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Use of MDMA & Psilocybin in the Treatment of PTSD

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Abstract

For years, the promise of psychedelics in therapeutic settings has been damped by their general illegality. However, present day research shows promise in treating varying mental disorders. Among these disorders is Post Traumatic Stress Disorder (PTSD). According to the organization, PTSD United, PTSD presently effects about eight percent of Americans. Many of the current treatments only offer symptomatic relief and do not work for every case of PTSD. Psychophysics presently offer an alternative method of healing that focuses on treatment of the core issue with an emphasis on human connection and guided confrontations of emotions and/or trauma. Currently, it is one of the few PTSD-based therapies that allows for physical contact in the form of comfort and solidarity in the present. Presently, there is a need to further research into how psychedelic drugs can help those struggling with PTSD.

Past Research

MDMA is relatively low risk to the user, especially when taken in lower doses. (Fuchs, M. 2013) MDMA reduces human anxiety in the amygdala, the area of the brain responsible for fear responses, suggesting that it may make changes in emotional response centers. (Taffe & Lommen, 2018). Studies detailing evidence of MDMA effects on how low- to moderate-dose therapy acutely modulates functional connectivity in participants with PTSD, and decriminalizes use by participants and nondrug participants. However, rarely are positron-emission tomography studies found in supportive evidence, (Garcia, R., Leech, R., Williams, T., & al., 2012). Study comparing psilocybin and a placebo had a p value of 0.001. These findings suggest that MDMA and psilocybin have the potential to improve PTSD.

Hypothesis

Will there be significant differences regarding the effects of MDMA and Psilocybin in the treatment of PTSD? Yes, which effects drug will be the most beneficial? Both MDMA and psilocybin have the potential to help alleviate stress and anxiety very well. However, the individual’s diagnosis plays a role in which treatment will work. Therefore, the usage of these drugs should have similar effects on PTSD, which would help alleviate stress and anxiety as well as any corresponding symptoms associated with the inability to question patient’s memories, making it easier for patients to self-process through these memories with trained therapists that patients who are given a dose of placebo. We predict that, consistent with prior research, that there will be significant difference (p<0.01) between the placebo group and MDMA and psilocybin groups in terms of maintaining improvement in scores and remission rates. Participants who are given MDMA drugs should have their improvement relating to PTSD symptoms than those given placebo. However, these given psilocybin should show their improvement than those given a placebo.

Methods

Participants will include Veterans diagnosed with Post Traumatic Stress Disorder (PTSD). PTSD is the result of challenging experiences, such as combat, assault, or other traumatic events. These experiences can cause profound emotional trauma for those who have experienced them. PTSD has been linked to an overactive stress response, which can lead to psychological and physical distress. Symptoms of PTSD include re-experiencing the traumatic event, avoidance of reminders of the trauma, negative changes in mood and behavior, and decreased ability to feel positive emotions. Participants will be randomly assigned to one of three groups: the placebo group, the MDMA group, or the psilocybin group. The placebo group will receive a placebo dose of 125 mg of MDMA and psilocybin, and the MDMA group will receive 125 mg of MDMA. The psilocybin group will receive 125 mg of psilocybin. All participants will undergo a baseline assessment and will be followed up for 30 days.

Post & Follow-Ups:

An effects study therapy session may be conducted if patients wish to receive it. This session incorporates open space and music. Any suicide risk assessment is conducted prior to any session. Post session evaluations are conducted during the following week.

Citations

Garcia, R., Leech, R., Williams, T., Harris, R., Leech, R., Williams, T., & al. (2012). Study comparing psilocybin and a placebo had a p value of 0.001. These findings suggest that MDMA and psilocybin have the potential to improve PTSD.

Brain Regions Affected

Figure A: Brain Scan: PTSD Brain vs. Non-PTSD Brain

Figure B: Brain Scan MDMA

Figure C: Brain Scan Psilocybin

Implications & Possible Limitations

If the hypotheses are confirmed, this would support the already growing range of alternative treatment options involving psychedelics for patients suffering from PTSD. Furthermore, this treatment route would reduce problems experienced by patients, including the social stigmata and the moral implications that are associated with the use of such drugs. The effects of these drugs will be assessed using a range of clinical measures, including self-report measures of symptom severity, cognitive flexibility, and emotional well-being. The results of this study will contribute to the ongoing debate about the potential therapeutic benefits of these drugs for patients suffering from PTSD.

Guidelines for Treatment Sessions

Guidelines are taken from the Multidisciplinary Association for Psychedelics Studies (MAPS) provided guide for the use of MDMA in treatment of PTSD.

Preparatory:

Trained professionals and patients are mindful of the role they are playing and fully prepared to undergo treatment session.

Setting properly prepared for any possible needs of the patient.

Discharge admission: short session incorporated before effects take place.

During:

Therapists are mindful of the role they are playing and the patients experience.

Engage in breathing exercises at the beginning of the session. Interaction periods should be easy enough and self-focused.

During the peak effect, the patient should be fully engaged in self-exploration and any trauma related to facing trauma precipitates an affirming experience.

Post & Follow-Ups:

More therapy sessions should be conducted as well as monthly phone check-ups on the post session. Any follow-up sessions can take place during weekly sessions.

Citations

Carhart-Harris, R., Doblin, R., & al. (2008). A study done by a trained therapist, work through traumatic memories and the emotions associated with those memories. This in turn should allow patients with PTSD to have access to control on the CAPS, DSM, and EMDR. Since, and therefore a better quality of life. Overall, continued hypothesis should correlate with a breakthrough in the overall treatment of PTSD.

Possible Limitations may include:

• A need for more research to be fully conducted before results are accepted

• A limited sample size

• Treatment may vary based on individual cases and may not suit all people suffering from PTSD

• There are legal implications that could delay further research