Seizures

Description

Seizures

Research shows may help:

Pyridoxal phosphate (PLP) active form of Vitamin B6

Ketogenic diet, coconut oil, MCT oil

Cannabidiol (CBD)

Turmeric

Black pepper

Magnesium theonate

Vitamin D3

Black seed oil (nigella)

Research shows may trigger:

Aspartame/Nutrasweet- seizures, migraines, motion sickness, other neurological disorders

Sucroalose/Splenda

Deet (mosquito spray)- buildup

Monosodium glutamate- MSG

Stomach sleeping (increases danger)

Use this as an aide to your own research and share with your doctor as appropriate.

Saving this to a “Health” email folder may help access.

You can use drugs.com or other trusted health websites to look up the latest information on prescription & herbal drugs (or foods) possible side & interaction effects.

The key to success may be to try everything that has good research, low side effects, and is affordable one at a time, and keep looking for & trying things until fully helped.

Possible causes of seizures

DEET

DEET is a nerve toxin used to keep mosquitos away from skin. When absorbed into the skin, it may cause seizures in a few susceptible people. Consumer reports has tested picardin (black pepper) and eucalyptus based sprays as effective against mosquitos/ticks/fleas as DEET, without the serious side effects. For people who still wish to use DEET, perhaps the safest use is on the clothing.

These references are from the CDC: https://www.cdc.gov/mmwr/preview/mmwrhtml/00001475.htm

Edwards DL, Johnson CE. Insect-repellent-induced toxic encephalopathy in a child. Clin Pharm 1987;6:496-8.

Gryboski J, Weinstein D, Ordway NK. Toxic encephalopathy apparently related to the use of an insect repellent. N Engl J Med 1961;264:289-91.

Heick HMC, Shipman RT, Norman MG, James W. Reye-like syndrome associated with use of insect repellent in a presumed heterozygote for ornithine carbamoyl transferase deficiency. J Pediatr 1980;97:471-3.

de Garbino JP, Laborde A. Toxicity of an insect repellent: N-N-diethyltoluamide. Vet Hum Toxicol 1983;25:422-3.

Roland EH, Jan JE, Rigg JM. Toxic encephalopathy in a child after brief exposure to insect repellents. Can Med Assoc J 1985;132:155-6.

Zadikoff CM. Toxic encephalopathy associated with use of insect repellant. J Pediatr 1979;95:140-2.

Tenenbein M. Severe toxic reactions and death following the ingestion of diethyltoluamide-containing insect repellents. JAMA 1987;258:1509-11.

McConnell R, Fidler AT, Chrislip D, NIOSH. Everglades National Park health hazard evaluation report. Cincinnati, Ohio: US Department of Health and Human Services, Public Health Service, 1986; NIOSH health hazard evaluation report no. HETA-83-085-1757.

Windheuser JJ, Haslam JL, Caldwell L, Shaffer RD. The use of N,N-diethyl-m-toluamide to enhance dermal and transdermal delivery of drugs. J Pharm Sci 1982;71:1211-3. 10. Heick HMC, Peterson RG, Dalpe-Scott M, Qureshi IA. Insect repellent, N,N-diethyl-m-toluamide, effect on ammonia metabolism. Pediatrics 1988;82:373-6. 11. Schreck CE, Snoddy EL, Spielman A. Pressurized sprays of permethrin or DEET on military clothing for personal protection against Ixodes dammini (Acari: Ixodidae). J Med

Entomol 1986;23:396-9.

Aspartame (Nutrasweet)

Aspartame is a sweetener in many diet pops & foods that breaks down to formaldehyde in the brain, a very toxic substance. Aspartame may trigger seizures along with it's other neurological effects.

Environ Health Perspect. 1987 Nov; 75: 53–57.

Possible neurologic effects of aspartame, a widely used food additive.

T J Maher and R J Wurtman

https://www.epilepsy.com/connect/forum-archive/men-epilepsy/diet-coke-aspartame-seizure-link

http://www.naturalnews.com/008952_aspartame_seizures.html

https://usrtk.org/tag/seizures/

https://www.nature.com/articles/1602866

Humphries, P., Pretorius, E. & Naudé, H. Direct and indirect cellular effects of aspartame on the brain. *Eur J Clin Nutr* **62,** 451–462 (2008). https://doi.org/10.1038/sj.ejcn.1602866

https://shop.getmyid.com/blogs/myid-epilepsy-community/fda-pivotal-safety-study-aspartame-caused-brain-seizures

Splenda (sucralose)

Sucralose may increase seizures.

http://articles.mercola.com/sites/articles/archive/2000/12/03/sucralose-dangers.aspx

http://www.holisticmed.com/splenda/

Glutamate

Monosodium glutamate (MSG), soy, soy sauce/tamari, hydrolyzed proteins, sodium or calcium caseinate, savory/umami spice

Glutamate activating foods may increase seizures.

Neurology. 1994 Nov;44(11 Suppl 8):S14-23.

The role of glutamate in epilepsy and other CNS disorders.

Meldrum BS.

Front Cell Neurosci. 2013; 7: 127.

2013 Aug 13. doi: 10.3389/fncel.2013.00127

New mechanism for glutamate hypothesis in epilepsy

Chang-Hoon Cho

Prog Neurobiol. 1995 Dec;47(6):477-511.

Glutamate, GABA and epilepsy.

Bradford HF

Holmes, G. L. (1995), Role of glutamate and GABA in the pathophysiology of epilepsy. Ment. Retard. Dev. Disabil. Res. Rev., 1: 208–219. doi:10.1002/mrdd.1410010309

http://rense.com/general83/aspp.htm

Pregnancy, seizures, & medication

In 39 articles that included more than 2.8 million pregnancies, women with epilepsy appeared to have significantly increased risk for miscarriage, hemorrhage, hypertensive disorders, labor induction, caesarean section, delivery at <37 weeks' gestation, and fetal growth restriction. Rates of gestational diabetes, early preterm birth, fetal or perinatal death, and neonatal intensive care unit (NICU) admissions appeared unchanged.

Antiepileptic medication use during pregnancy appeared to reduce the above negative outcomes but appeared to increase hemorrhage, fetal growth restriction, and NICU admissions.

http://www.jwatch.org/na38895/2015/09/15/epilepsy-and-pregnancy-can-coexist?query=etoc_jwwomen&jwd=000101785108&jspc=

Viale L et al. Epilepsy in pregnancy and reproductive outcomes: A systematic review and meta-analysis. Lancet 2015 Aug 25; [e-pub]. (http://dx.doi.org/10.1016/S0140-6736(15)00045-8)

Sleep & seizures

Sleeping on the stomach may increase mortality in people who have seizures.

What helps prevent seizures?

Vitamin B6 for epilepsy

Pyridoxal phosphate (PLP), the active form of vitamin B6, appears to treat multiple types of medication resistant epilepsy successfully if people have a special genetic vulnerability. Pyridoxine appears to treat fewer types of treatment resistant epilepsy.

Chang Gung Med J. 2007 Sep-Oct;30(5):396-401.

Vitamin B6 related epilepsy during childhood.

Wang HS, Kuo MF.

Handb Clin Neurol. 2013;113:1811-7. doi: 10.1016/B978-0-444-59565-2.00050-2.

Pyridoxine and pyridoxalphosphate-dependent epilepsies.

Plecko B.

J Inherit Metab Dis. 2007 Feb;30(1):96-9. Epub 2006 Dec 23.

Pyridoxal 5?-phosphate may be curative in early-onset epileptic encephalopathy.

Hoffmann GF, Schmitt B, Windfuhr M, Wagner N, Strehl H, Bagci S, Franz AR, Mills PB, Clayton PT, Baumgartner MR, Steinmann B, Bast T, Wolf NI, Zschocke J.

Arch Dis Child Fetal Neonatal Ed. 2008 Mar;93(2):F151-2. doi: 10.1136/adc.2006.115162.

Pyridoxal phosphate-dependent neonatal epileptic encephalopathy.

Bagci S, Zschocke J, Hoffmann GF, Bast T, Klepper J, Müller A, Heep A, Bartmann P, Franz AR.

J Inherit Metab Dis. 2006 Apr-Jun;29(2-3):317-26.

B6-responsive disorders: a model of vitamin dependency.

Clayton PT.

J Inherit Metab Dis. 2007 Feb;30(1):2-4.

Pyridoxal phosphate dependency, a newly recognized treatable catastrophic epileptic encephalopathy.

Pearl PL, Gospe SM.

Comment on

Pyridoxal 5?-phosphate may be curative in early-onset epileptic encephalopathy. [J Inherit Metab Dis. 2007]

Can J Neurol Sci. 2009 Aug;36 Suppl 2:S73-7.

Vitamin B6 dependent seizures.

Plecko B, Stöckler S.

J Inherit Metab Dis. 2006 Apr-Jun;29(2-3):317-26.

B6-responsive disorders: a model of vitamin dependency.

Clayton PT.

Ketogenic diet, coconut oil, MCT oil, ketone salts

A ketogenic diet is high in fat & low in carbohydrates (and mostly low glycemic carbohydrates) in order to significantly increase the amount of fats burned for energy. This appears to help control some seizures that are not sufficiently controlled by medication. eating only low glycemic carbs may help, as may eating carbs early in the meal, exercising (especially short term high intensity exercise), then eating the fattiest part of the meal last (I eat nuts at the end as well). I find that I can eat a lot of carbs in this manner but get into ketosis anyway very quickly. This also avoids the drawbacks of a low carb

diet.

Taking coconut oil appears to help prevent seizures in the same way as the ketogenic diet. For people who don’t like the taste of coconut oil, MCT oil (in health food stores & online) has no taste & may help prevent seizures even better than coconut oil.

Case Reports in Neurological Medicine

Volume 2013 (2013), Article ID 809151, 2 pages

http://dx.doi.org/10.1155/2013/809151

Case Report

Marked Seizure Reduction after MCT Supplementation

Raed Azzam and Nabil J. Azar

http://www.dana.org/Cerebrum/2013/Epilepsy%E2%80%99s_Big_Fat_Answer/

https://www.epilepsysociety.org.uk/news/research-reveals-anti-seizure-mechanism-ketogenic-diet-27-11-2015#.WT8lr8a1vv8

http://www.epilepsy.com/learn/treating-seizures-and-epilepsy/dietary-therapies/ketogenic-diet

Cannabidiol (CBD)

Cannabidiol (CBD) and seizures

CBD is a cannabanoid in hemp and marijuana. It is legal when derived from hemp but illegal in most states when derived from marijuana. It is available throughout the US as a hemp extract. CBD appears to reduce seizures in up to 84% of people who's seizures are uncontrolled with prescription medication, with in one study of children 11% seeing a complete seizure cessation, 42% seeing an80% seizure reduction, and 32% seeing a 25-60% seizure reduction. Only around 3% appear todiscontinue based on side effects.

The cheapest & perhaps most effective way to use CBD oil could be in the oil form as it may last longer & the effect may be more even than the water soluble form, which may no last as long. One drop under the toungue, instead of a full dropper down the throat, is effective for many. Then if they need more throughout the day they just add another drop under the toungue, saving hundreds of dollars over time.

Possible other benefits of cannabidiol:

Antiepileptic/anticonvulsant-it can work in people unresponsive to other drugs for uncontrolled seizures

Low dose it's alerting & high dose it's sleep increasing

Anti-inflammatory

Anxiolytic (antianxiety)

Anti-emetic (antinausea)

Analgesic

Anticancer

Immunomodulator-improves immune action against threats & reduces auto-immune disorders

Helps against IBD and Crohn's Disease

Neuroprotectant

Antioxidant

It may help Alzheimer's, Parkinsons, cerebral ischemia, brain and nerve damage from strokes.

Anti-psychotic

Report of a parent survey of cannabidiol-enriched cannabis use in pediatric treatment-resistant

epilepsy.

Porter BE, Jacobson C.

Epilepsy Behav. 2013 Dec;29(3):574-7. doi: 10.1016/j.yebeh.2013.08.037.

https://www.projectcbd.org/epilepsy-seizure-disorders

http://www.consumerreports.org/seizures/cannabis-oil-cbd-treat-seizures/

http://www.unitedpatientsgroup.com/blog/2013/01/06/cannabidiol-facts/

http://examine.com/supplements/Hemp+Protein/

http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0100-879X2006000400001&lng=en&nrm=iso&tlng=en

http://en.wikipedia.org/wiki/Cannabidiol#cite_note-Leweke_2012-13

http://www.nature.com/tp/journal/v2/n3/full/tp201215a.html

http://www.greenbridgemed.com/2013/03/08/cannabidiol-and-schizophrenia/

http://www.europeanneuropsychopharmacology.com/article/S0924-977X%2813%2900332-5/abstract

Turmeric & seizures

The spice turmeric appears to reduce seizures and protect the brain from damage. It appears to be the curcumin in turmeric that has the positive benefits. Adding a little black pepper (0.3%) appears to increase the availability of the curcumin by 200 times.

Below is the link to & references from the excellent article:

10 Benefits Of Turmeric In Epilepsy & Seizures

https://www.turmericforhealth.com/turmeric-benefits/turmeric-and-epilepsy

Pharm Biol. 2013 Dec;51(12):1572-8. doi: 10.3109/13880209.2013.803128. Epub 2013 Sep 5.

Antiepileptogenic effect of curcumin on kainate-induced model of temporal lobe epilepsy.

Kiasalari Z, Roghani M, Khalili M, Rahmati B, Baluchnejadmojarad T.

Neuroscience. 2015 Dec 3;310:362-71. doi: 10.1016/j.neuroscience.2015.09.058. Epub 2015 Sep 28.

Protection against cognitive impairment and modification of epileptogenesis with curcumin in a post-status epilepticus model of temporal lobe epilepsy.

Jiang Z et al.

Saudi J Biol Sci. 2013 Apr;20(2):155-62. doi: 10.1016/j.sjbs.2013.01.002. Epub 2013 Jan 17.

Protective effects of curcumin against lithium-pilocarpine induced status epilepticus, cognitive dysfunction and oxidative stress in young rats.

Ahmad M. et al.

Phytomedicine. 2011 Jun 15;18(8-9):756-9. doi: 10.1016/j.phymed.2010.11.007. Epub 2011 Jan 5.

Modulation of pentylenetetrazole-induced kindling and oxidative stress by curcumin in mice.

Agarwal NB et al.

Chin Med J (Engl). 2012 Jun;125(11):1975-9.

Anticonvulsive and antioxidant effects of curcumin on pilocarpine-induced seizures in rats.

DU P. et al.

Methods Find Exp Clin Pharmacol. 2010 May;32(4):227-32. doi: 10.1358/mf.2010.32.4.1452090.

Antioxidant potential of curcumin against oxidative insult induced by pentylenetetrazol in epileptic rats.

Sharma V. et al.

Phytother Res. 2008 Dec;22(12):1660-4. doi: 10.1002/ptr.2551.

Curcumin has anticonvulsant activity on increasing current electroshock seizures in mice.

Bharal N. et al.

Chin Med J (Engl). 2009 Jun 20;122(12):1435-8.

Curcumin inhibits amygdaloid kindled seizures in rats.

DU P. et al.

Epilepsy Behav. 2009 Feb;14(2):300-8. doi: 10.1016/j.yebeh.2008.11.011. Epub 2008 Dec 17.

Curcumin protects against electrobehavioral progression of seizures in the iron-induced experimental model of epileptogenesis.

Jyoti A. et al.

Phytother Res. 2014 May;28(5):714-21. doi: 10.1002/ptr.5048. Epub 2013 Jul 26.

Effect of curcumin against pentylenetetrazol-induced seizure threshold in mice: possible involvement of adenosine A1 receptors.

Akula KK, Kulkarni SK.

Life Sci. 2006 Mar 13;78(16):1884-91. Epub 2005 Nov 2.

Prevention of kainic acid-induced changes in nitric oxide level and neuronal cell damage in the rat hippocampus by manganese complexes of curcumin and diacetylcurcumin.

Sumanont Y, Murakami Y, Tohda M, Vajragupta O, Watanabe H, Matsumoto K.

Biol Pharm Bull. 2007 Sep;30(9):1732-9.

Effects of manganese complexes of curcumin and diacetylcurcumin on kainic acid-induced neurotoxic responses in the rat hippocampus.

Sumanont Y, Murakami Y, Tohda M, Vajragupta O, Watanabe H, Matsumoto K.

Biomed Mater Eng. 2015;26 Suppl 1:S841-50. doi: 10.3233/BME-151376.

The involvement of neuronal nitric oxide synthase in the anti-epileptic action of curcumin on pentylenetetrazol-kindled rats.

Zhu W. et al.

Indian J Exp Biol. 2016 Feb;54(2):133-41.

Antiapoptotic and neuroprotective role of Curcumin in Pentylenetetrazole (PTZ) induced kindling model in rat.

Saha L, Chakrabarti A, Kumari S, Bhatia A, Banerjee D.

Epilepsy Behav. 2012 May;24(1):14-22. doi: 10.1016/j.yebeh.2012.02.020. Epub 2012 Apr 5.

Anticonvulsant activity of bisabolene sesquiterpenoids of Curcuma longa in zebrafish and mouse seizure models.

Orellana-Paucar AM, Serruys AS, Afrikanova T, Maes J, De Borggraeve W, Alen J, León-Tamariz F, Wilches-Arizábala IM, Crawford AD, de Witte PA, Esguerra CV.

Neuropharmacology. 2014 Jun;81:244-55. doi: 10.1016/j.neuropharm.2014.02.009. Epub 2014 Feb 21.

Curcumol from Rhizoma Curcumae suppresses epileptic seizure by facilitation of GABA(A) receptors.

Ding J. et al.

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Insights from zebrafish and mouse models on the activity and safety of ar-turmerone as a potential drug candidate for the treatment of epilepsy.

Orellana-Paucar AM. et al.

Neurochem Int. 2015 Oct;89:40-50. doi: 10.1016/j.neuint.2015.07.009. Epub 2015 Jul 16.

Curcumin attenuates inflammatory response and cognitive deficits in experimental model of chronic epilepsy.

Kaur H. et al.

Pharmacol Biochem Behav. 2014 Oct;125:55-64. doi: 10.1016/j.pbb.2014.08.001. Epub 2014 Aug 10.

Curcumin supplementation improves mitochondrial and behavioral deficits in experimental model of chronic epilepsy.

Kaur H. et al.

Brain Res. 2009 Dec 8;1301:52-60. doi: 10.1016/j.brainres.2009.09.027. Epub 2009 Sep 16.

Curcumin is protective against phenytoin-induced cognitive impairment and oxidative stress in rats.

Reeta KH, Mehla J, Gupta YK.

Eur J Pharmacol. 2010 Oct 10;644(1-3):106-12. doi: 10.1016/j.ejphar.2010.07.022. Epub 2010 Jul 24.

Curcumin ameliorates cognitive dysfunction and oxidative damage in phenobarbitone and carbamazepine administered rats.

Reeta KH, Mehla J, Gupta YK.

Eur J Pharmacol. 2013 Mar 15;704(1-3):33-40. doi: 10.1016/j.ejphar.2013.02.012. Epub 2013 Feb 24.

Ameliorative effect of Curcumin on seizure severity, depression like behavior, learning and memory deficit in post-pentylenetetrazole-kindled mice.

Choudhary KM, Mishra A, Poroikov VV, Goel RK.

Epilepsy Behav. 2012 Jun;24(2):199-206. doi: 10.1016/j.yebeh.2012.03.026. Epub 2012 May 8.

Evaluation of the antiepileptic effect of curcumin and Nigella sativa oil in the pilocarpine model of epilepsy in comparison with valproate.

Noor NA, Aboul Ezz HS, Faraag AR, Khadrawy YA.

Pharmacol Biochem Behav. 2011 Sep;99(3):399-407. doi: 10.1016/j.pbb.2011.05.011. Epub 2011 May 30.

Pharmacokinetic and pharmacodynamic interactions of valproate, phenytoin, phenobarbitone and carbamazepine with curcumin in experimental models of epilepsy in rats.

Reeta KH, Mehla J, Pahuja M, Gupta YK.

Arzneimittelforschung. 2010;60(11):647-53. doi: 10.1055/s-0031-1296342.

Prevention of sodium valproate-induced hepatotoxicity by curcumin, rosiglitazone and N-acetylcysteine in rats.

Said SA, El-Agamy DS.

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Curcumin is protective against phenytoin-induced cognitive impairment and oxidative stress in rats.

Reeta KH, Mehla J, Gupta YK.

Black pepper and seizures

Black pepper usage may reduce seizures all by itself.

Bukhari, I. A., Alhumayyd, M. S., Mahesar, A. L., Gilani, A. H. (2013).

The analgesic and anticonvulsant effects of piperine in mice.

Journal of Physiology and Pharmacology, 64(6), 789-794

J Ethnopharmacol. 1993 Jun;39(2):113-7.

Anticonvulsant effects of extracts of the west African black pepper, Piper guineense.

Abila B, Richens A, Davies JA.

Magnesium and seizures

Magnesium deficiency appears to cause seizures, and magnesium supplementation (theonate may be best) where deficient appears to lower seizures, sometimes to zero.

J Neurol. 1991 Aug;238(5):262-4.

Magnesium deficiency as a cause of acute intractable seizures.

Nuytten D, Van Hees J, Meulemans A, Carton H.

Epilepsy Res. 2012 Jun;100(1-2):152-6. doi: 10.1016/j.eplepsyres.2012.02.004. Epub 2012 Mar 8.

Can magnesium supplementation reduce seizures in people with epilepsy? A hypothesis.

Yuen AW, Sander JW.

http://www.livestrong.com/article/493291-does-a-magnesium-deficiency-cause-seizures/

Vitamin D3 and seizures

Low vitamin D3 levels appear to increase the risk of seizures. Raising levels to 50-70ng/ml by taking 4000 IU (or more) of vitamin D3 with a meal may reduce seizures significantly (by at least 40%).

Epilepsy Behav. 2012 May;24(1):131-3. doi: 10.1016/j.yebeh.2012.03.011. Epub 2012 Apr 11.

Correction of vitamin D deficiency improves seizure control in epilepsy: a pilot study.

Holló A, Clemens Z, Kamondi A, Lakatos P, Sz?cs A.

Br Med J. 1974 May 4;2(5913):258-9.

“Anticonvulsant action” of vitamin D in epileptic patients? A controlled pilot study.

Christiansen C, Rodbro P, Sjö O.

Vitamin D deficiency in children with epilepsy: Do we need to detect and treat it?

Harijan Pooja, Khan Arif, Hussain Nahin

Journal of Pediatric Neurosciences 2013 Volume 8 Issue Number 1 Page: 5-10

Sonmez FM (2016) The Role of the Vitamin D in Neurology: Interrelationships Between Headache, Epilepsy and Vitamin D Deficiency. J Pediatr Neonatal Care 4(2): 00132. DOI: 10.15406/jpnc.2016.04.00132

Shellhaas, R. A., Barks, A. K., & Joshi, S. M. (2010). Prevalence and Risk Factors for Vitamin D Insufficiency Among Children With Epilepsy. Pediatric Neurology, 42(6), 422-426. DOI: 10.1016/j.pediatrneurol.2010.03.004

Epilepsy and Vitamin D

András Holló, Zsófia Clemens, and Péter Lakatos

International Journal of Neuroscience Vol. 124 , Iss. 6,2014

Clemens Z, Holló A, Kelemen A, Rásonyi G, Fabó D, et al. (2013) Seasonality in Epileptic Seizures. J Neurol Transl Neurosci 1: 1016.

Seeing the light? Seizures and sunlight

Baxendale, Sallie

Epilepsy Research , Volume 84 , Issue 1 , 72 – 76

Infantile spasms: Seasonal onset differences and zeitgebers

Cortez, Miguel A et al.

Pediatric Neurology , Volume 16 , Issue 3 , 220 – 224

Nigella- black seed oil (BSO)

BSO is neuroprotective and helps reduce seizures, Alzheimer's, Parkinson's & more

Mohammad Reza Khazdair, "The Protective Effects of *Nigella sativa* and Its Constituents on Induced Neurotoxicity", *Journal of Toxicology* , vol. 2015, Article ID 841823, 7 pages, 2015. https://doi.org/10.1155/2015/841823

“Numerous therapeutic benefits of the plant extract against diabetes, hypertension, pediatric seizures, opioid dependence, anxiety, arthritis, various infectious diseases, infertility, dyspepsia, asthma, allergic rhinitis were demonstrated by clinical studies.”

Maryam Nayeem, Mohammed K. Ahmed, Arshad Jawed, Saeed Alshahrani, Hafiz A. Makeen, Manal M.E. Taha, Sohail Hussain, Sadaf Jahan, Andleeb Khan,
Chapter 7 – A meta-analysis of Nigella sativa in respiratory disorders,
Editor(s): Andleeb Khan, Muneeb Rehman,
Black Seeds (Nigella Sativa), Elsevier, 2022, Pages 177-196, ISBN 9780128244623,
https://doi.org/10.1016/B978-0-12-824462-3.00007-X.
(https://www.sciencedirect.com/science/article/pii/B978012824462300007X)

Category

1. Uncategorized

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