LEARNING OBJECTIVES:

1) Understand the major changes to the DSM-5 with regard to diagnostic criteria for substance use disorders.

2) Identify the newer substances of abuse and their impact on patients on dialysis.

3) Identify screening and assessment tools.

4) Identify treatment plan interventions.

DISCLOSURE

- We have no financial relationships related to this presentation.
- The content will promote improvements in healthcare and does not promote a specific proprietary interest.
- Content for this session will be well-balanced, evidence-based and unbiased.
- We have not and will not accept any honoraria, additional payments or reimbursements from a commercial entity for participation in this activity.

DSM: WHY BOTHER?

- Be clear about what you need to know to have a complete picture.
- Communicate with other professionals about patients in a standardized way.

CHANGES IN THE DSM-5

**DSM-IV-TR:**
Substance Dependence and Substance Abuse are separate disorders.

**DSM-5:**
Criteria are provided for Substance Use Disorders, accompanied by criteria for intoxication, withdrawal, substance/medication-induced disorders, and unspecified substance-induced disorders.

Understand the major changes to the DSM-5 (ICD) with regard to diagnostic criteria for substance use disorders.
CHANGES IN DSM-5

- The use of the multi-axial process and the GAF are removed from practice and not in the DSM-5.
- Disorders are renumbered using codes consistent with the ICD series.
- Substance Use Disorder with specifiers is now used instead of Abuse or Dependence and with/without physiological dependence.
- A single continuum now has 9 to 11 criteria, with 2 criteria necessary to meet a diagnoses of Substance Use Disorder instead of a criterion based dichotomy of Abuse (1 of 4 criteria) or Dependence (3 of 7 criteria).

CHANGES IN DSM-5, continued

- “Recurrent legal problems” criterion for substance abuse has been deleted.
- A new criterion, craving or a strong desire or urge to use a substance, has been added.

CHANGES IN THE DSM-5

- Polysubstance Abuse is still not a diagnosis
- Polysubstance Dependence and criteria for the diagnosis are no longer in the DSM-5
- The WHODAS (series) replaces the GAF
- There are multiple forms and questions that comprise the WHODAS which are used to assess disability

DIAGNOSTIC THRESHOLD CHANGE

- The threshold for Substance Use Disorder diagnosis in DSM-5 is set at two or more criteria of 11 listed criteria.
- The threshold for the DSM-IV criteria of Substance Abuse was 1 of 4 criteria.
- The threshold for the DSM-IV Substance Dependence was 3 of 7 criteria with 2 identifiers for physiological addiction – tolerance and withdrawal

DSM-IV (TR) Remission Specifiers were

- Early Full Remission
- Early Partial Remission
- Sustained Full Remission
- Sustained Partial Remission
- On Agonist Therapy
- In a Controlled Environment

DSM-5 Remission Specifiers include

- Early Remission
  - Past Diagnosis was met
  - No criteria for at least 3 months but less than 12 months (with exception of craving)
- Sustained Remission
  - Past Diagnosis was met
  - No criteria met for at least 12 months (with exception of craving)
- In Controlled Environment means
  - in close supervision,
  - substance free jails,
  - in therapeutic communities
  - locked hospitals
- On maintenance therapy
- On agonist therapy
WHO Disability Assessment Schedule 2.0 (WHODAS 2.0)
http://www.who.int/classifications/icf/whodasii/en/

WHODAS 2.0 supersedes WHODAS II and shows the following advantages:
- A generic assessment instrument for health and disability
- Used across all diseases, including mental, neurological and addictive disorders
- Short, simple and easy to administer (5 to 20 minutes)
- Applicable in both clinical and general population settings
- A tool to produce standardized disability levels and profiles
- Applicable across cultures, in all adult populations

WHODAS 2.0 covers 6 Domains of Functioning, including:
- Cognition – understanding & communicating
- Mobility – moving & getting around
- Self-care – hygiene, dressing, eating & staying alone
- Getting along – interacting with other people
- Life activities – domestic, leisure, responsibilities, work & school
- Participation – joining in community activities

Tolerance - Withdrawal Specifiers
- Not considered if under medical supervision
  - Stimulants
  - Opioids
  - Sedative, Hypnotic, Anxiolytics

NOTE: There are Tolerance and Withdrawal criteria for CANNABIS; there is no specifier for "under medical supervision."

Cannabis Update
- Withdrawal is recognized and includes both psychological and physical symptoms
- Cannabis Intoxication includes perceptual disturbances with auditory illusions with intact reality testing OR visual or tactile illusions without delirium
- It is acknowledged that extended cannabis use in some persons can result in psychoses

Caffeine Disorders
- New emphasis to practitioners based on marketed products
- About 85% of Americans consume caffeine
- Caffeine is in coffee, teas, energy drinks, vitamins, chocolate, cold-medecines, vitamins, analgesics, etc.
- Clearly delineated signs and symptoms from Intoxication through Substance-Induced Disorder are found with caffeine use
ENERGY DRINKS: POST 2004 CHANGES

After repeated drug use, “deciding” to use drugs is no longer voluntary, because

DRUGS CHANGE THE BRAIN!


ER Visits (2011 – 2015 reports)

- 1, 400,000 non-medical use of prescription medication (2011) (Opioid pain relievers, anti-anxiety and sleep aids, and benzodiazepine are common)
- 660,000 alcohol
- 425,000 cocaine
- 380,000 marijuana
- 210,000 heroin
- 93,000 stimulants

- In 2013, 43,982 drug overdose deaths
- 35,663 (81.1%) were unintentional
- 5,432 (12.4%) were of suicidal intent,
- 2,801 (6%) were of undetermined intent.

Ten Classes of Substances

- Alcohol
- Caffeine
- Cannabis
- Hallucinogens (PCP and others)
- Inhalants
- Opioids
- Sedatives, hypnotics, and anxiolytics
- Stimulants
- Tobacco
- Other

Substance Use Disorder (SUD)
The language we use matters!

Addiction
Risk user
Alcoholic
Addict
Abuse
Drug Addict
Abuser
Chemical
Dependence
Depend
Recreational user
Substance Misuse

Individuals with lower levels of self-control...may be particularly predisposed to develop Substance Use Disorders long before the onset of actual substance use itself.
DSM-5: Differential Diagnosis

**Substance Use Disorders**
- Impaired control
- Social Impairment
- Risky use
- Pharmacological criteria/tolerance/withdrawal

**Substance Induced Disorders**
- Intoxication
- Withdrawal
- Other substance/medication induced disorders

3 Items To Be Considered in Every Diagnosis
- Direct Effects of the Substance
- Direct Effects of General Medical Conditions
- Disorders causes Distress/Impairment Social, Occupational, Relational

**Impaired Control**
1) Substance taken in larger amounts or over a longer period than intended.
2) Significant amount of time spent obtaining/using/recovering from substance.
3) In more severe disorders, nearly all daily activities revolve around substance.
4) Craving: intense desire for drug, especially in environment associated with previous use.

**Social Impairment**
5) Failure to fulfill major role obligations at work/school/home.
6) Continued use of substance despite persistent or recurrent social/interpersonal problems, caused or exacerbated by the effects of the substance.
7) Important social/occupational/recreational activities may be given up or reduced due to substance use.

**Risky Use**
8) Recurrent substance use in situations in which it is physically hazardous.
9) Continues substance use despite knowledge of having a persistent/recurrent physical or psychological problem that is likely to have been caused or exacerbated by the substance.
Pharmacological Criteria

10) Tolerance: Markedly increased dose of substance is used to achieve desired effect, OR usual amount is used but with less of an effect.
11) Withdrawal: Occurs when blood or tissue concentrations of a substance decline in a person who has maintained heavy use.

Severity Qualifier of the DSM-5 Substance Use Disorder

Mild: 2-3 symptoms
Moderate: 4-5 symptoms
Severe: 6 or more symptoms

SPECIFIERS

Early Remission
Sustained Remission
In a Controlled Environment

SUBSTANCE INDUCED DISORDERS

Substance-Induced Mental Disorder
- Clinically significant presentation of a mental disorder
- Evidence by History, labs (or related observable data) or by physical examination
- Capable of producing observable mental disorder
  - Onset is during or within 1 month of use
  - Persists for substantial time after use (which one would not expect)
- Not an independent mental disorder
- Substance use preceded onset of disorder

Substance-Induced Disorders
(related to DSM-5 Categories of Substance)
- Withdrawal
- Intoxication
- MEDICATION INDUCED DISORDER
  - Psychotic Disorder
  - Bipolar Disorder
  - Depressive Disorder
  - Anxiety Disorder
  - Sleep Disorder
  - Delirium
  - Neurocognitive
  - Sexual Dysfunction
**Substance Effects:**

- **MOOD**
- **COGNITION**
- **ENERGY DYSREGULATION**
- **THINKING DISTORTIONS**
- **REALITY DISTORTIONS**
- **PSYCHOSIS**
- **BRAIN CHANGES**

**Intoxication**
- Reversible substance-specific syndrome due to recent ingestion of a substance
- Behavioral/psychological changes due to effects on CNS developing after ingestion:
  - Disturbances of perception, wakefulness, attention, thinking, judgment, psychomotor behavior and interpersonal behavior
- Not due to another medical condition or mental disorder
- Does not apply to tobacco

**Clinical Picture of Intoxication Depends On:**
- Substance
- Dose
- Route of administration
- Duration/chronicity
- Individual degree of tolerance
- Time since last dose
- Person’s expectations of substance effect
- Contextual variables/triggers

**Withdrawal**
- Substance-specific syndrome causing problematic behavioral change due to stopping or reducing prolonged use
- Physiological & cognitive components
- Significant distress in social, occupational or other important areas of functioning
- Not due to another medical condition or mental disorder

**Substance-Induced Mental Disorder**
- Potentially severe, usually temporary, but sometimes persisting CNS syndromes
- Context of substances of abuse, medications, or toxins
- Can be any of the 10 classes of substances

**Commonly Used Psychoactive Substances**

<table>
<thead>
<tr>
<th>SUBSTANCE</th>
<th>EFFECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol (liquor, beer, wine)</td>
<td>euphoria, stimulation, relaxation, lower inhibitions, drowsiness</td>
</tr>
<tr>
<td>Cannabinoids (marijuana, hashish)</td>
<td>euphoria, relaxations, slowed reaction time, distorted perception</td>
</tr>
<tr>
<td>Opioids (heroin, opium, many pain meds)</td>
<td>euphoria, drowsiness, sedation</td>
</tr>
<tr>
<td>Stimulants (cocaine, methamphetamine)</td>
<td>exhilaration, energy</td>
</tr>
<tr>
<td>Club Drugs (MDMA/Ecstasy, GHB)</td>
<td>hallucinations, tactile sensitivity, lowered inhibition</td>
</tr>
<tr>
<td>Dissociative Drugs (Ketamine, PCP, DXM)</td>
<td>feel separated from body, delirium, impaired motor function</td>
</tr>
<tr>
<td>Hallucinogens (LSD, Mescaline)</td>
<td>hallucinations, altered perception</td>
</tr>
</tbody>
</table>
Older Substances of Abuse

- Stimulants
- Cannabis
- Opiates
- Hallucinogens
- Sedatives
- Alcohol

Newer Substances of Abuse

**SYNTHETICS**

- **Cannabinoids**
  - Spice
  - Incense
  - K2
  - All synthetic marijuana

- **Psychedelics**
  - Mescaline Imitators
  - LSD and all imitators of LSD
  - DMT, LSD, STP

- **Stimulants/Cathinones**
  - Bath Salts
  - All synthetic amphetamines
  - Designer amphetamines

**DSM-5 Diagnosis:** “Unspecified” or “Other Substance” use.

**Timeline of Synthetic Cannabinoids and Spice Products**


**JUST BECAUSE IT ISN’T ILLEGAL**

**THAT DOESN’T MEAN**

- IT’S GOOD FOR YOU
- HELPS WITH REALITY FUNCTIONING OR TESTING OR PRODUCTION
- CAN’T BE DEFINED AS HAVING SOME POSITIVE REASON FOR IT'S USE
- IT CAN BE CONSIDERED BIO-GENIC
"Designer" Psychoactive Substances

Mainly abused by smoking (alone or with marijuana); may also be prepared as an herbal infusion for drinking.

The five active chemicals most frequently found in “Spice” products have been classified by the DEA as Schedule I controlled substances, making them illegal to buy, sell, or possess.


Synthetic Cannabinoids (Spice)

Factors Associated with Spice Products’ Popularity

- They induce psychoactive effects
- They are readily available in retail stores and online
- The packaging is highly attractive
- They are perceived as safe drugs
- They are not easily detectable in urine and blood samples (parolees, probationers, military, etc)

Cannabis vs. Synthetic Cannabinoid Intoxication

Most symptoms are similar to cannabis intoxication:

- Tachycardia
- Reddened eyes
- Anxiousness
- Mild sedation
- Hallucinations
- Acute psychosis
- Memory deficits

Symptoms not typically seen after cannabis intoxication but seen after synthetic cannabis intoxication:

- Seizures
- Hypokalemia
- Hypertension
- Nausea/vomiting
- Agitation
- Violent behavior
- Coma

Clinical Symptoms of Synthetic Cathinone Use in Patients Admitted to the Emergency Department (N=236)

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agitation</td>
<td>82%</td>
</tr>
<tr>
<td>Combative/Violent behavior</td>
<td>57%</td>
</tr>
<tr>
<td>Tachycardia</td>
<td>56%</td>
</tr>
<tr>
<td>Hallucinations</td>
<td>40%</td>
</tr>
<tr>
<td>Paranoia</td>
<td>36%</td>
</tr>
<tr>
<td>Confusion</td>
<td>34%</td>
</tr>
<tr>
<td>Myoclonus/Movement disorders</td>
<td>19%</td>
</tr>
<tr>
<td>Hypertension</td>
<td>17%</td>
</tr>
<tr>
<td>Chest pain</td>
<td>17%</td>
</tr>
<tr>
<td>CPK elevations</td>
<td>9%</td>
</tr>
</tbody>
</table>


Mollies, Ecstasy, MDMA

Bath Salts

Physical Dangers

- Chest Pains
- Increased Blood Pressure
- Increased heart rate
- Heart attack/ Stroke
- Death or serious injury

Psychological Dangers

- Hallucinations / Psychosis
- Extreme Paranoia / Violent Behavior
- Suicidal Ideation
- Agitation / Intense Craving

Younger Users

Hallucinogenic Effect
Dissociatives

A class of hallucinogen which reduce or block signals to the conscious mind from other parts of the brain.

Produce hallucinogenic effects, which may include sensory deprivation, dissociation, hallucinations, and dream-like states or trances.

What is DXM?

Non-opiod anti-tussive

Dextromethorphan is a psychoactive drug found in common over the counter cough medicines.

Syrup, Purple Drank, Sizzurp, Lean, Drank, Barre, Purple Jelly, Texas Tea, Tsikuni

Prescription strength cough syrup with codeine and promethazine, typically mixed with Sprite or Mountain Dew, with a Jolly Rancher thrown in for sweetness.

Effect is mild euphoria and dissociative feeling.

Challenges with Chromatography Screening

- Lack of availability of the reference standard for new drugs
- Variable quality of reference standards
- Lack of purity and labeled internal standards
- Chemical similarity of new drugs within a class requires great care with identification
- Sensitivity (correctly IDs the drug)

Krokodil

Salvia Divinorum
- Salvia
- Diviner’s Sage
- Sage of the Seers

Khat (not synthetic)
- Pronounced “cot”
- This stimulant drug is native to East Africa and Southern Arabia
- Catha edulis (Khat) is derived from a shrub
- Cathinone, an illegal drug, is one of Khat’s chemicals. Cathinone is a scheduled 1 drug. The drug produces a mild euphoria and is highly addictive.
- Khat goes by many names depending on the country of use, gof, chat, jimma, jaad, and quaat. Khat is generally chewed and the dried leaves can be used to make tea.

Why People Use Psychoactive Substances
Why Start?
- Peer Pressure
- Medical
- Experimental

Why Continue?
- Relieve stress/pain
- Function better
- Have fun/relax
- Cope with mental health disorders


Effects on CKD Patient
All drugs taken in excess have in common the direct activation of the brain reward system, which is involved in the reinforcement of behaviors and the production of memories.

They may produce such an intense activation of the reward system that normal activities may be neglected.

What does it mean for you?

Reward system activation: Regions of the brain are more active when engaged in pleasurable activities, hence, additional stimulation is sought.
SCREENING AND ASSESSMENT

SCREENING VERSUS ASSESSMENT

- Screening often provides the beginning states of communication about substance use change
- There are MANY best practices and public domain instruments for screening or assessment
- Screening needs to be SIMPLE, EFFECTIVE, SUPPORTIVE
- Screening answers a “Yes” or “No” question
- Disclosure of use is therapeutic
- A positive screen leads to an Assessment

GETTING A HISTORY

Why is it so hard?/ assumptions?

- I’m embarrassed/uncomfortable.
- I don’t know how to ask.
- He’ll think I am accusing him.
- I won’t understand what she’s talking about.
- It doesn’t really matter for dialysis.

BASIC SUBSTANCE USE HISTORY

- Substances used
- Age at initiation
- Age of last use
- Highest period of use
- Physiological and psychological adverse reactions
- Positive use reactions

CAGE-AID – “Adapted to Include Drugs”

1) Have you ever felt you needed to Cut down on your drinking or drug use?
2) Have people Annoyed you by criticizing your drinking or drug use?
3) Have you ever felt Guilty about your drinking or drug use?
4) Have you ever felt you needed to drink or use a substance first thing in the morning (Eye-Opener) to steady your nerves or to get rid of a hangover?

CAGE-AID SCORING

4 questions, positive score on 2 or more is clinically significant and indicates:

- 0 for no
- 1 for yes
  - need for more evaluation
  - look at frequency
  - quantity
  - heaviest and/or daily use
Practice Tips for the SW

- Perceptions and report of self-use is rarely accurate -- USE Collaterals
- Serum, Hair, Urine for Drugs of Abuse - Excellent Collateral

User Pattern

- outgrow it
- dependence
- don’t develop problem

We usually inherit the disorder into our care after it is well entrenched in the patient’s life.

More Practice Tips

- Binges: don’t qualify as problematic unless they create social/occupational problems— and are more appropriately looked at as occasional recreational use
- Identify the switch from pleasure to obsessional use
- Identify the family history
- Is there Early Onset – high and heavy frequency of use and inherent high tolerance
- High Lethality with some substance use

Types of Treatment

- Emergency Room
- Outpatient
- Residential
- Medically supervised withdrawal
- 12 step groups, etc.

TREATMENT AND INTERVENTION

Early identification and active intervention are key.

TREATMENT: WHAT – WHERE – HOW – WHEN

- Can be voluntary or involuntary or coercive
- Can be used to treat the following: Cravings, Dependence, Abstinence, Emergency Management, Risk Reduction
- Can be most appropriate in the Emergency Room or in a medically supervised or monitored withdrawal setting
- Some placements are legally set to be a jail setting
ABSTINENCE: WHAT – WHERE – HOW – WHEN

- Support (12 step generally NA – AA – CA)
- Outpatient Individual or Group
- Residential
- Inpatient
- Sober living houses –
- Transitional living houses
- Minimum use houses

Treatment Outcomes

Craving: Such a strong urge to take drug it overpowers all other thoughts. Used as a predictor for relapse.

INTERVENTION

- American Public Health Strategic Brief Interview
- Symptom Targeted Intervention
- Motivational Interviewing
- Risk reduction
- Goal identification

- Interdisciplinary Team
- Awareness of prescription meds

BRAINSTORM

- Causes?
- Referral needs?
- The reality?
- Answer?

CASE 1

- 48 year old Native Female
- Works part-time; doesn’t miss work
- Dialyzes in the evening, TTS
- Has had problems within the past 6 months
- Has been hitting thigh on objects in the work-place, has bruises
- Has nicked her hand when using scissors, needs band-aids
- Is seen as quite “clumsy” by co-workers
- Went through substance treatment 5 years ago

CASE 2

- 55 yr. old married Caucasian male
- Professionally employed, Ph.D.
- Dialyzes early a.m., four years on dialysis
- Frequently misses treatments
- Ongoing outbursts with staff, reports problems with co-workers
- History of depression with intermittent therapy
ALCOHOL AND DRUG CONSEQUENCES QUESTIONNAIRE (ADCQ)


Websites

- SAMHSA – Substance Abuse and Mental Health Services Administration www.samhsa.gov
- AAAP – American Academy of Addiction Psychiatry www.aaap.org
- ASAM – American Society of Addiction Medicine www.asam.org

Special thanks to the professionals and agencies below for permission to use slides from their research and training projects on synthetic substances

- Jane C. Maxwell, Univ of Texas
- Beth Rutkowski, Mednet UCLA
- Thomas E. Freese, Mednet UCLA
- Gulf Coast ATTC: http://www.atcnetwork.org/gullfcoast
- Pacific Southwest ATTC: http://www.psattc.org