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ISSN: 2378-5756
Journal of Psychiatry

Commentary

Mechanism of Ketamine Therapy: Enhancing Brain and Mental Health

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DESCRIPTION

Ketamine also stimulates the production of Brain-Derived Neurotrophic Factor (BDNF), which helps to promote the growth and survival of neurons in the brain. The duration of a ketamine therapy session can vary depending on the individual's needs and the healthcare provider's recommendation. However, a typical session usually lasts between 45 minutes to 2 hours. Ketamine is a dissociative anesthetic medication that has been used for decades as an anesthetic in the operating room. But, in recent years, it has been found to be effective in treating various mental health conditions, such as treatment-resistant depression, anxiety disorders, and Post-Traumatic Stress Disorder (PTSD). Ketamine therapy is a treatment approach that uses low doses of ketamine to manage these mental health conditions. The therapy involves the administration of ketamine through an intravenous infusion or nasal spray. The treatment is usually administered in a clinic or hospital setting under the supervision of a healthcare professional.

Ketamine works by blocking the N-Methyl-D-Aspartate (NMDA) receptor in the brain, which leads to an increase in the production of glutamate. Glutamate is a neurotransmitter that helps to improve communication between brain cells and is essential for learning and memory. The effects of ketamine therapy are usually felt within hours or days after treatment and can last for several weeks or months. Patients who undergo ketamine therapy report feels more relaxed, less anxious, and more optimistic about their future. The success rate of ketamine therapy varies depending on the individual's condition and the healthcare provider's recommendation. However, studies have shown that ketamine therapy has a success rate of 55%-75% in reducing symptoms of depression. In one study, 85% of patients experienced a remission in their depressive symptoms (defined as at least a 50% reduction in symptoms). It is important to note that ketamine therapy is not a permanent cure for depression, and it has some risks associated with it. Ketamine therapy is generally considered safe when administered by a healthcare professional in a clinical setting.

Groups of people who should avoid ketamine therapy

People with uncontrolled high blood pressure: Ketamine is recognized for its ability to elevate blood pressure, and when administered to individuals with pre-existing hypertension, the resultant increase may reach levels that could precipitate a heart attack or stroke.

People with unstable heart disease: The effects of ketamine on heart problems include an increase in cardiac output and heart rate.

People with untreated or uncontrolled thyroid disease: Ketamine can exacerbate the condition of the cardiovascular system when coupled with an unregulated thyroid problem..

Children under the age of 18: The safety and efficacy of ketamine therapy in children have not been established.

Pregnant or breastfeeding women: The safety of ketamine therapy during pregnancy and breastfeeding has not been established.

People with a history of psychosis or a family history of schizophrenia: Ketamine can cause hallucinations and other psychotic symptoms, which could be dangerous for people with a history of psychosis or a family history of schizophrenia.

Ketamine therapy is generally considered safe when administered by a healthcare professional in a clinical setting. However, like any medication, it has some risks associated with it. Some of the common side effects of ketamine therapy include nausea, vomiting, dizziness, and hallucinations. In rare cases, ketamine can cause more serious side effects such as high blood pressure, heart palpitations, and respiratory depression. It is important to note that ketamine therapy is not suitable for everyone.

CONCLUSION

Ketamine therapy might not be appropriate for patients with a history of psychosis or substance abuse. Additionally, patients who are pregnant or have uncontrolled high blood pressure should

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Received: 04-Sep-2023, Manuscript No. JOP-23-23241; **Editor assigned:** 07-Sep-2023, PreQC No. JOP-23-23241 (PQ); **Reviewed:** 21-Sep-2023, QC No JOP-23-23241; **Revised:** 28-Sep-2023, Manuscript No. JOP-23-23241 (R); **Published:** 05-Oct-2023. DOI: 10.35248/2378-5756.23.26.636

Citation: Kinderen C (2023) Mechanism of Ketamine Therapy: Enhancing Brain and Mental Health. J Psychiatry. 26:636.

avoid ketamine therapy. It is essential to discuss the potential risks and benefits of ketamine therapy with a healthcare professional before undergoing treatment. It works by blocking the NMDA receptor in the brain and stimulating the production of glutamate and BDNF. Although it has some risks associated with it, it has been found to be effective in treating treatment-resistant depression, anxiety disorders, and PTSD.