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Neurocognitive intervention targeting components of theory of mind in school-age children with behavioral disorders

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Introduction & Aim: The understanding of human social functioning is an element of importance for intrapersonal and interpersonal development. In this sense, neuroscience proposed the understanding of human beings from the concept of social cognition, understood as set of abilities that allow humans to identify and carry out readings of social signs with the aim to adapt and respond coherently to the context. One of its main components is the theory of mind (ToM), which plays fundamental role in analysis of emotional expression through eyes, nonverbal information processing, understanding the metaphorical language and intention attribution, that in turn influences the inference of thoughts, feelings, beliefs, intentions and desires, thus affecting decision making. Currently, there is no clarity about ToM in children and teenage school children with disorders of conduct. Therefore, the present study was proposed to deepen characterization in the dimensionality of these alterations and to assess the potential susceptibility to cognitive-social intervention.

Method: It was a quasi-experimental study, pretest-posttest. Study sample was confirmed by 120 school children (35 girls and 85 boys) from 7 to 11 years, students of public schools in Neiva city distributed in three groups: group control, group with diagnosis of TDC and group with ADHS diagnosis.

Findings: Evaluation of posttest to compare the performance of the experimental groups after training with neurocognitive intervention program, revealed significant differences in the tasks used to assess ToM, which suggests effectiveness of the program in socio-cognitive skills implemented.

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The effectiveness of mild general hypothermia in reducing the side effects of delayed r-tPA treatment after embolic stroke in rats

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Objective: Late alteplase (tPA)-associated complications cause narrow treatment time window of only Food and Drug Administration (FDA) approved drugs. In addition, induced hypothermia has neuroprotective properties in acute ischemic stroke, so in this study, we investigate whether general hypothermia can prevent side effects of late tPA treatment in the embolic model of stroke.

Materials & Methods: 40 male wistar rats were randomly assigned into five groups 1: Sham, 2: Control, 3: Hypothermia, 4: r-tPA and 5: Hypothermia/r-tPA). General hypothermia (GH) was induced at 5.5 hours after induction of embolic stroke. 30 mins after initiation of cooling treatment, tPA was administrated. The infarction volume, brain edema, blood-brain barrier (BBB), matrix metallopeptidase 9 (MMP9) and neurological deficits were assessed after 2 days.

Results: In comparison with control group, the general inducing of hypothermia decreased the infarct volume, BBB, MMP9, neurological deficit and brain edema at 5.5 hours after stroke. GH at 5.5 h after stroke decreased infarction volume, BBB, MMP9, neurological deficit and brain edema. In brain edema, no significant difference was observed between hypothermia and control group. In group number 5, hypothermia and r-tPA led to decrease in infarction volume, brain edema, BBB, MMP9 and neurological deficit of 6 h after stroke.

Conclusion: The findings of the present study suggest that general hypothermia can prevent the side effects of delay tPA treatment in an embolic model of stroke.

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The importance of body language for clinicians

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Did you know that within the first seven seconds of meeting clients, they have already formulated their first impressions of you? Did you know that when your body language is out of alignment with your verbal message, people believe what they see and not what you say? Did you know that your clients and colleagues are constantly telling you what they think and feel -but that it often has nothing to do with the words they use? Nonverbal communication is more powerful and primitive than verbal expression. The tiniest gesture, like the way people stand or enter a room, speaks volumes about their confidence, self-worth, and credibility. And the way you sit, stand or look at others reveals more about your true intent than you may realize. Evidence from psychology, neurobiology, medicine, sociology, criminology, anthropology, and communication studies has given new credence to nonverbal communication. Our brains are hard-wired to respond to nonverbal signals-but that response is almost always subconscious. This visual, entertaining, and interactive session shows how to take an innate (but latent) talent and turn it into a powerful professional skill. Her you will learn how to gain the seven second advantages and make a positive first impression. The two sets of nonverbal signals that clients need to see; How to make sure your body language is in sync with your message: the role of body language in projecting trust and credibility; How to decode the silent signals of resistance, interest, and deception: the impact of body language in cross-cultural communication; How to project confidence and credibility and How to use body language to build or break rapport. Five tips to more accurately read body language.

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Critical issues: why understanding drug-drug interactions is essential when working with people living with HIV and AIDS

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Working with people living with HIV and AIDS presents unique challenges and considerations from clinical practitioners. One such area of concern is the medication management of HIV and AIDS. With appropriate medication management, people living with HIV and AIDS can live healthy lives with little to no symptoms. However, when there are multiple medications involved the likelihood of interactions among the medications increases. Further, medication interactions can occur if the person is using alcohol and other substances in addition to their prescribed medications. The purpose of this presentation is to present common drug-drug interactions among medications that are used to treat HIV/AIDS and substances of abuse. Implications for treatment recommendations and future research will also be discussed.

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Efficacy and safety of clobazam in a pediatric refractory epilepsy population less than two years of age

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Aim: To describe our experience with the efficacy and safety of clobazam in refractory epilepsy in a large population of children less than two years of age.

Methods: We retrospectively reviewed all patients between 0 and 2 years of age at Boston Children's Hospital from October 2011 to December 2016. We included patients who were treated with clobazam for refractory epilepsy, and who had a follow-up visit at least one month after starting clobazam. Response to clobazam was defined as >50% reduction in seizure frequency at the time of last follow-up visit as compared to baseline.

Results: 155 patients received clobazam, of which 116 [median age 12 months, IQR (p25-p75) 8-16 months] had full follow-up data ≥1 month after starting clobazam. Median follow-up age was 14 months [IQR (p25-p75) 9-18 months]. At the time of clobazam initiation, 31/116 (27%) patients were on one antiepileptic drug (AED), 52/116 (45%) patients were on two AEDs, and 26/116 (22%) patients were on 3 or more AEDs. 7/116 (6%) patients received clobazam monotherapy. Overall response rate was 33% (38/116) with a median seizure reduction of 75%. 18 (16%) patients had ≤50% reduction, 14 (12%) had no change and 16 (14%) had worsening of seizure frequency. 30 (26%) patients became seizure free. 8 (7%) patients discontinued clobazam.

Conclusions: Clobazam is both well tolerated and effective in reducing seizure frequency in pediatric patients less than two years of age with refractory epilepsy.

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Antipsychotic-induced extrapyramidal symptoms: pilot preventing search of potential genetic predictors in Belarusian population

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Background: The efficiency and safety of antipsychotic treatment for schizophrenia patients is still a challenge in clinical psychiatry. Investigation of genetic predictors which are involved in antipsychotic response will help treatment optimization and personalization.

Aim: To investigate associations of gene polymorphisms: DRD2 (rs1800497), CYP2D64, GSTM1, GSTT1, SLC6A4 (5HTTLPR), COMT (rs4680), NAT2 (rs1799929), MDRI (rs1045642) with extrapyramidal side effects induced by antipsychotics.

Study: Our sample was obtained from an observational, cross-sectional trial of patient diagnosed with paranoid schizophrenia and assessed for antipsychotic-induced Parkinsonism and akathisia symptoms using the extrapyramidal symptom rating scale. Patients were divided into three clinical groups: akathisia side effects only (n=48): Parkinsonism side effects only (n=57), 3) no extrapyramidal side effects (n=32). Statistical analyses were conducted in SPSS 22.0.

Results: There was a significant association of DRD2 rs1800497 with antipsychotic-induced Parkinsonism ($\chi 2=62,549$, $p<0.05$). Patients with Parkinsonism demonstrated a higher frequency of the DRD2 rs1800497 A2A2 genotype. Antipsychotic-induced akathisia showed more complex genetic contributions. Along with rs1800497 DRD2 ($\chi 2=19.02$, $p<0.05$), rs3892097 CYP2D6, and deletions in GSTM1 ($\chi 2=22,979$, $p<0.05$) and GSTT1 ($\chi 2=19,379$, $p<0.05$) were associated with akathisia.

Conclusions: According to the data obtained, mechanism of antipsychotic-induced akathisia may include influence of dopamine receptors functioning (DRD2) and xenobiotic toxicity (GSTM1, GSTT1) which may be induced by antipsychotic medication.

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The effect of fasting ghrelin level on attentional bias to palatable food cues

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The appetite-stimulating hormone, ghrelin involves not only energy homeostasis but also reward-based eating behaviors. This study aims to investigate if level of fasting ghrelin influences hedonic craving which is driven by external highly palatable food-cues when not physically hungry. A total of 55 female participants with normal range of BMI were divided into two groups according to ghrelin level: high ghrelin (HG) and low ghrelin (LG) groups. Participants performed a fasting blood draw to compare ghrelin levels and consumed standard breakfast. And then, they performed free-viewing task to record eye-movements toward food cues with high (e.g. pizza, hamburger) and low palatability (e.g. vegetables). The results showed that there were differences between two groups in visual attentional pattern to food cues depending on palatability of food. The HG group showed biased attention toward highly than lowly palatable food cues. Whereas at the LG group, there were no differences in visual attentional pattern to food cues whether the food had high or low palatability. The results suggest that high level of fasting ghrelin might promote selective attention to highly palatable foods even when not hungry. Thus, a role of ghrelin in reward-based eating behavior potentially related to differential attentional processing depending on hedonic aspects of foods.

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Engaging families in a two-week family-based partial hospitalization program for youth with mood disorders

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This presentation highlights the clinical components of the child and adolescent integrated mood program (CAIMP). The overall program structure related to development and implementation along with engaging families in treatment will be presented. Pediatric mood disorders have a myriad of biopsychosocial contributions and resulting impairment. These impairments can include cognitive distortions, and interpersonal, behavioral, and communication difficulties, and impact social and academic functioning, and physical health. These disorders confer an increased risk for suicide, comorbidity, and chronicity. This often necessitates a higher level of treatment interventions such as inpatient psychiatric hospitalization, residential care, or intensive outpatient or partial hospitalization program (PHP) services. Given the complexity of mood disorders and resulting functional impairment a variety of therapeutic strategies may be warranted to ameliorate distress and improve functioning. In addition family systems can be grossly impacted by these symptoms and the resulting impairment of their family member. As a result research and clinicians are beginning to integrate caregivers into treatment for youth with mood disorders. CAIMP is a multidisciplinary group-based psychotherapy program for youth with a primary diagnosis of a mood disorder. The 10-day, seven hours a day intervention is structured around the scientific understanding of factors that promote and foster mood disturbance and the evidence-based treatments that are most effective at addressing impairment related to affective disorders in youth. There is also a focus on health and wellness strategies to address mood symptoms and family functioning. The innovative aspects of CAIMP include a comprehensive intervention provided to families within the context of a two-week PHP that integrates most of the treatment elements for evidence based treatments of mood disorders.

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Cognitive development in breast cancer patients treated with chemotherapy

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Statement of the Problem: Cancer has been considered a public health problem, which affects the quality of life and the psychological well-being of the one who suffers from this condition. In Colombia, the type of cancer that presents with higher incidence is breast cancer and represents one of the main causes of mortality. Nowadays, the different treatments for this disease, such as chemotherapy, have proven their effectiveness in the prolongation of the life expectancy of patients. However, chemotherapy can affect other types of tissues or organs different from cancer cells, generating side effects such as nausea, loss of appetite and hair loss. Likewise, some patients report subjective complaints during and after finishing the chemotherapy process about their cognitive functions, mainly in processes such as attention, memory and planning. The purpose of this study was to evaluate the cognitive processes in patients with breast cancer during and after chemotherapy.

Method: A comparative study was conducted in which an assessment was made of processing speed, attention, memory, and executive functions in 14 women after receiving chemotherapy treatment and in 14 healthy women.

Results: The results show significant differences in the memory process, specifically in the evocation and working memory. No significant differences were found in the depression and anxiety scales.

Conclusion: Patients with breast cancer and received treatment with chemotherapy had lower performance in the verbal memory process compared to the control group, as well as a significant number of intrusions, which suggests involvement in this process.

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Positive emotions and addiction

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Despite the clinical observations that indicate a possible connection between the emotions, the addictive behavior and its treatment, there are no sufficient research findings about the role of positive emotions in addiction and addiction treatment. This study aimed at the examination of the role of positive emotions in the process of treatment, as an important factor that influences the treatment outcome. The participants were 157 clients undergoing a substance abuse treatment in a residential treatment program. The results indicate the importance of positive emotions and their differentiation in different treatment phases. Taking into account the role of the emotions in the developing of the addictive behavior, the study indicates the manifold role of a new factor in addiction field, with various implementations in research and clinical level.

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Psychopathy and response inhibition

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Statement of the Problem: Psychopathy is per definition strongly associated with impulsivity. However, this theoretical association between impulsivity and psychopathy is not reflected in standard assessments such as the go/no-go task.

Methodology: The presented experiments examine impulsivity under increased cognitive load using the parametric go/no-go task (PGNG). In this task, cognitive load is parametrically increased by introducing an increasing number of targets and by making the requirement to inhibit prepotent responses dependent on an alternation rule. The first study measures impulsivity in a subclinical sample and utilizes the psychopathic personality inventory-revised. The second study tests the generalizability of the previously obtained findings in a forensic sample, using the psychopathy checklist: screening version 5 (PCL: SV).

Findings: In line with previous research, impulsivity was increased in participants scoring highly on one psychopathic sub-trait: blame externalization. Offenders showed a relationship between impulsivity and psychopathic traits, similar to the subclinical sample. However, using PCL: SV, more complicated association between psychopathic trait and impulsive respondings has been uncovered. While offenders scoring highly on the lifestyle facet of the PCL: SV showed the expected increased impulsiveness, offenders scoring highly on the interpersonal aspects of psychopathy showed the opposite. High scores on interpersonal psychopathic traits were associated with reduced impulsivity as measured by the PGNG.

Conclusion & Significance: While subclinical and forensic samples both show that increased impulsivity levels are associated with an increased expression of psychopathic traits when cognitive load is increased, the samples differ on the type of association between psychopathic traits and impulsivity. Psychopathic traits in offenders, unlike in subclinical participants, are additionally associated with reduced impulsivity levels when investigating participants scoring highly on interpersonal aspects of psychopathy. This negative relationship between psychopathic traits and impulsivity might reflect a mechanism that enables psychopaths to adequately manipulate their victims and mask their true nature.

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Lesbian, Gay, Bisexual, and Transgender (LGBT) Clinical Competence and Ethical Care: An International Imperative

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There are exigent reasons to foster lesbian, gay, bisexual, and transgender (LGBT) competence, training, and ethical care for health professionals within an interdisciplinary paradigm. LGBT individuals experience serious health and psychosocial disparities; moreover, these inequalities can be amplified when other aspects of diversity such as race, ethnicity, age, gender, religion, disability, and socioeconomic status intersect with sexual orientation and gender identity (Institute of Medicine [IOM], 2011). While the origins of LGBT health and psychosocial disparities are manifold, deficiencies in professional training, ethical care, and clinical competence are underlying contributors (IOM, 2011). In addition, LGBT clinical competency advancements are often siloed within the various health care disciplines—thus advances by one group of health professionals often have limited impact for those practicing in different health and human service fields. This special issue explores LGBT clinical competence, professional training, and ethical care within an interdisciplinary context and, to our knowledge, represents the first attempt to address LGBT clinical competence from a multidisciplinary health care perspective.

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At what point does a community model benefit or fail persons prescribed clozapine?

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The University of Newcastle, Australia

Statement of the Problem: In Australia, the prescription, delivery and monitoring of clozapine - for people with treatment-resistant schizophrenia - has moved from the hospital setting, to various community models. While this might reduce stigma associated with having an intractable psychotic disorder, clozapine use must be strictly monitored. Simultaneously, a new system of healthcare has emerged (called the National Disability Insurance Scheme, NDIS), rolled out in the Hunter Region of New South Wales, in which the Federal Government pays registered community-managed organizations (CMOs) to provide supportive care to people with severe mental illnesses. It is currently unknown how these community models impact the wellbeing of participants. We aim to ascertain the capacity for CMO staff to identify and manage clozapine-related adverse events; while documenting the clozapine care pathway across the community.

Methodology & Theoretical Orientation: The study utilizes a mixed-method approach with clozapine recipients, their careers, and relevant clinical and CMO staff, including semi-structured qualitative interviews and a quality of life survey for recipients.

Findings: At the time of writing, results were preliminary, showing two clear pathways. The first - incorporating the publicly-funded mental health service and associated community mental health team, general practitioners and pharmacists - showed appropriate knowledge of the guidelines, risks and actions required to protect participants from adverse treatment events. The second pathway - incorporating CMO staff - showed variable competence and confidence in proactively engaging with participants to reduce risks of clozapine-related incidents. CMO staff could benefit from training in clozapine use, monitoring and management, as well as up skilling in motivational interviewing, to engage participants to actively prevent clozapine-related side effects, hospitalizations and deaths. Additionally, continued community involvement necessitates a comprehensive data management approach combining all prescribing, physical and mental health monitoring data, as well as evaluation of support worker knowledge and attitudes.

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Short-term local hypothermia prevents ischemia-reperfusion injury following delayed tissue plasminogen activator treatment in an embolic stroke model

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Background: Limiting reperfusion injury immediately after delayed tissue plasminogen activator (tPA) therapy in cases of acute ischemic stroke seems to be beneficial for extending the time window of this drug. The present study sought to determine whether short-term, mild local brain cooling can prevent hyperemia and/or adverse effects of delayed tPA in a rat embolic stroke model.

Materials & Methods: Male wistar rats were subjected to embolic stroke using homologous clots and randomly assigned to one of the following conditions: control, tPA (10 mg/kg; i.v.), local hypothermia (LH), and tPA + LH (10 mg/kg; i.v.). The tPA was injected at 6 h following embolic stroke. LH was conducted at 6.5 h after ischemia and maintained thereafter for approximately 30 min. Cerebral blood flow was evaluated for 60 min, starting from the time of tPA injection. Infarct volume, blood–brain barrier (BBB) disruption, brain edema, neurological deficits, and the serum level of matrix metalloproteinase-9 (MMP-9) were measured 48 h later.

Results: Compared to the tPA and control groups, the combination of tPA + LH significantly reduced infarct volume ($P<0.001$ and $P<0.05$, respectively). tPA significantly increased rCBF at approximately 30mins after administration ($P<0.001$) but applying LH at 30 min after tPA injection not only prevented the increase of rCBF but caused a 20% decrease in reperfusion compared to the control and tPA groups ($P<0.001$). The combination of LH + tPA reduced BBB leakage ($P<0.001$), MMP-9 level, and brain edema ($P<0.01$). LH alone also decreased BBB disruption ($P<0.01$) and brain edema ($P<0.05$). Moreover, the combination of LH + tPA decreased neurological deficits at 48 h following stroke ($P<0.01$) and increased grasping ability and sensory-motor function ($P<0.001$).

Conclusion: The application of short-term local hypothermia is a promising strategy to mitigate reperfusion injuries following delayed tPA therapy and to extend its time window up to 6 hrs.

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Virtual reality and sexual presence: the shaping of future deviance

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In March 2014, Facebook bought the virtual reality head-mounted display (HMD) company Oculus rift for two billion dollars; this head-mounted display (as well as others of the same type), now sold for less than $350, is compatible with mainstream game consoles. Also, according to Market Watch: By 2025, virtual reality adult content is forecast to be a $1 billion business, the third-biggest virtual-reality sector, after videogames ($1.4 billion) and NFL-related content ($1.23 billion). These anecdotes are symptomatic of the pervading presence of virtual reality (VR) in our society as well as of the growing importance of immersive technologies in all aspects of our lives. This rapid democratization of VR, crossing with the fact that sex is one of the first and most important subject of VR commercial applications, opens to interesting questions in sexual deviance research: How different from standard pornography is interactive sexual intercourse as mediated by VR? How does immersive VR will affect the shaping of sexual behavior in the future? Will we be facing the arrival of new VR-related paraphilias? How can we optimally harness this set of technologies to better understand and possibly help sex offenders control themselves?

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Two-track differentiation paradigm in psychotherapy

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This paper describes the two-track differentiation paradigm, an updated therapeutic methodology within psychotherapy. The two-track differentiation paradigm is based on the assumption that patients habitually regard their problems as one -dimensional and thus tend to become rigid in their attitudes toward these problems. The paradigm suggests a psychotherapeutic process of enriched reframing called differentiation. This differentiation between patients' negative and positive narratives and perceptions offers them more options and frees them to contend with their problems more effectively. Thus, with the two-track differentiation paradigm, cases of impasse and stuck psychotherapeutic situations are turned into cases of cooperation

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Recovery for people with schizophrenia

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Evidenced based treatments are the treatments of choice for mental health disorders and schizophrenia. Schizophrenia is a chronic mental disorder with negative impact on the qual¬ity of life of patients with schizophrenia and their fami¬lies. The main therapy for these people is the pharmaco¬therapy. Cognitive behavioural therapy and rehabilitation can be implemented as an adjunct therapy to medication. Recovery is the main goal of all these interventions. The main principles of the biological interventions with the latest updates, their importance for the participation of patients with schizophrenia in cognitive behavioural therapy and rehabilitation and their contribution to the recovery of the patients will be presented. The main principles of the cognitive behavioural therapy for individuals with schizophrenia of metacognitive therapy and the third wave of behavioural therapies will be discussed. An example of a rehabilitation program (IPT) for patients with schizophrenia and the Greek experience with IPT will be discussed. The importance of a long term combination of the above treatments will be highlighted. The participants will have the opportunity to participate in role play.

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Influences of psychological resources on the relationship between life stressors and distress among cardiac patients

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Statement of the problem: Psychological resources are those entities that either are centrally valued in their own right (e.g., self-esteem, close attachments, health, and inner peace) or act as a means to obtain centrally valued ends (e.g money, social support, credit). Psychological distress is an emotional state of depression, anxiety, stress, behaviors problems, personality characteristics and disabilities. Those who use positive psychological resources can overcome psychological distress and life stressors. Life stressors have a great influence on person mental health and daily life activities. Eventually, chronic stress could be treated as an important risk factor for cardiovascular disease, which is routinely screened for and effectively managed like other major cardiovascular disease risk factors. The rationale of this study was to see the impact of psychological resources (feeling recovered, enthusiasm) on the relationship between life stressors and distress in patients with heart disease.

Methodology: We used Kessler Scale for psychological distress and took two parameters of psychological resources from PANAS-X Scale. Holmes and Rahe Scale assessed the life stressors. The role of demographic variables was also evaluated. This study was conducted on patients admitted in the cardiac ward of CPE Institute of Cardiology Multan, Pakistan. The sample size was 300 cardiac patients that include both men and women. The patients were asked to complete the questionnaire and data was analyzed using regression analysis.

Findings: We saw that the patients who were enthusiastic and felt recovered had a faster recovery and early discharged from the hospital. Both psychological resources (feeling recovered and enthusiasm) had positive effect in reducing distress. The impact was greater on patients who had severe or high level of distress in life.

Conclusion: We can motivate the patients by implementing positive psychological resources and can reduce the level of distress and get a speedy recovery of patients.

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Physical activity is a potential treatment for various types of mental disorders

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Statement of the Problem: The mental disorders affect the brain structure and cause the grey matter loss in different regions of the brain. On the other hand, physical activity (PA) can modify the brain grey matter; this means that the damages to the brain structure could be reversed by the physical activity. In this study we will provide a brain map indicating the regions of brain that are modifiable by the physical activity. The aim of this study is to determine whether the PAs could be an efficient method for the treatment of various types of mental disorders.

Methodology & Theoretical Orientation: We searched Pubmed, Science Direct, and Web of Science in May 2017 to identify the relevant studies. Of these, we selected those studies that investigated the association between brain volumes and physical activities using MRI. Healthy man in any age range and any type of physical activity were included in the study. Our search led to inclusion of various studies with 4684 healthy participants in total. The ROIs of brain areas reported to be under the effect of physical activity were added together to make a single map.

Findings: The results indicate that all the regions of brain grey matter are in association with physical activity except 3 regions including the right superior temporal, temporal pole, and the fusiform gyrus.

Conclusion & Significance: Our results indicate that most of the regions in the brain grey matter are modifiable by physical activity. So PAs can be an efficient and safe treatment for various mental illnesses. Different types, durations and intensities of PAs may have different influences on the brain. In the future, many investigations should be conducted to explore the connections and associations between body organs movement and brain region modifications. Discovering these connections may establish a new treatment method for mental disorders named mental illness movement therapy (MIMOT).

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