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PHARMA HIGHLIGHTS

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Booster Doses of COVID-19 Vaccines

Booster doses raise the levels of neutralizing antibodies, which help to prevent infection by inhibiting the virus from entering cells, but the impact is not lasting enough. Booster-induced immunity against Omicron seems to diminish quicker than against Delta, according to real-world data from the United Kingdom from late 2021. Boosters may also be required on an ongoing basis to protect against severe illness and hospitalization, especially if future variants are not milder - real- world data from the United States, the United Kingdom, and Israel had shown that boosters were effective at preventing severe illness and reducing hospitalization in most people for only up to 5 months with Delta and 3 or more months with Omicron. Currently there are many booster doses such as Pfizer-BioNTech Vaccine, Moderna Vaccine, Johnson & Johnson Vaccine, COVISHIELD Vaccine, Sinopharm Vaccine and many more. These vaccines works mostly in similar ways, for example in case of Pfizer, Moderna and Johnson & Johnson the vaccine is made up of a lipid nanoparticle that includes mRNA that encodes for the spike protein on the SARS-CoV-2 virus, and it is administered subcutaneously. When the vaccination enters the body, our cells produce a harmless spike protein to counteract the effects of the vaccine. The spike protein is then recognized as a foreign item by our innate immune system, which triggers the production of antibodies against the spike protein in order to eliminate it. Because of this process, our bodies have developed the ability to recognize and destroy the spike protein on the SARS-CoV-2 virus, which means that if we become infected with the virus in the future, our immune systems will already have developed protection against it and will be able to quickly destroy the virus, preventing us from becoming sick with the COVID-19 virus infection. Thus one should take that vaccine whichever is preferable for him. The Centers for Disease Control and Prevention (CDC) in the United States has advised that everyone aged 5 years and older have a COVID-19 immunization, and that persons aged 16 years and older receive booster injections. At the moment, however, only the Pfizer-BioNTech vaccine has been licensed for use in children aged 5-17 years old.

Skepticism regarding the vaccination has remained particularly strong, despite the fact that studies have shown that vaccines and booster doses are safe and efficient in reducing the risk of COVID-19-related severe illness or death. Many skeptical individuals point out that certain research have shown that the COVID-19 vaccinations might cause allergic responses, inflammation of the heart muscles, and other cardiovascular disorders. Vaccines and booster doses, on the other hand, are critical in bringing the COVID-19 epidemic to a successful conclusion.

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Drug Induced Nutrient Deficiency

Drug-induced nutrient depletion occurs when the medications we take for our chronic health conditions block the absorption, storage, metabolism, or synthesis of essential nutrients in the body. Both prescription and over-the-counter medications can affect the way your body uses nutrients in food.

A drug-nutrient interaction is the effect of a medication on food or a nutrient in food. Medications interact with foods and nutrients in several ways. Medications can decrease appetite or change the way a nutrient is absorbed, metabolized, or excreted. A food-drug interaction is the effect of food or a nutrient in food on a

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medication. Dietary nutrients can affect medications by altering their absorption or metabolism. The food you eat could make the medications you take work faster, slower, or even prevent them from working at all.

Such interactions raise concerns that medications may lead to nutritional deficiencies or that your diet may change how a medication works. This does not mean that if you are taking a medication you need to use a vitamin and or mineral supplement. There is little chance that taking a medication for a short time, such as a ten-day treatment, will affect your nutritional status. However, use of some medications for months or years may affect your nutritional health.

Children, older adults, pregnant women, people who are poorly nourished, and people with a chronic disease are at greater risk of medications affecting their nutritional balance. Changing the diet to include more foods rich in vitamins and minerals is preferred to taking vitamin or mineral supplements. In fact, vitamin and/or mineral supplements taken in excess can affect how a medication works. Medications can decrease appetite or cause nausea, vomiting, an unpleasant taste, or dry mouth. This can affect nutritional health by causing poor food intake. Example includes appetite suppressants are medications that directly affect food intake by depressing appetite. Example: Several cancer medications and treatments may cause nausea, vomiting, sore, or dry mouth resulting in poor food intake. Medications can decrease nutrient absorption. Example includes Laxatives can decrease the absorption of many vitamins and minerals. Laxatives cause food to move rapidly through the body causing poor nutrient absorption. Example: Some anticonvulsants can decrease folate absorption.

Medications can slow down nutrient production. Example includes Vitamin K is produced by bacteria in the intestines. Antibiotics kill harmful bacteria, but they can also kill helpful bacteria, including bacteria that produce vitamin K in the intestine. Medications can interfere with the body's ability to metabolize nutrients. Example: Some anticonvulsants alter the activity of liver enzymes, causing increase metabolism of folate, vitamin D and vitamin K.

Medications can increase the loss of a nutrient. Example includes Diuretics remove excess fluid from the body. Some diuretics may also increase loss of potassium along with fluids. Potassium is very important in proper functioning of the heart and other muscles. Some ways to reduce the drug induced nutrient and vitamin deficiency are-

- Eat a healthy diet following the recommended servings from the USDA My Plate Plan.
- Follow directions on how to take medication (prescription and over-the-counter).
- Read warning labels on both prescription and over-the-counter medications.
- Do not share medications with others or take other peoples' medications.
- Do not take over-the-counter medications frequently on your own.

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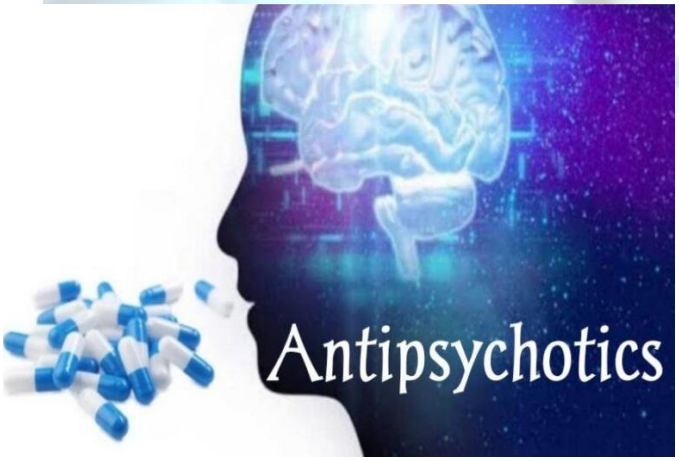
Second Generation Antipsychotics: Are these drugs effective in treating PTSD?



Post-Traumatic Stress Disorder (PTSD) is a severe, often chronic and disabling disorder, which develops in some persons following exposure to a traumatic event involving actual or threatened injury to themselves or others. PTSD is characterized by intrusive thoughts, nightmares and flashbacks of past traumatic events, negative mood and cognitions, avoidance of reminders of trauma, hypervigilance, and sleep disturbance, all of which lead to considerable social, occupational, and interpersonal dysfunction. Effective treatments for PTSD include medications and psychotherapies. However, a substantial proportion of patients have symptoms resistant to treatment. It is often necessary to switch or combine treatments to achieve a satisfactory therapeutic response. Second generation antipsychotics (SGAs) are widely used for post-traumatic stress disorder (PTSD), although

without strong evidence base. Most second-generation antipsychotic agents exert efficacy in PTSD, with varying degrees of tolerability and safety. In many cases, they may be used in combination with other medications targeting depression and anxiety, the most common symptom clusters in PTSD. Over the past two decades, the use of antipsychotics has increased tremendously worldwide, and second-generation antipsychotics (SGAs) have been the main driver of this trend. Second Generation Antipsychotics (SGAs) are often used in the treatment of PTSD, particularly for insomnia. Second-generation antipsychotics (SGAs) are a group of medications that initially were tested for certain mental diseases (schizophrenia, bipolar disorders, etc.) and were officially assessed and received approval for market entry. Later, studies reported that these medications were used for conditions for which there is no standard treatment or for patients who did not respond well to standard medications. Such uses are called off-label as they are not officially assessed and approved in contrast to on-label uses (uses for approved conditions). Off-label use of existing medications may be a helpful option for certain patients but there are concerns that without enough experiments, there would not be enough information on how effective and safe these agents might be in off-label uses. A review of SGAs randomized trials in the treatment of PTSD found the most evidence of benefit from quetiapine and risperidone, particularly for re-experiencing and hyper arousal symptoms. Second-Generation Antipsychotic (SGA) augmentation has shown good outcomes for nonresponsive OCD cases. In particular, aripiprazole, risperidone, or paliperidone augmentation of SSRI agents has shown good outcomes. The use of SGAs for PTSD is increasing despite lack of evidence base; this increase is due to growth in the population, whereas rates of prescribing are decreasing for most SGAs.

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