REFERENCES

Aarsland D, Bronnick K, Larsen J, Tysnes O, Alves G. Cognitive impairment in incident, untreated Parkinson disease The Norwegian ParkWest Study. **Neurology** 2009; 72: 1121-1126.

Abas F, Lajis NH, Israf D, Khozirah S, Umi Kalsom Y. Antioxidant and nitric oxide inhibition activities of selected Malay traditional vegetables. **Food Chemistry** 2006; 95: 566-573.

Adams D, Cheng F, Jou H, Aung S, Yasui Y, Vohra S. The safety of pediatric acupuncture: a systematic review. **Pediatrics** 2011: peds. 1011-1091.

Ahmad M, Saleem S, Ahmad AS, Yousuf S, Ansari MA, Khan MB, et al. Ginkgo biloba affords dose-dependent protection against 6-hydroxydopamine-induced parkinsonism in rats: neurobehavioural, neurochemical and immunohistochemical evidences. **Journal of neurochemistry** 2005; 93: 94-104.

Ahn AC, Colbert AP, Anderson BJ, Martinsen OG, Hammerschlag R, Cina S, et al. Electrical properties of acupuncture points and meridians: a systematic review. **Bioelectromagnetics** 2008; 29: 245-256.

Al Amin ZM, Thomson M, Al-Qattan KK, Peltonen-Shalaby R, Ali M. Anti-diabetic and hypolipidaemic properties of ginger (*Zingiber officinale*) in streptozotocin-induced diabetic rats. **British Journal of Nutrition** 2006; 96: 660-666.

Alonso M, Medina JH, Pozzo-Miller L. ERK1/2 activation is necessary for BDNF to increase dendritic spine density in hippocampal CA1 pyramidal neurons. **Learning & Memory** 2004; 11: 172-178.

Amaglo NK, Bennett RN, Lo Curto RB, Rosa EA, Lo Turco V, Giuffrida A, et al. Profiling selected phytochemicals and nutrients in different tissues of the multipurpose tree *Moringa oleifera* L., grown in Ghana. **Food Chemistry** 2010; 122: 1047-1054.

Andarwulan N, Kurniasih D, Apriady RA, Rahmat H, Roto AV, Bolling BW. Polyphenols, carotenoids, and ascorbic acid in underutilized medicinal vegetables. **Journal of Functional Foods** 2012; 4: 339-347.

Anderson RR, Parrish JA. The optics of human skin. **Journal of Investigative Dermatology** 1981; 77: 13-19.

Arlt S. Non-Alzheimer's diseaserelated memory impairment and dementia. **Dialogues in clinical neuroscience** 2013; 15: 465.

Asare GA, Gyan B, Bugyei K, Adjei S, Mahama R, Addo P, et al. Toxicity potentials of the nutraceutical *Moringa oleifera* at supra-supplementation levels. **Journal of ethnopharmacology** 2012; 139: 265-272.

Aslam M, Anwar F, Nadeem R, Rashid U, Kazi T, Nadeem M. Mineral composition of Moringa oleifera leaves and pods from different regions of Punjab, Pakistan. **Asian Journal of Plant Sciences** 2005.

Association As. 2012 Alzheimer's disease facts and figures. **Alzheimer's & dementia: the journal of the Alzheimer's Association** 2012; 8: 131.

Ataie A, Sabetkasaei M, Haghparast A, Moghaddam AH, Kazeminejad B. Neuroprotective effects of the polyphenolic antioxidant agent, Curcumin, against homocysteine-induced cognitive impairment and oxidative stress in the rat. **Pharmacology Biochemistry and Behavior** 2010; 96: 378-385.

Babic T. The cholinergic hypothesis of Alzheimer’s disease: a review of progress. **Journal of Neurology, Neurosurgery & Psychiatry** 1999; 67: 550-558.

Bamishaiye E, Olayemi F, Awagu E, Bamshaiye O. Proximate and phytochemical composition of Moringa oleifera leaves at three stages of maturation. **Advance Journal of Food Science and Technology** 2011.

Banerjee S, Murray J, Foley B, Atkins L, Schneider J, Mann A. Predictors of institutionalisation in people with dementia. **Journal of Neurology, Neurosurgery & Psychiatry** 2003; 74: 1315-1316.

Bannerman D, Deacon R, Offen S, Friswell J, Grubb M, Rawlins J. Double dissociation of function within the hippocampus: spatial memory and hyponeophagia. **Behavioral neuroscience** 2002; 116: 884.

Barnham KJ, Masters CL, Bush AI. Neurodegenerative diseases and oxidative stress. **Nature Reviews Drug Discovery** 2004; 3: 205-214.

Barrett S. Be Wary of Acupuncture, Qigong, and" Chinese Medicine. **Quackwatch,** http://www. quackwatch. org/01QuackeryRelatedTopics/acu. html. (accessed November 28, 2014) 2011.

Bartus RT. On neurodegenerative diseases, models, and treatment strategies: lessons learned and lessons forgotten a generation following the cholinergic hypothesis. **Experimental neurology** 2000; 163: 495-529.

Bartus RT, Dean RL, Beer B, Lippa AS. The cholinergic hypothesis of geriatric memory dysfunction. **Science** 1982; 217: 408-414.

Bashir A, Sultana B, Akhtar FH, Munir A, Amjad M, ul Hassan Q. Investigation on the Antioxidant Activity of Dheela Grass (*Cyperus rotundus*). **African Journal of Basic & Applied Sciences** 2012; 4: 01-06.

Baxter GD, Bleakley C, McDonough S. Clinical effectiveness of laser acupuncture: a systematic review. **Journal of acupuncture and meridian studies** 2008; 1: 65-82.

Beckerman H, de Bie RA, Bouter LM, De Cuyper HJ, Oostendorp RA. The efficacy of laser therapy for musculoskeletal and skin disorders: a criteria-based meta-analysis of randomized clinical trials. **Physical Therapy** 1992; 72: 483-491.

Bennett RN, Mellon FA, Foidl N, Pratt JH, Dupont MS, Perkins L, et al. Profiling glucosinolates and phenolics in vegetative and reproductive tissues of the multi-purpose trees *Moringa oleifera* L.(horseradish tree) and Moringa stenopetala L. **Journal of Agricultural and Food Chemistry** 2003; 51: 3546-3553.

Benzie IF, Strain J. The ferric reducing ability of plasma (FRAP) as a measure of "antioxidant power": the FRAP assay. **Analytical biochemistry** 1996; 239: 70-76.

Beppe GJ, Dongmo AB, Foyet HS, Tsabang N, Olteanu Z, Cioanca O, et al. Memory-enhancing activities of the aqueous extract of *Albizia Adianthifolia* leaves in the 6-hydroxydopamine-lesion rodent model of Parkinson's disease. **BMC Complementary and Alternative Medicine** 2014; 14: 142.

Bergmann I, Priestley JV, McMahon SB, Bröcker EB, Toyka KV, Koltzenburg M. Analysis of cutaneous sensory neurons in transgenic mice lacking the low affinity neurotrophin receptor p75. **European Journal of Neuroscience** 1997; 9: 18-28.

Bergsmann O, Woolley-Hart A. Differences in electrical skin conductivity between acupuncture points and adjacent skin areas. **Am J Acupunct** 1973; 1: 27-32.

Bianco CL, Ridet J, Schneider B, Deglon N, Aebischer P. α-Synucleinopathy and selective dopaminergic neuron loss in a rat lentiviral-based model of Parkinson's disease. **Proceedings of the National Academy of Sciences** 2002; 99: 10813-10818.

Bitner RS, Bunnelle WH, Anderson DJ, Briggs CA, Buccafusco J, Curzon P, et al. Broad-spectrum efficacy across cognitive domains by α7 nicotinic acetylcholine receptor agonism correlates with activation of ERK1/2 and CREB phosphorylation pathways. **The Journal of Neuroscience** 2007; 27: 10578-10587.

Bjordal JM, Couppe C, Chow RT, Tuner J, Ljunggren EA. A systematic review of low level laser therapy with location-specific doses for pain from chronic joint disorders. **Australian Journal of Physiotherapy** 2003; 49: 107-116.

Blokland A. Acetylcholine: a neurotransmitter for learning and memory. **Brain Research Reviews**1995; 21: 285-300.

Bohnen NI, Müller ML. In vivo neurochemical imaging of olfactory dysfunction in Parkinson’s disease. **Journal of Neural Transmission** 2013; 120: 571-576.

Brandeis R, Brandys Y, Yehuda S. The use of the Morris water maze in the study of memory and learning. **International Journal of Neuroscience** 1989; 48: 29-69.

Brookmeyer R, Gray S, Kawas C. Projections of Alzheimer's disease in the United States and the public health impact of delaying disease onset. **American journal of public health** 1998; 88: 1337-1342.

Brookmeyer R, Johnson E, Ziegler-Graham K, Arrighi HM. Forecasting the global burden of Alzheimer’s disease. **Alzheimer's & dementia** 2007; 3: 186-191.

Burns A. The burden of Alzheimer's disease. **The International Journal of Neuropsychopharmacology** 2000; 3: 31-38.

Candelario-Jalil E, Mhadu NH, Al-Dalain SM, Martínez G, León OS. Time course of oxidative damage in different brain regions following transient cerebral ischemia in gerbils. **Neuroscience research** 2001; 41: 233-241.

Cannon JR, Greenamyre JT. The role of environmental exposures in neurodegeneration and neurodegenerative diseases. **Toxicological Sciences** 2011: kfr239.

Chang S. The meridian system and mechanism of acupuncture a comparative review. Part 1: the meridian system. **Taiwanese Journal of Obstetrics and Gynecology** 2012; 51: 506-514.

Chaturvedi R, Shukla S, Seth K, Chauhan S, Sinha C, Shukla Y, et al. Neuroprotective and neurorescue effect of black tea extract in 6-hydroxydopamine-lesioned rat model of Parkinson's disease. **Neurobiology of disease** 2006; 22: 421-434.

Chen Y, Chen F, Zhao J, Tian Y. Progression of theory and application of acupuncture on treatment of vascular dementia. **Chin J Clin Rehabil** 2004; 8: 4664-4666.

Chonpathompikunlert P, Wattanathorn J, Muchimapura S. Piperine, the main alkaloid of Thai black pepper, protects against neurodegeneration and cognitive impairment in animal model of cognitive deficit like condition of Alzheimer's disease. **Food and chemical toxicology** 2010; 48: 798-802.

Chrubasik S, Pittler M, Roufogalis B. Zingiberis rhizoma: a comprehensive review on the ginger effect and efficacy profiles. **Phytomedicine** 2005; 12: 684-701.

Ciobica A, Olteanu Z, Padurariu M, Hritcu L. The effects of pergolide on memory and oxidative stress in a rat model of Parkinson's disease. **Journal of physiology and biochemistry** 2012; 68: 59-69.

Contestabile A. The history of the cholinergic hypothesis. **Behavioural brain research** 2011; 221: 334-340.

Craggs L, Kalaria RN. Revisiting dietary antioxidants, neurodegeneration and dementia. **Neuroreport** 2011; 22: 1-3.

Dangi S, Jolly C, Narayanan S. Antihypertensive activity of the total alkaloids from the leaves of Moringa oleifera. **Pharmaceutical biology** 2002; 40: 144-148.

Dauer W, Przedborski S. Parkinson's disease: mechanisms and models. **Neuron** 2003; 39: 889-909.

Daulatzai MA. Neurotoxic saboteurs: straws that break the hippo's (Hippocampus) back drive cognitive impairment and Alzheimer's disease. **Neurotoxicity research** 2013; 24: 407-459.

De Ancos B, Sgroppo S, Plaza L, Cano MP. Possible nutritional and health-related value promotion in orange juice preserved by high-pressure treatment. **Journal of the Science of Food and Agriculture** 2002; 82: 790-796.

De Leonibus E, Pascucci T, Lopez S, Oliverio A, Amalric M, Mele A. Spatial deficits in a mouse model of Parkinson disease. **Psychopharmacology** 2007; 194: 517-525.

Devi L, Diwakar L, Raju T, Kutty BM. Selective neurodegeneration of hippocampus and entorhinal cortex correlates with spatial learning impairments in rats with bilateral ibotenate lesions of ventral subiculum. **Brain research** 2003; 960: 9-15.

Doggrell SA, Evans S. Treatment of dementia with neurotransmission modulation. **Expert Opinion on Investigational Drugs** 2003; 12: 1633-1654.

Dorsey E, Constantinescu R, Thompson J, Biglan K, Holloway R, Kieburtz K, et al. Projected number of people with Parkinson disease in the most populous nations, 2005 through 2030. **Neurology** 2007; 68: 384-386.

Doss VA, Thangavel KP. Antioxidant and antimicrobial activity using different extracrs of *Anacardium Occidentale*. **International journal of applied biology and pharmaceutical technology** 2011; 2(3): 436-443.

Dowding CH, Shenton CL, Salek SS. A review of the health-related quality of life and economic impact of Parkinson's disease. **Drugs & aging** 2006; 23: 693-721.

Dubois B, Danze F, Pillon B, Cusimano G, Lhermitte F, Agid Y. Cholinergic-dependent cognitive deficits in Parkinson's disease. **Annals of neurology** 1987; 22: 26-30.

Ebadi M, Srinivasan SK, Baxi MD. Oxidative stress and antioxidant therapy in Parkinson's disease. **Progress in neurobiology** 1996; 48: 1-19.

Ellman GL, Courtney KD, Featherstone RM. A new and rapid colorimetric determination of acetylcholinesterase activity. ***Biochemical* pharmacology** 1961; 7: 88-95.

Esnouf A, Wright PA, Moore JC, Ahmed S. Depth of penetration of an 850nm wavelength low level laser in human skin. **Acupuncture & electro-therapeutics research** 2006; 32: 81-86.

Eyer P, Podhradsky D. Evaluation of the micromethod for determination of glutathione using enzymatic cycling and Ellman's reagent. **Analytical biochemistry** 1986; 153: 57-66.

Ferro MM, Bellissimo MI, Anselmo-Franci JA, Angellucci MEM, Canteras NS, Da Cunha C. Comparison of bilaterally 6-OHDA-and MPTP-lesioned rats as models of the early phase of Parkinson's disease: histological, neurochemical, motor and memory alterations. **Journal of neuroscience methods** 2005; 148: 78-87.

Fox SH, Katzenschlager R, Lim SY, Ravina B, Seppi K, Coelho M, et al. The Movement Disorder Society Evidence-Based Medicine Review Update: Treatments for the motor symptoms of Parkinson's disease. **Movement Disorders** 2011; 26: 2-41.

Francis S, Head K, Morris P, Macdonald I. The effect of flavanol-rich cocoa on the fMRI response to a cognitive task in healthy young people. **Journal of cardiovascular pharmacology** 2006; 47: 215-220.

Fukui K, OMOI NO, Hayasaka T, Shinnkai T, Suzuki S, Abe K, et al. Cognitive impairment of rats caused by oxidative stress and aging, and its prevention by vitamin E. **Annals of the New York Academy of Sciences** 2002; 959: 275-284.

Gandhi S, Abramov AY. Mechanism of oxidative stress in neurodegeneration. **Oxidative medicine and cellular longevity** 2012; 2012. http://dx.doi.org/10.1155/2012/428010.

Ganguly R, Guha D. Alteration of brain monoamines & EEG wave pattern in rat model of Alzheimer's disease & protection by Moringa oleifera. **Indian Journal of Medical Research** 2008; 128: 744.

Ganguly R, Hazra R, Ray K, Guha D. Effect of Moringa oleifera in experimental model of Alzheimer's disease: Role of antioxidants. **Annals of Neurosciences** 2010; 12: 33-36.

Gao XY, Litscher G, Liu K, Zhu B. Sino-European transcontinental basic and clinical high-tech acupuncture studies—part 3: Violet laser stimulation in anesthetized rats. **Evidence-Based Complementary and Alternative Medicine** 2012; 20-12.

Giovannini MG. The role of the extracellular signal-regulated kinase pathway in memory encoding. **Reviews in the Neurosciences** 2005; 17: 619-634.

Goldblith SA, Proctor BE. Photometric determination of catalase activity. **Journal of Biological Chemistry** 1950; 187: 705-709.

Gong Q-H, Pan L-L, Liu X-H, Wang Q, Huang H, Zhu Y-Z. S-propargyl-cysteine (ZYZ-802), a sulphur-containing amino acid, attenuates beta-amyloid-induced cognitive deficits and pro-inflammatory response: involvement of ERK1/2 and NF-κB pathway in rats. **Amino acids** 2011; 40: 601-610.

Gorelick PB, Scuteri A, Black SE, DeCarli C, Greenberg SM, Iadecola C, et al. Vascular contributions to cognitive impairment and dementia a statement for healthcare professionals from the American Heart Association/American Stroke Association. **Stroke** 2011; 42: 2672-2713.

Gowrishankar R, Kumar M, Menon V, Divi SM, Saravanan M, Magudapathy P, et al. Trace element studies on *Tinospora cordifolia* (Menispermaceae), Ocimum sanctum (Lamiaceae), *Moringa oleifera* (Moringaceae), and Phyllanthus niruri (Euphorbiaceae) using PIXE. **Biological trace element research** 2010; 133: 357-363.

Haberman RP, Lee HJ, Colantuoni C, Koh MT, Gallagher M. Rapid encoding of new information alters the profile of plasticity-related mRNA transcripts in the hippocampal CA3 region. **Proceedings of the National Academy of Sciences** 2008; 105: 10601-10606.

Hanin I. The AF64A model of cholinergic hypofunction: an update. **Life sciences** 1996; 58: 1955-1964.

Hanin I, Mantione CR, Fisher A. AF64A-induced neurotoxicity: a potential animal model in Alzheimer's disease. **Alzheimer's disease: A report of progress in research** 1982; 17: 267-270.

Hardy J, Selkoe DJ. The amyloid hypothesis of Alzheimer's disease: progress and problems on the road to therapeutics. **Science** 2002; 297: 353-356.

Hebert AE, Dash PK. Nonredundant roles for hippocampal and entorhinal cortical plasticity in spatial memory storage. **Pharmacology Biochemistry and Behavior** 2004; 79: 143-153.

Hecker HU, Steveling A. **Color Atlas of Acupuncture.** New York: [n.p.]; 2011.

Hefco V, Yamada K, Hefco A, Hritcu L, Tiron A, Nabeshima T. Role of the mesotelencephalic dopamine system in learning and memory processes in the rat. **European journal of pharmacology** 2003; 475: 55-60.

Hemanth Kumar K, Tamatam A, Pal A, Khanum F. Neuroprotective effects of Cyperus rotundus on SIN-1 induced nitric oxide generation and protein nitration: Ameliorative effect against apoptosis mediated neuronal cell damage. **Neurotoxicology** 2013; 34: 150-159.

Holt A, Sharman DF, Baker GB, Palcic MM. A continuous spectrophotometric assay for monoamine oxidase and related enzymes in tissue homogenates. **Analytical biochemistry** 1997; 244: 384-392.

Hong M, Mukhida K, Mendez I. GDNF therapy for Parkinson's disease. **Expert Review of Neurotherapeutics** 2008; 8: 11125-11139.

Huang YY, Nagata K, Tedford CE, McCarthy T, Hamblin MR. Low-level laser therapy (LLLT) reduces oxidative stress in primary cortical neurons in vitro. **Journal of biophotonics** 2013; 6: 829-838.

Hurd MD, Martorell P, Delavande A, Mullen KJ, Langa KM. Monetary costs of dementia in the United States. **New England Journal of Medicine** 2013; 368: 1326-1334.

Huse DM, Schulman K, Orsini L, Castelli-Haley J, Kennedy S, Lenhart G. Burden of illness in Parkinson's disease. **Movement disorders** 2005; 20: 1449-1454.

Hwang O. Role of oxidative stress in Parkinson's disease. **Experimental neurobiology** 2013; 22: 11-17.

Ijeomah A, Ugwuona F, Abdullahi H. Phytochemical composition and antioxidant properties of Hibiscus sabdariffa and *Moringa oleifera*. **Nigerian Journal of Agriculture, Food and Environment** 2012; 8: 10-16.

Ikarashi Y, Harigaya Y, Tomidokoro Y, Kanai M, Ikeda M, Matsubara E, et al. Decreased level of brain acetylcholine and memory disturbance in APPsw mice. **Neurobiology of aging** 2004; 25: 483-490.

Isomae K, Ishikawa M, Ohta M, Ogawa Y, Hasegawa H, Kohda T, et al. Effects of T-82, a new quinoline derivative, on cholinesterase activity and extracellular acetylcholine concentration in rat brain. **The Japanese journal of pharmacology** 2002; 88: 206-212.

Jayakumar R. Herbal medicines for type-2 diabetes. **International Journal of Diabetes in Developing Countries** 2010; 30: 111.

Ji J, Maren S. Differential roles for hippocampal areas CA1 and CA3 in the contextual encoding and retrieval of extinguished fear. **Learning & Memory** 2008; 15: 244-251.

Jingyu F, Shiyuan X, Zhe L, Zhemei W. The role of gap junctions in determining skin conductance and their possible relationship to acupuncture points and meridians. **American journal of acupuncture** 1990; 18: 163-170.

Katz IR, Jeste DV, Mintzer JE, Clyde C, Napolitano J, Brecher M. Comparison of risperidone and placebo for psychosis and behavioral disturbances associated with dementia: a randomized, double-blind trial. **Journal of Clinical Psychiatry** 1999.

Kaur GJ, Arora DS. Antibacterial and phytochemical screening of Anethum graveolens, Foeniculum vulgare and Trachyspermum ammi. **BMC complementary and alternative medicine** 2009; 9: 30.

Kihara T, Shimohama S. Alzheimer's disease and acetylcholine receptors. **Acta neurobiologiae experimentalis** 2004; 64: 99-106.

Kirisattayakul W, Wattanathorn J, Tong-Un T, Muchimapura S, Wannanon P. *Moringa Oleifera* Lam Mitigates Oxidative Damage and Brain Infarct Volume in Focal Cerebral Ischemia. **American Journal of Applied Sciences** 2012; 9.

Kitchen SS, Partridge CJ. A review of low level laser therapy: Part I: background, physiological effects and hazards. **Physiotherapy** 1991; 77: 161-168.

Knodel JE, Chayovan N. **Population ageing and the well-being of older persons in Thailand**. USA.:Institute for Social Research, University of Michigan; 2008.

Konan NA, Bacchi EM. Antiulcerogenic effect and acute toxicity of a hydroethanolic extract from the cashew *Anacardium occidentale* L. leaves. **Journal of ethnopharmacology** 2007; 112: 237-242.

Koppula S, Choi DK. *Anethum Graveolens* Linn (Umbelliferae) Extract Attenuates Stress-induced Urinary Biochemical Changes and Improves Cognition in Scopolamineinduced Amnesic Rats. **Tropical Journal of Pharmaceutical Research** 2011; 10.

Korczyn AD. Dementia in Parkinson's disease. **Journal of neurology** 2001; 248: 31-34.

Krishnakantha T, Lokesh BR. Scavenging of superoxide anions by spice principles. **Indian Journal of Biochemistry & Biophysics** 1993; 30: 133-134.

Kuan WL, Barker R. New therapeutic approaches to Parkinson's disease including neural transplants. **Neurorehabilitation and neural repair** 2005; 19: 155-181.

Langevin HM, Churchill DL, Cipolla MJ. Mechanical signaling through connective tissue: a mechanism for the therapeutic effect of acupuncture. **The FASEB Journal** 2001; 15: 2275-2282.

Lecanu L, Greeson J, Papadopoulos V. Beta-amyloid and oxidative stress jointly induce neuronal death, amyloid deposits, gliosis, and memory impairment in the rat brain. **Pharmacology** 2005; 76: 19-33.

Lecanu L, Papadopoulos V. Modeling Alzheimer's disease with non-transgenic rat models. **Alzheimer's research & therapy** 2013; 5: 17.

Lee B, Sur BJ, Kwon S, Jung E, Shim I, Lee H, et al. Acupuncture stimulation alleviates corticosterone-induced impairments of spatial memory and cholinergic neurons in rats. **Evidence-Based Complementary and Alternative Medicine** 2011; 20-12.

Lee I, Kesner RP. Time-dependent relationship between the dorsal hippocampus and the prefrontal cortex in spatial memory. **The Journal of Neuroscience** 2003; 23: 1517-1523.

Lee I, Yoganarasimha D, Rao G, Knierim JJ. Comparison of population coherence of place cells in hippocampal subfields CA1 and CA3. **Nature** 2004; 430: 456-459.

Lee YJ, Cho HN, Soh JW, Jhon GJ, Cho CK, Chung HY, et al. Oxidative stress-induced apoptosis is mediated by ERK1/2 phosphorylation. **Experimental cell research** 2003; 291: 251-266.

Leutgeb S, Leutgeb JK, Treves A, Moser MB, Moser EI. Distinct ensemble codes in hippocampal areas CA3 and CA1. **Science** 2004; 305: 1295-1298.

Li X-z, Zhang S-n, Liu S-m, Lu F. Recent advances in herbal medicines treating Parkinson's disease. **Fitoterapia** 2013; 84: 273-285.

Litscher G. High-tech laser acupuncture is Chinese medicine. **Medical Acupuncture** 2008; 20: 245-254.

Litscher G. Ten Years Evidence-based High-Tech Acupuncture a Short Review of Centrally Measured Effects (Part II). **Evidence-Based Complementary and Alternative Medicine** 2009; 6: 305-314.

Litscher G. Ten years evidence-based high-tech acupuncture a short review of peripherally measured effects. **Evidence-Based Complementary and Alternative Medicine** 2009; 6: 153-158.

Litscher G. Ten years evidence-based high-tech acupuncture part 3: a short review of animal experiments. **Evidence-Based Complementary and Alternative Medicine** 2010; 7: 151-155.

Litscher G, Huang T, Wang L, Zhang W. Violet laser acupuncture part 1: effects on brain circulation. **Journal of Acupuncture and Meridian Studies** 2010; 3: 255-259.

Litscher G, Schikora D. **Laserneedle-acupuncture: science and practice: Pabst Science Publ.** Germany: Lengerich; 2005.

Litscher G, Wang L, Wang X, Gaischek I. Laser acupuncture: two acupoints (Baihui, Neiguan) and two modalities of laser (658 nm, 405 nm) induce different effects in neurovegetative parameters. **Evidence-Based Complementary and Alternative Medicine** 2013; 2013.

Liu P, Bilkey DK. The effect of excitotoxic lesions centered on the hippocampus or perirhinal cortex in object recognition and spatial memory tasks. **Behavioral neuroscience** 2001; 115: 94.

Lu TH, Hsieh SY, Yen CC, Wu HC, Chen KL, Hung DZ, et al. Involvement of oxidative stress-mediated ERK1/2 and p38 activation regulated mitochondria-dependent apoptotic signals in methylmercury-induced neuronal cell injury. **Toxicology letters** 2011; 204: 71-80.

Lu Z, Xu S. ERK1/2 MAP kinases in cell survival and apoptosis. **IUBMB life** 2006; 58: 621-631.

Lye T, Piguet O, Grayson D, Creasey H, Ridley L, Bennett H, et al. Hippocampal size and memory function in the ninth and tenth decades of life: the Sydney Older Persons Study. **Journal of Neurology, Neurosurgery & Psychiatry** 2004; 75: 548-554.

Lyras L, Cairns NJ, Jenner A, Jenner P, Halliwell B. An assessment of oxidative damage to proteins, lipids, and DNA in brain from patients with Alzheimer's disease. **Journal of neurochemistry** 1997; 68: 2061-2069.

Maciocia G, Ying ZZ. **The practice of Chinese medicine.** Churchill Livingstone Edinburgh: [n.p.]; 1994.

MacPherson H. A**cupuncture research: Strategies for establishing an evidence base: Elsevier Health Sciences.** China: [n.p.]; 2007.

Malin DH, Crothers MK, Lake JR, Goyarzu P, Plotner RE, Garcia SA, et al. Hippocampal injections of amyloid β-peptide 1-40 impair subsequent one-trial/day reward learning. **Neurobiology of learning and memory** 2001; 76: 125-137.

Manguro LOA, Lemmen P. Phenolics of Moringa oleifera leaves. **Natural product research** 2007; 21: 56-68.

Mattson MP. Pathways towards and away from Alzheimer's disease. **Nature** 2004; 430: 631-639.

McCord JM, Fridovich I. Superoxide dismutase an enzymic function for erythrocuprein (hemocuprein). **Journal of Biological chemistry** 1969; 244: 6049-6055.

McNamara CG, Tejero-Cantero A, Trouche S, Campo-Urriza N, Dupret D. Dopaminergic neurons promote hippocampal reactivation and spatial memory persistence. **Nature neuroscience** 2014.

Mecocci P, Cherubini A, Polidori M, Cecchetti R, Chionne F, Senin U. Oxidative stress and dementia: new perspectives in AD pathogenesis. **Aging Clinical and Experimental Research** 1997; 9: 51-52.

Mishra G, Singh P, Verma R, Kumar S, Srivastav S, Jha K, et al. Traditional uses, phytochemistry and pharmacological properties of *Moringa oleifera* plant: An overview. **Der Phamacia Lettre** 2011; 3: 141-164.

Mladenovic A, Perovic M, Raicevic N, Kanazir S, Rakic L, Ruzdijic S. 6-Hydroxydopamine increases the level of TNFα and bax mRNA in the striatum and induces apoptosis of dopaminergic neurons in hemiparkinsonian rats. **Brain research** 2004; 996: 237-245.

Moreira PI, Carvalho C, Zhu X, Smith MA, Perry G. Mitochondrial dysfunction is a trigger of Alzheimer's disease pathophysiology. **Biochimica et Biophysica Acta (BBA)-Molecular Basis of Disease** 2010; 1802: 2-10.

Morris R. Developments of a water-maze procedure for studying spatial learning in the rat. **Journal of neuroscience methods** 1984; 11: 47-60.

Moser MB, Moser EI. Distributed encoding and retrieval of spatial memory in the hippocampus. **The Journal of neuroscience** 1998; 18: 7535-7542.

Mufson EJ, Counts SE, Perez SE, Ginsberg SD. **Cholinergic system during the progression of Alzheimer's disease: therapeutic implications**. [n.p.]; 2008.

Mura A, Feldon J. Spatial learning in rats is impaired after degeneration of the nigrostriatal dopaminergic system. **Movement Disorders** 2003; 18: 860-871.

Murali G, Panneerselvam C. Age-associated oxidative macromolecular damages in rat brain regions: role of glutathione monoester. **The Journals of Gerontology Series A: Biological Sciences and Medical Sciences** 2007; 62: 824-830.

Murata P, Kase Y, Ishige A, Sasaki H, Kurosawa S, Nakamura T. The herbal medicine Dai-kenchu-to and one of its active components [6]-shogaol increase intestinal blood flow in rats. **Life sciences** 2002; 70: 2061-2070.

Muslimovic D, Post B, Speelman JD, Schmand B. Cognitive profile of patients with newly diagnosed Parkinson disease. **Neurology** 2005; 65: 1239-1245.

Mustafa F, Jaafar M. Comparison of wavelength-dependent penetration depths of lasers in different types of skin in photodynamic therapy. **Indian Journal of Physics** 2013; 87: 203-209.

Nakabeppu Y, Tsuchimoto D, Yamaguchi H, Sakumi K. Oxidative damage in nucleic acids and Parkinson's disease. **Journal of neuroscience research** 2007; 85: 919-934.

Nakamura S, Murayama N, Noshita T, Annoura H, Ohno T. Progressive brain dysfunction following intracerebroventricular infusion of beta 1–42-amyloid peptide. **Brain research** 2001; 912: 128-136.

O Keefe J, Dostrovsky J. The hippocampus as a spatial map. Preliminary evidence from unit activity in the freely-moving rat. **Brain research** 1971; 34: 171-175.

Oboh G, Ademiluyi AO, Akinyemi AJ. Inhibition of acetylcholinesterase activities and some pro-oxidant induced lipid peroxidation in rat brain by two varieties of ginger (*Zingiber officinale*). **Experimental and Toxicologic Pathology** 2012; 64: 315-319.

Ohkawa H, Ohishi N, Yagi K. Assay for lipid peroxides in animal tissues by thiobarbituric acid reaction. **Analytical biochemistry** 1979; 95: 351-358.

Oswald C, Good M. The effects of combined lesions of the subicular complex and the entorhinal cortex on two forms of spatial navigation in the water maze. **Behavioral neuroscience** 2000; 114: 211.

Owen AM. The functional organization of working memory processes within human lateral frontal cortex: the contribution of functional neuroimaging. **European Journal of Neuroscience** 1997; 9: 1329-1339.

Padurariu M, Ciobica A, Lefter R, Serban IL, Stefanescu C, Chirita R. The oxidative stress hypothesis in Alzheimer's disease. **Psychiatria Danubina** 2013; 25: 401-409.

Pandey KB, Rizvi SI. Plant polyphenols as dietary antioxidants in human health and disease. **Oxidative Medicine and Cellular Longevity** 2009; 2: 270-278.

Pangpookiew P, Wattanathorn J, Muchimapura S, Thukhummee W. Quercetin-loaded zein based nanofiber patch: A novel cognitive enhancer. **Int J Pharm** 2012; 3: 103-108.

Parasuraman S, Thing GS, Dhanaraj SA. Polyherbal formulation: Concept of ayurveda. **Pharmacognosy reviews** 2014; 8: 73.

Pennartz C, Ito R, Verschure P, Battaglia F, Robbins T. The hippocampal–striatal axis in learning, prediction and goal-directed behavior. **Trends in neurosciences** 2011; 34: 548-559.

Perry E, Curtis M, Dick D, Candy J, Atack J, Bloxham C, et al. Cholinergic correlates of cognitive impairment in Parkinson's disease: comparisons with Alzheimer's disease. **Journal of Neurology, Neurosurgery & Psychiatry** 1985; 48: 413-421.

Pham-Huy LA, He H, Pham-Huy C. Free radicals, antioxidants in disease and health. **International journal of biomedical science: IJBS** 2008; 4: 89.

Prabsattroo T, Wattanathorn J, Iamsa-ard S, Muchimapura S, Thukhammee W. *Moringa Oleifera*Leaves Extract Attenuates Male Sexual Dysfunction. **American Journal of Neuroscience** 2012; 3: 17.

Prabsattroo T, Wattanathorn J, Iamsaard S, Somsapt P, Sritragool O, Thukhammee W, et al. *Moringa oleifera* extract enhances sexual performance in stressed rats. **Journal of Zhejiang University Science B** 2015; 1-8.

Prince M, Bryce R, Albanese E, Wimo A, Ribeiro W, Ferri CP. The global prevalence of dementia: a systematic review and metaanalysis. **Alzheimer's & Dementia** 2013; 9: 63-75.

Quettier-Deleu C, Gressier B, Vasseur J, Dine T, Brunet C, Luyckx M, et al. Phenolic compounds and antioxidant activities of buckwheat (Fagopyrum esculentum Moench) hulls and flour. **Journal of ethnopharmacology** 2000; 72: 35-42.

Rabiei Z, Hojjati M, Rafieian-Kopaeia M, Alibabaei Z. Effect of Cyperus rotundus tubers ethanolic extract on learning and memory in animal model of Alzheimer. **Biomedicine & Aging Pathology** 2013; 3: 185-191.

Rascol O, Payoux P, Ory F, Ferreira JJ, Brefel-Courbon C, Montastruc JL. Limitations of current Parkinson's disease therapy. **Annals of neurology** 2003; 53: S3-S15.

Riedel G, Platt B, Micheau J. Glutamate receptor function in learning and memory. **Behavioural brain research** 2003; 140: 1-47.

Roach P, Salleh M, Runnie I, Mohamed S, Abeywardena M. Inhibition of low density lipoprotein oxidation and upregulation of the low density lipoprotein receptor of human liver HEPG2 cells by tropical plant extracts. **Clin. Exp. Pharmacol. Physiol** 2003; 30: 5-6.

Rossato JI, Bevilaqua LR, Izquierdo I, Medina JH, Cammarota M. Dopamine controls persistence of long-term memory storage. **Science** 2009; 325: 1017-1020.

Rungsanpanya T, Muangpaisan W, Praditsuwan R. Clinical practice with antidementia drugs in a geriatric clinic. **Journal of the Medical Association of Thailand** 2012; 95: 1081-1089.

Rusinek H, De Santi S, Frid D, Tsui WH, Tarshish CY, Convit A, et al. Regional Brain Atrophy Rate Predicts Future Cognitive Decline: 6-year Longitudinal MR Imaging Study of Normal Aging 1. **Radiology** 2003; 229: 691-696.

Sabale V, Patel V, Paranjape A, Arya C, Sakarkar S, Sabale P. *Moringa oleifera* (Drumstick): an overview. **Pharmacognosy reviews** 2008; 4: 7-13.

Saenghong N, Wattanathorn J, Muchimapura S, Tongun T, Piyavhatkul N, Banchonglikitkul C, et al. *Zingiber officinale* improves cognitive function of the middle-aged healthy women. **Evidence-Based Complementary and Alternative Medicine** 2011; 2012.

Saito K, Elce JS, Hamos JE, Nixon RA. Widespread activation of calcium-activated neutral proteinase (calpain) in the brain in Alzheimer disease: a potential molecular basis for neuronal degeneration. **Proceedings of the National Academy of Sciences** 1993; 90: 2628-2632.

Schliebs R, Arendt T. The significance of the cholinergic system in the brain during aging and in Alzheimer's disease. **Journal of neural transmission** 2006; 113: 1625-1644.

Schober A. Classic toxin-induced animal models of Parkinson's disease: 6-OHDA and MPTP. **Cell and tissue research** 2004; 318: 215-224.

Sedelis M, Schwarting RK, Huston JP. Behavioral phenotyping of the MPTP mouse model of Parkinson's disease. **Behavioural brain research** 2001; 125: 109-125.

Sharma N, Gupta P, Rao CV. Nutrient Content, Mineral Content and Antioxidant Activity of *Amaranthus viridis* and *Moringa oleifera* Leaves. **Research Journal of medicinal plant** 2012;6: 253-259.

Sharma R, Gupta R. Cyperus rotundus extract inhibits acetylcholinesterase activity from animal and plants as well as inhibits germination and seedling growth in wheat and tomato. **Life sciences** 2007; 80: 2389-2392.

Sherer TB, Kim JH, Betarbet R, Greenamyre JT. Subcutaneous rotenone exposure causes highly selective dopaminergic degeneration and α-synuclein aggregation. **Experimental neurology** 2003; 179: 9-16.

Shimura H, Hattori N, Kubo Si, Mizuno Y, Asakawa S, Minoshima S, et al. Familial Parkinson disease gene product, parkin, is a ubiquitin-protein ligase. **Nature genetics** 2000; 25: 302-305.

Siddhuraju P, Becker K. Antioxidant properties of various solvent extracts of total phenolic constituents from three different agroclimatic origins of drumstick tree (*Moringa oleifera* Lam.) leaves. **Journal of agricultural and food chemistry** 2003; 51: 2144-2155.

Singh G, Maurya S, Lampasona M, Catalan C. Chemical constituents, antimicrobial investigations, and antioxidative potentials of *Anethum graveolens* L. essential oil and acetone extract: Part 52. **Journal of food science** 2005; 70: M208-M215.

Smith C, Carney JM, Starke-Reed P, Oliver C, Stadtman E, Floyd R, et al. Excess brain protein oxidation and enzyme dysfunction in normal aging and in Alzheimer disease. **Proceedings of the National Academy of Sciences** 1991; 88: 10540-10543.

Soumaya J, Zied G, Nouha N, Mounira K, Kamel G, Genvieve FDM, et al. Evaluation of in vitro antioxidant and apoptotic activities of Cyperus rotundus. **Asian Pacific Journal of Tropical Medicine** 2014: 105-112.

Soumaya J, Zied G, Nouha N, Mounira K, Kamel G, Genvieve FDM, et al. Evaluation of in vitro antioxidant and apoptotic activities of Cyperus rotundus. **Asian Pacific Journal of Tropical Medicine** 2014: 105-112.

Sriraksa N, Wattanathorn J, Muchimapura S, Tiamkao S, Brown K, Chaisiwamongkol K. Cognitive-enhancing effect of quercetin in a rat model of Parkinson's disease induced by 6-hydroxydopamine. **Evidence-Based Complementary and Alternative Medicine** 2011; 20-12.

Srivastava S, Lal VK, Pant KK. Polyherbal formulations based on Indian medicinal plants as antidiabetic phytotherapeutics. **Phytopharmacology** 2012; 2: 1-15.

Stephan A, Laroche S, Davis S. Generation of aggregated β-amyloid in the rat hippocampus impairs synaptic transmission and plasticity and causes memory deficits. **The Journal of neuroscience** 2001; 21: 5703-5714.

Sundstrom E, Fredriksson A, Archer T. Chronic neurochemical and behavioral changes in MPTP-lesioned C57BL/6 mice: a model for Parkinson's disease. **Brain research** 1990; 528: 181-188.

Sungkamanee S, Wattanathorn J, Muchimapura S, Thukham-mee W. Antiosteoporotic Effect of Combined Extract of *Morus alba* and *Polygonum odoratum*. **Oxidative medicine and cellular longevity** 2014; 2014.

Sutalangka C, Wattanathorn J, Muchimapura S, Thukham-mee W. *Moringa oleifera* Mitigates Memory Impairment and Neurodegeneration in Animal Model of Age-Related Dementia. **Oxidative medicine and cellular longevity** 2013; 20-13.

Sutalangka C, Wattanathorn J, Muchimapura S, Thukham-mee W, Wannanon P, Tong-un T. Laser acupuncture improves memory impairment in an animal model of Alzheimer's disease. **Journal of acupuncture and meridian studies** 2013; 6: 247-251.

Svenningsson P, Westman E, Ballard C, Aarsland D. Cognitive impairment in patients with Parkinson's disease: diagnosis, biomarkers, and treatment. **The Lancet Neurology** 2012; 11: 697-707.

Swanson L. The projections of the ventral tegmental area and adjacent regions: a combined fluorescent retrograde tracer and immunofluorescence study in the rat. **Brain research bulletin** 1982; 9: 321-353.

Tadaiesky M, Dombrowski P, Figueiredo C, Cargnin-Ferreira E, Da Cunha C, Takahashi R. Emotional, cognitive and neurochemical alterations in a premotor stage model of Parkinson's disease. **Neuroscience** 2008; 156: 830-840.

Tatton WG, Chalmers-Redman R, Brown D, Tatton N. Apoptosis in Parkinson's disease: signals for neuronal degradation. **Annals of neurology** 2003; 53: 61-72.

Taylor J, Elsworth J, Roth R, Sladek Jr J, Redmond Jr D. Severe long-term 1-methyl-4-phenyl-1, 2, 3, 6-tetrahydropyridine-induced parkinsonism in the vervet monkey (Cercopithecus aethiops sabaeus). **Neuroscience** 1997; 81: 745-755.

Terry AV, Buccafusco JJ. The cholinergic hypothesis of age and Alzheimer's disease-related cognitive deficits: recent challenges and their implications for novel drug development. **Journal of Pharmacology and Experimental Therapeutics** 2003; 306: 821-827.

Thiraphatthanavong P, Wattanathorn J, Muchimapura S, Thukham-mee W, Lertrat K, Suriharn B. The Combined Extract of Purple Waxy Corn and Ginger Prevents Cataractogenesis and Retinopathy in Streptozotocin-Diabetic Rats. **Oxidative Medicine and Cellular Longevity** 2014; 20-14.

Thukham-mee W, Wattanathorn J. Evaluation of safety and protective effect of combined extract of *Cissampelos pareira* and *Anethum graveolens* (PM52) against age-related cognitive impairment. **Evidence-Based Complementary and Alternative Medicine** 2012; 20-12.

Uttara B, Singh AV, Zamboni P, Mahajan R. Oxidative stress and neurodegenerative diseases: a review of upstream and downstream antioxidant therapeutic options. **Current neuropharmacology** 2009; 7: 65.

Valls-Pedret C, Lamuela-Raventos RM, Medina-Remon A, Quintana M, Corella D, Pinto X, et al. Polyphenol-rich foods in the Mediterranean diet are associated with better cognitive function in elderly subjects at high cardiovascular risk. **Journal of Alzheimer's Disease** 2012; 29: 773-782.

Venketasubramanian N, Sahadevan S, Kua E, Chen C, Ng TP. Interethnic differences in dementia epidemiology: global and Asia-Pacific perspectives. **Dementia and geriatric cognitive disorders** 2011; 30: 492-498.

Vitreshchak T, Mikhailov V, Piradov M, Poleshchuk V, Stvolinskii S, Boldyrev A. Laser modification of the blood in vitro and in vivo in patients with Parkinson's disease. **Bulletin of experimental biology and medicine** 2003; 135: 430-432.

Volles MJ, Lansbury PT. Vesicle permeabilization by protofibrillar α-synuclein is sensitive to Parkinson's disease-linked mutations and occurs by a pore-like mechanism. **Biochemistry** 2002; 41: 4595-4602.

Vossius C, Larsen JP, Janvin C, Aarsland D. The economic impact of cognitive impairment in Parkinson's disease. **Movement Disorders** 2011; 26: 1541-1544.

Wang L, Huang T, Zhang W, Litscher G. Violet laser acupuncture—part 2: effects on peripheral microcirculation. **Journal of Acupuncture and Meridian Studies** 2011; 4: 24-28.

Wang S, Zhang C, Yang G, Yang Y. Biological properties of 6-gingerol: a brief review. **Natural product communications** 2014; 9: 1027-1030.

Wattanathorn J, Jittiwat J, Tongun T, Muchimapura S, Ingkaninan K. *Zingiber officinale* mitigates brain damage and improves memory impairment in focal cerebral ischemic rat. **Evidence-Based Complementary and Alternative Medicine** 2010; 2011.

Wattanathorn J, Muchimapura S, Thukham-Mee W, Ingkaninan K, Wittaya-Areekul S. *Mangifera indica* Fruit Extract Improves Memory Impairment, Cholinergic Dysfunction, and Oxidative Stress Damage in Animal Model of Mild Cognitive Impairment. **Oxidative medicine and cellular longevity** 2014; 20-14.

Whittaker P. Laser acupuncture: past, present, and future. **Lasers in medical science** 2004; 19: 69-80.

World Health Organization. **Dementia: a health public priority.** Geneva**:** Alzheimer's Disease International; 2013.

_____. A **proposed standard international acupuncture nomenclature: report of a WHO scientific group. Geneva: World Health Organization**; 1991.

Williams-Gray CH, Evans JR, Goris A, Foltynie T, Ban M, Robbins TW, et al. The distinct cognitive syndromes of Parkinson's disease: 5 year follow-up of the CamPaIGN cohort. **Brain** 2009; 132: 2958-2969.

Wolf H, Grunwald M, Kruggel F, Riedel-Heller S, Angerhöfer S, Hojjatoleslami A, et al. Hippocampal volume discriminates between normal cognition; questionable and mild dementia in the elderly. **Neurobiology of aging** 2001; 22: 177-186.

Wong FK, Lee SHW, Atcha Z, Ong ABL, Pemberton DJ, Chen W-S. Rasagiline improves learning and memory in young healthy rats. **Behavioural pharmacology** 2010; 21: 278-282.

Xu Y, Ku BS, Yao HY, Lin YH, Ma X, Zhang YH, et al. The effects of curcumin on depressive-like behaviors in mice. **European journal of pharmacology** 2005; 518: 40-46.

Yamada K, Nabeshima T. Animal models of Alzheimer's disease and evaluation of anti-dementia drugs. **Pharmacology & therapeutics** 2000; 88: 93-113.

Yeh H, Chuang C, Chen H, Wan C, Chen T, Lin L. Bioactive components analysis of two various gingers (*Zingiber officinale* Roscoe) and antioxidant effect of ginger extracts. **Food Science and Technology** 2014; 55: 329-334.

Yoon SS, Kim H, Choi K-H, Lee BH, Lee YK, Lim SC, et al. Acupuncture suppresses morphine self-administration through the GABA receptors. **Brain research bulletin** 2010; 81: 625-630.

Youdim KA, Joseph JA. A possible emerging role of phytochemicals in improving age-related neurological dysfunctions: a multiplicity of effects. **Free Radical Biology and Medicine** 2001; 30: 583-594.

Yu W, Mechawar N, Krantic S, Quirion R. Evidence for the Involvement of Apoptosis-Inducing Factor–Mediated Caspase-Independent Neuronal Death in Alzheimer Disease. **The American journal of pathology** 2010; 176: 2209-2218.

Yu YP, Ju WP, Li ZG, Wang DZ, Wang YC, Xie AM. Acupuncture inhibits oxidative stress and rotational behavior in 6-hydroxydopamine lesioned rat. **Brain research** 2010; 1336: 58-65.