Glenn E. Cahn, PhD PLLC
3205 Randall Parkway, #117
Wilmington, NC 28403
910 332 4134
www.ILMpsychtesting.com

Alternatives to psychiatric medication for
anxiety, depression and sleep

Disclaimer: the following is not meant to treat anyone with such advice, or tell you what you should do as to staying on or getting off meds, engage in exercise, etc. What is below is based on published research and my own experience. How you use it is up to you. Talk to a doctor or other appropriate professionals as to what is best for your own specific needs.

It should also be appreciated that everyone has their own perspective on how to improve health. Nutritionists do it through food. Physicians do it through medicine. Psychologists do it through changing thoughts, feelings, and behaviors. Consequently, what is offered here is a reflection of my own bias and perspective.

Anxiety:
Anxiety is one of the biggest psychiatric issues, with a lifetime prevalence rate of nearly 29% in the U.S. Roughly 1 in 12 people are now on pills for issues like anxiety or sleep difficulties. The death rate from overdosing on these drugs has quadrupled in the U.S. There are roughly 8,000 overdoses in the U.S. from benzodiazepines.

One big risk to anti-anxiety meds is addiction, with potentially large withdrawal symptoms, along the lines of quitting alcohol. Such symptoms include increased anxiety, depression, seizure, and possible suicide. GI problems and insomnia are also very common.

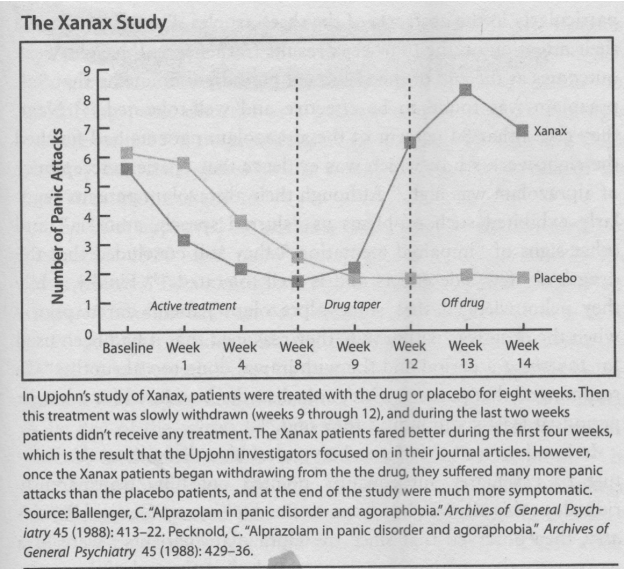
Anti-anxiety meds such as benzodiazepines work on GABA, which is inhibitory acting like a 'brake' on the nervous system. Benzos amplify GABA, so it further suppresses the nervous system activity. The brain tries to compensate and get back to its usual level and does so by reducing how much GABA it makes, and also reduces the number of GABA receptors, meaning it's working to stop this amplified braking effect of the anxiety meds.

When the anxiety meds are stopped, the brain is now lacking a sufficiently strong brake, and so withdrawal symptoms result such as high anxiety, insomnia, and even seizures. If a person gradually tapers off the drug the GABA system may slowly revert back to normal, and thus withdrawal symptoms are mild. However, that some people suffer prolonged symptoms is probably due to the GABA receptors not reverting back to their normal state, meaning that permanent damage may have been done. If so, the GABA system will never work right again.

There are other problems with using this class of drugs. This includes side effects such as low blood pressure, loss of sex drive, lack of coordination, disinhibition, depression, memory loss, and difficulty thinking. There is also increased risk of Alzheimer's, with usage longer than six months

leading to an 84% increased chance of it. There is some research dating back about thirty years that has found that the brain shrinks from use of benzos.

Antidepressants (SSRIs or SNRIs), which are sometimes used for anxiety, include side effects of sexual dysfunction, headache, dizziness, drowsiness, diarrhea, weight gain or loss. Both classes of antidepressants can have 'paradoxical effects' where symptoms get worse.



In Upjohn's study of Xanax, patients were treated with the drug or placebo for eight weeks. Then this treatment was slowly withdrawn (weeks 9 through 12), and during the last two weeks patients didn't receive any treatment. The Xanax patients fared better during the first four weeks, which is the result that the Upjohn investigators focused on in their journal articles. However, once the Xanax patients began withdrawing from the the drug, they suffered many more panic attacks than the placebo patients, and at the end of the study were much more symptomatic. Source: Ballenger, C. "Alprazolam in panic disorder and agoraphobia." *Archives of General Psychiatry* 45 (1988): 413–22. Pecknold, C. "Alprazolam in panic disorder and agoraphobia." *Archives of General Psychiatry* 45 (1988): 429–36.

This is a striking example of medication offering worse results long term. If all you do is look at the initial results, prior to going off the meds, you get a very different picture of the value of the drug.

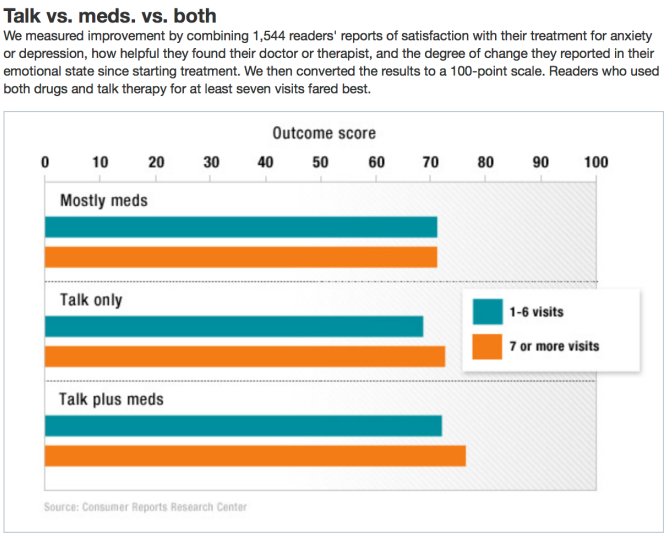
"Anatomy of an epidemic: magic bullets, psychiatric drugs, and the astonishing rise of mental illness in America" Robert Whitaker

Alternative approaches to treating anxiety include talk therapy (cognitive behavioral techniques, commonly referred to as CBT). CBT is easy and quick to learn, and you can do so from reading material on websites, any of innumerable books, or with a therapist's brief help. Once learned such knowledge is yours for life, unlike tranquilizers where you always need another for each and every instance you feel anxious. There are different estimates as to the effectiveness of CBT but it is generally considered one of the best approaches to use.

Some of the basic principles (cognitive errors) of CBT for anxiety include:

- filtering. We can ignore the good aspects of our day, and just focus on the bad and then have an 'OMG!' moment as a result.
- Black & white thinking. This refers to 'all or none' thinking, with no shades of grey. e.g. 'If I don't perform perfectly, then I'm a complete failure.'
- Overgeneralization. This entails taking a single instance and carrying it too far, such as 'I just blew that job interview! I'll never get hired!' vs. saying to yourself, 'I made a mistake there, I'll do better next time, I've learned, I can get hired.'
- Jumping to conclusions. We can assume without evidence that something is wrong or bad with us, and then get upset or panic, with little or no proof that it is really so. 'Everyone hates me. Every one is talking behind my back about my ugly clothes…'
- Catastrophizing. This is my favorite one as to getting people to recognize and stop doing, because we can easily see how ludicrous our thinking is at times. People will get upset with themselves over something, like 'I failed the test!' Have someone, or ask yourself, (So

what?) 'Failing the test means I'll fail for the year.' (So what?) Then I'll never graduate high school. (So what?) Then I'll never go to college. (So what?) Then I'll never be able to get a good job. (So what?) Then I'll never be able to support myself. (So what?) I'll become a bum on the street and live in the gutter… Really? One failed test will cause ALL THAT?! How about asking yourself, 'What can I do to handle this failed test?' Study harder. Do better next time. Get tutoring. Take a make-up test with the teacher's permission. Go to summer school… i.e. Stopping such catastrophizing is really easy.



This was some research done by Consumer Reports magazine (published July 2010), on the effectiveness of talk therapy by itself, mostly meds, or both combined, as to the treatment of anxiety and depression.

To my eyes, the results suggest that 1-6 sessions of therapy alone gets you just about as far as use of medication, with far less cost and no potential side effects to deal with.

There is also a two-way connection between the human gut and its bacteria (microbiome) and the brain. It used to be thought the brain did most of the talking, but it is now thought that 90% of the communication starts in the gut. i.e. If you change the health of your microbiome you can positively affect your mental health. One example is the bacteria lactobacillus rhamnosus which is found in the human gut, and it can lower anxiety in people. This bacteria may work by impacting GABA receptors. The bacteria also was found to reduce obsessive-compulsive disorder (OCD) in mice. This bacteria is found in some yogurt and dairy products.

Some research has found that lactobacillus plantarum can reduce anxiety by increasing dopamine and serotonin and lowering stress hormones and reducing inflammation. It can be found in foods like sauerkraut, kimchi, pickles and olives. Other research has found that lactobacillus helveticus (found in some cheeses) and bifidobacterium longum reduced stress-related disorders in healthy humans. It can also help with OCD and paranoia and reduce cortisol (British Journal of Nutrition, March 2011).

Other research has suggested ways of avoiding anxiety and depression in the first place by guarding the health of one's gut bacteria. That is, use of antibiotics can cause both anxiety and depression. A study in the UK involving well over a million people between patients with anxiety and depression vs. controls was done between 1995-2013 ("Antibiotic exposure and the risk for depression, anxiety, or psychosis: a nested case-control study" Journal of Clinical Psychiatry, November 2015, Ido Lurie et al). A single course of antibiotics was associated with a higher risk for depression with all antibiotic groups, with a 23% increase for pencillins, and 25% for

quinolones. Cipro in particular reduced diversity of gut bacteria and reduced beneficial bacteria including Bifidobacterium. The effects were found for up to several weeks out to a year in healthy adults. Azithromycin impacted Firmicutes and was more pronounced in kids. Risk went up with repeated use of antibiotics. Similar association was found with anxiety and was most notable with penicillins and sulfonamides.

There is also research on the omega-3 fatty acids being good for treatment of anxiety ("Association of Use of Omega-3 Polyunsaturated Fatty Acids with Changes in Severity of Anxiety Symptoms: a systematic review and meta-analysis" JAMA Open Network, 9/14/2018, Kuan-Pin Su et al). Based on research using more than 1,200 people they found that those treated with a daily dose of 2,000 mg or more of omega-3s "showed a significantly greater association of treatment with reduced anxiety symptoms."

Other approaches include biofeedback, neurofeedback, exercise, relaxation training (progressive muscle, guided imagery), meditation, yoga, breathing exercises, or hypnosis.

Sleep:

- 43% of people between the ages 13-64 report rarely or never getting a good night's sleep on weeknights.
- 63% say their sleep needs are not being met during the week. 50-70 million adults have a sleep disorder.
- 48% report snoring (apnea affect 25 million adults).
- One of the more common over the counter drugs for sleep is Benadryl (diphenhydramine), and there are concerns it leads to dementia, including Alzheimer's. This drug is generally viewed as not good to use past the age of about 60 due to older individuals being slower to metabolize it, leading to higher than desired blood levels of it accumulating in your system.
- Risk of car crashes goes up by factor of two when a sleeping pill has been taken (based on research done on 410,000 adults).
- there is some research that sedating drugs like Valium or sleep meds may shorten life span. Some Canadian research done on 14,000 people (ages 18-102, done for 12 years) found that there was a 36% increase in risk of dying during those years, with the biggest difference found in 55-74 year old people. This may be due to increased breathing problems, car accidents such as from lack of alertness, and impaired judgment that might result in suicide.
- other research compared 10,500 adults prescribed sleep meds vs. 23,600 non-sleep med users, with an average age of 54. Over 2.5 years 6% of users died vs. 1% of non-users.
- Consumer Reports magazine found that sleep meds add 8-20 minutes of sleep per night, and none have been shown to improve how people feel or perform the next day.
- Side effects of sleep meds include drowsiness, dizziness, feeling unsteady, hung over.
- A study done on 410,000 people published in the American Journal of Public Health in Aug. 2015 found that people prescribed sleeping pills were almost twice as likely to be in car crashes, and it was estimated that use of such pills made a crash as likely as someone driving with a blood alcohol above the legal limit.

- Dependency is a concern too. Ambien which is one of the more popular sleeping pills, can cause problems with sleep walking, memory lapses, & driving while asleep.
- 'Natural' meds like melatonin, valerian, and chamomile have not been proven to be effective, or necessarily safe especially if used for a long period of time. e.g. Melatonin can interact & may make less effective meds for: blood thinning, blood pressure, diabetes, seizure, steroids and immune-suppression.

Alternative approaches to improving sleep include exercise. One study at Stanford U. looked at exercise and sleep in people ages 55-75, and found those that exercised for 20-30 minutes in the afternoon reduced the time it took to go to sleep by one-half. Two meta-analyses have shown that exercise can increase overall sleep quality, and not only increase sleep time but improve slow-wave, deep sleep.

Other approaches include using a sleep schedule (sleep hygiene), having a comfortable bedroom and bed, use of blackout curtains or a sleep mask. Even very tiny amounts of light in a bedroom at night can impact sleep. Other means to improve sleep include avoiding caffeine or chocolate such as later in the day, large meals at night, nightcaps, and late afternoon naps unless one works nights.

Cognitive behavioral therapy for insomnia (CBT-I) has been found to be effective for 70-80% of people. It is estimated to shorten sleep onset by 12-40 minutes and add 20-45 minutes of total sleep time. CBT-I can also persist after you have learned the technique vs. having to take another sleeping pill each and every night to try and get a good rest again. The American Academy of Sleep Medicine and the American College of Physicians both suggest that CBT-I is a better way to relieve chronic insomnia than long term use of any sleeping pill, primarily because it deals with the underlying causes. Plus, there are no potential side effects.

One study published in JAMA Internal Medicine in September 2015 involved a meta-analysis of thirty-seven studies on 2,189 people. It found that CBT-I can also be effective in people who have other co-existing illnesses and psychiatric issues, such as alcohol dependence, depression, PTSD, cancer, chronic pain, and fibromyalgia.

The 'cognitive' part of CBT teaches you to change negative thoughts you have that contribute to sleep problems. The 'behavioral' part teaches you to avoid behaviors that may be keeping you awake and replace them with better sleep habits.

Cognitive error	Negative Thought	Positive Thought
Unrealistic Expectations	I should be able to sleep well every night like everyone else does.	Lots of people struggle with sleep from time to time. I'll be able to do so with practice.
Exaggeration	Every night is another sleepless misery.	Some nights I do better than others.
Catastrophizing	If I don't get some sleep, I'll bomb out at work and lose my job.	I can get through work even if I'm tired. I can rest and relax tonight even if I don't sleep well.
Hopelessness	I'll never be able sleep. There's nothing I can do about it.	My sleep issue can improve. If I focus on positive steps, I can sleep better.
Fortune telling	I know it's going to take me an hour or two to fall asleep.	Maybe I'll fall asleep quickly tonight if I use these strategies I've learned.

Behavioral changes you can use include:

- sleep restriction. This involves eliminating naps and forcing yourself to stay up beyond your normal bedtime, which obviously makes you more tired. It can help build a stronger association between bed and sleep vs. bed and lying awake.
- limited purposes. Beds are meant for sex and sleep, and not working, watching tv, or anything else. It also means that you stay out of bed except for sleeping at your bedtime hours.
- improving your sleep environment. This means making your bedroom cool, quiet, comfortable, and dark. You can use a 'white noise' machine if need be, or ear plugs, or a blackout curtains, or a sleep mask. It also is best to avoid caffeine and nicotine later in the day. Regular day time exercise is also encouraged.
- relaxation techniques can include progressive muscle relaxation, meditation, guided imagery, and breathing exercises.
- biofeedback uses sensors that measure physiological measures such as heart rate, breathing, and muscle tension which can help you recognize and control them as a reflection of anxiety that can impact your sleep patterns.

Breathing exercises to help relax can include getting comfortable, closing your eyes, and inhaling through your nose and exhaling through your mouth, doing it slowly and deeply, and focusing on it.

Progressive muscle relaxation involves tensing major muscle groups progressively, one at a time (feet, legs, arms, etc.) for a count of ten, and then relaxing them, and after moving on to the next group.

There are numerous guided imagery mp.3 files you can find on the internet, such as http://www.ilmpsychtesting.com/01MountainLake.mp3

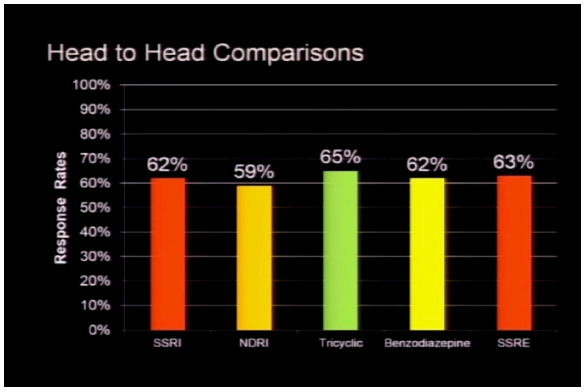
Another approach for improving sleep or reducing impairment is the use of light. This includes appreciating the effects of blue light (electronic screens) vs. red light on sleep. We are a product of evolution. If you go back a few million years to when people were living in caves, at dusk the cave would grow dark, and the sky turned its pretty sunset colors. In the morning, the cave would get brighter and the sky would become increasingly blue. Guess what color turns on melatonin (the sleep hormone)? Guess what color turns off melatonin production in the body in the morning hours somewhere around sunrise, and makes us more alert? We've gotten very far away from such natural lighting given all the indoor lights we now use, plus the electronic blue light of gadgets that we tend to use at night, such as computers and cell phones. Use of sunset-like colors ('red light') prior to bedtime can help trigger natural melatonin production. There is lots on the net about this, such as https://www.nestmaven.com/sleep/how-to-sleep-better/

Depression:

Back in the '30s and '40s the rate of depression in the U.S. was 0.1% (1 in 1000 people). Thirty years ago less than 2% of people used such meds. Antidepressant use has roughly doubled since just 1999-2000, when 7% were on them. Today, 1 in 6 adult Americans are now taking some kind

of psych med, mostly antidepressants (12-13% are on antidepressants, including 25% of females over age 40 are on them). 150 million prescriptions a year are written for antidepressants.

- Life is not a bowl of cherries. Situational problems arise (divorce, death, bankruptcy, job loss, etc.). People are now medicated in an attempt to counteract such normal emotions. One study found that 25% of people may be misdiagnosed as depressed when they are simply experiencing reactions to emotional setbacks.
- 19% of people 65+ years old are on them now, vs. 3% back around 1994 using them. Older folks do not have a greater frequency of depression. And the drugs are LESS efficacious in older people. There is no solid evidence they help with mood problems in older people. But many people are given such meds 'off label' such as for sleep, anxiety, or neuropathic pain.
- Most of such usage is long term, with 68% of people on them for 2+ years, and 25% on them for more than a decade.
- The popular theory that has been advanced for decades now is that there's a 'chemical imbalance' in the brain that the drugs are fixing. It's never been proven in over sixty years.
- The chemical imbalance theory has been used as the justification for taking antidepressants, as to increasing the level of certain chemicals such as serotonin in the brain. The French came up with a drug that is not available in the U.S. called Tianeptine. It *lowers* the level of serotonin, and it has virtually identical success as SSRIs. If the chemical imbalance theory is correct, there is no possible way that increasing *and* decreasing the neurotransmitter can yield identical results.



This graph shows that all forms of drugs treating depression (NDRI means those affecting norepinephrine & dopamine such as Wellbutrin, and SSRE is a reference to Tianeptine) have about the same level of effectiveness.

Irving Kirsch, "The Emperor's New Drugs: exploding the antidepressant myth" https://youtu.be/UC5RZRG7-QQ

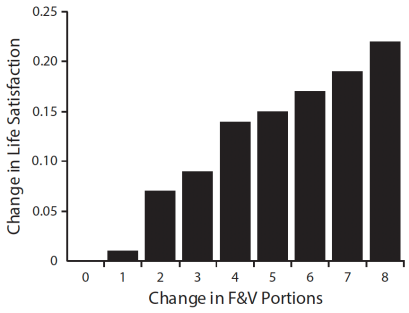
- Instead, there's more recent research that depression can sometimes be due to inflammation, such as from food we eat (ignoring depression arising from situational reactions, such as to death, divorce, etc.). One website offering info on this is https://nutritionfacts.org/topics/depression/. Part of this inflammation theory is that depression is a defense against infection. Infection has been the leading cause of mortality throughout human history. With infection there is inflammation as to a counterattack, and we feel lousy, listless, malaise – which is good for fighting infection, and avoiding further stressors, and helps others avoid becoming infected by us. Depression can be induced by triggering inflammation such as through use of Interferon, or even a vaccine can bring on a depressive episode. Meds take 4-6 weeks to nominally work, and some can require 12 weeks. Changing nutrition, such as 3 servings of veggies a week cuts the risk of major

depression by 60%, and removing meat, fish, poultry, eggs from the diet can have an impact in as a little as 2 weeks. Research done on 43,000 women over a dozen years found that an inflammatory dietary pattern is associated with a higher risk for depression. Plant based diets ('more fruits and veggies') are the most anti-inflammatory.

This graph shows results from an Australian study (HILDA) between 2007-2009 involving 12,389 people (ages 15-93) across that country. It shows the relationship between the number of fruit & veggie servings per day to 'life satisfaction.' The 0.24 unit increase in life satisfaction of 8+ servings is equal to the difference between being employed vs. unemployed. Or, it is roughly equal to half the change in life satisfaction of going from married to separated. The change accrued over 2 years.

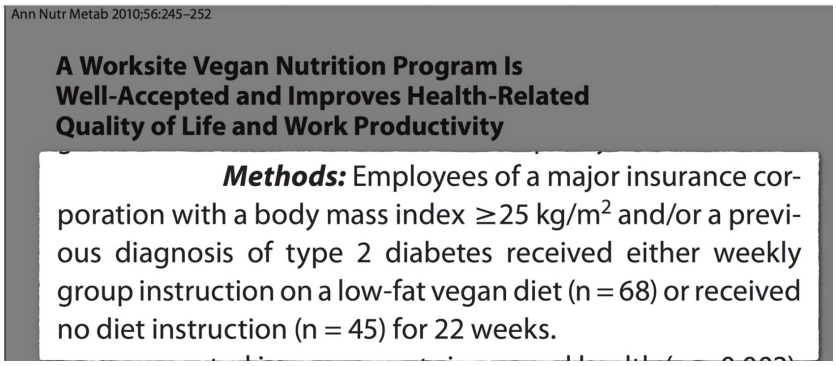
"Evolution of well-being & happiness after increases in consumption of fruit and vegetables" R. Mujic, A. Oswald, American Journal of Public Health, Aug. 2016

AJPH RESEARCH



Note. Fixed-effects regression equation with 9 banded dummy variables for each level of fruit and vegetable (F&V Portions) daily consumption. Horizontal axis: 0 = < 1 portion of fruit and vegetables per day; 1 = > 1 portion but < 2 portions per day; and 8 = 8 or more portions a day.

FIGURE 1—Longitudinal Changes in Fruit and Vegetable Consumption and Longitudinal Changes in Satisfaction With Life in Australian Individuals (n = 12 385): Household, Income, and Labour Dynamics in Australia Survey, 2007 and 2009

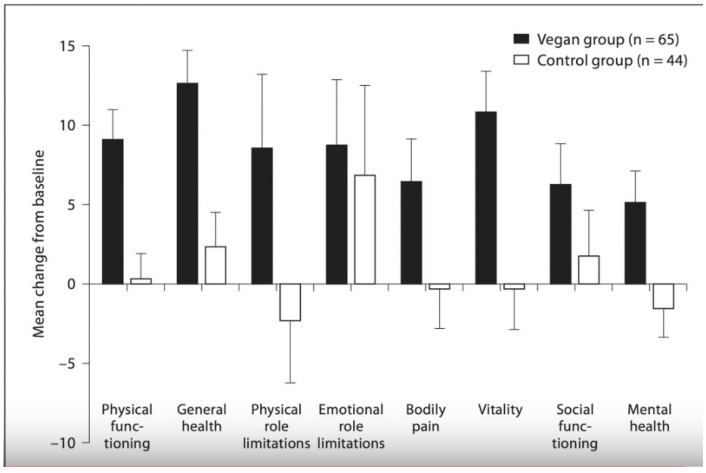

Ann Nutr Metab 2010;56:245–252

A Worksite Vegan Nutrition Program Is Well-Accepted and Improves Health-Related Quality of Life and Work Productivity

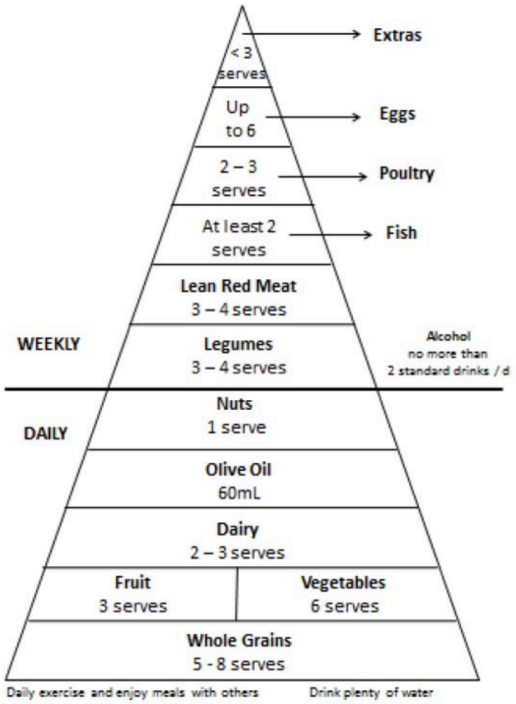
Methods: Employees of a major insurance corporation with a body mass index ≥25 kg/m^2 and/or a previous diagnosis of type 2 diabetes received either weekly group instruction on a low-fat vegan diet (n = 68) or received no diet instruction (n = 45) for 22 weeks.

This was a study looking at how diet can impact one's well being (not just depression but other elements of physical and mental health). It included more veggie offerings in the company cafeteria. The graph below is a summation of its findings.

www.nutritionfacts.org



- A study done in the Netherlands on 3,884 patients found that the higher the ratio of omega 6 to omega 3, the higher the rate of depression. Another study done in Melbourne, Australia found similar results as to omega 6 to omega 3 and the incidence of depression. (Foods high in omega 6 include a number of oils such as sunflower, corn, soybean, and cottonseed. Flaxseed is one of the best sources of omega 3. Other sources include tofu, spinach, navy beans, anchovies, walnuts, winter squash, chia seeds, and red lentils.)



The ModiMedDiet Food Pyramid

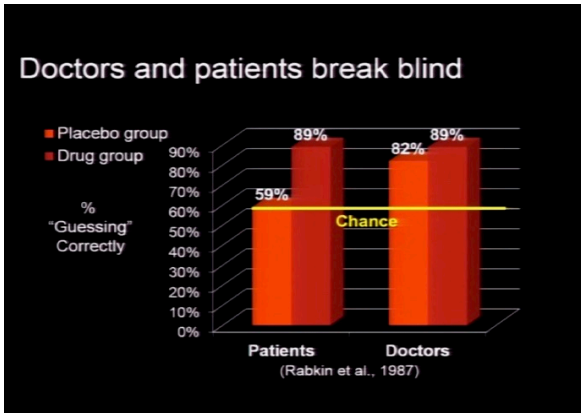
- another Australian study (SMILES) took 67 people and randomized them into two groups, with one receiving personalized dietary recommendations based on the modified Mediterranean diet through a dietician (see the graphic to the left). And the other group of 34 people got an equal amount of social support with trained personnel to discuss topics of interest, such as sport or music, or playing games together. There were an equal number of visits. Assessments were done at baseline, 12 weeks later, and with a final follow-up 6 months after the baseline visit. Results included that those who improved their diet the most experienced the greatest benefit to their depressive symptoms, with 32% no longer meeting criteria for major depression vs. 8% of the 'befriended group.' There was no change in weight in either group since it was not a weight loss program.

- another study done on 3,486 Londoners with a 5-year follow-up looked at eating a 'whole food' (e.g. fruit, vegetables, fish) vs. 'processed food' (e.g. sweetened desserts, fried food, processed meat, refined grains, high-fat dairy). The processed food diet had a 58% rate of depression, and the whole foods diet a 26% decreased rate.

- one study (in the British Journal of Nutrition, "Fruit and vegetable consumption and risk of depression: accumulative evidence from an updated systematic review and meta-analysis of epidemiological studies" Faezeh Saghafian, et al, 2018), found that "every 100 gram increase [in fruits or vegetables] was associated with a 3% reduced risk of depression in cohort studies." Still other studies have found that BDNF (brain derived neurotrophic factor which is a natural chemical that declines with age) can be increased by dietary and other factors, including a teaspoon of turmeric per day, and nuts. Higher BDNF levels are associated with lower levels of depression.

- research also has found that a high-glycemic load (i.e. more sugar and simple carbs) was found to be associated with higher depression symptoms, total mood disturbance, and fatigue compared to a low-glycemic diet, especially in overweight or obese individuals but otherwise healthy adults.
- studies have found that some depressed people have an imbalance or change in their gut bacteria (gut dysbiosis). It also has been found that prebiotic supplementation can result in people becoming less depressed. ("Food and mood: a review of supplementary prebiotic and probiotic interventions in the treatment of anxiety and depression in adults" BMJ Nutrition, Prevention & Health, 11/5/2020, Sanjay Noonan et al). Probiotics (e.g. yogurt, kefir, sauerkraut, miso, tofu, tempeh) are thought to contribute to reducing inflammation in the body which can contribute to depression. Probiotics can be eaten or taken through supplements.
    - Some research has found that Lactobacillus and Bifidobacterium are the most helpful relative to mental health. One researcher has suggested that depression is more common with bifido levels below 2% (as determined by a microbiome test). Other research ("Gut Microbes, "Beneficial psychological effects of a probiotic formulation (Lactobacillus helveticus R0052 and Bifidobacterium longum R0175) in healthy human volunteers", Michaël Messaoudi, et al, July/Aug 2011) found a reduction in anxiety and depression by use of such supplements. (You may want to talk to your physician and/or nutritionist about any particular supplement you are interested in using. Some supplements may cause stomach pain, gas, bloating, diarrhea, or general GI distress. It is also advisable to talk to a doctor if pregnant, breast feeding, or not use them at all such as if you have a chronic health condition like a weak immune system or cancer.) Foods that can foster bifido growth in the gut include: almonds, artichokes, bananas, barley, blueberries, cocoa, garlic, green tea, kimchi, oats, pistachios, yogurt to name a few.
- there is also research (Australian & New Zealand Journal of Psychiatry, "A review of the antimicrobial side of antidepressants and its putative implications on the gut microbiome" 2019, 53(12), Abigail McGovern et al) that found through rat research that SSRI antidepressants such as Prozac and Lexapro altered the microbiome by killing off some species of bacteria. Some studies in humans have also found this effect. One of the conclusions they drew, without research to back it up yet, is that such drugs causing gut dysbiosis can lead to brain/behavior problems, at least in rodents. This includes depressive-like behavior, and decreased anxiety. "There is substantial evidence that SSRIs may affect the community structure of the gut microbiome… and many microbes may be susceptible to SSRIs. …If SSRI's impact the gut microbiota, research suggests that they have the potential to interfere with treatment efficacy" by impacting the serotonin system and hippocampus, which is the center of memory functioning.
- In decades past, 50% of depressives were relapsing after 15 years. In 1997 a meta-analysis done by Harvard U. found that 50% of depressed patients withdrawn from meds relapsed within 14 months. And the longer the patient had been on meds prior to stopping them the higher the relapse rate.
- Other research has found that with additional trials of antidepressants the lower was the likelihood that depression would go into remission decreased by 25% with each exposure to the drug class (Journal of Consulting & Clinical Psychology, 2007 Y. Leykin et al).

- the placebo effect of antidepressants was estimated at 82% based on a meta-analysis done in 2012 (when taking into account unpublished studies which had been kept under wraps because they showed antidepressant drugs failed to be effective). There is no clinically significant advantage of meds over a placebo when ALL research is looked at. This is based on research done on what are called 'active placebos' where a sugar pill also has some chemical (e.g. atropine) added to it that causes a side effect such as dry mouth, but the extra chemical has no value for treating depression. When active placebos are used the slim benefit of antidepressant drugs over placebos vanishes.
- there was research that has been heavily cited over the years saying antidepressants were more effective than placebos for *severe* depression, vs. for just mild or moderate depression. But on closer inspection what was found is that it was not the drug working better, but that placebos were less effective. That is, severely depressed patients could figure out they were on the placebo from all their experience with such meds, and so they did not buy into the placebo effect to as great a degree.



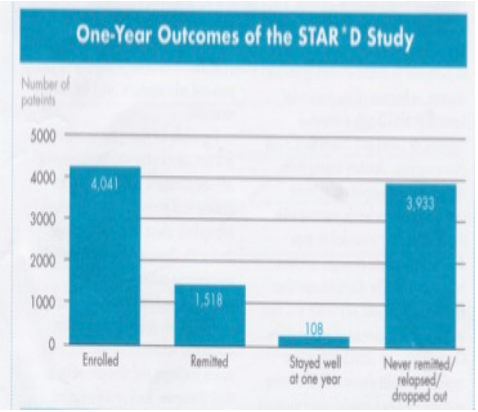
This graph shows that in a double-blind study where doctors & patients supposedly didn't know who was getting the drug, patients couldn't figure out beyond roughly random chance if they were on a placebo, but docs could. For those getting the drug, most patients and docs could figure it out. Such correct guessing is commonly referred to as 'breaking blind.' (The yellow line is at 50%, meaning guessing correctly just from chance.)

Above & below: Irving Kirsch, "The Emperor's New Drugs: exploding the antidepressant myth" https://youtu.be/UC5RZRG7-QQ

This is a humorous explanation of 'active placebos' in antidepressant research. Research on placebos is fascinating. The spelling of the drug's name makes a difference (X, Q & Z are 'sexy' letters and people give those 'more power' - hence their predominance in names. Colors are varied by need (e.g. calm blue for tranquilizers, brighter colors for something like ADHD).

"Do antidepressants work? A review of a recent critical analysis" Belinda Novik, NC Psychologist, Fall 2018, 70(4), 15-24

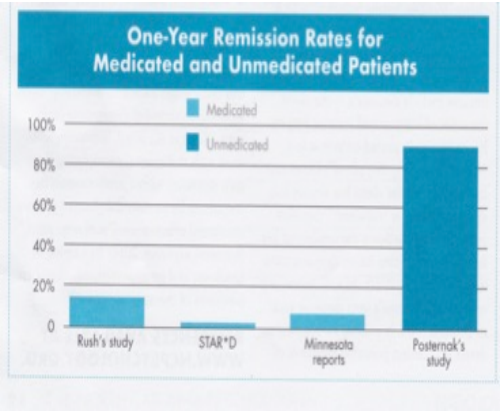
- The largest study done on antidepressants was NIMH's Star*D, performed on over 4000 patients. Initially they were started on Celexa. If that failed they were randomly switched to Wellbutrin, Effexor or Zoloft. If that failed they could be switched to Remeron or Pamelor. Those who still did not improve were switched to a fourth level, where they could get Parnate, or a combination of Effexor XR and Remeron. About a third remitted initially at the first level, 25% did so at level 2, and 12-20% became symptom free at level 3 with the 2 meds being about equal. Level 4 saw 7-10% success with no difference in the meds' success. Withdrawals from each level increased, and totaled nearly 45% by level 4. Only 3% remitted and then stayed well throughout the 12 month follow-up period. The others failed to remit, relapsed during follow-up, or dropped out. i.e. This means there was a 97% failure rate of antidepressants. There was no placebo control group in this study.



- In 1957 a study was done on drugs to prevent vomiting. Volunteers were given ipecac, which induces nausea, and then the people were tried sequentially on six different drugs, so if they failed the first others would be tried. This is the format Star*D later used. More than half responded to the first drug, but 17% failed it but responded to the second. The third drug had 20% success. By the time they had tried all six drugs 100% had responded to at least one medication. Why is this being mentioned? Because all of the drugs were placebos. This has consequences for the Star*D research. With no placebo control group one cannot say for sure that the claim of 67% of people improving initially in Star*D is due to the effectiveness of the various drugs used. It could well be nothing but a placebo effect. Or they got less depressed for random reasons, like the passage of time.

- Some research was done at the University of Mainz that looked at what happens when an antidepressant is not working and the dose is increased. After the dosage was upped 72% of people reported at least a 50% reduction in symptoms. The rub? Only half of the people in fact had received a higher dosage of the drug. The other half were getting the same amount as before, unbeknownst to them. Both the higher dosage and same dose groups had 72% report improvement. i.e. More placebo effect. There is other research that has found that there is not a 'dose response curve' to antidepressants. That is, if you have a standard headache you take standard amounts of aspirin, Tylenol, Advil. For a really bad one, you take stronger amounts and get more relief. With antidepressants there is no difference. Low, medium or high dose, it's all the same as to what results. This is another way of suggesting that antidepressant drugs do not work as they are claimed to.

- A Brown University psychiatrist, Michael Posternak, found in 2006 that among unmedicated depressives 23% had recovered within a month, 67% within 6 months, and 85% within a year. He stated, "If as many as 85% of depressed individuals who go without somatic treatment spontaneously recover within one year, it would be extremely difficult to demonstrate a superior result to this." Another psychiatrist, John Rush, found in 2004 that 13% were in remission at the end of the year but only 5% of patients on antidepressants had a "sustained remission" for a year. Another study of 260,000 patients in Minnesota found only 5% of antidepressant users in remission. "Do antidepressants work? A review of a recent critical analysis" Belinda Novik, NC Psychologist, Fall 2018, 70(4), 15-24



- Serotonin is a neurotransmitter that many antidepressants target. Serotonin has many functions in the body including: regulating growth, development, reproduction, temperature regulation, tissue repair, maintenance, electrolyte balance, mitochondrial function, and the storage, mobilization and distribution of energetic resources. Consequently, use of antidepressant drugs targeting serotonin has the potential for adversely impacting many other necessary functions that support your life and well being. Research done by Consumer Reports on antidepressants found that about 50-55% of people on antidepressants report sexual side effects. Some research put this figure up around 70-80%. About 15-20% of people report problems with drowsiness or disorientation, and that number also has weight gain. The side effects of Wellbutrin are about half of this level, but there are other problems that arise, such as an increased risk for seizures, insomnia, anorexia, nausea, bleeding, and forgetfulness.

- There is now something abbreviated PSSD (post-SSRI sexual dysfunction). This is a side effect where sexual function does not completely return to normal after stopping an anti-depressant (be it SSRI's, SNRI's or tricyclics). Symptoms include: reduced genital sensation/anesthesia, erectile dysfunction/decreased vaginal lubrication, delayed or inability to orgasm, weak/muted orgasm, reduced response to sexual stimuli, decreased or lack of night time erections, premature ejaculation, reduced nipple sensitivity, and soft glans. How common this is remains unknown at this time. This may not be an 'all or none' condition, meaning that there may be many people who have a few symptoms, and a few people who have more problems, and some moderate number in between these extremes. Means to figure out if sexual side effects are due to the medication vs. something else (e.g. simply being depressed): 1) having normal sexual functioning right before starting the antidepressant. 2) Experiencing a very clear onset of sexual side effects within the first days or weeks of starting treatment, and sexual function never fully returned to normal after stopping. 3) Experiencing genital numbing and muted orgasms; depression does not cause these effects. 4) Loss of nocturnal erections also point to the drug. 5) If your original depression cleared up on the antidepressant and you were doing well, on stopping the meds no new problems should appear for several months at least. Any persisting or new sexual problems that appears within days of stopping is likely caused by the drug. There is no known time scale for how long PSSD may last. And there is currently no proven treatment for it. Attempts at treating it have included CBT, ginkgo biloba (which can block blood

clotting and may have other side effects), physical exercise, and timing sex for when the man is more aroused, typically toward morning hours when testosterone levels usually peak. There are any number of prescription drugs that have been recommended, but the idea of taking another drug to treat the PSSD and then getting hit with new side effects does not make much sense in my professional opinion.

- A more serious side effect of antidepressants is something called 'serotonin syndrome' which is potentially life threatening. Symptoms include restlessness, hallucinations, loss of coordination, a racing heart, rapid blood pressure changes, fever, nausea, vomiting, and diarrhea. Serotonin syndrome can result from taking more than one antidepressant at the same time. Or, from taking an antidepressant with other drugs such as over the counter cough suppressants, pain meds (e.g. Tramadol), migraine remedies (such as Imitrex or Maxalt), or muscle relaxers (Skelaxin).

- stopping use of antidepressants is problematic for 20-50% of people, depending on factors such as how long you have been taking the drug, and which drug has been used. Remember the amplified 'brake pedal' of using tranquilizers? Antidepressants are in effect amplifying the 'gas pedal' of your nervous system. Once again, the body tries to rebalance itself, and reduces the amount of energizing neurotransmitters it is making, and reduces receptor cites. What happens if you stop taking an antidepressant? Insufficient gas or energy, which we call depression. Or even feeling suicidal. People may mistake their now mucked up nervous system as proof that they are truly depressed and so go back on the drug again, making matters even worse. Symptoms of withdrawal include abdominal cramping and pain, diarrhea, nausea, vomiting; flu-like symptoms; headaches, sleep disturbances, hallucinations, dizziness, severe fatigue, blurred vision, numbness, electric shock sensations (brain 'zaps'), twitches and tremors. Abrupt withdrawal can also produce depression & anxiety. Withdrawal effects can last for several months out to a year or more. The World Health Organization (WHO) published a report that said 3 SSRIs (Prozac, Paxil and Zoloft) were among the top 30 highest ranking drugs for which drug dependence had ever been reported.

- The American Psychiatric Association Textbook said in 1999: "Only 15% of people with unipolar depression experience a single bout of the illness," and for the remaining 85% with each new episode remissions become "less complete and new recurrences develop with less provocation." So, 'take this drug and you have an 85% chance of not beating depression' is what is being offered here.

- Another risk of antidepressants is increased odds of suicide up until the age of 40 at least. The numbers shown here are considered underestimates of the actual rates due to various reasons. This includes mislabeling actual suicide attempts as something else (e.g. "having miscellaneous effects"), not counting suicidal behavior if it occurred just after the study ended, and recruiting people for studies on meds who were very low risk of being suicidal.

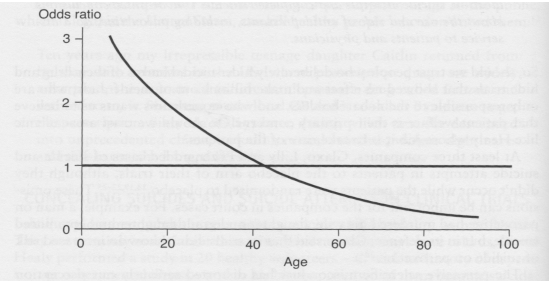
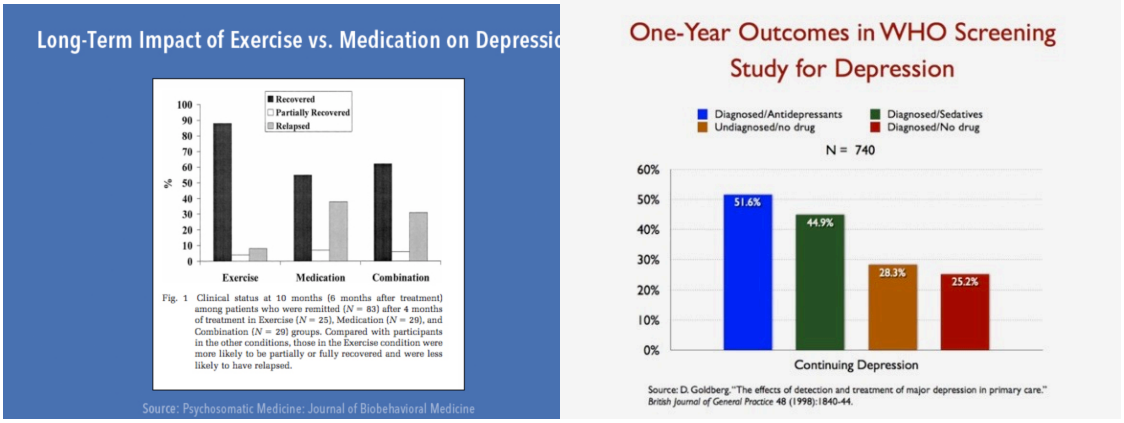


Figure 18.1 FDA meta-analysis of 372 placebo-controlled trials of SSRIs and similar drugs involving nearly 100 000 patients. Odds ratios for suicidal behaviour for active drug relative to placebo by age

"Deadly medicines & organized crime: how big pharma corrupted healthcare" Peter Gøtzsche

What are some other approaches to deal with depression?

- exercise. Research on it being used to treat depression dates back at least to the mid-'70s, and it has had good research results over the years. Those exercising regularly (e.g. based on a study involving people age 15-54 totaling 8,098 individuals) were at significantly less risk of having a major depressive diagnosis. Exercise is rarely prescribed for depression. One study (called SMILE, done at Duke) had a group doing exercise for 30 minutes three times/week being walking/jogging 3 miles or riding an exercise bike, & getting the pulse up to 50-85% of maximum heart rate. The meds group got Zoloft, and a third group got exercise plus drug. Among 83 patients free of depression at the end of it, 8% relapsed within 6 months when doing just exercise. 31% relapsed when doing exercise + meds, and 38% relapsed from doing just meds alone. The 'exercise only' group also had a higher rate of being recovered from depression.



"Exercise Treatment for Major Depression: maintenance of therapeutic benefit at 10 months" James Clear, et al Psychosomatic Medicine, 62:633-638 (2000)

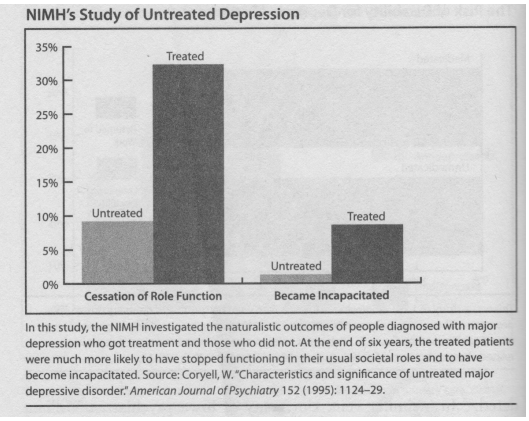
The above graph on the left shows that exercise works best for treating depression, meds the worst, including a relapse rate of meds four times higher than the exercise alone group. The other graph shows that leaving depression untreated leads to a better outcome after a year, with roughly just half as many people still being depressed vs. if they've been treated with meds.

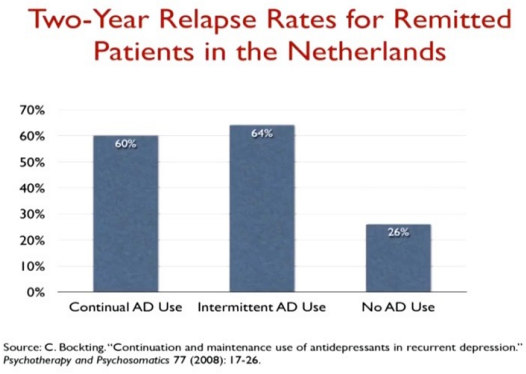
- psychotherapy, and cognitive behavioral techniques (CBT) in particular can be effective for treating depression. Research on CBT dates back to the late 1960's and always has had good results. It is easy to learn, easy to apply to oneself, and is effective.

- use of light boxes for those who have 'winter blues' (seasonal affective disorder, SAD). It is believed that light boxes mimic sunlight by suppressing melatonin which is overproduced in people with SAD. An analysis of sixteen studies that came out in 2020 on SAD found that bright light therapy individuals had a 42% increased rate of response compared to those using sham or low-light therapy. People who consistently have worse mood issues in the Fall and Winter and who are better in the Spring and Summer do better with light therapy. Those who have depression that persists into Spring or Summer may not respond as well to light therapy according to some research. Light therapy works best when used before 8 AM, and should consist of units that provide 10,000 lux. They should also filter out UV light. Less bright units such as 5,000 lux output can be used but take longer as length of each daily session. Better yet is to simply get more natural sunlight from outdoor exposure if possible. Light therapy can also be used on non-SAD depression, for adjusting to a night time work schedule, jet lag, and sleep disorders (such as people who are night owls, or those people –typically older – who wake up very early in the

morning but are tired early in the evening. The most serious side effect of light therapy is it can induce mania in someone who is bipolar. Beyond that, side effects that might arise are minimal like eyestrain, headaches, or impaired sleep if you use it too late in the day. For more information on the use of light, see "Winter Blues" by Norman Rosenthal, who is THE author on the subject.

- ❖ neurofeedback is believed to be effective in treating depression regardless of why it has arisen, such as from genetic predisposition, childhood trauma, substance abuse or other medical conditions. Research has found that 75-80% of depressed patients having neurofeedback have a marked reduction in symptoms. Plus, improvement tends to stick for years after neurofeedback stops vs. the elevated relapse rate found with antidepressants.
- ❖ seeking more social support can reduce depression. Using your friends, or if need be, seeking out more and/or closer friends who will be there for you when times are tough can help in avoiding or overcoming depression.
- ❖ some people are interested in supplements. Two thoughts can be offered here. One is that if you have a deficiency, such as can happen with aging and certain nutrients like vitamin B12, then supplements may be appropriate. Sub-clinical hypothyroidism may be responsible for some people who have treatment-resistant depression. The other is that supplements are not as tightly regulated as drugs, and their potency may not be accurate relative to their label. Plus, side effects can occur which you need to be careful about. e.g. St. John's wort can interact with various meds including antidepressants, antihistamines, birth control pills, blood thinners, and statins. So due caution is advised, along with talking to a professional such as a nutritionist or your physician.





"Anatomy of an epidemic: magic bullets, psychiatric drugs, and the astonishing rise of mental illness in America" Robert Whitaker

Both graphs above offer rather striking findings, as to people doing worse when they've been treated with antidepressants.

Another approach for treating depression was developed by Martin Seligman and uses the abbreviation PERMA.

P (positive emotion): this goes beyond just smiling, but taking a 'half full' perspective on life as to past, present and future, being more optimistic. It recognizes that there are highs and lows in everyone's life, and if one focuses on the lows depression is more likely. Focus on the highs, the positive elements of life, and it creates a more happy outlook and spirit.

There is a need to differentiate pleasure and enjoyment. Pleasure can be hedonistic, such as getting drunk, engaging in orgies, and bingeing on food. Enjoyment comes in many forms, be it intellectual stimulation, companionship of family and friends, or being creative.

E (engagement): This entails becoming engaged in important aspects of our lives that will allow us to grow, learn, and nurture our happiness. It can come from being a parent to a child, a coach to a kids' team, playing in an orchestra, dancing with partners, or partaking of hobbies.

R (relationships): people are social beings, and there is a need for connection, love, intimacy, interaction with others. Having positive and healthy relationships with other people within one's family, along with friends, coworkers and neighbors can increase happiness in good times, and give us allies when life gets difficult.

M (meaning): finding meaning and purpose in life, as to 'Why am I here?' and not living in an existential crisis is important to help create happiness. Jimmy Stewart's 'George Bailey' in 'It's a Wonderful Life' had to find that meaning and purpose with the help of an angel to get through his crisis. Finding such meaning without heavenly support can lead to greater satisfaction and happiness.

A (accomplishments): goals and ambition are another important aspect of life. Getting through school and becoming educated, being a good parent, success in work or as a volunteer community leader can all lead to a sense of satisfaction for attaining such accomplishments. There is a need to push ourselves to feel good, and to not just stagnate.

In summary, feelings of anxiety and depression, along with sleep problems are something that virtually everyone experiences at some time in their life over situational stress that becomes very high. Other people have these problems not just temporarily and rarely, but more chronically spanning years or decades, for various reasons. How you choose to cope with these difficulties is your choice.

What is being offered here is that there are better and worse ways of coping. Committing suicide is definitely not the way to cope with problems. Looking for answers at the bottom of a bottle of alcohol, or through use of illegal drugs are also something I do not advise. The failure rate of those approaches for solving problems is 100%. Prescription drugs are no better. Instead, the recommendation being made here is to look at food and nutrition, exercise, CBT, neurofeedback, and various forms of relaxation and contemplative states that can be very helpful in overcoming these problems.