

Practical Points to Enhance The Effectiveness of Medications

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Effects of Dietary Intake on Psychiatric Medications

Because neurotransmitters are synthesized primarily from dietary amino acids and neuronal electrical charges are governed primarily by minerals, our basic diet can have profound effect on the ability of a medication to have a therapeutic effect on mood, thinking, and behaviour. Conversely, medications can have an equally profound effect on the way our body uses food. It is critical that anyone taking psychiatric medications have a balanced diet using the new food pyramid as a guide. It is impossible to document all the possible drug and food interactions in this article, but I have listed a few of the common ones.

Salt

Salt is needed for all nervous system functions. Lithium is a naturally occurring mineral with an electrical charge similar to salt. Therefore, the level of salt in the body automatically affects the action of lithium. Once the lithium level reaches therapeutic range, it can be altered by subtle changes in daily salt intake. For instance, a person who normally doesn't eat much salt can have a decreased lithium level by eating salty foods such as pizza, tomato juice, or canned soups. People eating too much salt may be accused of not taking their lithium when actually they have been very compliant. Conversely, losing sodium by sweating, diarrhoea, or vomiting can cause the body to retain lithium. Lithium toxicity can occur in this way. Please consult a dietician if you are interested in more information about salt. Do not go on a salt-restricted diet or add salt supplements without consulting the person who prescribes medication for you.

Sugar

Sugar is needed by every cell in the body, particularly those in the brain. The brain has an absolute requirement of 100-150 grams (1000-1500mg) of glucose per day with the resting state consuming 20-30 percent. It is best to keep glucose levels constant, not fluctuating. One 12-ounce can of a cola-type soda has 40 grams of carbohydrate in the form of sucrose, or table sugar. A two-litre bottle has 64 ounces—more than 200 grams of sugar! Obviously this amount can give the brain quite a jolt. Excessive sugar. The result is fluctuating blood-sugar levels that will obviously affect the brain.

Sugar also affects mood. Sugar in the form of simple carbohydrates (table sugar) stimulates insulin release that increases tryptophan-to-serotonin (a mood chemical) conversion on a short-term basis. Complex carbohydrates such as bagels, pretzels, and oatmeal facilitate a long-term conversion causing a sort of time-released serotonin. Many people who have a serotonin imbalance actually increase the imbalance by erratic eating patterns.

Chocolate

Chocolate is a sugar/fat combination. Fats stimulate the release of endorphins (natural pain killers) and sugar stimulates serotonin. Chocolate also contains phenylethylamine (the chemical reported to be released when a person falls in love), theobromine (a mild stimulant) and caffeine.

Caffeine

Pharmacologically speaking, caffeine is singularly the most devastating legally available stimulant anyone can ingest. More than 225mg (the amount in two cups of brewed coffee or four cans of soda) is considered excessive. Some of the known actions of caffeine include: ("+" = increase and "-" = decrease).

- ❖ + free fatty acid mobilization (raises level of blood lipids) that ultimately + blood-sugar levels.
- ❖ - lithium levels, even when you take it faithfully, by + urinary excretion due to diuretic effects.
- ❖ - effectiveness of antianxiety medications by competing with the same receptor fluphenazine.
- ❖ - gastric absorption of antipsychotic medications, especially haloperidol and fluphenazine.
- ❖ Leads to irregular heartbeats and + blood pressure with monoamine oxidase inhibitors.
- ❖ Does not improve thinking if you are intoxicated, only combats the depressant effect.
- ❖ If you are already taking a stimulant such as cocaine, caffeine can lead to death.
- ❖ If you have a panic disorder, caffeine can precipitate attacks.
- ❖ May alter the desired mood effects of traditional tricyclic antidepressants.
- ❖ + the risk of anxiety and restlessness if taking SSRIs
- ❖ High caffeine users in general require higher doses of antipsychotic drugs.

Nicotine and Smoking

Nicotine has been under particularly close scrutiny lately. It has long been known to be extremely addictive, but only recently has research begun to uncover what it can do to prescription medications. Many people taking psychiatric drugs are addicted to nicotine. Nicotine is known to increase the release of dopamine in the brain. This is thought to be one of the reasons why many consumers with schizophrenia end up needing such high doses of medications--the nicotine may actually counteract drugs like risperidone, haloperidol, and others. Because nicotine is also a stimulant, it may also reduce the drowsiness caused by neuroleptics and antianxiety agents.

Smoking sets up another problem. When people smoke they ingest compounds called arial carbons. These carbons induce powerful liver enzyme systems into action. Liver enzymes are chemicals responsible for the breakdown of drugs and toxins so the body doesn't become toxic. These enzymes also metabolize many psychiatric drugs. Smoking in general can create interactions with other drugs by affecting their metabolism. The simple act of smoking can raise the dose required to create a therapeutic responses from antipsychotic medications. Often the required dose is so high it creates unpleasant side effects.

Conclusion

My intention for writing this article is to create an awareness of a few of the many reasons why people taking psychiatric drugs may not be getting the full benefit of these miraculous compounds. Generally speaking, a small amount of medication can cause the brain to undergo profound changes. In many circumstances more drug can actually equal less therapeutic response. Most people taking psychiatric drugs do not require the high doses that can cause disabling sedation and movement disorders, but because of poor health the body cannot respond properly to the prescribed drug. I cannot emphasize strongly enough how critical it is for everyone taking a psychiatric medication to begin the process of detoxifying the body of addictive substances and restore healthy organ system functioning with proper nutrition so the body can function in harmony with medications. When the body is healthy and rested, the mind will function much more efficiently. To borrow a famous quote, "The mind is a terrible thing to waste."

Suggested Reading:

- ❖ American Dietetic Association: Handbook of Clinical Dietetics, 2nd ed. New Haven: Yale University Press, 1992.
- ❖ Goff DC, Henderson DC & Amico E: Cigarette smoking in schizophrenia: relationship to psychopathology and medication side effects. American Journal of Psychiatry, 149 1189-1194, 1992.
- ❖ Gray G & Gray L: Nutritional aspects of psychiatric disorders. Journal of the American Dietetic Association, 89, 492-497, 1989.
- ❖ Kirmer D: Caffeine use and abuse in psychiatric clients. Journal of Psychosocial Nursing, 26, 20-24, 1988.
- ❖ Leonard BE: Fundamentals of Psychopharmacology. New York: John Wiley & Sons, 1992.