UNDERSTANDING OPIOID ADDICTION: IT MAY NOT BE WHAT YOU THINK

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CANCER IS ON MY MIND TODAY

Cancer is a chronic medical disease

- cancer has signs and symptoms
- it can be diagnosed
- it is treatable
- it is caused by a pathology in the body
- it causes pain and suffering
- it is life threatening
- there are medications to treat it
- there is genetic vulnerability for some types
- we feel sorry for the victims

Cancer is a chronic medical disease (cont)

- we tell people to put on sunscreen, eat healthy, stay away from tanning booths and other ways to prevent cancer
- it's a major medical disease that kills ~600,000 per year (U.S.)
- virtually all victims receive some type of treatment
- we handle them with respect and with empathy

Drug Addiction is a chronic medical disease

- Drug Addiction has signs and symptoms
- it can be diagnosed
- it is treatable
- it is caused by a pathology in the body
- it causes pain and suffering
- it is life threatening
- there are medications to treat it
- there is genetic vulnerability for some types
- we sometimes feel sorry for the victims

Drug Addiction is a chronic medical disease (cont)

- we tell people not to use drugs
- drug use (alcohol, nicotine, illegal drug overdose) kills ~570,000 per year (U.S.)
- ~ 1 million youths (12-17) are drug addicted, and about 198,000 received treatment in 2015
- we throw many of them in jail - in other words, we rarely handle them with respect and with empathy

Thus:

- there are many similarities between cancer and (some) types of drug overuse problems
- today we want to talk about the drug overusers who are victims of a disease – those who are Drug Addicted

- the following information may give you some new things to think about…

The special case of Drug Addiction

- It is estimated that 1 of 4 drug overusers are Drug Addicted.

- This means that most drug overusers are NOT Addicted.

Main Points we will cover today:

- **what "addiction" is and what it is not**
  - criteria to diagnose Drug Addiction
- **overview of brain reward pathways (neuroscience 101) – very briefly**
- **what this means for helping patients who are in pain**

Let's look at "addiction" broadly:

- people around the world do not agree that addiction is a disease (careful: many pseudo-experts on the Internet)
- people around the world do not agree on whether addiction requires treatment
- people around the world do not agree that treatment is effective in treating addictions

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- people around the world do not agree that treatment is effective in treating addictions

Science is showing clearly that Drug Addiction is a brain disease, that it can be overcome, and that deaths and suffering can be reduced by finding the causes of Drug Addiction and more effective ways to help the victims.

Problem: What IS "addiction"?

What we see in the media and on the Internet:

"addiction"

- is synonymous with "drug abuse" or "habit"
- occurs anytime something is taken/done "too much, too often, for too long"
- is a serious health problem (heroin)
- is not so serious (chocolate)
- is preventable ("just say no….")
- clinically includes all compulsive behaviors

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(actually, all of these are confusing and wrong)

There's too much confusion!

- there is confusion due to misunderstanding and miscommunication (= myths) about "addiction" (again, watch out for pseudo-experts!)
  - "sugar cookies are addicting"
  - "antidepressants are addicting"
  - "marijuana is not addicting"
  - "I think golf is literally an addiction. I'm surprised there's not a Golf Anonymous"

- Larry David

Sadly, people tend to be uninformed

- There are really two major DIFFERENT drug overuse problems:
  - #1 - drug overuse that can be controlled by the user
  - #2 - drug overuse that cannot be controlled by the user
- They are "handled" differently by society and professionals
  - #1 - these users have the ability to stop when they need to do so – punishment, adverse effects, lose interest
  - #2 - these users have a brain disease that requires powerful treatment (just like cancer…..)

Let's make it easy…

Big A Addiction = Drug Addiction, which has 25+ years of neurobiological and genetic research proof

Little a addiction = all the other addictions that are mentioned in the media and by people who use the term "addiction" colloquially (sex addiction, cell phone addiction, apple pie addiction, addiction to laziness) – these may or may not exist, but when they do, they are better described as impulsive or compulsive disorders

Here's the problem:

Putting "little a addictions" in the same category as Big A Drug Addictions:

a. trivializes the seriousness of Drug Addictions,
b. causes confusion about what addictions are, and
c. indirectly increases the stigma of Drug Addiction

WHERE CAN I GET MORE INFORMATION ON DRUG OVERUSE PROBLEMS?

http://sites.utexas.edu/asrec/

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http://sites.utexas.edu/asrec/

(the best dang academic website…..)

First, we need to clinically clarify what "addiction" is, and what it is not.

DIAGNOSTIC CRITERIA FOR “ADDICTION”

Major Diagnostic Guides

- DSM-IV, 1994, 2000 (old)
- DSM-5, 2013 (current)
- ICD-10, 2003, 2010 (current)
- ICD-11, 2018 (projected)

DSM = Diagnostic and Statistical Manual of Mental Disorders, American Psychiatric Association

ICD = International Classification of Mental and Behavioural Disorders, World Health Organization

Words no longer used

- drug abuse ("Bad choice behavior")
  - pejorative, stigmatizing, inaccurate

- chemical dependence ("Brain disease")
  - too easily confused with "physical dependence" (withdrawal signs)

The New Diagnostics – A Quick Review

DSM-5: Substance use disorders (SUDs) lie on a continuum of severity that ranges from "no substance problem" to "severe substance problem"

- includes gambling, for the first time (but no other impulsive or compulsive behaviors)
- no more "abuse" or "dependence" terms
- severity specifiers: mild, moderate, severe
- a separate monograph for each drug/group

(e.g., opioid use disorder; severe = Opioid Addiction)

NOTE:

The main medical symptom of chemical dependence or Severe SUD (a.k.a. Addiction) is “impaired control over the use of a drug” (DSM-IV, DSM-5).

IT is NOT

- being hung-over
- using for too many years
- taking too many doses
- having withdrawal signs
- becoming a criminal
- falling down
- getting sick
- throwing up
- losing your keys
- losing your job
- losing your wallet
- blacking out
- having too much fun

These are (sometimes) results of drug use, NOT diagnostic symptoms.

How do we merge all these definitions?

- mild – moderate SUD: similar to DSM-IV category of "drug abuse"
- severe SUD: similar to DSM-IV category of "chemical dependence"

(Severe substance use disorder and chemical dependence are essentially interchangeable with big A "Drug Addiction")

Koob & Volkow (2016)

WHAT DOES THIS MEAN FOR YOU?

Big A Addiction, Drug Addiction, is the Addiction we are discussing today that is often forgotten and unrecognized in society, medicine, the criminal justice system, and even by most social workers and psychologists!

How Prevalent is Drug Addiction?

Estimated lifetime prevalence of risk

Drug Users Who Will Develop Drug Addiction

(U.S. Epidemiological Estimates, 1992-98):

- nicotine - 32%
- heroin – 23%*
- cocaine - 17%
  (crack - 20%)
- alcohol - 15%
- amphetamines - 11%
- cannabis - 9%
- "sedatives" - 9%
- analgesic opioids – 9%*
- psychedelics - 5%
- inhalants - 4%

*in 2018, we now believe these are much higher

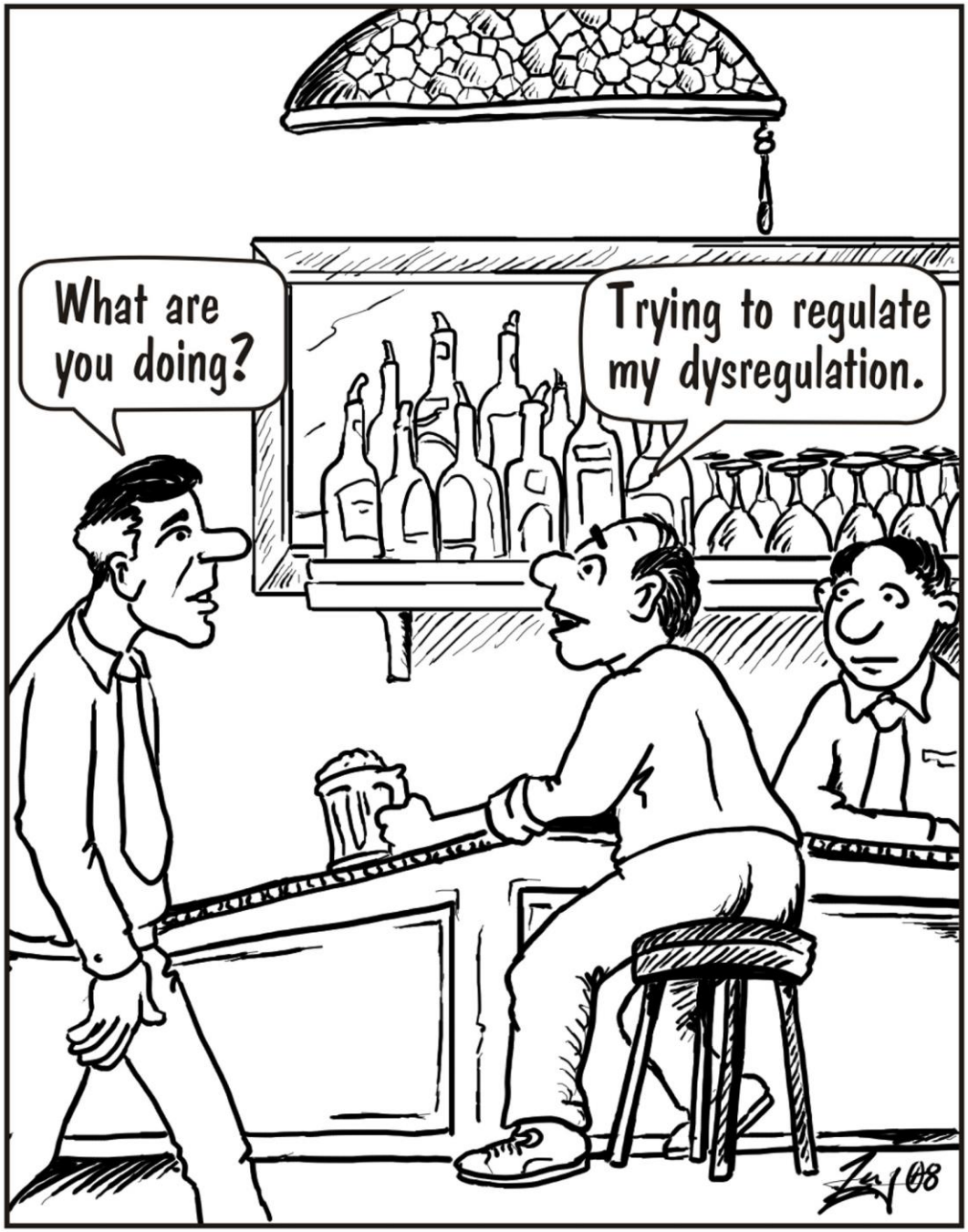
Anthony et al., 1994
Chen & Anthony, 2004
Hughes et al., 2006

NEUROSCIENCE UPDATE

The bottom line first…..

Drug Addiction occurs because of neurochemical dysregulation of the mesolimbic dopamine system (MDS, MFB, pleasure pathway, reward pathway)
Dysregulation is the pathology of the disease!

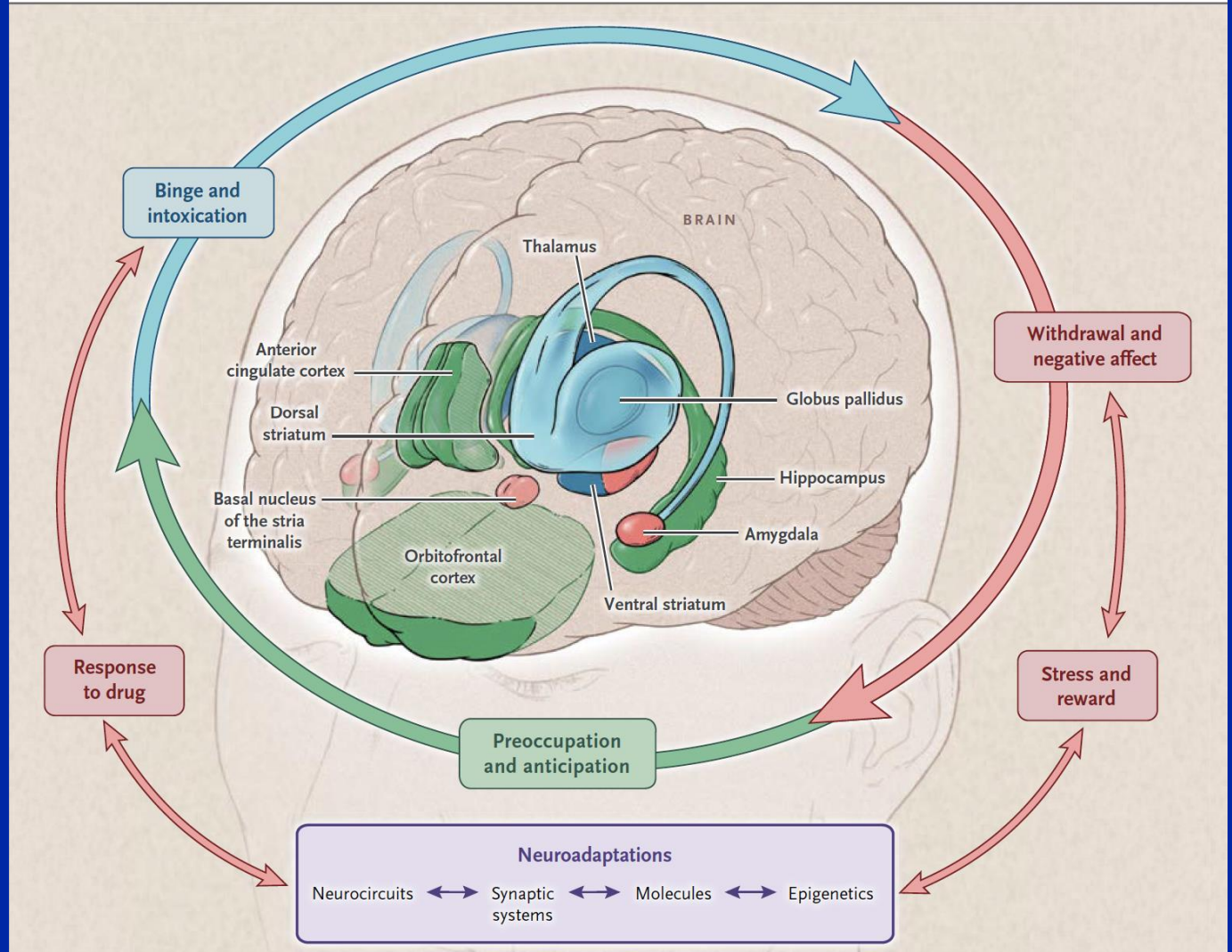
(Opioid Use Disorder involves a dysregulation of MDS endorphin function)


What are you doing?
Trying to regulate my dysregulation.
08

The Stages of Addiction

- Binge and intoxication: use of a drug to escape dysphoria (feeling of discomfort)
- Withdrawal and negative affect: "dark side of addiction" (feeling depressed, anxious, restless)
- Preoccupation and anticipation: obsessing and planning to use the drug

Koob & Volkow (2016)



Stage of Addiction	Shifting Drivers Resulting from Neuroadaptations		
Binge and intoxication	Feeling euphoric	Feeling good	Escaping dysphoria
Withdrawal and negative affect	Feeling reduced energy	Feeling reduced excitement	Feeling depressed, anxious, restless
Preoccupation and anticipation	Looking forward	Desiring drug	Obsessing and planning to get drug

Behavioral Changes		
Voluntary action Abstinence Constrained drug taking	Sometimes taking when not intending Sometimes having trouble stopping Sometimes taking more than intended	**Impulsive action** Relapse Compulsive consumption

Volkow, Koob, & McLellan (2016)

Allostasis Theory

- Addicts use to reduce an allostatic state* caused by drug use, genetic responses, and/or epigenetic factors (factors that influence genetic expression in making of proteins)

  * Allostasis is a state where physiological parameters (usually due to stress) are out of the homeostatic range. Over time, this produces a new "set point" of normalcy.
- During this time, there is a progression from an impulsive disorder to a compulsive disorder, when the body reaches the new set point. At this new set point, it is called "dysregulation", or ……Addiction!

Koob (2015)

HELPING PATIENTS WITH OPIOID USE DISORDERS

SBIRT

Screening

- cause of the problem, how long, etc.
- mild, moderate, or severe? (DSM and others)

Brief Intervention

- "It appears that you have a problem with overuse of opioids"

Referral to Treatment

- Take time to find an appropriate way to treat

Today's treatment options

- traditional (in U.S.): 12 step programs (abstinence) – Narcotics Anonymous, etc.
- non-abstinence programs (U.S.): harm reduction (i.e., methadone, etc.)
- new: motivational interviewing, CBT
- buprenorphine: medication assisted treatment (MAT)

Current Medications

- naltrexone (ReVia, Vivitrol*) - alcohol

  *Also used in opioid treatment

- methadone (generic) – opioids

- buprenorphine (Subutex, Suboxone, Bunavail) – opioids, such as heroin and prescription pain-killers

General Concepts about Medications

- None of the available medications are magic bullets.
- They are only effective in about 50% of the patients.
- They require “behavioral therapy” to be maximally effective.
- They are not used often enough, especially for severe opioid use disorders (esp. MAT), where they must be used with behavioral therapy.

In conclusion, please remember…

this new information requires an open mind and the curiosity to learn new things - while we continue to help those who are still suffering!

we can greatly improve treatment by simply understanding the type of drug overuse, its cause, and by targeting the best treatment to the type (and severity) of the drug problem!

JUST AS WE DO WITH CANCER……

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