Mdma Essay, Research Paper

MDMA

and the Affects on the brain

OUTLINE

Introduction

1. Brief History

A. Originally created in 1912 as MDA (methylenedioxyamphetamine)

B. In 1970’s interest in MDMA (methylenedioxymethamphetamine) for the Aid of Psychotherapy.

-Key Effects

a. empathetic understanding for others

b. large, uncontrolled release of emotions

C. When used Clinically, intended result was to have an affect on the Psychodynamic equilibrium ( helped to bring repressed material into “the walking consciousness”)

D. Through the mid 1980’s up to late 1990’s recreational use became widespread.

E. In early 1980’s MDMA was believed to be only toxic when used in bingefull patterns and not harmful when used in regulated doses. It was later believed to only be harmful when used in regulated doses because it never gave body a chance to recover.

2. Random Facts

A. 40% of MDMA pills sold as exctasy contain other drugs, such as Mescaline, Psilysoscybin, LSD, Heroin, Crank, and Coke.

B. Mainly ingested orally in the form of a pill but also snorted as a powder, occasionally smoked, and rarely injected.

3. Brain Imaging study conducted by NIDA

A. Equipment used to conduct these studies was Positron Emission Tomography (PET)

B. In the experiment, they chose 15 people all of relative age and education who had done MDMA recently and 15 who hadn’t done MDMA.

C. PET images showed significant reductions in the number of serotonin transporters.

D. MDMA induced brain serotonin neurotoxicisity for the persistent memory problems present in MDMA users.

Basics

1. “Designer Drugs”

A. Description- still contains psychoactive properties of said drug , but molecular structure has been changed in order to avoid prosecution under the Controlled Substance Act.

B. MDMA is not actually a “Designer Drug. It’s original intent was for medicine, but has still been labeled as such because it still meets all the criteria.

2. MDMA

A. Methylenedioxymethamphetamine

B. Diagram

3. Seratonin

A. Chemical description

- 5-hydroxytryptamine (5-HT)

- Diagram

B. Where seratonin is found

- Animals

- Plants

- Vertebrates

- Fruits

- Nuts

- Venom

C. Description of seratonins functions with the brain.

- seratonin is mainly responsible for memory, emotion, and feeling,

- mental disorders related to seratonin

a. Anxiety

b. Depression

c. Obsessive – Compulsive Disorder

d. Schizophrenia

e. Stroke

f. Obesity

g. Pain

h. Hypertension

i. Vascular disorders

j. Migraine

- Serotonin plays a major roll in human’s Bio Homeostasis

- Description of how it works

a. Chemical neurotransmitters produce their effects as a consequence of interactions with appropriate receptors. As is the case with all CNT’S, serotonin is synthesized in brain neurons and stored in vesicles. Upon a nerve impulse, it is released into the synaptic cleft, where it interacts with various postsynaptic receptors.

D. Description of Dopamine

a. attachments to brain and central nervous system

b. various problems linked with dopamine

- Depression, anxiety, parkinsince disease, alsimers disease, and schizophrenia

Applications to MDMA

1. MDMA and Serotonin

A. DEscribe how MDMA damages the serotoergic nerve tterminals, whichare responsible for producing the electronic charges in thick and tin fibers that carry electrical charges.

- While under the influence of MDMA these charges are increased producing more serotonin. This overload of electrical charges sends out large amounts of seratonin to different neural receptors in the brain. The damage caused by MDMA to the serotonin levels has to do with overuse of the neurological fibers, which after being so overused become unable to produce the same amount of regular electrical impulses.

B. Describe the effects of MDMA on the brain’s Dopamine levels.

- There is a gland in the brain that is somewhat unexplainable. This gland produces a chemical called dopamine. Dopamine in large amounts can cause a multitude of different psychotic illnesses.

MDMA’s After effects

1. Illnesses

A. MDMA does not actually create the mental problems the are present after use, but helps to speed along the process of the brains natural degeneration. Over the course of a humans life time their memory will become worse and worse. This is because over time the serotonin levels of the brain naturally decrease. Also the two sides of the brain gradually moves farther and farther apart from each other. This makes it difficult for the receptors of the brain to receive the neuroligical impulses sent out by the serotonergic nerve terminals (thick and thin fibers). With MDMA the nerve terminals wear out faster than naturally intended ultimately causing a multitude of mental illnesses.

2. Addiction

A. It is still being debated weather MDMA is and addictive drug or not. There is definitely a craving to do the drug again due to the lower serotonin levels, but does not physically create an addiction. To most, MDMA would be considered mentally addictive, but not physically.

Conclusion

1. MDMA is clearly a drug that can cause harm to the body. But since the FDA has regulated the amount of testing allowed to do on the drug, there is still a lot to be learned. Since the early 1980’s, when the drug first became widespread, the research has come a long way. But in order to clearly have an understanding on how MDMA effects every aspect of the human body, there is a lot more research to be done.