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Child and Adolescent Psychiatrist
MDMA Researcher at Bristol and Imperial College London Universities, UK

NAPICU Conference - Glasgow
5th September 2019

MDMA Therapy, Trauma and Addictions:
Brief Update on the Bristol-Imperial-MDMA-for-Alcoholism (BIMA) Study
DID YOU KNOW?

There is a stronger link between childhood trauma and addiction, then there is between obesity and diabetes. Two thirds of addicts report being abused as children. That means that the war on drugs is a war on traumatized people that just need help.
Child Abuse, Trauma and Psychosocial Stressors

- Sexual abuse
- Physical abuse
- Emotional abuse
- Neglect

- Parental criminality
- Parental mental illness
- Domestic Violence
- Parental Substance Misuse
- Unemployment
- Poor housing
- Race and social exclusion
- Poor education
Fear, Trauma and the Developing Brain: 

The Prefrontal Cortex versus The Amygdala

Childhood Trauma
Identity Formation

INSECURE Attachment

**Self** Narrative:
- “I’m a bad person”
- “I cannot achieve”
- “I am unlovable”

**World** Narrative:
- “Trust no one”
- “The world is dangerous”
- “People will hurt me”
Identity Formation

INSECURE
Attachment

Block out the world with sedating substances
The Burden of Childhood Trauma

- Polypharmacy
- Poly-psychotherapies
- High rates of self-harm and suicide
- 50% treatment resistance
- High rates of substance misuse and addiction
The Clinical, Social and Financial Burden of Alcohol Dependence

- One quarter of adults consume alcohol harmfully.
- 6% of men and 2% of women are dependent.
- Self-medication for Undiagnosed PTSD.
- Costs around £20 billion a year in England alone.
- ‘The UK’s drinks industry is the US’s N.R.A.’.
How well is modern psychiatry doing to manage alcohol use disorder?
How well is modern psychiatry doing to manage alcohol use disorder?

Roughly 90% of people will relapse within 4 years after completing treatment.

The Bristol Alcohol Treatments

OUTCOMES STUDY: Eleven patients

Screen before detox

Detox

Treatment as usual
(Rehab, Group Therapy, Individual Therapy, AA, SMART Groups etc.)

Outcomes Follow-Up at:

3-months
6-months
9-months

<table>
<thead>
<tr>
<th>PARTICIPANT NUMBER</th>
<th>RELAPSE OF ALCOHOL USE DISORDER AT NINE-MONTHS POST DETOX</th>
</tr>
</thead>
<tbody>
<tr>
<td>T01</td>
<td>No</td>
</tr>
<tr>
<td>T02</td>
<td>Yes</td>
</tr>
<tr>
<td>T03</td>
<td>Yes</td>
</tr>
<tr>
<td>T04</td>
<td>Yes</td>
</tr>
<tr>
<td>T05</td>
<td>No</td>
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<td>T06</td>
<td>Yes</td>
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<td>T07</td>
<td>Yes</td>
</tr>
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<td>T08</td>
<td>No</td>
</tr>
<tr>
<td>T09</td>
<td>Yes</td>
</tr>
<tr>
<td>T10</td>
<td>Yes</td>
</tr>
<tr>
<td>T11</td>
<td>Yes</td>
</tr>
</tbody>
</table>
After 100 years of modern Psychiatry

This is not good enough!

So where are we going wrong?
MDMA
Could MDMA Treat Alcohol Dependence?

- Non-specific adjunct / to enhance the psychotherapeutic relationship?
- Peak experience / personality change?
- Spiritual Experience?
- Trauma
- Empathy
3,4 Methylenedioxymethamphetamine (MDMA)

The ‘Perfect Tool’ for Trauma Psychotherapy

• Short acting
• Less perceptually disturbing than classical psychedelics
• Almost always pleasurable
• Safe in therapeutic applications
• Access to painful traumatic memories
• Enhances empathy
What sort of psychedelic drug is MDMA?

Tryptamines
- serotonin
- DMT
- psilocybin
- LSD
- ibogaine

Phenethylamines
- mescaline

MDMA
What sort of psychedelic drug is MDMA?

Classical psychedelics (5-HT2A receptor partial agonists)
- LSD, Psilocybin, DMT, Mescaline

Entactogens (Serotonin receptor agonists)
- MDMA, MDA, MMDA, 2C-series etc

Dissociative anaesthetics (NMDA-antagonists)
- Ketamine, PCP, NO₂

THC (Cannabinoid receptor agonist)

Ibogaine (Nicotinic receptor antagonist)

Salvia Divinorum (Kappa-Opioid receptor agonist)
How can MDMA assist trauma-focused Psychotherapy?

<table>
<thead>
<tr>
<th>Action in the brain:</th>
<th>Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Increased Serotonin:</strong>  &lt;br&gt; <strong>(POSITIVE MOOD + CREATIVE THINKING)</strong></td>
<td></td>
</tr>
</tbody>
</table>
| 5-HT\textsubscript{1A}  
5-HT\textsubscript{1B} | • ↓ depression  
• ↓ anxiety  
• ↓ fear (at the amygdala)  
• ↓ aggression and defensiveness  
• ↑ self-confidence  
| 5-HT\textsubscript{2A} | • Alterations in perception of meaning |
| **Increased Dopamine and Noradrenaline:**  <br> **(STIMULATION)** |  
| | • ↑ level of alertness  
• ↑ arousal  
• ↑ conscious registration of external stimuli |
| **Increased alpha-2 activity:**  <br> **(RELAXATION)** |  
| | • ↑ calmness and relaxation |
| **At the hypothalamus:**  <br> **(EMPATHY / BONDING)** |  
| | • Release of oxytocin |
Fear, Trauma and the Developing Brain:

The Prefrontal Cortex versus The Amygdala

Trauma
Fear, Trauma and the Developing Brain: The Prefrontal Cortex versus The Amygdala

MDMA
How Does Clinical MDMA Work?

**EMPATHY / BONDING**

*SELECTIVELY INHIBITS THE FEAR RESPONSE WHILST LEAVING THE OTHER FACULTIES INTACT.*

**POSITIVE MOOD & CREATIVE THINKING**

**STIMULATION**

**RELAXATION**

**EMPATHY / BONDING**
The Bristol MDMA-Alcoholism Project ‘BIMA’

- **Open-Label** Safety and Tolerability
- 8-week course of psychotherapy
- Male-Female co-therapist pair
- Two MDMA Sessions
- 125mg + 62.5mg MDMA
- Overnight stay

Ben Sessa, Laurie Higbed, Sue Wilson, Tim Williams, Claire Durant, Chloe Sakal, Steve O’Brien and David Nutt
Imperial College London and Bristol University
The Bristol MDMA-Alcoholism Project ‘BIMA’

<table>
<thead>
<tr>
<th>2-weeks pre-detox</th>
<th>Screening, consent and eligibility interview</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Alcohol Detox</strong></td>
<td>Seven to Ten Days, carried out by local Community Alcohol Detox Team. Followed by baseline assessments.</td>
</tr>
<tr>
<td>1 week post detox</td>
<td>Session 1 60-minute therapy session.</td>
</tr>
<tr>
<td>2 weeks post detox</td>
<td>Session 2 60-minute therapy session</td>
</tr>
<tr>
<td>3 weeks post detox</td>
<td><strong>Session 3</strong> MDMA-assisted therapy session 1 (~6-8 hours)</td>
</tr>
<tr>
<td>4 weeks post detox</td>
<td>Session 4 Next day follow-up session (60 min) then daily phone calls 6 days.</td>
</tr>
<tr>
<td>5 weeks post detox</td>
<td>Session 5 60-minute therapy session</td>
</tr>
<tr>
<td>6 weeks post detox</td>
<td>Session 6 60-minute therapy session</td>
</tr>
<tr>
<td>7 weeks post detox</td>
<td><strong>Session 7</strong> MDMA-assisted therapy session 1 (~6-8 hours)</td>
</tr>
<tr>
<td>8 weeks post detox</td>
<td>Session 8 Next day follow-up session (60 min) then daily phone calls 6 days.</td>
</tr>
<tr>
<td>3 months post detox</td>
<td>Session 9 60-minute therapy session</td>
</tr>
<tr>
<td>6 months post detox</td>
<td>Session 10 60-minute therapy session</td>
</tr>
<tr>
<td>9 months post detox</td>
<td>Face-to-face Follow-up interview</td>
</tr>
</tbody>
</table>

3 months post detox

6 months post detox

9 months post detox
Safety Profile of MDMA

• Very low rates of morbidity and mortality.
• Risks easily controlled in clinical setting.

• Clinical MDMA is not recreational ecstasy.

Harm Caused by Drugs

- Alcohol
- Heroin
- Crack Cocaine
- Methamphetamine
- Cocaine
- Tobacco
- Amphetamine
- Cannabis
- GHB
- Benzodiazepenes
- Ketamine
- Methadone
- Mephedrone
- Butane
- Qat/Khat
- Anabolic Steroids
- Ecstasy
- LSD
- Buprenorphine
- Mushrooms

*With a maximum possible harm rating of 100*
Harm Caused by Drugs

*With a maximum possible harm rating of 100*

- Alcohol
- Heroin
- Crack Cocaine
- Methamphetamine
- Cocaine
- Tobacco
- Amphetamine
- Cannabis
- GHB
- Benzodiazepines
- Ketamine
- Methadone
- Mephedrone
- Butane
- Qat/Khat
- Anabolic Steroids
- Ecstasy
- LSD
- Buprenorphine
- Mushrooms
<table>
<thead>
<tr>
<th>Class</th>
<th>Possession</th>
<th>Supply and production</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Up to 7 years in prison, an unlimited fine or both</td>
<td>Up to life in prison, an unlimited fine or both</td>
</tr>
<tr>
<td>B</td>
<td>Up to 5 years in prison, an unlimited fine or both</td>
<td>Up to 14 years in prison, an unlimited fine or both</td>
</tr>
<tr>
<td>C</td>
<td>Up to 2 years in prison, an unlimited fine or both (except anabolic steroids - it's not in unlimited fine offence to possess them for personal use)</td>
<td>Up to 14 years in prison, an unlimited fine or both</td>
</tr>
<tr>
<td></td>
<td>Temporary class drugs</td>
<td>None, but policy can take away a restricted temporary class drug</td>
</tr>
</tbody>
</table>

**Table 2. Drug Scheduling.**

<table>
<thead>
<tr>
<th>Schedule</th>
<th>Characteristics</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>High potential for abuse, with currently accepted medical use in the United States; considered dangerous when used without medical supervision</td>
<td>MDMA, ecstasy, marijuana, LSD, GHB, heroin</td>
</tr>
<tr>
<td>II</td>
<td>High potential for abuse, but with some accepted medical uses in the United States; Abuse leads to physical and/or psychological dependence and is considered dangerous</td>
<td>Morphine, cocaine, PCP, opium</td>
</tr>
<tr>
<td>III</td>
<td>Potential for abuse, but lower than prior categories. There are accepted medical uses for these, and abuse can lead to mild or moderate physical dependence or great psychological dependence.</td>
<td>Ketamine, codeine combination products, hydromorphone (LSD precursor), anabolic steroids</td>
</tr>
<tr>
<td>IV</td>
<td>Drugs with relatively low potential for abuse. Have accepted medical uses in the US. Abuse leads to limited physical and psychological dependence.</td>
<td>Benzodiazepines, phenobarbital</td>
</tr>
<tr>
<td>V</td>
<td>Low potential for abuse, with accepted medical uses in the US. Abuse may lead to limited physical or psychological dependence.</td>
<td>Opioid preparations of antitussive and antitussive medications</td>
</tr>
</tbody>
</table>
Starting the world’s first clinical MDMA addictions study...in Bristol
Starting the world’s first clinical MDMA addictions study...in Bristol
Progress so far:

"In the past I've isolated from people, been too judgemental. But the MDMA helps you see things more clearly, see things how they really are."

"MDMA helps you see everything you do negatively, and you realize you don't have to own that."

"It’s only a drug, but it releases part of you, and you can tap into that and better appreciate things. It kicks away all the fears. It heightens, strengthens and enlightens."

"My drinking has isolated me; stopped me from connecting with other people. I'd totally disconnected, been put into solitary...but MDMA has opened the door. All those fears, you can see them on MDMA, they're not the real me. ...the MDMA has triggered a process to help me see the fears...it took me to a deeper level, and now it feels more natural. I now know what to do."
Progress so far:

“MDMA Therapy is far more effective for me than my previous attempts at tackling my drinking.”

“For the first time in my life I can see clearly why I have been drinking and what I need to do to stop.”

“I have no intention of ever returning to alcohol again.”

“MDMA has shown me that I am a good and worthy person.”

“MDMA has shown me that the abuse I suffered as a child, which led me to drinking, was not my fault. Now I can hold my head up high and go on and achieve what I am capable of in life.”

“MDMA Therapy has changed my life.”
SUMMARY
We present the preliminary data in an ongoing open-label safety and tolerability proof of concept study exploring the potential role for 3,4-methylenedioxymethamphetamine (MDMA)-assisted psychotherapy in treating patients with alcohol use disorder. At this stage, seven participants have completed the full 8-week MDMA-assisted psychotherapy course, including two therapy sessions each with MDMA. This paper focuses on the safety and tolerability of the therapeutic course for the first four participants to complete treatment. Longer-term outcomes of drinking behaviour will be presented later when the full project data are published. Results show all four participants have successfully tolerated the treatment. There have been no serious adverse events related to MDMA, no unexpected physiological responses to the MDMA sessions or changes to blood results or electrocardiograms, measured before and after the 8-week course. We conclude that the treatment is well-tolerated and are making plans to expand the project into a randomised placebo-controlled study.

CASE REPORT
First study of safety and tolerability of 3,4-methylenedioxymethamphetamine (MDMA)-assisted psychotherapy in patients with alcohol use disorder: preliminary data on the first four participants

Ben Sessa,1 Chloe Sakal,2 Steve O'Brien,1 David Nutt1
Figure 1: Blood pressure and temperature following MDMA at T=0, 125mg (arrow) and T=120, 62.5mg (arrow), n=4. Mean data combined for both MDMA therapy sessions, error bars +/- SEM.
Is Blue Monday / Black Tuesday merely a raver’s artefact?

If anything, we are seeing an afterglow effect.

Figure 2: Individual POMS composite scores (n=4) for 7 days following MDMA assisted therapy (day 0). Data are mean of the 2 MDMA sessions. *On day 4 B03 scored very negatively due to an argument, this was discussed during the daily phone call and the score removed as the event was unrelated to the study.
Other Measures looked at with BIMA study

**Figure 3** Self Compassion Scale (SCS), Generalised Health Questionnaire-7 (GAD-7), Patient Health Questionnaire-9 (PHQ-9) and Short Form Health Survey (SF-36) % improvement between baseline session and session 10, after completion of the 8-week psychotherapy course. Bars are mean data n=4.
BIMA: Progress so far - The first eleven patients

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>B01</td>
<td>9/12 End</td>
<td>None</td>
<td>None</td>
<td>Nil</td>
<td>Positive</td>
<td>Nil</td>
<td>Nil</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>B02</td>
<td>9/12 End</td>
<td>None</td>
<td>None</td>
<td>Nil</td>
<td>Positive</td>
<td>Nil</td>
<td>Nil</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>B03</td>
<td>9/12 End</td>
<td>None</td>
<td>None</td>
<td>Nil</td>
<td>Positive</td>
<td>Nil</td>
<td>Nil</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>B04</td>
<td>9/12 End</td>
<td>None</td>
<td>None</td>
<td>Nil</td>
<td>Positive</td>
<td>Nil</td>
<td>Nil</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>B05</td>
<td>3/12</td>
<td>None</td>
<td>None</td>
<td>Nil</td>
<td>Positive</td>
<td>Nil</td>
<td>Nil</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>B06</td>
<td>6/12</td>
<td>None</td>
<td>None</td>
<td>Nil</td>
<td>Positive</td>
<td>Nil</td>
<td>Nil</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>B07</td>
<td>3/12</td>
<td>None</td>
<td>None</td>
<td>Nil</td>
<td>Positive</td>
<td>Nil</td>
<td>Nil</td>
<td>Yes</td>
<td>Yes/No</td>
</tr>
<tr>
<td>B08</td>
<td>3/12</td>
<td>None</td>
<td>None</td>
<td>Nil</td>
<td>Positive</td>
<td>Nil</td>
<td>Nil</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>B09</td>
<td>Rx</td>
<td>None</td>
<td>None</td>
<td>Nil</td>
<td>Ambivalent</td>
<td>Nil</td>
<td>Nil</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>B10</td>
<td>Drop Out</td>
<td>None</td>
<td>None</td>
<td>Nil</td>
<td>Positive</td>
<td>Nil</td>
<td>Nil</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>B11</td>
<td>Rx</td>
<td>None</td>
<td>None</td>
<td>Nil</td>
<td>Positive</td>
<td>Nil</td>
<td>Nil</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>
Contemporary Clinical Psychedelic Research

MDMA Therapy for PTSD: Pilot study and LTFU (Mithoefer 2010 and 2013)
MDMA Therapy for PTSD in War Veterans, USA
MDMA Therapy for PTSD for Boulder, USA
MDMA Therapy for PTSD Israel
MDMA Therapy for PTSD Canada
MDMA Therapy for Social Anxiety in Autism (Danforth et al 2015)
Psilocybin Therapy for Obsessive Compulsive Disorder (Moreno et al 2006)
Psilocybin Therapy for Anxiety in end-stage cancer (Grob et al 2010)
Psilocybin Therapy for Anxiety in end-stage cancer (Ross et al 2015)
Psilocybin Therapy for Smoking Cessation (Johnson et al 2015)
Psilocybin Therapy for Alcohol Dependence (Bogenshutz 2015)
Psilocybin Therapy for Depression (Carhart-Harris 2019)
LSD Therapy for Anxiety in end-stage cancer (Gasser 2010)
Ketamine Therapy for Opiate addiction (Krupitsky et al 2007)
Ketamine Therapy for Depression (McShane 2016)
Ibogaine Therapy as a treatment for Opiate Addiction (Brown 2017)
Ibogaine Therapy as a treatment for Opiate Addiction (Knoller 2017)
Ayahuasca Therapy for Depression (de Arujo – IN PRINT)
Ten Years of UK Psychedelic Research

Bristol Psilocybin Pilot Study Group 2009

Eleusis LSD Creativity Group 2015

Beckley-Imperial Psilocybin MEG-fMRI Study Group 2013

Beckley-Imperial LSD Group 2014

Cardiff University MDMA Study Group 2015

Bristol-Imperial MDMA Study Group 2015

UK/International DMT Study Group 2015

Beckley-Imperial Psilocybin-Study Team 2014

Beckley-Imperial DMT Study Group 2016

European MAPS Training MDMA Academic Group 2014
‘Career Suicide’
...Not according to these institutions and publications!
Thanks
bensessa@gmail.com
www.drsessa.com