



Literature Review of Supplements for ADHD

Phosphatidylserine

- **Enhanced learning and memory of normal young rats by repeated oral administration of Krill Phosphatidylserine.**

Park, H., Shim, H., Kim, K., Han, J., Kim, J., Ram Yu, A. A., & Shim, I. (2013). Enhanced learning and memory of normal young rats by repeated oral administration of Krill Phosphatidylserine. *Nutritional Neuroscience*, 16(2), 47-53.

-Using Krill Phosphatidylserine improved cognitive function in rats, better retention, learning, and memory.

- **Influence of phosphatidylserine on cognitive performance and cortical activity after induced stress.**

Baumeister, J. J., Barthel, T. T., Geiss, K. R., & Weiss, M. M. (2008). Influence of phosphatidylserine on cognitive performance and cortical activity after induced stress. *Nutritional Neuroscience*, 11(3), 103-110.

-Supports that after using phosphatidylserine for 42 days, Beta-1 activity was significantly decreased in brain before and after stress, which suggests relaxation was increased in stressful situations. Support for improved cognitive function was also found.

- **Phosphatidylserine Containing- ω -3 Fatty Acids May Improve Memory Abilities in Non-Demented Elderly with Memory Complaints: A Double-Blind Placebo-Controlled Trial**

Vakhapova, V., Cohen, T., Richter, Y., Herzog, Y., & Korczyn, A. D. (2010). Phosphatidylserine Containing ω -3 Fatty Acids May Improve Memory Abilities in Non-Demented Elderly with Memory Complaints: A Double-Blind Placebo-Controlled Trial. *Dementia & Geriatric Cognitive Disorders*, 29(5), 467-474. doi:10.1159/000310330

-Supports improvement in cognition, in elderly non-dementia patients.

L-Tyrosine

- **Psychopharmacology for the clinician: Psychopharmacologie pratique: L-Tyrosine to alleviate the effects of stress?**



Young, S. N. (2007). Psychopharmacology for the clinician: Psychopharmacologie pratique: L-Tyrosine to alleviate the effects of stress?. *Journal Of Psychiatry & Neuroscience*, 32(3),

-Helps retain healthy cognition, prevents cognitive decline in response to stress. May help improve cognitive function.

Vitamin B6 (Pyridoxine)

- **The Role of Vitamins and Minerals in Psychiatry.**

Cornish, S., & Mehl-Madrona, L. (2008). The Role of Vitamins and Minerals in Psychiatry. *Integrative Medicine Insights*, (3), 33-42

-Suggests B6 can assist with behavioral problems in autistic children, may also be used for depression, anxiety, or OCD patients. Also helped calm repetitive movements in schizophrenic patients.

- **Vitamins, Minerals, and Mood.**

Kaplan, B. J., Crawford, S. G., Field, C. J., & Simpson, J. A. (2007). Vitamins, Minerals, and Mood. *Psychological Bulletin*, 133(5), 747-760. doi:10.1037/0033-2909.133.5.747

-More support for improving symptoms of depression, also for premenstrual patients.

- **Vitamin B6 level is associated with symptoms of depression.**

Vitamin B6 level is associated with symptoms of depression. (2004). *Alternative Medicine Review*, 9(4), 453.

-Support for Vitamin B deficiency causing Depressive symptoms.

- **Your Brain on Food: A Nutrient-Rich Diet Can Protect Cognitive Health.**

Turner, J. (2011). Your Brain on Food: A Nutrient-Rich Diet Can Protect Cognitive Health. *Generations*, 35(2), 99-106.

-Lends further support for Vitamin B and the lack of it leading to learning and memory dysfunction.

Magnesium



- **Magnesium and depression: a systematic review**

Derom, M., Sayón-Orea, C., Martínez-Ortega, J., & Martínez-González, M. A. (2013). Magnesium and depression: a systematic review. *Nutritional Neuroscience*, 16(5), 191-206

-A review of several studies that show some support for magnesium intake lowering depression symptoms in depressed patients

- **Nutrient Intakes Are Correlated With Overall Psychiatric Functioning in Adults With Mood Disorders**

Davison, K. M., & Kaplan, B. J. (2012). Nutrient Intakes Are Correlated With Overall Psychiatric Functioning in Adults With Mood Disorders. *Canadian Journal Of Psychiatry*, 57(2), 85-92.

-Magnesium, as well as other nutrients, was positively correlated with better mental health.

- **Effect of magnesium chloride on psychomotor activity, emotional status, and acute behavioural responses to clonidine, d-amphetamine, arecoline, nicotine, apomorphine, and L-5-hydroxytryptophan**

Iezhitsa, I., Spasov, A., Kharitonova, M., & Kravchenko, M. (2011). Effect of magnesium chloride on psychomotor activity, emotional status, and acute behavioural responses to clonidine, d-amphetamine, arecoline, nicotine, apomorphine, and L-5-hydroxytryptophan. *Nutritional Neuroscience*, 14(1), 10-24.

-Support for Mg deficiency causing depression like symptoms in mice, adding it should reduce these behaviors when this deficiency is righted.

- **Association between magnesium intake and depression and anxiety in community-dwelling adults: the Hordaland Health Study**

Jacka, F. N., Overland, S., Stewart, R., Tell, G. S., Bjelland, I., & Mykletun, A. (2009).

Association between magnesium intake and depression and anxiety in community-dwelling adults: the Hordaland Health Study. *Australian & New Zealand Journal Of Psychiatry*, 43(1), 45-52. doi:10.1080/00048670802534408



-Supplement use study, found some support for reduction of depression symptoms, weaker support for reduction of anxiety symptoms.

- **A Systematic Review of Magnesium Therapy for Treating Attention Deficit Hyperactivity Disorder**

Ghanizadeh, A. (2013). A Systematic Review of Magnesium Therapy for Treating Attention Deficit Hyperactivity Disorder. *Archives Of Iranian Medicine (AIM)*, 16(7), 412-417.

-Supports that magnesium supplements have potential to help those with ADHD, as many children in these studies suffered from magnesium deficiency.

Vitamin E

- **Vitamin E in aging, dementia, and Alzheimer's disease**

Joshi, Y. B., & Praticò, D. (2012). Vitamin E in aging, dementia, and Alzheimer's disease. *Biofactors*, 38(2), 90-97. doi:10.1002/biof.195

-A review of several studies that has some support for Vitamin E that it increased cognitive function and reduced risk of dementia and Alzheimer's.

- **Protective effect of vitamin E against ethanol-induced hyperhomocysteinemia, DNA damage, and atrophy in the developing male rat brain**

Shirpoor, A., Salami, S., Khadem-Ansari, M., Minassian, S., & Yegiazarian, M. (2009). Protective effect of vitamin E against ethanol-induced hyperhomocysteinemia, DNA damage, and atrophy in the developing male rat brain. *Alcoholism: Clinical And Experimental Research*, 33(7), 1181-1186. doi:10.1111/j.1530-0277.2009.00941.x

-Support for cognitive repair *after alcohol damage*.

Acetyl L-carnitine

- **Acetyl- L-carnitine reduces depression and improves quality of life in patients with minimal hepatic encephalopathy.**



Malaguarnera, M., Bella, R., Vacante, M., Giordano, M., Malaguarnera, G., Gargante, M., & ... Pennisi, G. (2011). Acetyl- L-carnitine reduces depression and improves quality of life in patients with minimal hepatic encephalopathy. *Scandinavian Journal Of Gastroenterology*, 46(6), 750-759. doi:10.3109/00365521.2011.565067

-Supports improvement, after receiving this supplement twice a day, of patient energy levels, functioning, and well-being as well as general quality of life in terms of cognitive improvement.

- **Antidepressant-like effect of artemin in mice: a mechanism for acetyl- L-carnitine activity on depression**

Di Cesare Mannelli, L., Vivoli, E., Salvicchi, A., Schiavone, N., Koverech, A., Messano, M., & ... Ghelardini, C. (2011). Antidepressant-like effect of artemin in mice: a mechanism for acetyl- L-carnitine activity on depression. *Psychopharmacology*, 218(2), 347-356.

-A 7 day treatment of this supplement showed improvement in depressive symptoms in mice.

American Ginseng

Effects of American ginseng (*Panax quinquefolius*) on neurocognitive function: an acute, randomised, double-blind, placebo-controlled, crossover study

Scholey, A., Ossoukhova, A., Owen, L., Ibarra, A., Pipingas, A., He, K., & ... Stough, C. (2010). Effects of American ginseng (*Panax quinquefolius*) on neurocognitive function: an acute, randomised, double-blind, placebo-controlled, crossover study. *Psychopharmacology*, 212(3), 345-356.

-Supplementation showed improvement in calmness, mood, and cognition in healthy younger adults in terms of working memory.

American ginseng improves neurocognitive function in senescence-accelerated mice: Possible role of the upregulated insulin and choline acetyltransferase gene expression



Shi, S., Shi, R., & Hashizume, K. (2012). American ginseng improves neurocognitive function in senescence-accelerated mice: Possible role of the upregulated insulin and choline acetyltransferase gene expression. *Geriatrics & Gerontology International*, 12(1), 123-130. doi:10.1111/j.1447-0594.2011.00719.x

-Support for improved neurocognitive function, also an increase in bodyweight, as well as anti-aging effects.

Phosphatidylserine

Influence of phosphatidylserine on cognitive performance and cortical activity after induced stress

Baumeister, J. J., Barthel, T. T., Geiss, K. R., & Weiss, M. M. (2008). Influence of phosphatidylserine on cognitive performance and cortical activity after induced stress. *Nutritional Neuroscience*, 11(3), 103-110.

-After 42 days of administering Phosphatidylserine, saw an increase in Beta-1 power that is associated with increased cognitive task demands and neurophysical function.

Acute cognitive effects of standardised ginkgo biloba extract complexed with phosphatidylserine

Kennedy, D. O., Haskell, C. F., Mauri, P. L., & Scholey, A. B. (2007). Acute cognitive effects of standardised ginkgo biloba extract complexed with phosphatidylserine. *Human Psychopharmacology: Clinical And Experimental*, 22(4), 199-210. doi:10.1002/hup.837

-Some support for increased accuracy and speed of memory task performance.

Ginkgo biloba leaf extract

Multifaceted Therapeutic Benefits of Ginkgo biloba L.: Chemistry, Efficacy, Safety, and Uses

Mahadevan, S. S., & Park, Y. Y. (2008). Multifaceted Therapeutic Benefits of Ginkgo biloba L.:



Chemistry, Efficacy, Safety, and Uses. *Journal Of Food Science*, 73(1), R14-R19.
doi:10.1111/j.1750-3841.2007.00597.x

-Some support for this extract as being an effective antioxidant, which may lead to improvement of neurodegenerative diseases, cancer, geriatric complaints, and psychiatric disorders.

Coenzyme Q10

Mezawa, M., Takemoto, M., Onishi, S., Ishibashi, R., Ishikawa, T., Yamaga, M., & ... Yokote, K. (2012). The reduced form of coenzyme Q10 improves glycemic control in patients with type 2 diabetes: An open label pilot study. *Biofactors*, 38(6), 416-421.
doi:10.1002/biof.1038

-Some support for its use as an antioxidant, more of a focus on how it helps those with diabetes and other diseases less focused on childhood brain function.

L-theanine

Behavioral and molecular evidence for psychotropic effects in l-theanine

Wakabayashi, C., Numakawa, T., Ninomiya, M., Chiba, S., & Kunugi, H. (2012). Behavioral and molecular evidence for psychotropic effects in l-theanine. *Psychopharmacology*, 219(4), 1099-1109.

-Complicated neurological support for some anti-psychotic and anti-depressant effects.

The combined effects of L-theanine and caffeine on cognitive performance and mood

Owen, G. N., Parnell, H., De Bruin, E. A., & Rycroft, J. A. (2008). The combined effects of L-theanine and caffeine on cognitive performance and mood. *Nutritional Neuroscience*, 11(4), 193-198.



-L-theanine along with caffeine produces a better focus and a higher arousal and alertness. The combination of the two o produced improved speed and accuracy of attention-switching tasks, support for improvement of cognition on mentally demanding tasks.

L-theanine, a natural constituent in tea, and its effect on mental state

Nobre, A. C., Rao, A., & Owen, G. N. (2008). L-theanine, a natural constituent in tea, and its effect on mental state. *Asia Pacific Journal Of Clinical Nutrition*, 17167-168.

-This chemical, found often in tea, is given support in this study that it increases attention and focusing abilities.

The combination of L-theanine and caffeine improves cognitive performance and increases subjective alertness

Giesbrecht, T. T., Rycroft, J. A., Rowson, M. J., & De Bruin, E. A. (2010). The combination of L-theanine and caffeine improves cognitive performance and increases subjective alertness. *Nutritional Neuroscience*, 13(6), 283-290.

-Support for L-theanine and combo with caffeine that allows an increased focuses attention during a demanding cognitive task, improved accuracy with task switching, and self-reported alertness.

Psychological effects of dietary components of tea: caffeine and L-theanine

Bryan, J. (2008). Psychological effects of dietary components of tea: caffeine and L-theanine. *Nutrition Reviews*, 66(2), 82-90.

-Low doses of caffeine maintains alertness and accuracy, and L-theanine modulates caffeine effects and allows for a maintenance of the better performance of complex tasks and the ability to ignore distractions, and improved executive functions.

GABA

GABA tea helps sleep... [gamma]-aminobutyric acid



Cheng, T., & Tsai, J. (2009). GABA tea helps sleep... [gamma]-aminobutyric acid. *Journal Of Alternative & Complementary Medicine*, 15(7), 697-698. doi:10.1089/acm.2009.0023

-Support for GABA improving sleep, support for relaxation.

Taurine

Intracerebroventricular administration of taurine impairs learning and memory in rats

Ito, K., Arko, M., Kawaguchi, T., Kikusui, T., Kuwahara, M., & Tsubone, H. (2012). Intracerebroventricular administration of taurine impairs learning and memory in rats. *Nutritional Neuroscience*, 15(2), 70-77

-Support for an increased physical ability, however, a decreased learning/memory ability

Inositol

Stereotypies in Captive Primates and the Use of Inositol: Lessons from Obsessive-Compulsive Disorder in Humans

Fam, S., Tan, Y., & Waitt, C. (2012). Stereotypies in Captive Primates and the Use of Inositol: Lessons from Obsessive-Compulsive Disorder in Humans. *International Journal Of Primatology*, 33(4), 830-844. doi:10.1007/s10764-012-9613-4

-Support for assisting in OCD stereotypic tendencies, does not work in 30% of people but may assist other 60-70% who are having difficulty with treating OCD.

Ginkgo biloba

-Studies tend to support that there is actually little to no benefit to this despite how previous evidence has suggested that it does. However, this one study suggests evidence-

Natural Cognitive Enhancers

Tabassum, N., Rasool, S., Malik, Z., & Ahmad, F. (2012). Natural Cognitive Enhancers. *Journal Of*



Pharmacy Research, 5(1), 153-160.

-Suggests that Ginkgo biloba promotes metabolism of glucose, as a powerful antioxidant, and enhance transmission in brain, all allowing for enhanced performance of the brain.

Modulation of cognitive performance following single doses of 120 mg Ginkgo biloba extract administered to healthy young volunteers.

Kennedy, D. O., Jackson, P. A., Haskell, C. F., & Scholey, A. B. (2007). Modulation of cognitive performance following single doses of 120 mg Ginkgo biloba extract administered to healthy young volunteers. *Human Psychopharmacology: Clinical And Experimental*, 22(8), 559-566. doi:10.1002/hup.885

-This study confirms improvements in working memory after using this supplement, and suggests physiological effects occur in the brain that may enhance cognition as well.

Gotu Kola (Centella asiatica)

Effect of Centella asiatica on Anxiety and Oxidative stress markers and their correlation

Tripathi, A. S., Dewani, A. P., & Mohale, D. S. (2010). Effect of Centella asiatica on Anxiety and Oxidative stress markers and their correlation. *Journal Of Pharmacy Research*, 3(10), 2418-2420

-Showed support that this works as a good anxiolytic and as an antioxidant.

Flavonoid In Enhancing Memory Function

Krishnaveni, M. M. (2012). Flavonoid In Enhancing Memory Function. *Journal Of Pharmacy Research*, 5(7), 3870-3874.

-Neurological support for improved memory and learning as well as anti-aging effects.

Avena sativa

Acute effects of an Avena sativa herb extract on responses to the Stroop Color-Word test



Berry, N. M., Robinson, M. J., Bryan, J., Buckley, J. D., Murphy, K. J., & Howe, P. C. (2011). Acute effects of an *Avena sativa* herb extract on responses to the Stroop Color-Word test. *The Journal Of Alternative And Complementary Medicine*, 17(7), 635-637. doi:10.1089/acm.2010.0450

-Supplement support for increased attention, concentration, and ability to maintain task focus in adults.

Ingested Oat Herb Extract (*Avena sativa*) Changes EEG Spectral Frequencies in Healthy Subjects

Dimpfel, W., Storni, C., & Verbruggen, M. (2011). Ingested Oat Herb Extract (*Avena sativa*) Changes EEG Spectral Frequencies in Healthy Subjects. *Journal Of Alternative & Complementary Medicine*, 17(5), 427-434. doi:10.1089/acm.2010.0143

-Suggests improvement on task focus and concentration, can result in better mental fitness.

Vitamin C

Effects of high-dose B vitamin complex with vitamin C and minerals on subjective mood and performance in healthy males

Kennedy, D. O., Veasey, R., Watson, A., Dodd, F., Jones, E., Maggini, S., & Haskell, C. F. (2010). Effects of high-dose B vitamin complex with vitamin C and minerals on subjective mood and performance in healthy males. *Psychopharmacology*, 211(1), 55-68.

-Study that support improved cognition when supplemented with Vitamins B, C, and other minerals as well as improved mental health, stress, and feelings of "vigour."

Vitamin D3

Vitamin D and cognitive function



Soni, M., Kos, K., Lang, I. A., Jones, K., Melzer, D., & Llewellyn, D. J. (2012). Vitamin D and cognitive function. *Scandinavian Journal Of Clinical & Laboratory Investigation*, 7279-82. doi:10.3109/00365513.2012.681969

-Suggests that age and deficiencies of vitamin D may result in cognitive decline-which could suggest supplementation could help prevent this deficiency.

**Cognitive effects of vitamin D supplementation in older outpatients visiting a memory clinic:
A pre-post study**

Annweiler, C., Fantino, B., Gautier, J., Beaudenon, M., Thiery, S., & Beauchet, O. (2012). Cognitive effects of vitamin D supplementation in older outpatients visiting a memory clinic: A pre-post study. *Journal Of The American Geriatrics Society*, 60(4), 793-795. doi:10.1111/j.1532-5415.2011.03877.x

-Lends minimal support some improvement in executive functions after vitamin D3 supplementation.

Vitamin D, cognitive dysfunction and dementia in older adults.

Dickens, A. P., Lang, I. A., Langa, K. M., Kos, K., & Llewellyn, D. J. (2011). Vitamin D, cognitive dysfunction and dementia in older adults. *CNS Drugs*, 25(8), 629-639. doi:10.2165/11593080-000000000-00000

-Suggests keeping Vitamin D levels up can prevent dementia and cognitive decline.

Zinc

Effects of Zinc and Ferritin Levels on Parent and Teacher Reported Symptom Scores in Attention Deficit Hyperactivity Disorder

Oner, O., Oner, P., Bozkurt, O., Odabas, E., Keser, N., Karadag, H., & Kızılgün, M. (2010). Effects of Zinc and Ferritin Levels on Parent and Teacher Reported Symptom Scores in Attention Deficit Hyperactivity Disorder. *Child Psychiatry & Human Development*, 41(4), 441-447. doi:10.1007/s10578-010-0178-1



-Suggests link that low zinc levels related to higher hyperactivity, as well as anxiety.

Role of zinc in the pathogenesis of attention-deficit hyperactivity disorder: Implications for research and treatment.

Lepping, P., & Huber, M. (2010). Role of zinc in the pathogenesis of attention-deficit hyperactivity disorder: Implications for research and treatment. *CNS Drugs*, 24(9), 721-728.

-Discusses zinc receptors in the brain linked to hyperactivity and attention and how zinc supplements appeared to improve these symptoms in patients.

Nutritional and dietary influences on attention deficit hyperactivity disorder

Sinn, N. (2008). Nutritional and dietary influences on attention deficit hyperactivity disorder. *Nutrition Reviews*, 66(10), 558-568.

-Support for nutritional deficiencies causing symptoms of ADHD, with Zinc and Omega 3 fatty acids deficiencies especially causing problems.

Fish Oil

Omega-3 fatty acids in ADHD and related neurodevelopmental disorders

Richardson, A. J. (2006). Omega-3 fatty acids in ADHD and related neurodevelopmental disorders. *International Review Of Psychiatry*, 18(2), 155-172.
doi:10.1080/09540260600583031

-Some support for omega-3s alleviating ADHD symptoms, at least useful as supplementary to other treatment, although more research is needed.

The importance of omega-3 fatty acids for behaviour, cognition and mood.

Richardson, A. J. (2003). The importance of omega-3 fatty acids for behaviour, cognition and mood. *Scandinavian Journal Of Nutrition*, 47(2), 92-98



-Gives information about deficiency of omega-3s results in problems with visual, motor, attentional, and language processing. Suggests that studies show that fish oil supplementation helps alleviate ADHD and other behavioral problems.

- **Omega-3 fatty acid supplementation for the treatment of children with attention-deficit/hyperactivity disorder symptomatology: systematic review and meta-analysis**
Reading, R. (2013). Omega-3 fatty acid supplementation for the treatment of children with attention-deficit/hyperactivity disorder symptomatology: systematic review and meta-analysis. *Child: Care, Health & Development*, 39(1), 150-151. doi:10.1111/cch.12022

-Showed small but significant improvement of ADHD symptoms, especially when paired with Eicosapentaenoic acid. Enough support for its use that it could be used along with other ADHD treatments or on its own could possibly show some improvement.

- **Nutritional and dietary influences on attention deficit hyperactivity disorder.**
Sinn, N. (2008). Nutritional and dietary influences on attention deficit hyperactivity disorder. *Nutrition Reviews*, 66(10), 558-568

-Some support for controlling behavioral issues with ADHD by adjusting nutrition levels.

Vitamin B12

Vitamin B12 deficiency associated with symptoms of frontotemporal dementia

Blundo, C. C., Marin, D. D., & Ricci, M. M. (2011). Vitamin B12 deficiency associated with symptoms of frontotemporal dementia. *Neurological Sciences*, 32(1), 101-105. doi:10.1007/s10072-010-0419-x

-B12 deficiency can result in dementia or dementia like symptoms, so supplementation may help prevent this.

B vitamins and the aging brain



Selhub, J., Troen, A., & Rosenberg, I. H. (2010). B vitamins and the aging brain. *Nutrition Reviews*, 68S112-S118.

-Support for B vitamins assisting in slowing the aging process of the brain.

Bilberry

Bilberry: *Vaccinium myrtillus*

Edwards, K. (2010). Bilberry: *Vaccinium myrtillus*. *Nutritional Perspectives: Journal Of The Council On Nutrition*, 33(1), 43-44.

-Support for use as an antioxidant, may also help with vision.

Chamomile (Matricaria recutita)

Chamomile (*Matricaria recutita*) May Provide Antidepressant Activity in Anxious, Depressed Humans: An Exploratory Study.

Amsterdam, J., Shults, J., Soeller, I., Mao, J., Rockwell, K., & Newberg, A. (2012). Chamomile (*Matricaria recutita*) May Provide Antidepressant Activity in Anxious, Depressed Humans: An Exploratory Study. *Alternative Therapies In Health & Medicine*, 18(5), 44-49.

-Support for its use as an anxiolytic as well as possibly anti-depressant uses by analyzing several study results.

Lemon balm (Melissa officinalis)

Anxiolytic and antidepressant-like effects of *Melissa officinalis* (lemon balm) extract in rats: Influence of administration and gender

Taiwo, A. E., Leite, F. B., Lucena, G. M., Barros, M., Silveira, D., Silva, M. V., & Ferreira, V. M. (2012). Anxiolytic and antidepressant-like effects of *Melissa officinalis* (lemon balm)



extract in rats: Influence of administration and gender. *Indian Journal Of Pharmacology*, 44(2), 189-192. doi:10.4103/0253-7613.93846

-Study supported that lemon balm has some anxiolytic and anti-depressant effects, but there were differences dependent on gender. Female rats had more of a reaction to this than the males.

The garden pharmacy: the evidence for lemon balm

Duke, J. (2007). The garden pharmacy: the evidence for lemon balm. *Alternative & Complementary Therapies*, 13(4), 173-177.

-Lists some evidence for many different uses of lemon balm, including anxiolytics, anti-depressant, anti-stress, insomnia, and more.

Passionflower (*Passiflora incarnate*)

Efficacy and safety of a polyherbal sedative-hypnotic formulation NSF-3 in primary insomnia in comparison to zolpidem: A randomized controlled trial.

Maroo, N., Hazra, A., & Das, T. (2013). Efficacy and safety of a polyherbal sedative-hypnotic formulation NSF-3 in primary insomnia in comparison to zolpidem: A randomized controlled trial. *Indian Journal Of Pharmacology*, 45(1), 34-39. doi:10.4103/0253-7613.106432

-Study with herbal remedy that included passionflower for insomnia compared to a zolpidem, had fewer side effects, worked comparatively well, and did not have daytime sleepiness.

Passionflower in the treatment of generalized anxiety: a pilot double-blind randomized controlled trial with oxazepam

Akhondzadeh, S., Naghavi, H., Vazirian, M., Shayeganpour, A., Rashidi, H., & Khani, M. (2001). Passionflower in the treatment of generalized anxiety: a pilot double-blind randomized controlled trial with oxazepam. *Journal Of Clinical Pharmacy & Therapeutics*, 26(5), 363-367.



-Supports that passionflower worked as well as the benzodiazepine oxazepam in the treatment of GAD, but it took longer for it to take effect. However, it appeared to have an advantage in that there was less job impairment during the day.

Thamin

Neuroanatomy and Neuropathology Associated with Korsakoff's Syndrome

Kril, J., & Harper, C. (2012). Neuroanatomy and Neuropathology Associated with Korsakoff's Syndrome. *Neuropsychology Review*, 22(2), 72-80. doi:10.1007/s11065-012-9195-0

-Supports that thiamin deficiency causes neurological difficulties, but does not necessarily support the use of thiamin as a supplement for healthy people.

Folic Acid

Memory and Motor Coordination Improvement by Folic Acid Supplementation in Healthy Adult Male Rats.

Khombi Shooshtari, M., Ali Moazedi, A., & Ali Parham, G. (2012). Memory and Motor Coordination Improvement by Folic Acid Supplementation in Healthy Adult Male Rats. *Iranian Journal Of Basic Medical Sciences*, 15(6), 1173-1179.

-Memory was improved by using folic acid supplementation. Improves both short term and long term memory, although it may affect coordination at lower doses.

Huperzine A

Huperzine A activates Wnt/ β -catenin signaling and enhances the nonamyloidogenic pathway in an Alzheimer transgenic mouse model.

Wang, C., Zheng, W., Wang, T., Xie, J., Wang, S., Zhao, B., & ... Wang, Z. (2011). Huperzine A activates Wnt/ β -catenin signaling and enhances the nonamyloidogenic pathway in an Alzheimer transgenic mouse model. *Neuropsychopharmacology*, 36(5), 1073-1089. doi:10.1038/npp.2010.245



-Gives a complicated description about how nasal Huperzine A is useful as a treatment for Alzheimer's.

- **Huperzine A Provides Neuroprotection Against Several Cell Death Inducers Using in vitro Model Systems of Motor Neuron Cell Death**

Hemendinger, R. A., Armstrong III, E. J., Persinski, R., Todd, J., Mougeot, J., Volvovitz, F., & Rosenfeld, J. (2008). Huperzine A Provides Neuroprotection Against Several Cell Death Inducers Using in vitro Model Systems of Motor Neuron Cell Death. *Neurotoxicity Research*, 13(1), 49-61.

-Some support for its use as neuro-protection, such as against ALS.

- **Huperzine A for Alzheimer's Disease: A Systematic Review and Meta-Analysis of Randomized Clinical Trials**

Yang, G., Wang, Y., Tian, J., & Liu, J. (2013). Huperzine A for Alzheimer's Disease: A Systematic Review and Meta-Analysis of Randomized Clinical Trials. *Plos ONE*, 8(9), 1-8.
doi:10.1371/journal.pone.0074916

-Supported improved cognitive function compared to placebo in the treatment of Alzheimer's, was an analysis of several studies, suggested benefits but there is some uncertainty because the quality of some of the trials was iffy.

Caffeine

- **The impact of caffeine on mood, cognitive function, performance and hydration: a review of benefits and risks**

Ruxton, C. (2008). The impact of caffeine on mood, cognitive function, performance and hydration: a review of benefits and risks. *Nutrition Bulletin*, 33(1), 15-25.

-Analysis of 41 human studies, showed caffeine benefits in terms of physical endurance, cognitive function, particularly alertness and vigilance, mood and perception of fatigue. Low to moderate caffeine intake did not appear to suffer many risks of side effects such as dehydration or anxiety.

- **Caffeine, cognitive failures and health in a non-working community sample**



Smith, A. P. (2009). Caffeine, cognitive failures and health in a non-working community sample. *Human Psychopharmacology: Clinical & Experimental*, 24(1), 29-34. doi:10.1002/hup.991

-Support for improved cognitive function, and a reported lessening of “mistakes” or “cognitive failures.” Appeared to also have improvements for angina and clinical depression.

- **Caffeine reverses cognitive impairment and decreases brain amyloid-beta levels in aged Alzheimer's disease mice**

Arendash, G., Mori, T., Cao, C., Mamcarz, M., Runfeldt, M., Dickson, A., & ... Potter, H. (2009). Caffeine reverses cognitive impairment and decreases brain amyloid-beta levels in aged Alzheimer's disease mice. *Journal Of Alzheimer's Disease*, 17(3), 661-680. doi:10.3233/JAD-2009-1087

-Complicated neurological explanation of how caffeine potentially improved cognition in those with established cases of AD.

- **Caffeine as a Protective Factor in Dementia and Alzheimer's Disease.**

Eskelinen, M. H., & Kivipelto, M. (2010). Caffeine as a Protective Factor in Dementia and Alzheimer's Disease. *Journal Of Alzheimer's Disease*, 20167-174. doi:10.3233/JAD-2010-1404

-Supports caffeine, especially in coffee, as improving cognition for those with Alzheimer's or dementia. This may also occur because of the antioxidant capacity and increased insulin sensitivity.

- **Is caffeine a cognitive enhancer?**

Nehlig, A. (2010). Is caffeine a cognitive enhancer?. *Journal Of Alzheimer's Disease*, 2085-94. doi:10.3233/JAD-2010-091315

-A more critical approach to caffeine intake, although has some support for short term memory retention, but at high doses creates anxiety, and it appears to improve cognitive performance when information is presented passively rather than approached intentionally.



- **Caffeine, Mental Health, and Psychiatric Disorders.**

Lara, D. R. (2010). Caffeine, Mental Health, and Psychiatric Disorders. *Journal Of Alzheimer's Disease*, 20239-248. doi:10.3233/JAD-2010-1378

-Examines the benefits and risks of caffeine use, such as improved cognition, alertness, and attention, with moderate amounts decreasing depressive symptoms, but the risks could be anxiety or in rare cases panic or manic attacks.

Piracetam

- **Piracetam reverses haloperidol-induced catalepsy in mice.**

SALAM, O., & NADA, S. (2011). Piracetam reverses haloperidol-induced catalepsy in mice. *Turkish Journal Of Medical Sciences*, 41(4), 693-699. doi:10.3906/sag-1006-870

-Supports that piracetam improves memory and cognitive performance and increases blood flow and membrane fluidity and may restore GABA receptors.