11th International Conference on

# Parkinsons and Movement Disorders

December 09, 2022 | Webinar

# Special Session

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## Assessment of the Scope, Completeness, and Consistency of Various Drug Information Resources Related to Covid-19 Medications in Pregnancy and Lactation

**Javedh Shareef[1], Sathvik Belagodu Sridhar[2], Sabin Thomas[3], Mullaicharam Bhupathyraaj[4]**
[1]RAK Medical & Health Sciences University, United Arab Emirates
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[3]University of Nizwa, Oman
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Medication safety during pregnancy and lactation is a significant concern for practicing obstetrics and neonatologists as it increases the risk to the mother and fetus. Drug information resources are essential for delivering critically evaluated, scientifically relevant, and updated information to healthcare professionals. Inconsistency in providing information among the resources will pose a significant challenge to the prescribers in optimizing drug therapy. To evaluate the various Drug Information (DI) resources for the scope, completeness, and consistency of the information related to covid-19 medications in pregnancy and lactation. Data related to covid-19 medications from various drug information resources such as text references, subscription databases, and free online tools were used for the comparison. The congregated data were analyzed for scope, completeness, and consistency using the Statistical Package for the Social Sciences (SPSS) software version 27. Scope scores were highest for PEPID (Portable Electronic Physician Information Database), Up-to-date, and drugs.com compared to other resources. The overall completeness scores were higher for Micromedex and drugs.com ($p<0.05$ compared to all other resources). The inter-reliability analysis for overall components by Fleiss kappa among all the resources was found to be 'slight' ($k<0.20$, $p<0.0001$). A statistically significant difference was observed for the various components among the drug information resources ($p<0.05$) between the older and newer drugs except for the online resource drugs.com ($p>0.05$). The strength of observer agreement for the various COVID-19 medications ranged from poor to fair and moderate for the various recommendation categories studied. Discrepancies have been observed among the resources related to the information on COVID-19 treatment options in pregnancy and lactation. The present study emphasizes the need for standardized, comprehensive, evidence-based, and precise information related to pharmacotherapy, which is of paramount importance to prescribers in making informed choices in pregnancy and lactation.

## Recent Publications

1.  Vijaya Rani, K.R.; Rajan, S.; Bhupathyraaj, M.; Priya, R.K.; Halligudi, N.; Al-Ghazali, M.A.; Sridhar, S.B.; Shareef, J.; Thomas, S.; Desai, S.M.; et al. The Effect of Polymers on Drug Release Kinetics in Nanoemulsion In Situ Gel Formulation. Polymers 2022, 14, 427.

2.  Bhupathyraaj, M.; Vijaya Rani, K.R.; Sridhar, S.B.; Shareef, J.; Thomas, S.; Halligudi, N.; Sockalingam, A.; Mohandoss, K.; Sundar, S. Effect of Polymers and Permeation Enhancers in the Release of Quetiapine Fumarate Transdermal Patch through the Dialysis Membrane. Polymers 2022, 14, 1984.

3.  Shareef J, Belagodu Sridhar S, Thomas S, Shariff A, Chalasani S. Potential Psychotropic and COVID-19 Drug Interactions: A Comparison of Integrated Evidence From Six Database Programs. Cureus. 2021 Dec 10;13 (12): e20319.

## Biography

Javedh Shareef completed his graduation from The Tamil Nadu Dr. MGR Medical University in 2001 and post-graduation from Manipal University in 2005. He holds his PhD degree in Pharmacy Practice under the faculty of Pharmaceutical Sciences from Nitte University in 2016. Currently working as Assistant Professor at Ras Al Khaimah College of Pharmaceutical Sciences, Ras Al Khaimah, United Arab Emirates. He worked as Pharmacist in Al Baraha Hospital, Dubai, UAE and also as Adjunct Clinical Lecturer in College of Pharmacy, University of Sharjah, UAE from 2006 - 2012. He has vast experience of more than 10 years as clinical pharmacist, Academic teaching

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and research experience and has several research publications to his credit. He has guided several postgraduate M Pharm (Pharmacy Practice) and Pharm D students. He has attended and presented papers at several conferences. He has also been a speaker in continuous medical education programs in UAE. He is on the editorial panel of several scientific journals and also serving as reviewer for many national and international pharmacy journals.

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## Scientific Tracks & Abstracts

# Sessions

Parkinson disease | Therapeutics for Parkinson's disease | Phytopharmaceuticals for Parkinson's disease

## Session Chair

**Gabriele Saretzki | Newcastle University | UK**

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**Session Introduction**

**Title:** **Stereotactic Awake Basal Ganglia Electrophysiological Recording and Stimulation (Sabers): A Staged Procedure for Personalized Targeting of Deep Brain Stimulation in Pediatric Movement and Neuropsychiatric Disorders Implications Towards Patients with Movement Disorders**

**Mark Liker | University of Southern California | USA**

**Title:** **Surgical Management of Synucleinopathies**

**Brandon Lucke-Wold | University of Florida | USA**

**Title:** **Effects of Vestibular Rehabilitation on Fatigue and Activities of Daily Living in People with Parkinson's Disease**

**Amirabas Abasi | Tehran University of Medical Sciences | Iran**

**Title:** **Inhibition of Mark4 by Serotonin is An Attractive Therapeutic Approach to Combat Alzheimer's Disease and Neuroinflammation**

**Anas Shamsi | Centre for Interdisciplinary Research in Basic Sciences | India**

**Title:** **Association between Dietary Vitamin C, Vitamin E And Risk of Parkinson's Disease: A Systematic Review and Dose-Response Meta-Analysis**

**Sepide Talebi | Tehran University of Medical Sciences | Iran**

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## Stereotactic Awake Basal Ganglia Electrophysiological Recording and Stimulation (SABERS): A Staged Procedure for Personalized Targeting of Deep Brain Stimulation in Pediatric Movement and Neuropsychiatric Disorders

Mark Liker[1,3], Jennifer MacLean[1], Jaya Nataraj[2], Aprille Tongol[1], Allison Przekop DO[2], Quyen Luc[3,4], Jason K Chu[4,3], Mark D Krieger[3,4], R. Aaron Robison[5], Brian Lee[3], Joffre Olaya[1,2], Terence Sanger[1,2]
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[2]University of California Irvine, USA
[3]University of Southern California, USA
[4]Children's Hospital Los Angeles, USA
[5]Loma Linda University, USA

Deep brain stimulation (DBS) has improved the lives of over 100,000 adult and pediatric patients in the US and similar numbers worldwide since FDA approval of ventral intermedial nucleus of the thalamus stimulation for essential tremor in 19971. However, growth in the field, both in terms of variety of indications and numbers of patients treated has been limited by multiple factors including the standard paradigm of a single deep brain target per patient. Due to the complexity of certain movement and neuropsychiatric disorders, multiple deep brain targets may provide optimal benefit for the patient. These targets vary not only by the disease entity but within a given patient population based on the phenotype of the patient. Also, these targets may not respond to stimulation due to the delayed plasticity effects required for observation of therapeutic benefits, but certain neurophysiological biometrics may guide target identification. Thus, in our study it is not only the effects of stimulation on motor movements or amelioration of abnormal postures but also recording of movement and use of evoked potentials which help identify permanent target locations. Herein, we describe our five-year experience involving a novel, staged procedure whose foundation requires multiple (8-12) simultaneous temporary deep brain electrode implantations for the recording and stimulation of potential targets during a subacute (less than 2 week) assessment period in a Neuromodulation Monitoring Unit (NMU) setting. We describe results from a case series of 30 children and young adults with movement disorders evaluated consecutively over a period of 5 years for Stereotactic Awake Basal Ganglia Electrophysiological Recording and Stimulation (SABERS) and subsequently implanted with DBS. Testing is performed in a NMU, and results of testing guide the decision to proceed and the choice of targets for permanent DBS implantation. We report results from 27 children with secondary dystonia, and 2 subjects with primary dystonia. All but one subjects were implanted with 4 permanent DBS leads each. Results were evaluated 3 to 6 months post-operatively on the Burke-Fahn-Marsden Dystonia Rating Scale (BFMDRS), and the Barry-Albright Dystonia (BAD) rating scale. Results showed significant improvement on both scales at postoperative follow-up compared to preoperative evaluation. No significant adverse events occurred. We conclude that the SABERS protocol with evaluation in the NMU results in significant patient benefit as compared with previously published results. The protocol provides personalized targeting that can predict benefit and effective stimulation targets in children with heterogeneous mechanisms of injury and in children with disorders for which the optimal target is not yet known. Our results also serve as a proof of concept for wider application among other movement and neuropsychiatric disorders that may benefit from DBS and where personalized targeting of multiple electrodes may be warranted.

### Recent Publications

1.   Mark A. Liker, Joffre E. Olaya Deep brain stimulation in children and young adults with secondary dystonia: the Children's Hospital Los Angeles experience  Data in Brief, Volume 35: Issue 5 https://doi.org/10.3171/2013.8.FOCUS13300

2.  Mark A. Liker, Eisha Christian Deep brain stimulation: a mechanistic and clinical update Volume 35: Issue 5 https://doi.org/10.3171/2013.9.FOCUS13383

**Biography**

Mark Liker had his undergraduate education in Mechanical and Aerospace Engineering at Princeton University, Princeton, NJ and obtained his Medical Degree summa cum laude with distinction in research from the State University of New York-Health Sciences Center at Brooklyn, NY. He did residency in Neurosurgery and received a fellowship certificate in complex Spine Surgery at the LA County/USC Medical Center in Los Angeles, CA. He has been involved professionally in several Hospitals in Los Angeles, Bakersfield and Valencia areas of California and is currently an Assistant Professor of Neurosurgery at the Keck School of Medicine at USC He is also the Director of Deep Brain Stimulation program.

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## Surgical Management of Synucleinopathies

**Brandon Lucke-Wold**
University of Florida, USA

Synucleinopathies represent a diverse set of pathologies with significant morbidity and mortality. In this review, we highlight the surgical management of three synucleinopathies: Parkinson's Disease (PD), Dementia with Lewy Bodies (DLB), and Multiple System Atrophy (MSA). After examining underlying molecular mechanisms and the medical management of these diseases, we explore the role of Deep Brain Stimulation (DBS) in the treatment of synuclein pathophysiology. Further, we examine the utility of Focused Ultrasound (FUS) in the treatment of synucleinopathies such as PD, including its role in Blood–Brain Barrier (BBB) opening for the delivery of novel drug therapeutics and gene therapy vectors. We also discuss other recent advances in the surgical management of MSA and DLB. Together, we give a diverse overview of current techniques in the neurosurgical management of these pathologies.

### Recent Publications

1. Brandon Lucke-Wold, Yusuf Mehkri, Focused Delivery of Chemotherapy to Augment Surgical Management of Brain Tumors, DOI:10.3390/curroncol29110696

2. Brandon Lucke-Wold, Matthew Goldman Steroid utility, immunotherapy, and brain tumor management: an update on conflicting therapies DOI:10.37349/etat.2022.00106

### Biography

Brandon Lucke-Wold completed MD/PhD, Master's in Clinical Translational Research, and the global health track at WVU. He is Neurosurgery resident at University of Florida.

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## Effects of Vestibular Rehabilitation on Fatigue and Activities of Daily Living in People with Parkinson's Disease: A Randomized Controlled Trial Study

**Amirabas Abasi[1], Parvin Raji[1], Joseph H. Friedman[2], Mohammad-Reza Hadian[3], Reza Hoseinabadi[1], Somaye Abbasi[1], and Ahmadreza Baghestani[4]**
[1]Tehran University of Medical Sciences, Iran
[2]Warren Alpert School of Medicine at Brown University, USA
[3]Brain and Spinal Injury Research Center (BASIR), Iran
[4]Shahid Beheshti University of Medical Sciences, Iran

**Introduction:** One of the most disabling non-motor symptoms in persons with Parkinson's disease is fatigue, which can decrease the quality of life by restricting the function and Activities of Daily Living (ADL). Nonetheless, sufficient evidence for treating fatigue, including drug or nondrug treatment, is not available. In this study, we evaluated the probable effects of vestibular rehabilitation on fatigue and ADL in patients with Parkinson's disease.

**Methods:** This was a single-blind clinical trial study in which patients with Parkinson's disease voluntarily participated based on the inclusion and exclusion criteria. Patients were randomly assigned to the case and control groups. Case group received 24 sessions of vestibular rehabilitation protocol, and conventional rehabilitation was performed in the control group (i.e., 3 sessions each week, each lasted about 60 minutes). Both groups were also given fatigue management advice. Fatigue was measured by the Parkinson Fatigue Scale (PFS) and the Modified Fatigue Impact Scale (MFIS). ADL was measured by the Functional Independence Measure (FIM). All changes were measured from the baseline at the completion of the intervention.

**Results:** Both fatigue ($P \leq 0.001$) and ADL ($P \leq 0.001$) improved significantly more in the vestibular intervention group than in the control one.

**Conclusion:** Vestibular rehabilitation may improve fatigue and ADL and therefore can be used as an effective intervention for patients with Parkinson's disease, which was also found to be well tolerated.

### Recent Publications

1. Amirabas Abasi, Reza Hoseinabadi, Parvin Raji,Evaluating Oculomotor Tests before and after Vestibular Rehabilitation in Patients with Parkinson's Disease doi: 10.1155/2022/6913691

2. Abasi, Amirabas et al. "Effects of Vestibular Rehabilitation on Fatigue and Activities of Daily Living in People with Parkinson's Disease: A Pilot Randomized Controlled Trial Study." Parkinson's disease vol. 2020 8624986. 10 Sep. 2020, doi:10.1155/2020/8624986

### Biography

Amirabas is an occupational therapist from Iran. He got my master's degree from Tehran University of Medical Sciences. He is working in this field of neuroscience work for more than five years and He interested in pursuing PhD degree. He has published more than 10 papers in reputed journals and has been serving as an editorial board member of repute.

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## Inhibition Of Mark4 by Serotonin is an Attractive Therapeutic Approach to Combat Alzheimer's Disease and Neuroinflammation

**Anas Shamsi**

Centre for Interdisciplinary Research in Basic Sciences, Jamia Millia Islamia, India

The Mitogen-Activated Protein Kinases (MAPKs) govern various cellular programs and crucial intermediate pathways in signaling. Microtubule Affinity-Regulating Kinase 4 (MARK4) is a part of the kinase family recognized for actively phosphorylating neural Microtubule-Associated Proteins (MAP) like MAP2, MAP4 and most importantly, tau. The Ser/Thr kinase MARK4 overexpression is associated with various life-threatening conditions such as neurodegenerative disorders, diabetic neuropathy, and cancer. Functionally, MARK4 is correlated with many important signaling cascades and transcription factors contributing to neurodegeneration and cancer onset and progression. Serotonin is a key molecule associated with regulating mood, stress, and various behavioral aspects. Low serotonin levels promote the progression of neurological and psychotic disorders, which is also a consequence of tau accumulation. MARK4 being a major contributor to phosphorylating tau, leading to its accumulation, and contributing to tauopathy, is targeted for inhibition by serotonin. The study deals with the inhibition of MARK4 by serotonin using combined computational and experimental studies. The results presented in this paper provide strong evidence for the direct physical binding of serotonin to recombinant MARK4 and subsequent inhibition of its kinase activity. In addition, we have performed molecular docking, followed by 100 ns MD simulations of MARK4 in the presence of serotonin to estimate the stability of the protein-ligand complex. Since MARK4 is a potential drug target and can be exploited for drug design and discovery for cancer and neurodegenerative disorders; therefore, the results presented here are of interest and may be further exploited for Alzheimer's and other neurodegenerative diseases.

## Recent Publications

1. Shamsi A, Mohammad T, Anwar S, Alajmi MF, Hussain A, Hassan MI, Ahmad F, Islam A. Probing the interaction of Rivastigmine Tartrate, an important Alzheimer's drug, with serum albumin: Attempting treatment of Alzheimer's disease. Int J Biol Macromol. 2020 Apr 1;148:533-542. doi: 10.1016/j.ijbiomac.2020.01.134. Epub 2020 Jan 16. PMID: 31954794.

2. Anwar S, Shamsi A, Mohammad T, Islam A, Hassan MI. Targeting pyruvate dehydrogenase kinase signaling in the development of effective cancer therapy. Biochim Biophys Acta Rev Cancer. 2021 Aug;1876(1):188568. doi: 10.1016/j.bbcan.2021.188568. Epub 2021 May 21. PMID: 34023419.

3. Anwar S, Shamsi A, Kar RK, Queen A, Islam A, Ahmad F, Hassan MI. Structural and biochemical investigation of MARK4 inhibitory potential of cholic acid: Towards therapeutic implications in neurodegenerative diseases. Int J Biol Macromol. 2020 Oct 15;161:596-604. doi: 10.1016/j.ijbiomac.2020.06.078. Epub 2020 Jun 11. PMID: 32535203.

## Biography

Anas Shamsi is working in the field of cancer and neurodegenerative diseases. His current research focuses on therapeutic strategies targeting cancer and neurodegenerative disorders in protein biochemistry and drug discovery. Cancer therapeutics research is primarily focused on identifying novel small molecules that can serve as potential leads in drug discovery. The group focuses on finding potent and selective new therapeutic agents through the generation, integration, and translation of scientific knowledge. To date, he has more than 75 publications in internationally reputed journals and serves as an editor in many reputed journals.

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## Association between Dietary Vitamin C, Vitamin E and Risk of Parkinson's Disease: A Systematic Review and Dose-Response Meta-Analysis

**Sepide Talebi, Hamed Mohammadi**

Tehran University of Medical Sciences, Iran

The Mitogen-Activated Protein Kinases (MAPKs) govern various cellular programs and crucial intermediate pathways in signaling. Microtubule Affinity-Regulating Kinase 4 (MARK4) is a part of the kinase family recognized for actively phosphorylating neural Microtubule-Associated Proteins (MAP) like MAP2, MAP4 and most importantly, tau. The Ser/Thr kinase MARK4 overexpression is associated with various life-threatening conditions such as neurodegenerative disorders, diabetic neuropathy, and cancer. Functionally, MARK4 is correlated with many important signaling cascades and transcription factors contributing to neurodegeneration and cancer onset and progression. Serotonin is a key molecule associated with regulating mood, stress, and various behavioral aspects. Low serotonin levels promote the progression of neurological and psychotic disorders, which is also a consequence of tau accumulation. MARK4 being a major contributor to phosphorylating tau, leading to its accumulation, and contributing to tauopathy, is targeted for inhibition by serotonin. The study deals with the inhibition of MARK4 by serotonin using combined computational and experimental studies. The results presented in this paper provide strong evidence for the direct physical binding of serotonin to recombinant MARK4 and subsequent inhibition of its kinase activity. In addition, we have performed molecular docking, followed by 100 ns MD simulations of MARK4 in the presence of serotonin to estimate the stability of the protein-ligand complex. Since MARK4 is a potential drug target and can be exploited for drug design and discovery for cancer and neurodegenerative disorders; therefore, the results presented here are of interest and may be further exploited for Alzheimer's and other neurodegenerative diseases.

## Recent Publications

1. Shamsi A, Mohammad T, Anwar S, Alajmi MF, Hussain A, Hassan MI, Ahmad F, Islam A. Probing the interaction of Rivastigmine Tartrate, an important Alzheimer's drug, with serum albumin: Attempting treatment of Alzheimer's disease. Int J Biol Macromol. 2020 Apr 1;148:533-542. doi: 10.1016/j.ijbiomac.2020.01.134. Epub 2020 Jan 16. PMID: 31954794.

2. Anwar S, Shamsi A, Mohammad T, Islam A, Hassan MI. Targeting pyruvate dehydrogenase kinase signaling in the development of effective cancer therapy. Biochim Biophys Acta Rev Cancer. 2021 Aug;1876(1):188568. doi: 10.1016/j.bbcan.2021.188568. Epub 2021 May 21. PMID: 34023419.

3. Anwar S, Shamsi A, Kar RK, Queen A, Islam A, Ahmad F, Hassan MI. Structural and biochemical investigation of MARK4 inhibitory potential of cholic acid: Towards therapeutic implications in neurodegenerative diseases. Int J Biol Macromol. 2020 Oct 15;161:596-604. doi: 10.1016/j.ijbiomac.2020.06.078. Epub 2020 Jun 11. PMID: 32535203.

## Biography

Anas Shamsi is working in the field of cancer and neurodegenerative diseases. His current research focuses on therapeutic strategies targeting cancer and neurodegenerative disorders in protein biochemistry and drug discovery. Cancer therapeutics research is primarily focused on identifying novel small molecules that can serve as potential leads in drug discovery. The group focuses on finding potent and selective new therapeutic agents through the generation, integration, and translation of scientific knowledge. To date, he has more than 75 publications in internationally reputed journals and serves as an editor in many reputed journals.

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# Sessions

Parkinson disease | Movement Disorders | Phytopharmaceuticals for Parkinson's disease

## Session Chair

**Javedh Shareef | RAK Medical & Health Sciences University | UAE**

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**Session Introduction**

**Title:** **Animal Protein Sources and Risk of Parkinson's Disease: A Systematic Review and Dose-Response Meta-Analysis**

**Hamed Mohamadi** | Tehran University of Medical Sciences | Iran

**Title:** **Inhibition of PDK3 by Artemisinin, A Repurposed Antimalarial Drug in Cancer Therapy**

**Saleha Anwar** | Centre for Interdisciplinary Research in Basic Sciences | India

**Title:** **Rehabilitative Management of Mobility Impairments in Patients with Parkinson's Disease in Nigeria: Inclusion of an Innovative Physiotherapeutic Strategy.**

**Matthew O B Olaogun** | University of Medical Sciences | Nigeria

**Title:** **Adult Medulloblastoma: A Case Report**

**Emmanuel Mduma** | Muhimbili University of Health and Allied Sciences | Tanzania

**Title:** **Association between Dietary Vitamin C, Vitamin E And Risk of Parkinson's Disease: A Systematic Review and Dose-Response Meta-Analysis**

**Sepide Talebi** | Tehran University of Medical Sciences | Iran

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## *Parkinson's 2022*

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## Animal Protein Sources and Risk of Parkinson's Disease: A Systematic Review and Dose-Response Meta-Analysis

**Hamed Mohammadi**

Tehran University of Medical Sciences, Iran

We aimed to investigate the associations between dietary intake of animal protein sources and the risk of developing Parkinson's Disease (PD). These animal protein sources included total dairy, milk, yogurt, cheese, total meat, red meat, processed meat, poultry, fish, and egg. PubMed, Scopus, Web of Science, and Google Scholar were searched until October 2021. Prospective cohort study designs that investigated the association between dietary animal protein sources and PD risk were included. Relative risks (RR) were pooled using a random-effects model. In addition, a dose-response relationship was examined between dietary animal protein source intake and PD risk. The Grading of Recommendations Assessment, Development, and Evaluation (GRADE) was used to rate the certainty of the evidence. Eight prospective cohort studies were eligible. The risk for developing Parkinson's disease was significantly higher in those with the highest compared to the lowest intake categories of total dairy (RR: 1.49, 95% CI: 1.06, 2.10; n = 5) and milk (RR: 1.40, 95% CI: 1.13, 1.73; n = 6). A linear dose-response meta-analysis revealed that each additional 200g/d of total dairy consumption was associated with an 11% higher risk of PD (RR: 1.11, 95% CI: 1.02, 1.20; n = 4). There was evidence of departure from linearity between total dairy intake and risk of PD (P non-linearity= 0.31, P dose-response= 0.01; n = 6). Overall, a higher intake of dairy consumption is associated with an increased risk of Parkinson's disease. Future, well-designed prospective studies, incorporating well-controlled randomized controlled trials are needed to validate the present findings.

## Recent Publications

1. Ghoreishy SM, Ebrahimi Mousavi S, Asoudeh F, Mohammadi H. Zinc status in attention-deficit/hyperactivity disorder: a systematic review and meta-analysis of observational studies. Sci Rep. 2021 Jul 16;11(1):14612. doi: 10.1038/s41598-021-94124-5. PMID: 34272450; PMCID: PMC8285486.

2. Moradi S, Hojjati Kermani MA, Bagheri R, Mohammadi H, Jayedi A, Lane MM, Asbaghi O, Mehrabani S, Suzuki K. Ultra-Processed Food Consumption and Adult Diabetes Risk: A Systematic Review and Dose-Response Meta-Analysis. Nutrients. 2021 Dec 9;13(12):4410. doi: 10.3390/nu13124410. PMID: 34959961; PMCID: PMC8705763.

3. Askari G, Rouhani MH, Ghaedi E, Ghavami A, Nouri M, Mohammadi H. Effect of Nigella sativa (black seed) supplementation on glycemic control: A systematic review and meta-analysis of clinical trials. Phytother Res. 2019 May;33(5):1341-1352. doi: 10.1002/ptr.6337. Epub 2019 Mar 14. PMID: 30873688.

## Biography

Hamed Mohammadi has completed his PhD at the age of 28 from Isfahan University of Medical Sciences, Isfahan, Iran. He is currently an Assistant Professor at Tehran University of Medical Sciences, Tehran, Iran. He has published more than 100 papers in reputed journals and has been serving as an editorial board member of repute.

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## Inhibition Of Pdk3 by Artemisinin, A Repurposed Antimalarial Drug in Cancer Therapy

**Saleha Anwar**

Jamia Millia Islamia, India

Cancer has emerged as a global concern, claiming one-sixth of lost total lives. Despite advancements in technologies and cancer therapy, there is still a need for easily available novel therapies. The development of new drug molecules is tedious, expensive, and laborious process that can take years to reach in clinical trials. In recent years, drug repurposing has gained popularity as it accelerates selecting new candidates for anticancer therapeutics. One such repurposed candidate is the antimalarial drug artemisinin (AMS), which has anticancer potential. AMS is known to work against the major hallmarks of cancer. The compound halts some of the major signaling pathways involved in cancer, such as Wnt/$\beta$-catenin and PI3K signaling pathways. Pyruvate Dehydrogenase Kinase 3 (PDK3) is overexpressed in many cancer types and thus being considered as an attractive drug target for cancer therapy. In the current study, we investigated the binding and PDK3 inhibitory potential AMS using combined computational and spectroscopic methods. We observed a significant binding affinity of AMS for PDK3. In addition, the kinase activity of PDK3 is significantly inhibited by AMS. We further complemented our findings with molecular docking and MD simulation studies. After getting the required clinical validation, artemisinin may be explored as anticancer therapeutics. enters to become trauma- informed that would help this recognition.

## Recent Publications

1.  Anwar, S.,DasGupta D., Azum N., Alfaifi S., Asiri A., Alhumaydhi A, Suliman A,. SharafA., Sharaf., Shahwan M., & Hassan, M. I. Inhibition of PDK3 by artemisinin, a repurposed antimalarial drug in cancer therapy. Journal of Molecular Liquids 355, 118928, 2022.

2.  Anwar, S., DasGupta, D., Shafie, A., Alhumaydhi, F.A., Alsagaby, S.A., Shahwan, M., Anjum, F., Al Abdulmonem, W., Sharaf, S.E. and Hassan, M.I. Implications of Tempol in Pyruvate Dehydrogenase Kinase 3 Targeted Anticancer therapeutics: Computational, Spectroscopic and Calorimetric Studies." Journal of Molecular Liquids Journal of Molecular Liquids.350, 118581, 2022.

3.  Anwar, S., Khan, S., Anjum, F., Shamsi, A., Khan, P., Fatima, H., Shafie, A., Islam, A. and Hassan, M.I Myricetin inhibits breast and lung cancer cells proliferation via inhibiting MARK4. Journal of Cellular Biochemistry 123(2) 359-374, 2022.

## Biography

Saleha Anwar is an academic researcher from Jamia Millia Islamia. She has her expertise in cancer therapeutics and has published more than 20 publications in International Journals.

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## Rehabilitative Management of Mobility Impairments in Patients with Parkinson's Disease in Nigeria: Inclusion of an Innovative Physiotherapeutic Strategy

**Matthew O B Olaogun**

University of Medical Sciences, Nigeria

The prevalence of Parkinson's Disease (PD) is increasing in sub-Saharan Africa. This is due to the upsurge in ageing population and chronic illnesses as majority of patients that report for care and rehabilitation are above 60 years of age. About 1-2% of individual above 60 years are affected by PD worldwide. And approximately 9.1 million Nigerians are above 60 years and are therefore at the risk of developing PD. Research reports on the clinical profile of patients with PD show that it is the same with other populations elsewhere but characterized by delayed report and presentation. Mobility and balance limitations are some of the most significant consequences of PD which always lead to functional impairments and frequent falls. Consequently, they are the most significant reason for physiotherapy attention which complements pharmacotherapy and neurosurgical attentions. This presentation outlines the general profile of the disease progress, the general medical management and the guidelines of physiotherapy intervention in slowing down the progress of the disease and facilitating the rehabilitation. In addition to mobility, balance and gait training, cueing exercises, treadmill training and hydrotherapy that are advocated in most textbooks and research reports, an innovation of employing virtual reality gaming has proven to be effective rehabilitation strategies allowing clinicians and patients to make an evidence-based decision in clinical and home program management of the disease in Nigeria.

### Recent Publications

1. Matthew Olaogun, Oluwasegun T. Akinniyi The viability of rehabilitation robotics for stroke rehabilitation in resource-poor environments Nov 2020.

2. Matthew Olaogun, Morenikeji A Komolafe Stroke-rehabilitation kit as a tool to enhance the quality of rehabilitation of stroke survivors in Nigeria Nov 2020.

### Biography

Matthew O.B. Olaogun is a physiotherapist of over 35 years of academic and clinical experience in neuro- and orthopaedic rehabilitation. He specialized in clinical research in Pathokinesiology, Non-Pharmacologic Pain Management and Neurologic physiotherapy and Neuro-rehabilitation. Lead researcher in a number of studies and co-investigator in many research projects in the areas mentioned above and in grant aided projects.

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## Adult Medulloblastoma: A Case Report

**Emmanuel Mduma[1, 4], Adagi Awuor[2], Emanuel L. Lugina1[1, 3]**
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[2]Oginga Odinga Teaching and Referral Hospital, Kisumu, Kenya
[3]Ocean Road Cancer Institute, Tanzania
[4]Arusha Lutheran Medical Centre, Tanzania

**Background:** Medulloblastoma (MB) is a common malignant brain tumor in children but is very uncommon in adults, especially those above 40 years, accounting for less than 1% of all primary brain tumors in adults. Although surgery and radiotherapy play an important role treatment of adult MB, the use of chemotherapy is controversial. This is the first instance of adult MB at the Ocean Road Cancer Institute (ORCI) in Tanzania.

**Case description:** We are reporting a case of 51 years old female African ethnicity who was diagnosed with a high-risk hemispheric posterior cranial fossa MB-Classic type (CMB); CNS WHO Grade 4, Chang stage M0. Immunohistochemistry, reticulin stain, and molecular sub typing could not be done because they were not available. She was treated by subtotal posterior cranial fossa tumor resection followed by adjuvant concurrent chemo-craniospinal radiation (CRST) and adjuvant chemotherapy.

**Conclusion:** Even in adults over 50 years old, MB should be included in the differential diagnosis of posterior fossa tumor. Adult MB is a very rare and very heterogeneous tumor, but it has a good prognosis. Immunohistochemistry and molecular sub-clustering are difficult to implement in low-income countries like Tanzania due to cost. Treatment of adult MB is highly heterogeneous among (and even within) facilities. There is no evidence that the extent of resection enhances survival. While CSRT improves survival, there is controversy about the role of chemotherapy in managing adult MB.

### Biography

Emmanuel Mduma, is a young researcher and junior Clinical & Radiation oncologist who recently accomplished his masters of medicine at Muhimbili University of Health and Allied Sciences, Dar es Salaam Tanzania. Mduma has 3 publications in peer reviewed journals with two studies in progress. He is also working as clinician at Arusha Lutheran Medical Centre, Arusha, Tanzania and he is member of Tanzania Oncology Society (TOS). Mduma has passion in scientific research so as he can be able to solve problems in his community.

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