

# Protecting Your Brain from Stress

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## References\*

\*Many of the listed references are review articles, so many of the primary references were not directly cited in this paper.

1. Peters A, Mcewen BS, Friston K. Uncertainty and stress: Why it causes diseases and how it is mastered by the brain. *Progress in Neurobiology*. 2017;156:164-188. doi:10.1016/j.pneurobio.2017.05.004
2. Sterling P, Eyer J. Allostasis: A new paradigm to explain arousal pathology. In: Fisher S, Reason J, eds. *Handbook of Life Stress, Cognition and Health*. New York, NY: John Wiley & Sons; 1988;629-649.
3. Mcewen BS. Stress, adaptation, and disease: Allostasis and allostatic load. *Annals of the New York Academy of Sciences*. 1998;840(1):33-44. doi:10.1111/j.1749-6632.1998.tb09546.x
4. Schetter CD, Dolbier C. Resilience in the Context of Chronic Stress and Health in Adults. *Social and Personality Psychology Compass*. 2011;5(9):634-652. doi:10.1111/j.1751-9004.2011.00379.x
5. Mah L, Szabuniewicz C, Fiocco AJ. Can anxiety damage the brain?. *Current Opinion in Psychiatry*. 2016;29(1):56-63. doi:10.1097/YCO.0000000000000223
6. Mcewen BS, Stellar E. Stress and the individual. Mechanisms leading to disease. *Archives of Internal Medicine*. 1993;153(18):2093-2101. doi:10.1001/archinte.153.18.2093
7. Mcewen BS, Getz L. Lifetime experiences, the brain and personalized medicine: An integrative perspective. *Metabolism*. 2013;62. doi:10.1016/j.metabol.2012.08.02
8. Mcewen BS, Gianaros PJ. Stress- and allostasis-induced brain plasticity. *Annual Review of Medicine*. 2011;62(1):431-445. doi:10.1146/annurev-med-052209-100430
9. Stahl SM. Psychotherapy as an epigenetic 'drug': Psychiatric therapeutics target symptoms linked to malfunctioning brain circuits with psychotherapy as well as with drugs. *Journal of Clinical Pharmacy and Therapeutics*. 2012;37:249-253. doi: 10.1111/j.1365-2710.2011.01301.x
10. Albert PR, Vahid-Ansari F, Luckhart C. Serotonin-prefrontal cortical circuitry in anxiety and depression phenotypes: pivotal role of pre- and post-synaptic 5-HT1A receptor expression. *Frontiers in Behavioral Neuroscience*. 2014;8. doi:10.3389/fnbeh.2014.00199
11. Harmer CJ, Duman RS, Cowen PJ. How do antidepressants work? New perspectives for refining future treatment approaches. *The Lancet Psychiatry*. 2017;4(5):409-418. doi:10.1016/s2215-0366(17)30015-9



## Protecting Your Brain from Stress - REFERENCES

12. Frizzo ME. Can a selective serotonin reuptake inhibitor act as a glutamatergic modulator? *Current Therapeutic Research, Clinical and Experimental*. 2017;87:9-12. doi:10.1016/j.curtheres.2017.07.001
13. Birdsall TC. 5-Hydroxytryptophan: a clinically-effective serotonin precursor. *Alternative Medicine Review*. 1998;3(4):271-280. Available at: <http://archive.foundationalmedicinereview.com/publications/3/4/271.pdf>. Accessed July 27, 2020.
14. Jangid P, Malik P, Singh P, et al. Comparative study of efficacy of L-5-hydroxytryptophan and fluoxetine in patients presenting with first depressive episode. *Asian Journal of Psychiatry*. 2013;6(1):29-34. doi: 10.1016/j.ajp.2012.05.011
15. Veronese N, Stubbs B, Solmi M, et al. Acetyl-L-Carnitine supplementation and the treatment of depressive symptoms: A systematic review and meta-analysis. *Psychosomatic Medicine*. 2018;80(2):154-159. doi:10.1097/PSY.0000000000000537
16. Nasca C, Bigio B, Lee FS, et al. Acetyl-L-carnitine deficiency in patients with major depressive disorder. *Proceedings of the National Academy of Sciences*. 2018;115(34):8627-8632. doi:10.1073/pnas.1801609115
17. Amsterdam JD, Shults J, Soeller I, et al. Chamomile (*Matricaria recutita*) may provide antidepressant activity in anxious, depressed humans: An exploratory study. *Alternative therapies in Health and Medicine*. 2012;18(5):44-49. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3600408/pdf/nihms-438913.pdf>. Accessed July 23, 2020.
18. Amsterdam JD, Li QS, Xie SX, et al. Putative antidepressant effect of chamomile (*Matricaria chamomilla* L.) oral extract in subjects with comorbid generalized anxiety disorder and depression. *The Journal of Alternative and Complementary Medicine*. 2019 [Online ahead of print]. doi:10.1089/acm.2019.0252
19. Sanmukhani J, Satodia V, Trivedi J, et al. Efficacy and safety of curcumin in major depressive disorder: A randomized controlled trial. *Phytotherapy Research*. 2013;28(4):579-585. doi: 10.1002/ptr.5025



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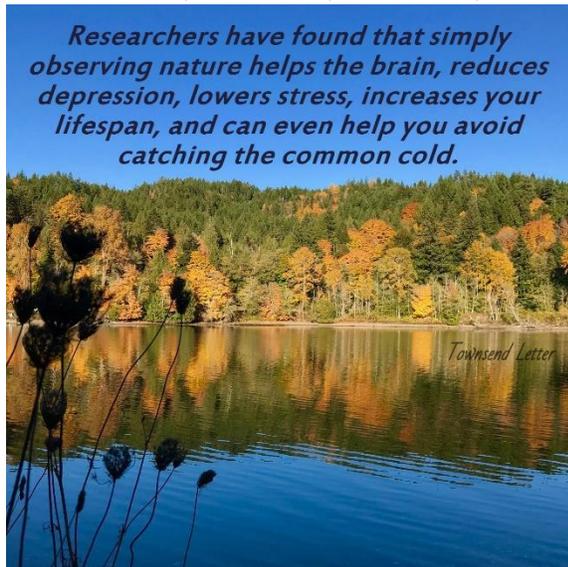
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## Protecting Your Brain from Stress - REFERENCES

20. Al-Karawi D, Mamoori DA, Tayyar Y. The role of curcumin administration in patients with major depressive disorder: Mini meta-analysis of clinical trials. *Phytotherapy Research*. 2015;30(2):175-183. doi: 10.1002/ptr.5524
21. Bangratz M, Ait Abdellah S, Berlin A, et al. A preliminary assessment of a combination of rhodiola and saffron in the management of mild-moderate depression. *Neuropsychiatric Disease and Treatment*. 2018;14:1821-1829. doi:10.2147/NDT.S169575
22. Mao JJ, Xie SX, Zee J, et al. Rhodiola rosea versus sertraline for major depressive disorder: A randomized placebo-controlled trial. *Phytomedicine*. 2015;22(3):394-399. doi:10.1016/j.phymed.2015.01.010
23. Darbinyan V, Aslanyan G, Amroyan E, et al. Clinical trial of Rhodiola rosea L. extract SHR-5 in the treatment of mild to moderate depression. *Nordic Journal of Psychiatry*. 2007;61(5):343-348. doi: 10.1080/08039480701643290
24. Yang X, Chen X, Fu Y, et al. Comparative efficacy and safety of *Crocus sativus* L. for treating mild to moderate major depressive disorder in adults: A meta-analysis of randomized controlled trials. *Neuropsychiatric Disease and Treatment*. 2018;14:1297-1305. doi:10.2147/NDT.S157550
25. Alpert JE, Papakostas G, Mischoulon D, et al. S-Adenosyl-L-Methionine (SAME) as an Adjunct for Resistant Major Depressive Disorder. *Journal of Clinical Psychopharmacology*. 2004;24(6):661-664. doi:10.1097/01.jcp.0000145339.45794.cd
26. Sarris J, Papakostas GI, Vitolo O, et al. S-adenosylmethionine (SAME) versus escitalopram and placebo in major depression RCT: Efficacy and effects of histamine and carnitine as moderators of response. *Journal of Affective Disorders*. 2014;164:76-81. doi: 10.1016/j.jad.2014.03.041
27. Angheliescu I, Kohnen R, Szegedi A, et al. Comparison of Hypericum Extract WS<sup>®</sup> 5570 and paroxetine in ongoing treatment after recovery from an episode of moderate to severe depression: Results from a randomized multicenter study. *Pharmacopsychiatry*. 2006;39(6):213-219. doi: 10.1055/s-2006-951388
28. Szegedi A, Kohnen R, Dienel A, et al. Acute treatment of moderate to severe depression with hypericum extract WS 5570 (St. John's wort): Randomized controlled double blind non-inferiority trial versus paroxetine. *British Medical Journal*. 2005;330(7490):503. doi: 10.1136/bmj.38356.655266.82
29. Hidese S, Ota M, Wakabayashi C, et al. Effects of chronic l-theanine administration in patients with major depressive disorder: An open-label study. *Acta Neuropsychiatrica*. 2017;29(2):72-79. doi:10.1017/neu.2016.33



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## Protecting Your Brain from Stress - REFERENCES

30. Lopes Sakamoto F, Metzker Pereira Ribeiro R, Amador Bueno A, et al. Psychotropic effects of L-theanine and its clinical properties: From the management of anxiety and stress to a potential use in schizophrenia. *Pharmacological Research*. 2019;147:104395. doi:10.1016/j.phrs.2019.104395
31. Preskorn SH. A way of conceptualizing benzodiazepines to guide clinical use. *Journal of Psychiatric Practice*. 2015;21(6):436-441. doi:10.1097/PRA.0000000000000114
32. Heberlein A, Bleich S, Kornhuber J, et al. Neuroendocrine pathways in benzodiazepine dependence: new targets for research and therapy. *Human Psychopharmacology*. 2008;23(3):171-181. doi:10.1002/hup.911
33. Babaev O, Piletti Chatain C, Krueger-Burg D. Inhibition in the amygdala anxiety circuitry. *Experimental & Molecular Medicine*. 2018;50(4):18. doi:10.1038/s12276-018-0063-8
34. Pittman CM. *Rewire Your Anxious Brain*. Oakland, CA: New Harbinger Publications. Kindle Edition. 2015.
35. Cooley K, Szczurko O, Perri D, et al. Naturopathic care for anxiety: A randomized controlled trial ISRCTN78958974. *PLoS One*. 2009;4(8):e6628. doi:10.1371/journal.pone.0006628
36. Chandrasekhar K, Kapoor J, Anishetty S. A prospective, randomized double-blind, placebo-controlled study of safety and efficacy of a high-concentration full-spectrum extract of ashwagandha root in reducing stress and anxiety in adults. *Indian Journal of Psychological Medicine*. 2012;34(3):255-262. doi:10.4103/0253-7176.106022
37. Jahanbakhsh SP, Manteghi AA, Emami SA, et al. Evaluation of the efficacy of *Withania somnifera* (Ashwagandha) root extract in patients with obsessive-compulsive disorder: A randomized double-blind placebo-controlled trial. *Complementary Therapies in Medicine*. 2016;27:25-29. doi:10.1016/j.ctim.2016.03.018
38. Salve J, Pate S, Debnath K, Langade D. Adaptogenic and anxiolytic effects of Ashwagandha root extract in healthy adults: A double-blind, randomized, placebo-controlled clinical study. *Cureus*. 2019;11(12):e6466. doi:10.7759/cureus.6466

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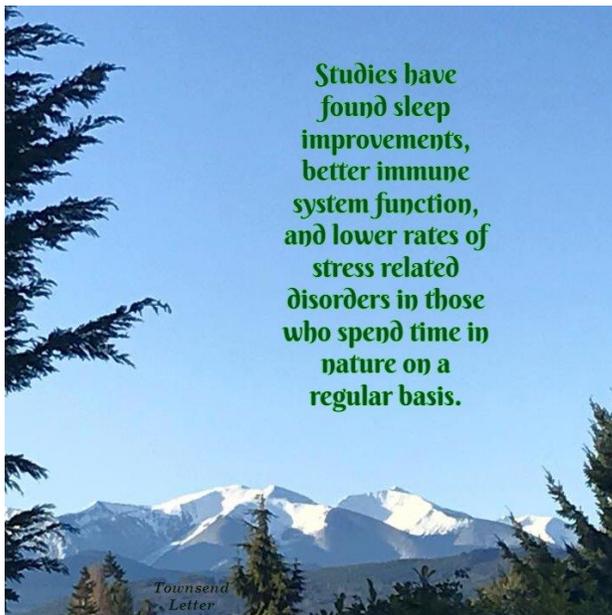
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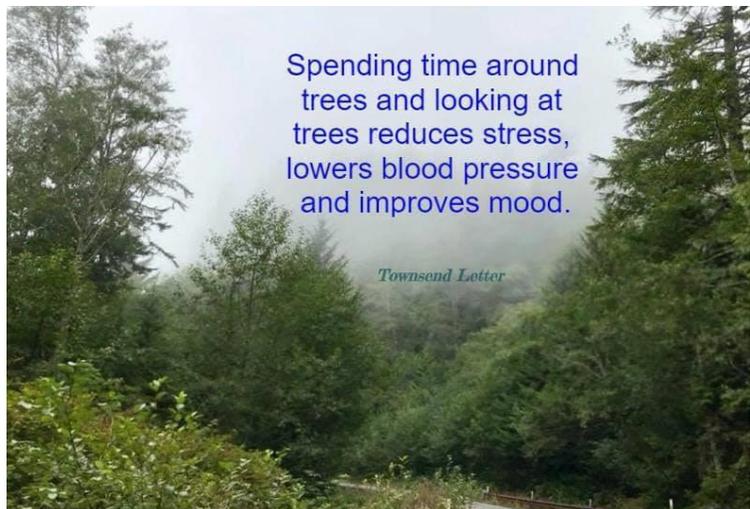
39. Rucklidge JJ, Kaplan BJ. Broad-spectrum micronutrient formulas for the treatment of psychiatric symptoms: a systematic review. *Expert Review of Neurotherapeutics*. 2013;13(1):49-73. doi:10.1586/ern.12.143
40. Kaplan BJ, Rucklidge JJ, Romijn AR, Dolph M. A randomised trial of nutrient supplements to minimise psychological stress after a natural disaster. *Psychiatry Research*. 2015;228(3):373-379. doi:10.1016/j.psychres.2015.05.080
41. Kimball SM, Mirhosseini N, Rucklidge J. Database analysis of depression and anxiety in a community sample-response to a micronutrient intervention. *Nutrients*. 2018;10(2):152. Published 2018 Jan 30. doi:10.3390/nu10020152



42. Keefe JR, Mao JJ, Soeller I, Li QS, Amsterdam JD. Short-term open-label chamomile (*Matricaria chamomilla* L.) therapy of moderate to severe generalized anxiety disorder. *Phytomedicine*. 2016;23(14):1699-1705. doi:10.1016/j.phymed.2016.10.013
43. Mao JJ, Xie SX, Keefe JR, Soeller I, Li QS, Amsterdam JD. Long-term chamomile (*Matricaria chamomilla* L.) treatment for generalized anxiety disorder: A randomized clinical trial. *Phytomedicine*. 2016;23(14):1735-1742. doi:10.1016/j.phymed.2016.10.012
44. Hieu TH, Dibas M, Surya Dila KA, et al. Therapeutic efficacy and safety of chamomile for state anxiety, generalized anxiety disorder, insomnia, and sleep quality: A systematic review and meta-analysis of randomized trials and quasi-randomized trials. *Phytotherapy Research*. 2019;33(6):1604-1615. doi:10.1002/ptr.6349
45. Bhattacharyya D, Sur TK, Jana U, Debnath PK. Controlled programmed trial of *Ocimum sanctum* leaf on generalized anxiety disorders. *Nepal Medical College Journal*. 2008;10(3):176-179.
46. Saxena RC, Singh R, Kumar P, et al. Efficacy of an Extract of *ocimum tenuiflorum* (OciBest) in the management of general stress: A double-blind, placebo-controlled study. *Evidenced-Based Complementary and Alternative Medicine*. 2012;2012:894509. doi:10.1155/2012/894509
47. Woelk H, Schläfke S. A multi-center, double-blind, randomised study of the lavender oil preparation Silexan in comparison to Lorazepam for generalized anxiety disorder. *Phytomedicine*. 2010;17(2):94-99. doi:10.1016/j.phymed.2009.10.006
48. Kasper S, Gastpar M, Müller WE, et al. Lavender oil preparation silexan is effective in generalized anxiety disorder--a randomized, double-blind comparison to placebo and paroxetine. *International Journal of Neuropsychopharmacology*. 2014;17(6):859-869. doi:10.1017/S1461145714000017

## Protecting Your Brain from Stress - REFERENCES

49. Gastpar M, Müller WE, Volz HP, et al. Silexan does not cause withdrawal symptoms even when abruptly discontinued. *International Journal of Psychiatry in Clinical Practice*. 2017;21(3):177-180. doi:10.1080/13651501.2017.1301488
50. Möller HJ, Volz HP, Dienel A, et al. Efficacy of silexan in subthreshold anxiety: meta-analysis of randomised, placebo-controlled trials. *European Archives of Psychiatry and Clinical Neuroscience*. 2019;269(2):183-193. doi:10.1007/s00406-017-0852-4
51. Prousky J. Niacinamide's potent role in alleviating anxiety with its benzodiazepine-like properties: a case report. *Journal of Orthomolecular Medicine*. 2004;19(2):104-110. Available at: [https://isom.ca/wp-content/uploads/2020/01/JOM\\_2004\\_19\\_2\\_06\\_Niacinamide%E2%80%99s\\_Potent\\_Role\\_in\\_Alleviating\\_Anxiety-.pdf](https://isom.ca/wp-content/uploads/2020/01/JOM_2004_19_2_06_Niacinamide%E2%80%99s_Potent_Role_in_Alleviating_Anxiety-.pdf). Accessed July 26, 2020.
52. Prousky J. Supplemental niacinamide mitigates anxiety symptoms: report of three cases. *Journal of Orthomolecular Medicine*, 2005;20(3):167-178. Available at: [https://isom.ca/wp-content/uploads/2020/02/JOM\\_2005\\_20\\_3\\_02\\_Supplemental\\_Niacinamide\\_Mitigates\\_Anxiety\\_Symptoms-.pdf](https://isom.ca/wp-content/uploads/2020/02/JOM_2005_20_3_02_Supplemental_Niacinamide_Mitigates_Anxiety_Symptoms-.pdf). Accessed July 26, 2020.
53. Nojumi M, Ghaeli P, Salimi S, et al. Effects of passion flower extract, as an add-on treatment to sertraline, on reaction time in patients with generalized anxiety disorder: A double-blind placebo-controlled study. *Iran Journal of Psychiatry*. 2016;11(3):191-197. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5139955/pdf/IJPS-11-191.pdf>. Accessed July 26, 2020.
54. Gibbert J, Kreimendahl F, Lebert J, et al. Improvement of stress resistance and quality of life of adults with nervous restlessness after treatment with a passion flower dry extract. *Complementary Medicine Research*. 2017;24(2):83-89. doi:10.1159/000464342. Available at: <https://www.karger.com/Article/Pdf/464342>. Accessed July 26, 2020.
55. Bystritsky A, Kerwin L, Feusner JD. A pilot study of rhodiola rosea (Rhodax) for generalized anxiety disorder (GAD). *Journal of Alternative and Complementary Medicine*. 2008;14(2):175-180. doi:10.1089/acm.2007.7117
56. Olsson EM, von Schéele B, Panossian AG. A randomised, double-blind, placebo-controlled, parallel-group study of the standardised extract shr-5 of the roots of *Rhodiola rosea* in the treatment of subjects with stress-related fatigue. *Planta Medica*. 2009;75(2):105-112. doi:10.1055/s-0028-1088346



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## Protecting Your Brain from Stress - REFERENCES

57. Kasper S, Dienel A. Multicenter, open-label, exploratory clinical trial with *rhodiola rosea* extract in patients suffering from burnout symptoms. *Neuropsychiatric Disease and Treatment*. 2017;13:889-898. doi:10.2147/NDT.S120113
58. Andreatini R, Sartori VA, Seabra ML, et al. Effect of valepotriates (valerian extract) in generalized anxiety disorder: A randomized placebo-controlled pilot study. *Phytotherapy Research*. 2002;16(7):650-654. doi:10.1002/ptr.1027
59. Müller D, Pfeil T, von den Driesch V. Treating depression comorbid with anxiety--results of an open, practice-oriented study with St John's wort WS 5572 and valerian extract in high doses. *Phytomedicine*. 2003;10 Suppl 4:25-30. doi:10.1078/1433-187x-00305
60. Pakseresht S, Boostani H, Sayyah M. Extract of valerian root (*Valeriana officinalis* L.) vs. placebo in treatment of obsessive-compulsive disorder: A randomized double-blind study. *Journal of Complementary and Integrative Medicine*. 2011;8(1). doi:10.2202/1553-3840.1465



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61. Roh D, Jung JH, Yoon KH, et al. Valerian extract alters functional brain connectivity: A randomized double-blind placebo-controlled trial. *Phytotherapy Research*. 2019;33(4):939-948. doi:10.1002/ptr.6286
62. Ritsner MS, Miodownik C, Ratner Y, et al. L-theanine relieves positive, activation, and anxiety symptoms in patients with schizophrenia and schizoaffective disorder: An 8-week, randomized, double-blind, placebo-controlled, 2-center study. *Journal of Clinical Psychiatry*. 2011;72(1):34-42. doi:10.4088/JCP.09m05324gre
63. Hidese S, Ogawa S, Ota M, et al. Effects of L-theanine administration on stress-related symptoms and cognitive functions in healthy adults: A randomized controlled trial. *Nutrients*. 2019;11(10):2362. doi:10.3390/nu11102362
64. Lopes Sakamoto F, Metzker Pereira Ribeiro R, Amador Bueno A, Oliveira Santos H. Psychotropic effects of L-theanine and its clinical properties: From the management of anxiety and stress to a potential use in schizophrenia. *Pharmacological Research*. 2019;147:104395. doi:10.1016/j.phrs.2019.104395
65. Yin J, Xing H, Ye J. Efficacy of berberine in patients with type 2 diabetes mellitus. *Metabolism*. 2008;57(5):712-717. doi:10.1016/j.metabol.2008.01.013

## Protecting Your Brain from Stress - REFERENCES

66. Dong H, Wang N, Zhao L, et al. Berberine in the treatment of type 2 diabetes mellitus: a systematic review and meta-analysis. *Evidence-Based Complementary and Alternative Medicine*. 2012; 2012:591654. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3478874/pdf/ECAM2012-591654.pdf>. Accessed July 26, 2020.
67. Koppen LM, Whitaker A, Rosene A, et al. Efficacy of berberine alone and in combination for the treatment of hyperlipidemia: A systematic review. *Journal of Evidence-Based Complementary & Alternative Medicine*. 2017;22(4):956-968. doi:10.1177/2156587216687695
68. Ju J, Li J, Lin Q, Xu H. Efficacy and safety of berberine for dyslipidaemias: A systematic review and meta-analysis of randomized clinical trials. *Phytomedicine*. 2018;50:25-34. doi:10.1016/j.phymed.2018.09.212
69. Tizabi Y, Hurley LL, Qualls Z, Akinfiresoye L. Relevance of the anti-inflammatory properties of curcumin in neurodegenerative diseases and depression. *Molecules*. 2014;19(12):20864-20879. doi:10.3390/molecules191220864
70. Nabavi SF, Thiagarajan R, Rastrelli L, et al. Curcumin: a natural product for diabetes and its complications. *Current Topics in Medicinal Chemistry*. 2015;15(23):2445-2455. doi:10.2174/1568026615666150619142519
71. Daily JW, Yang M, Park S. Efficacy of turmeric extracts and curcumin for alleviating the symptoms of joint arthritis: A systematic review and meta-analysis of randomized clinical trials. *Journal of Medicinal Food*. 2016;19(8):717-729. doi:10.1089/jmf.2016.3705
72. Parsamanesh N, Moossavi M, Bahrami A, Butler AE, Sahebkar A. Therapeutic potential of curcumin in diabetic complications. *Pharmacological Research*. 2018;136:181-193. doi:10.1016/j.phrs.2018.09.012
73. Saraf-Bank S, Ahmadi A, Paknahad Z, Maracy M, Nourian M. Effects of curcumin supplementation on markers of inflammation and oxidative stress among healthy overweight and obese girl adolescents: A randomized placebo-controlled clinical trial. *Phytotherapy Research*. 2019;33(8):2015-2022. doi:10.1002/ptr.6370

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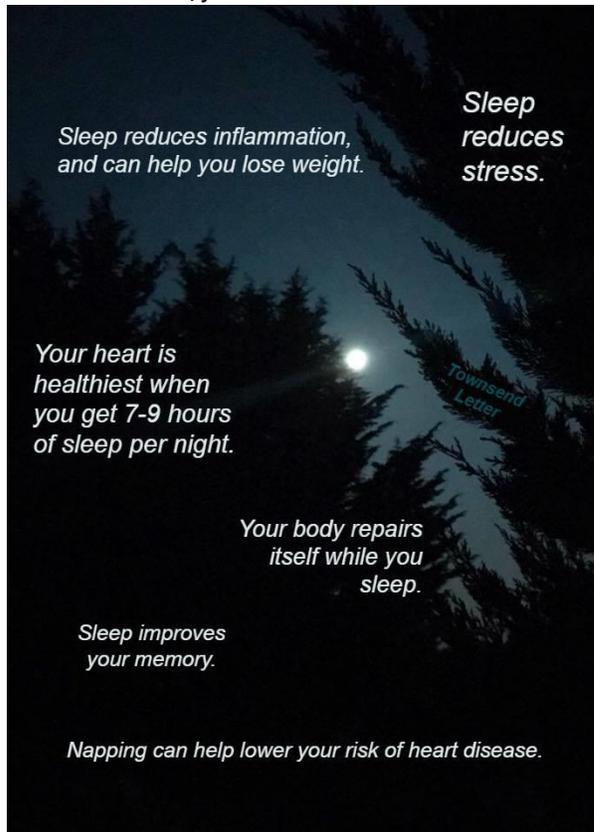
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## Protecting Your Brain from Stress - REFERENCES

74. Rumberger JA, Napolitano J, Azumano I, et al. Pantethine, a derivative of vitamin B(5) used as a nutritional supplement, favorably alters low-density lipoprotein cholesterol metabolism in low-to moderate-cardiovascular risk North American subjects: a triple-blinded placebo and diet-controlled investigation. *Nutrition Research*. 2011;31(8):608-615. doi:10.1016/j.nutres.2011.08.001



75. Evans M, Rumberger JA, Azumano I, Napolitano JJ, Citrolo D, Kamiya T. Pantethine, a derivative of vitamin B5, favorably alters total, LDL and non-HDL cholesterol in low to moderate cardiovascular risk subjects eligible for statin therapy: a triple-blinded placebo and diet-controlled investigation. *Vascular Health and Risk Management*. 2014;10:89-100. doi:10.2147/VHRM.S57116

76. Gatti A, Lazzari M, Gianfelice V, Di Paolo A, Sabato E, Sabato AF. Palmitoylethanolamide in the treatment of chronic pain caused by different etiopathogenesis. *Pain Medicine*. 2012;13(9):1121-1130. doi:10.1111/j.1526-4637.2012.01432.x

77. Gabrielsson L, Mattsson S, Fowler CJ. Palmitoylethanolamide for the treatment of pain: Pharmacokinetics, safety and efficacy. *British Journal of Clinical Pharmacology*. 2016;82(4):932-942. doi:10.1111/bcp.13020

78. Artukoglu BB, Beyer C, Zulloff-Shani A, et al. Efficacy of palmitoylethanolamide for pain: A meta-analysis. *Pain Physician*. 2017;20(5):353-362. Available at: <https://www.painphysicianjournal.com/current/pdf?article=NDUwMg%3D%3D&journal=106>. Accessed July 26, 2020.

79. Rauf A, Imran M, Suleria HAR, Ahmad B, Peters DG, Mubarak MS. A comprehensive review of the health perspectives of resveratrol. *Food & Function*. 2017;8(12):4284-4305. doi:10.1039/c7fo01300k

80. Korsholm AS, Kjær TN, Ornstrup MJ, Pedersen SB. Comprehensive metabolomic analysis in blood, urine, fat, and muscle in men with metabolic syndrome: A randomized, placebo-controlled clinical trial on the effects of resveratrol after four months' treatment. *International Journal of Molecular Sciences*. 2017;18(3):554. doi:10.3390/ijms18030554

81. Ramírez-Garza SL, Laveriano-Santos EP, Marhuenda-Muñoz M, et al. Health Effects of resveratrol: Results from human intervention trials. *Nutrients*. 2018;10(12):1892. doi:10.3390/nu10121892

## Protecting Your Brain from Stress - REFERENCES

82. Kulashekar M, Stom SM, Peuler JD. Resveratrol's potential in the adjunctive management of cardiovascular disease, obesity, diabetes, Alzheimer disease, and cancer. *Journal of the American Osteopathic Association*. 2018;118(9):596-605. doi:10.7556/jaoa.2018.133
83. Zaman R, Hankir A, Jemni M. Lifestyle factors and mental health. *Psychiatria Danubina*. 2019;31(Suppl 3):217-220. Available at: [http://www.psychiatria-danubina.com/UserDocsImages/pdf/dnb\\_vol31\\_noSuppl%203/dnb\\_vol31\\_noSuppl%203\\_217.pdf](http://www.psychiatria-danubina.com/UserDocsImages/pdf/dnb_vol31_noSuppl%203/dnb_vol31_noSuppl%203_217.pdf). Accessed July 27, 2020.
84. Al-Dayyat HM, Rayyan YM, Tayyem RF. Non-alcoholic fatty liver disease and associated dietary and lifestyle risk factors. *Diabetes & Metabolic Syndrome*. 2018;12(4):569-575. doi:10.1016/j.dsx.2018.03.016
85. Dutheil S, Ota KT, Wohleb ES, Rasmussen K, Duman RS. High-fat diet induced anxiety and anhedonia: Impact on brain homeostasis and inflammation. *Neuropsychopharmacology*. 2016;41(7):1874-1887. doi:10.1038/npp.2015.357
86. Ramón-Arbués E, Martínez Abadía B, Granada López JM, et al. Conducta alimentaria y su relación con el estrés, la ansiedad, la depresión y el insomnio en estudiantes universitarios [Eating behavior and relationships with stress, anxiety, depression and insomnia in university students.]. *Nutrición Hospitalaria*. 2019;36(6):1339-1345. doi:10.20960/nh.02641
87. Jacka FN, O'Neil A, Opie R, et al. A randomised controlled trial of dietary improvement for adults with major depression (the 'SMILES' trial) [published correction appears in *BMC Med*. 2018 Dec 28;16(1):236]. *BMC Med*. 2017;15(1):23. doi:10.1186/s12916-017-0791-y
88. Crichton GE, Bryan J, Hodgson JM, et al. Mediterranean diet adherence and self-reported psychological functioning in an Australian sample. *Appetite*. 2013;70:53-59. doi:10.1016/j.appet.2013.06.088
89. Radd-Vagenas S, Duffy SL, Naismith SL, et al. Effect of the Mediterranean diet on cognition and brain morphology and function: A systematic review of randomized controlled trials. *The American Journal of Clinical Nutrition*. 2018;107(3):389-404. doi:10.1093/ajcn/nqx070

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## Protecting Your Brain from Stress - REFERENCES

90. Loughrey DG, Lavecchia S, Brennan S, et al. The impact of the Mediterranean diet on the cognitive functioning of healthy older adults: A systematic review and meta-analysis. *Advances in Nutrition*. 2017;8(4):571-586. doi:10.3945/an.117.015495



91. Alexandratos K, Barnett F, Thomas Y. The impact of exercise on the mental health and quality of life of people with severe mental illness: A critical review. *The British Journal of Occupational Therapy*. 2012;75(2):48–60. doi: 10.4276/030802212X13286281650956

92. Rahman MZ, El Werfalli R, Lehmann-Waldau F. Current evidence and use of physical activity in the treatment of mental illness: A literature review. *Deutsche Zeitschrift für Sportmedizin*. 2017;68:93-100. doi:10.5960/dzsm.2017.279. Available at:

[https://www.germanjournalsportsmedicine.com/fileadmin/content/archiv2017/Heft\\_4/Review\\_Rahman\\_Physical\\_Activity\\_Treatment\\_Mental\\_Illness\\_2017-04.pdf](https://www.germanjournalsportsmedicine.com/fileadmin/content/archiv2017/Heft_4/Review_Rahman_Physical_Activity_Treatment_Mental_Illness_2017-04.pdf). Accessed July 28, 2020.

93. Erickson KI, Voss MW, Prakash RS, et al. Exercise training increases size of hippocampus and improves memory. *Proceedings of the National Academy of Sciences of the United States of America*. 2011;108(7):3017-3022. doi:10.1073/pnas.1015950108

94. Bratman GN, Anderson CB, Berman MG, et al. Nature and mental health: An ecosystem service perspective. *Science Advances*. 2019;5(7):eaax0903. doi:10.1126/sciadv.aax0903

95. Stenfors CUD, Van Hedger SC, Schertz KE, et al. Positive effects of nature on cognitive performance across multiple experiments: Test order but not affect modulates the cognitive effects [published correction appears in *Frontiers in Psychology*. 2019 Oct 17;10:2242]. *Frontiers in Psychology*. 2019;10:1413. doi:10.3389/fpsyg.2019.01413

96. Capaldi CA, Passmore H-A, Nisbet EK, et al. Flourishing in nature: A review of the benefits of connecting with nature and its application as a wellbeing intervention. *International Journal of Wellbeing*. 2015;5(4):1-16. doi:10.5502/ijw.v5i4.449

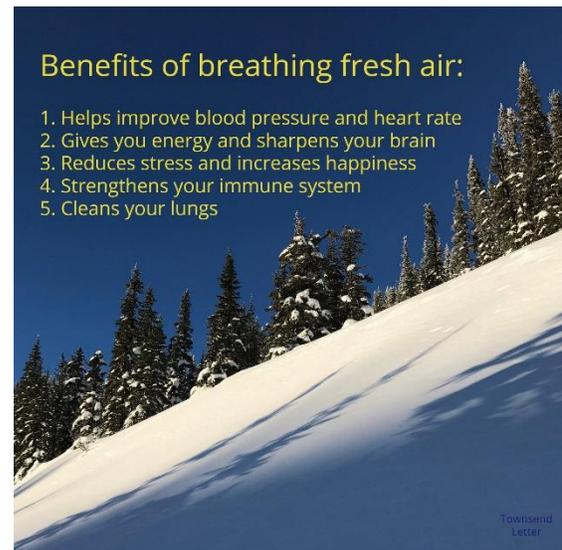
97. Zeidan F, Martucci KT, Kraft RA, et al. Neural correlates of mindfulness meditation-related anxiety relief. *Social Cognitive and Affective Neuroscience*. 2014;9(6):751-759. doi:10.1093/scan/nst041

98. Yang CC, Barrós-Loscertales A, Pinazo D, et al. State and training effects of mindfulness meditation on brain networks reflect neuronal mechanisms of its antidepressant effect. *Neural Plasticity*. 2016;2016:9504642. doi:10.1155/2016/9504642

99. Kral TRA, Schuyler BS, Mumford JA, et al. Impact of short- and long-term mindfulness meditation training on amygdala reactivity to emotional stimuli. *Neuroimage*. 2018;181:301-313. doi:10.1016/j.neuroimage.2018.07.013

## Protecting Your Brain from Stress - REFERENCES

100. Pascoe MC, Thompson DR, Jenkins ZM, et al. Mindfulness mediates the physiological markers of stress: Systematic review and meta-analysis. *Journal of Psychiatric Research*. 2017;95:156-178. doi:10.1016/j.jpsychires.2017.08.004
101. Basta M, Chrousos GP, Vela-Bueno A, Vgontzas AN. Chronic insomnia and stress system. *Sleep Medicine Clinics*. 2007;2(2):279-291. doi:10.1016/j.jsmc.2007.04.002
102. Kalmbach DA, Anderson JR, Drake CL. The impact of stress on sleep: Pathogenic sleep reactivity as a vulnerability to insomnia and circadian disorders. *Journal of Sleep Research*. 2018;27(6):e12710. doi:10.1111/jsr.12710
103. Riemann D, Voderholzer U, Spiegelhalder K, et al. Chronic insomnia and MRI-measured hippocampal volumes: a pilot study. *Sleep*. 2007;30(8):955-958. doi:10.1093/sleep/30.8.955
104. Joo EY, Kim H, Suh S, Hong SB. Hippocampal substructural vulnerability to sleep disturbance and cognitive impairment in patients with chronic primary insomnia: magnetic resonance imaging morphometry. *Sleep*. 2014;37(7):1189-1198. doi:10.5665/sleep.3836
105. Shokri-Kojori E, Wang GJ, Wiers CE, et al.  $\beta$ -Amyloid accumulation in the human brain after one night of sleep deprivation. *Proceedings of the National Academy of Sciences of the United States of America*. 2018;115(17):4483-4488. doi:10.1073/pnas.1721694115
106. Buysse DJ. Sleep health: can we define it? Does it matter? *Sleep*. 2014;37(1):9-17. doi:10.5665/sleep.3298
107. Ravyts SG, Dzierzewski JM, Perez E, et al. Sleep health as measured by RU SATED: A psychometric evaluation. *Behavioral Sleep Medicine*. 2019;1-9. doi:10.1080/15402002.2019.1701474
108. Irish LA, Kline CE, Gunn HE, et al. The role of sleep hygiene in promoting public health: A review of empirical evidence. *Sleep Medicine Reviews*. 2015;22:23-36. doi:10.1016/j.smr.2014.10.001
109. Asnis GM, Thomas M, Henderson MA. Pharmacotherapy treatment options for insomnia: A primer for clinicians. *International Journal of Molecular Sciences*. 2015;17(1):50. doi:10.3390/ijms17010050
110. Baandrup L, Fasmer OB, Glenthøj BY, et al. Circadian rest-activity rhythms during benzodiazepine tapering covered by melatonin versus placebo add-on: data derived from a randomized clinical trial. *BMC Psychiatry*. 2016;16(1):348. doi:10.1186/s12888-016-1062-8



## Protecting Your Brain from Stress - REFERENCES

111. Lähteenmäki R, Puustinen J, Vahlberg T, et al. Melatonin for sedative withdrawal in older patients with primary insomnia: a randomized double-blind placebo-controlled trial. *British Journal of Clinical Pharmacology*. 2014;77(6):975-985. doi:10.1111/bcp.12294
112. Poyares DR, Guilleminault C, Ohayon MM, et al. Can valerian improve the sleep of insomniacs after benzodiazepine withdrawal? *Progress in Neuro-Psychopharmacology and Biological Psychiatry*. 2002;26(3):539–545. doi: 10.1016/s0278-5846(01)00305-0
113. Guadagna S, Barattini DF, Rosu S, et al. Plant extracts for sleep disturbances: A systematic review. *Evidence-Based Complementary and Alternative Medicine*. 2020;2020:3792390. doi:10.1155/2020/3792390
114. Lothian J, Blampied NM, Rucklidge JJ. Effect of micronutrients on insomnia in adults: A multiple-baseline study. *Clinical Psychological Science*. 2016;4(6):1112–1124. doi:10.1177/2167702616631740
115. Kasper S, Gastpar M, Müller WE, et al. Silexan, an orally administered Lavandula oil preparation, is effective in the treatment of “subsyndromal” anxiety disorder: A randomized, double-blind, placebo controlled trial. *International Clinical Psychopharmacology*. 2010;25(5):277–287. doi: 10.1097/yic.0b013e32833b3242.
116. Uehleke B, Schaper S, Dienel A, et al. Phase II trial on the effects of Silexan in patients with neurasthenia, post-traumatic stress disorder or somatization disorder. *Phytomedicine*. 2012;19(8-9):665–671. doi: 10.1016/j.phymed.2012.02.020.
117. Kasper S, Angheliescu I, Dienel A. Efficacy of orally administered Silexan in patients with anxiety-related restlessness and disturbed sleep -- A randomized, placebo-controlled trial. *European Neuropsychopharmacology*. 2015;25(11):1960-1967. doi:10.1016/j.euroneuro.2015.07.024
118. Hornyak M, Voderholzer U, Hohagen F, et al. Magnesium therapy for periodic leg movements-related Insomnia and restless legs syndrome: An open pilot study. *Sleep*. 1998;21(5), 501-505. doi:10.1093/sleep/21.5.501
119. Abbasi B, Kimiagar M, Sadeghniaat K, et al. The effect of magnesium supplementation on primary insomnia in elderly: A double-blind placebo-controlled clinical trial. *Journal of Research in Medical Sciences*. 2012;17(12), 1161-1169. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3703169/>. Accessed August 5, 2020.

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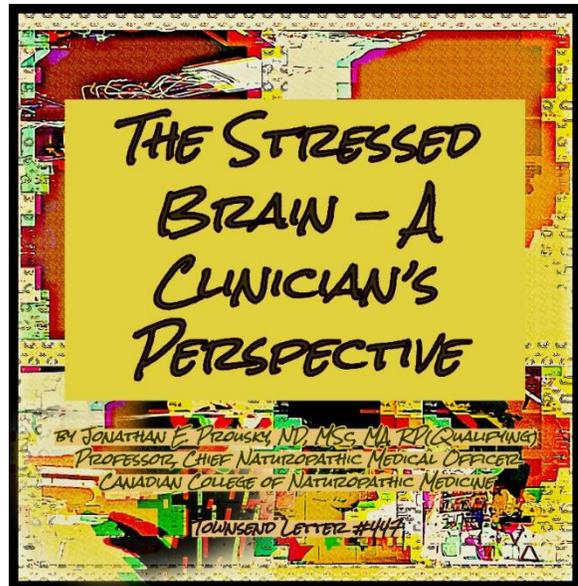
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## Protecting Your Brain from Stress - REFERENCES

120. Wade AG, Ford I, Crawford G, et al. Nightly treatment of primary insomnia with prolonged release melatonin for 6 months: A randomized placebo controlled trial on age and endogenous melatonin as predictors of efficacy and safety. *BMC Medicine*. 2010;8(51):2-18. doi:10.1186/1741-7015-8-51.
121. Chung S, Youn S, Park B, et al. The effectiveness of prolonged-release melatonin in primary insomnia patients with a regular sleep-wake cycle. *Sleep Medicine Research*. 2016;7(1):16-20. doi:10.17241/smr.2016.00017
122. Ngan A, Conduit R. A double-blind, placebo-controlled investigation of the effects of *Passiflora incarnata* (passionflower) herbal tea on subjective sleep quality. *Phytotherapy Research*. 2011;25(8):1153-1159. doi:10.1002/ptr.3400
123. Maroo N, Hazra A, Das T. 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*. 2013;45(1), 34-39. doi:10.4103/0253-7613.106432
124. Lee J, Jung HY, Lee SI, Choi JH, Kim SG. Effects of *Passiflora incarnata* Linnaeus on polysomnographic sleep parameters in subjects with insomnia disorder: A double-blind randomized placebo-controlled study. *International Clinical Psychopharmacology*. 2020;35(1):29-35. doi:10.1097/YIC.0000000000000291
125. Sinha R. Chronic stress, drug use, and vulnerability to addiction. *Annals of the New York Academy of Sciences*. 2008;1141:105-130. doi:10.1196/annals.1441.030
126. Fernández-Calderón F, Díaz-Batanero C, Barratt MJ, et al. Harm reduction strategies related to dosing and their relation to harms among festival attendees who use multiple drugs. *Drug and Alcohol Review*. 2019;38(1):57-67. doi:10.1111/dar.12868
127. Kandel ER. Psychotherapy and the single synapse. The impact of psychiatric thought on neurobiologic research. *The New England Journal of Medicine*. 1979;301(19):1028-1037. doi:10.1056/NEJM197911083011904
128. Linden DE. How psychotherapy changes the brain--the contribution of functional neuroimaging. *Molecular Psychiatry*. 2006;11(6):528-538. doi:10.1038/sj.mp.4001816
129. Linden DE. Brain imaging and psychotherapy: Methodological considerations and practical implications. *European Archives of Psychiatry and Clinical Neuroscience*. 2008;258 Suppl 5:71-75. doi:10.1007/s00406-008-5023-1



## Protecting Your Brain from Stress - REFERENCES

130. Claudino FCA, Gonçalves L, Schuch FB, et al. The effects of individual psychotherapy in BDNF Levels of patients with mental disorders: A systematic review. *Frontiers in Psychiatry*. 2020;11:445. doi:10.3389/fpsyt.2020.00445
131. Buchheim A, Viviani R, Kessler H, et al. Changes in prefrontal-limbic function in major depression after 15 months of long-term psychotherapy. *PLoS One*. 2012;7(3):e33745. doi:10.1371/journal.pone.0033745
132. Carlson MC, Saczynski JS, Rebok GW, et al. Exploring the effects of an "everyday" activity program on executive function and memory in older adults: Experience Corps. *Gerontologist*. 2008;48(6):793-801. doi:10.1093/geront/48.6.793
133. Carlson MC, Erickson KI, Kramer AF, et al. Evidence for neurocognitive plasticity in at-risk older adults: The experience corps program. *The Journals of Gerontology. Series A, Biological Sciences and Medical Sciences*. 2009;64(12):1275-1282. doi:10.1093/gerona/glp117
134. Holt-Lunstad J. Why social relationships are important for physical health: A systems approach to understanding and modifying risk and protection. *Annual Review of Psychology*. 2018;69:437-458. doi:10.1146/annurev-psych-122216-011902
135. Irvin D. Yalom Quotes from goodreads. Available at: <https://www.goodreads.com/quotes/7383766-the-second-alternatives-exclude-is-an-important-key-to-understanding>. Accessed August 11, 2020.

