MEDICATION ASSISTED TREATMENT FOR OPIOID ADDICTION

Sidarth Wakhlu, M.D.
Addiction Team Leader North Texas VA Health Care System
Addiction Psychiatry Fellowship Director
Associate Professor Of Psychiatry
UT Southwestern Medical School
“No, I wouldn’t call you a mad cow exactly ------- I’d say you’re a cow with issues.”
OUTLINE OF MY PRESENTATION

- Veteran’s Story
- Addiction definition
- Addiction as a chronic medical disease
- Barriers to the use of medications
- Brief History of Opioid Addiction
- Current Trends of Opioid Addiction in the US
- Medication Assisted Treatment for Opioid Addiction
Dear Mood or Mind Altering Substances:

I know we first met in Vietnam. Our love affair has lasted the better part of 40 years. Although it was fun and innocent for a while, I became your obsessive and compulsive suiter. Then you demanded more and more, which made everything in the world less and less. Consider this divorce valid – just for today – as I begin a very healthy relationship with my newest partner: God/Recovery.

Michael
ADDICTION AS A CHRONIC MEDICAL DISEASE
5CS OF ADDICTION:

Chronic brain disease
Control (loss of)
Continued use
Compulsive use
Cravings
<table>
<thead>
<tr>
<th>Condition</th>
<th>Addiction</th>
<th>Hypertension</th>
<th>Diabetes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insidious- at least at the beginning</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Cuts across all racial, ethnic, intellectual and socioeconomic backgrounds</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Family suffers</td>
<td>YES</td>
<td>POSSIBLE</td>
<td>POSSIBLE</td>
</tr>
<tr>
<td>Craving</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Use of defined substance not allowed</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Can be out of control</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Relapse is possible</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Patient compliance with treatment (medications)</td>
<td>50%</td>
<td>50%</td>
<td>50%</td>
</tr>
<tr>
<td>Use despite negative consequences</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Lifelong-chronic disease</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Lifestyle changes needed</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Behavioral therapy of benefit</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
</tr>
</tbody>
</table>
Factors Contributing to Vulnerability to Develop a Specific Addiction

Use of the drug of abuse essential 100%

Genetic (25=50%)
- DNA
- SNPs
- Other polymorphisms

Drug-Induced Effects (very high)
- mRNA levels
- peptides
- proteomics

Environmental (very high)
- prenatal
- postnatal
- Contemporary
- Cues
- Comorbidity
- Stress-responsivity

Kreek et al., 2000; 2004
Tell Patients to STOP

List of 12 Step Meetings
BARRIERS TO THE USE OF MEDICATIONS
Don’t treat addiction like a medical disorder

Blame the patient

“Lack of will power” “Just say no”
“Can stop if..”

“He’s flunked several rehabs. There’s no hope.”

If she really cared about her kids, she’d stop using”
Lack of knowledge/unfamiliarity among health care professionals
Pharmacotherapy is ineffective “doesn’t work”
With the aid of pharmacotherapy patients don’t think they have “true sobriety”
“Methadone is government sponsored dope”
“Methadone or Suboxone is replacing one drug with another”
BRIEF HISTORY
HISTORY

- Opium comes from Greek word “Opos”
- Scientific name is Papaver Somniferum
- Morphine is named after “Morpheus” Greek God of Dreams
- Cultivation of opium dates back to the Neolithic ages
- Used in all major civilizations through the ages
- Export of opium by the British East India Company to China lead to the Opium Wars
- Significant use of opium during the American Civil War
- Many OTC products contained opium with no labeling
- In 1898 Bayer Pharmaceuticals marketed heroin as a cough medication
Maintainance Clinics established 1912-1925

Government agencies began to target physicians

Harrison Act 1914 – Punitive model for drug abuse control won out over failed treatment attempts, triumph of the “Criminal Model of Addiction over the Medical Model”

“Exit the addict-patient, Enter the addict-criminal”

1922 Supreme court in U.S. v. Behrman ruled that “narcotic prescription for an addict patient was unlawful”, AMA backed the Supreme Court

Post WW-II surge in opioid addiction leading to methadone study at the Rockefeller University Hospital

First methadone clinic opened in 1972 during the Nixon administration

DATA 2000 signed by President Clinton followed FDA approval of Suboxone/Subutex in 2002
Dr. M. J. Pilkington
COSMETIC SURGEON
CALL 1-800-NEWFACE
CURRENT TRENDS
ILLICIT OPIUM PRODUCTION,
1980-2010, in metric tons

Afghanistan overtook Myanmar as top producer of illicit opium in 1991 and is expected to hold that spot even though its 2010 crop was halved by frost and disease. When cultivation plummeted after the Taliban banned poppy growing in 2000, stockpiled opium is thought to have sustained sales. Recent years of bumper production may have swelled stockpiles beyond 13,000 tons.

JEROME N. COOKSON AND MARGUERITE B. HUNSIKER, NGM STAFF
SOURCE: ILLEGAL CROP MONITORING PROGRAMME, UNITED NATIONS OFFICE ON DRUGS AND CRIME
Opium Harvest

Years of war and upheaval that began with the 1979 Soviet invasion have made the opium poppy the mainstay of Afghanistan’s largely agricultural economy. The country produces more than 80 percent of the world’s illegal opium, generating as much as four billion dollars a year.
EPIDEMIOLOGY OF HEROIN ADDICTION

- Heroin use increased significantly, with 669,000 users in 2012, compared to 620,000 in 2011 and 373,000 users reported in 2007 (NSDUH 2013)
- One third women, 60% Caucasian
- 25% are HIV positive and over 75% Hepatitis C positive
EPIDEMIOLOGY OF PRESCRIPTION OPIOID ADDICTION

- **4.9 million** persons 12 or older used opioid medications *nonmedically* in the past month (NSDUH 2013)

- In 2009, **1.9 million** persons met criteria for prescription opioid addiction (NSDUH 2009)

- Of the 3.1 million persons aged 12 or older who used illicit drugs for the 1st time, **17.1%** initiated with narcotic pain medications (NSDUH 2009)
INITIATION OF ILLICIT DRUG USE

Initiation of Illicit Drug Use

NSDUH 2009
SOURCES OF NARCOTIC PAIN MEDICATIONS

Initiation of nonmedical opioid use

- 55.3% obtained drug from friend or relative
- 17.6% obtained drug from one doctor
- 4.8% bought drug from a stranger
- 0.4% reported purchasing through the internet
18 women die every day from prescription opioid overdose (OD); total of 6600 in 2010

400% increase in OD deaths among women as compared to 265% increase in men since 1999

For every women that dies from OD, 30 report to emergency rooms with misuse or abuse

Women are more likely to have chronic pain, be prescribed opioids, given higher doses and use them for longer periods
MEDICAL COMPLICATIONS:

- HIV, Hepatitis B & C
- Tuberculosis
- Other sexually transmitted diseases (Syphilis, Gonorrhea, Chlamydia)
- Liver and renal toxicity from acetaminophen and NSAID use
- Dental issues
- Poor compliance with chronic medical disorders
MORTALITY

- Death rate 10-12 times greater than the general population
- Drug overdose most common cause (16,652 overdose deaths from pain medications and 4152 from heroin overdose)
- Other causes include suicide, homicide, MVAs, Liver disease, cancers, pneumonias and cardiovascular disease
MEDICATION ASSISTED TREATMENT OF OPIOID ADDICTION

- Short term
  - Detoxification using non-opioids
  - Detoxification using opioids

- Long term
  - Opioid maintenance therapy (OMT)
  - Opioid antagonist
EFFECTIVENESS OF OPIOID DETOX

- Extremely high relapse rates > 90%
- High risk for HIV, OD upon relapse
- Must be followed up with structured treatment, 12 step recovery
- Abstinence based approach is not the best treatment for opioid addiction
ROLE OF ANTAGONISTS

- Naltrexone (PO and depot intramuscular injection)
- Useful only in highly selected, highly leveraged patient populations i.e. physicians & nurses
- High non-compliance rates
Medication assisted treatment for patients with a history of opioid addiction

Dispensing and/or prescribing of a full or a partial mu agonist
GOALS OF OMT

- Eliminate or reduce illicit opioid use
- Eliminate drug cravings and withdrawal symptoms
- **Decrease in HIV/Hepatitis transmission**
- Decrease in criminal behavior
- Improve social and occupational functioning
FDA APPROVED MEDICATIONS USED FOR OMT

- Methadone liquid/wafer
- Buprenorphine/Naloxone sublingual tablet (Suboxone)
- Buprenorphine sublingual tablet (Subutex)
HOW DO THEY COMPARE?

Methadone

- Full agonist at mu opioid receptors
- Schedule II
- FDA approved for opioid addiction (liquid/wafer) and pain (tablets)
- Dispensed for opioid addiction through Opioid Treatment Programs (OTPs)

Buprenorphine

- Partial agonist at mu opioid receptors
- Schedule III
- FDA approved for opioid addiction (sublingual tablet) and pain (patch)
- Prescribed for opioid addiction in an office based practice
HOW DO THEY COMPARE?

- Studies have shown both are equally effective
- Some patients respond well to buprenorphine, others to methadone
- “The key that fits the lock”
- The message I want to leave with is “Maintenance is safe and effective & SAVES LIVES”
Efficacy vs Log Dose of Opioid

- **Full Agonist** (Heroin, methadone)
- **Partial Agonist** (Buprenorphine)
- **Antagonist** (Naloxone)
METHADONE: IMPACT ON HIV TRANSMISSION

- 18 month follow up of HIV negative subjects showed conversion rates of 3.5% versus 22%

*Metzger et al (1993)*
BUPRENORPHINE VS. PLACEBO FOR HEROIN DEPENDENCE
KAKKO, LANCET 2003

4 Subjects in Control Group Died