THE STATE OF MEDICINE IN ADDICTION RECOVERY

OVERVIEW:

- Review addiction stats and trends
- Define addiction
- Explain neurobiology of addiction
- Review treatments of addiction

Addiction Definition: A Primary, chronic, relapsing disease of brain reward, motivation, memory and related circuitry. Dysfunction in these circuits leads to characteristic biological, psychological, social and spiritual manifestations. This is reflected in an individual pathologically pursing reward and/or relief by substance use and other behaviors.

Currently about 2.5 million US Citizens actively addicted to opioids
    1.9 Million to Prescription opioids (79%)
    517,000 to Heroin (21%)
Opioid societal costs - $55 Billion a year
Opioid OD Quadrupled since 1999 - 54,404 US OD deaths in 2015 - 33,091 (63%) involved opiates
Increases risk for HIV, Viral hepatitis, other infections, STDs, etc.
Plus multiple Societal Problems

HISTORY OF ABSTINENCE ONLY TREATMENT: About 12% of US Citizens will have Addiction (38 Million people) – 95% would say they are "fine"
Only 1 in 10 Americans who need treatment get it
Of the 5% who believe they need it, 2/3rds make no effort to obtain it
Of those that come to treatment less than 50% complete treatment
Of those who complete ABSTINENCE-BASED Treatment, only 36% are abstinent at 1 year F/U
If my math is correct, that would equate to about 68,400 people abstinent at 1 year of the >30 Million in need of help…. EQUALS .23% -A HUGE GAP

- TREATMENT SUCCESSES: 12 step alone

<30% in 1 year (some reports say 3%)
5 years or more: 50%

- Spontaneous quitting

3-10% (one report said 50%, different with different drugs)

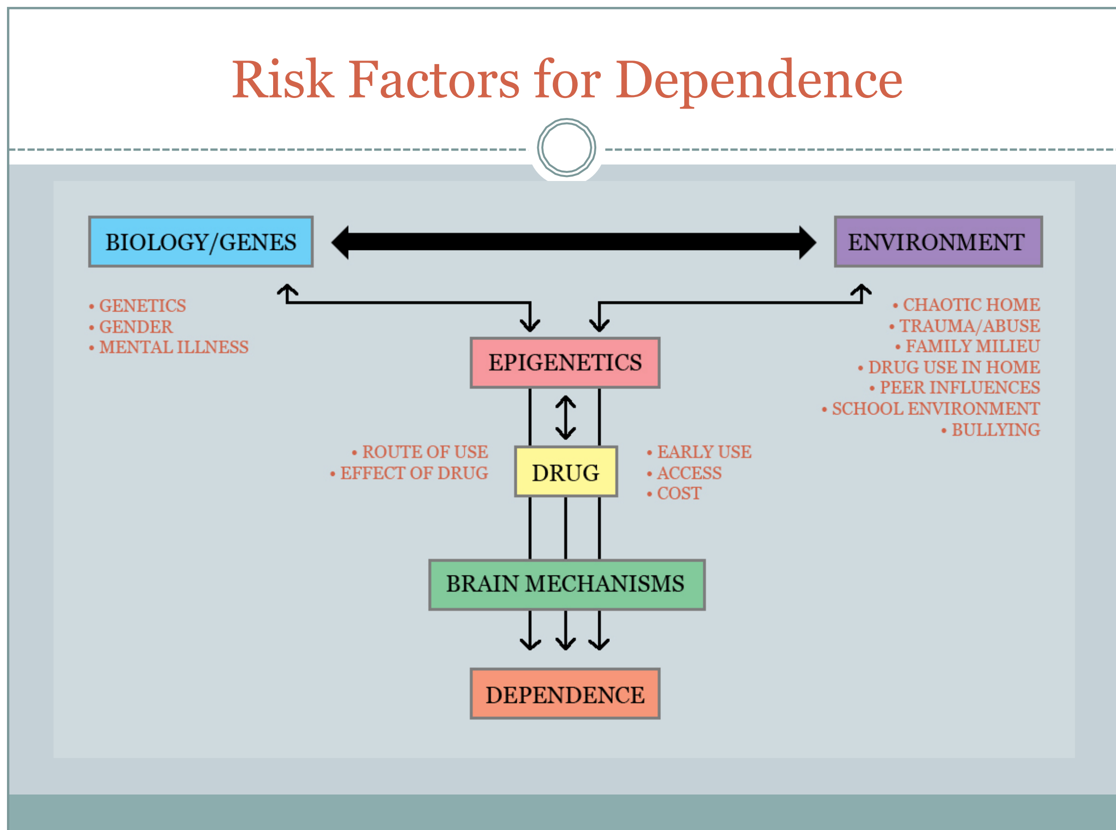
- Therapeutic Community

30-75% in 18 months

- Residential treatment

30-60%

RISK FACTORS FOR ADDICTION:



TREATMENT

- Motivational Enhancement/Contingency Management
- Matrix Model
- Cognitive Behavior Therapy
- Community Reinforcement (plus vouchers)
- Family Behavioral Therapy
- Mutual Help Group
- Twelve Step Facilitation
- Intensive Referral
- Pharmacotherapy

NEUROTRANSMITTERS INVOLVED IN ADDICTION CIRCUITS

- Dopamine * All addictive drugs cause release of dopamine in this circuit
- Serotonin
- Gaba/Glutamate
- Enkephalin

HOW DRUGS OF ABUSE CAUSE DOPAMINE RELEASE

- Opioids (activate opioid receptors)
- Nicotine (activate nicotine receptors)
- Marijuana (activate cannabinoid receptors)
- Caffeine (dopamine receptors)
- Alcohol (activate GABA receptors; an inhibitory transmitter)

WHY DO PEOPLE HAVE A "DRUG OF CHOICE?"

- Dopamine - amph, cocaine, ETOH
- Serotonin - LSD, ETOH, MDMA
- Endorphins - opioids, ETOH
- GABA - benzos, ETOH, MJ
- Glutamate –ETOH
- Acetylcholine - nicotine, ETOH
- Endocannabanoid- marijuana
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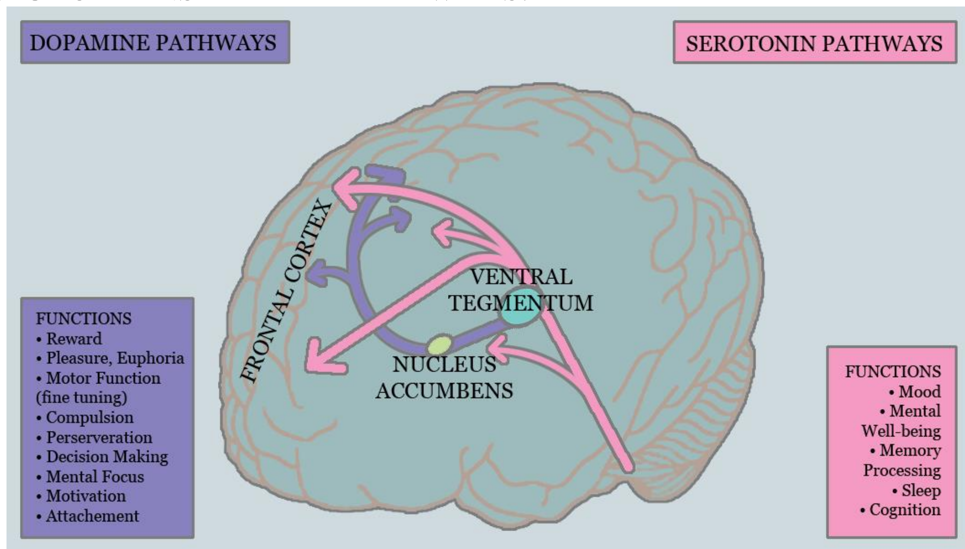
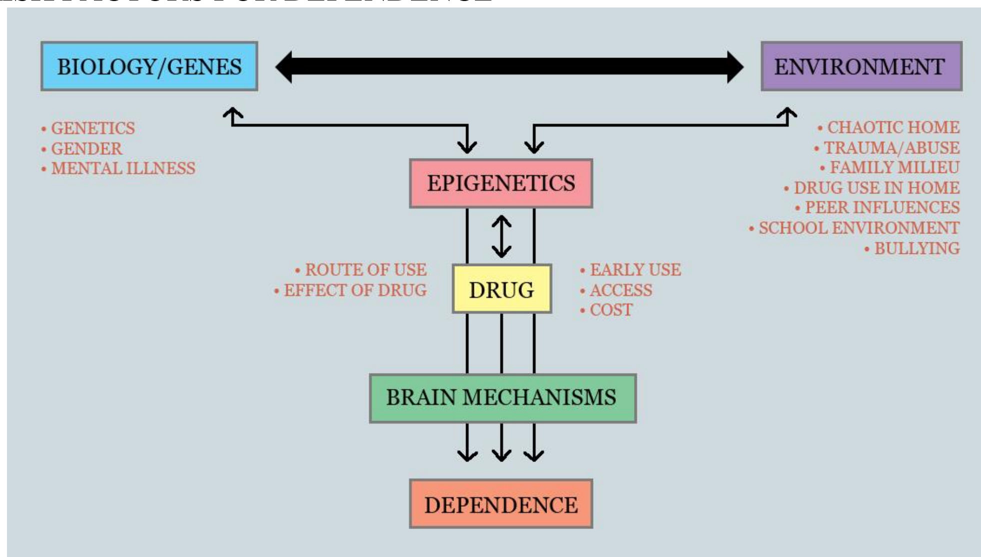
NEUROTRANSMITTTER PATHWAYS:



RISK FACTORS FOR DEPENDENCE



EVIDENCE BASED TREATMENTS:

- Motivational Enhancement/Contingency Management
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PHARMACOTHERAPY IN SUBSTANCE DISORDERS

- Treatment of withdrawal (detox)
- Treatment of psychiatric symptoms or co-occurring disorders
- Reduction of cravings and urges
- Substitution therapy
- Prevention
- Use sparingly and only when needed
- Treat symptoms to help patient stay in recovery and learn tools for long term wellness
- Some meds may be long term, but most will be short term while neurogenesis and synaptogeneiss and neural repair occur, especially in the first 3-6 months of recovery.
- My whole philosophy is stabilizing until the foundation is built, then moving away from medications when possible.

NICOTINE DEPENDENCE

- FDA approved in adults:
  - Nicotine replacement therapies
    - Patch, gum, lozenge, inhaler
  - Bupropion SR (Zyban)
  - Varenicline (Chantix)
- Some efficacy but not FDA approved:
  - Nortriptyline
  - Clonidine

ALCOHOL DEPENDENCE

- FDA-Approved:
  - Disulfuram (Antabuse)
  - PO naltrexone (Revia)
  - IM naltrexone (Vivitrol)
  - Acamprosate (Campral)
- Non-FDA-approved:
  - Topiramate (Topamax)
  - Ondansetron (Zofran)

  - Baclofen

OPIOID DEPENDENCE
- Detoxification:
  - Opioid-based agonist (methadone, buprenorphine)
  - Non-opioid based (clonidine, supportive meds)
  - Antagonist-based (naltrexone: "rapid")
- Relapse prevention:
  - Agonist maintenance (methadone)
  - Partial agonist maintenance (buprenorphine)
  - Antagonist maintenance (naltrexone)

OPIOID SUBSTITUTION GOALS
- Reduce symptoms & signs of withdrawal
- Reduce or eliminate craving
- Block effects of illicit opioids
- Restore normal physiology
- Promote psychosocial rehabilitation and non-drug lifestyle

STUDY
- 40 Heroin Addicts randomized to
- 1 week detox followed by placebo and counseling
- 1 year bup. maintenance and counseling
- Heroin use
- Buprenorphine detox, placebo maintenance = 100% relapsed - 4/20 died!!
- Buprenorphine maintenance = 75% (SD 60%) opioid negative urine drug screens. 0/20 deaths

COCAINE
- Gabapentin
- Bupropion
- Modafinil
- Topiramate
- Disulfuram
- Baclofen
- Propanolol (WD)
- TA-CD Vaccine

METHAMPHETAMINE
- Bupropion
- Modafinil
- Topirimate
- Disulfiram
- Gabapentin

IF YOU"RE GOING TO FLY THE PLANE:
- My goal
  - lowest amount of medication
  - safest choice of medication
  - most effective medication

    - Decrease/stop medications when can
        - EX: Buprenorphine until ready to stop, then use the Podesta Protocol to take them off comfortably
- Compare to Diabetes
    - Lifestyle change
    - Habit change
    - Diet change
- Time frame
    - Very short term
    - Medium time (3 months to 2 years)
    - Long term

SAVES $$$

- Cost to society of drug abuse is $180 BILLION/year
- Treatment is less expensive than incarceration

Methadone Maintenance = $4700/year
Imprisonment = $18400/year

- Other studies show that every $1 invested in treatment can yield up to $7 in savings

TREATMENT TEAM APPROACH:

- Chronic care approach
- No single treatment is appropriate
- Treatment needs to be readily available
- Treatment must addres the multiple needs of the indificual, not just the drug use
- Multiple courses of treatment must be required for success
- Adequate time frame is needed- 3 months to produce stable behavior change
- Relapse is likely

IN CONCULSION

- Addiction is a serious, chronic and relapsing disorder, use multiple evidence based treatments
- Medications should be considered as part of a comprehensive treatment plan, addressing both disordered physiology and disrupted lives
- Medications should be considered for treatment of: psychiatric sx's, addictive d/o's, and co-occurring d/o's
- Emerging literature supports use of meds in youth with SUDs and psychiatric comorbidity