Psychiatric Co-Morbidities - Kleinert

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This presentation is entitled Psychiatric Comorbidities: Complexities of Diagnosis and Care. I will now turn it over to Dr. Kelly Kleinert to begin our presentation.

00:09

Hi, everyone. Thank you so much for joining us today. As Giulia mentioned, I am Dr. Kelly Kleinert. I'm a psychiatrist at New York State Psychiatric Institute, I work on the inpatient unit that's affiliated with Washington Heights Community Service. So we primarily treat folks in the neighborhood, in the community surrounding our hospital, who have severe mental illness and often can come in with substance use. So I'm so excited to be here with you today. And thank you for joining us.

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So I have no disclosures. So I also just wanted to let you know, before we start that you can put questions in the chat, and I will try to answer them as quickly as possible while you're, you're with me today.

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So today, we're going to be talking about psychiatric- psychiatric illnesses that co-occur with folks who with substance use disorders. So the the goal for today is to sort of lay the groundwork for who exactly we're talking about, what the population is that we're talking about, to understand some of the systemic issues that occur. And then we'll be talking essentially about the major psychiatric disorders that co-occur, we'll hit on the major diagnostic categories, which I'll show you in a second. And then interspersed throughout that there are also some clinical cases, to just keep things more interesting and help it sort of seem more relevant to us in our patient care. There will also be a few things that I'll be talking about that you won't necessarily get in other places, like some some of the sort of psychiatric emergencies that may arise in folks. So especially in folks who are using substances with psychiatric illness. And then we'll end with talking a little bit about suicide.

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So when we are talking about folks with co-occurring disorders, you also hear it called dual diagnosis, we're talking about having both a substance use disorder and also a psychiatric illness. As I mentioned, we're going to be talking about the two systems of care. And the reason that's so important is because these patients, because of the way that psychiatric care is it's often siloed. So it's important to think about how these folks are sort of navigating the healthcare system. I think we often think about with folks with substance use, I think there's often this idea in the general population, and I think amongst even- even people in the medical profession, that people with substances are sort of self-medicating some sort of psychiatric symptom. But if we think about dual diagnosis, and we think about folks who have both in that way, then it ends up applying to everyone. And it doesn't really have any, many meanings. So we have to be very specific and explicit and intentional about who we're talking about when we talk about co-occurring disorders.

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So today, we're going to be talking about folks that meet criteria, all of the criteria for both a psychiatric illness and a substance use disorder and not so much about substance induced disorders. So just want to make that clear from the beginning. So the these are the most common sort of diagnostic categories or illnesses that tend to co-occur and that we'll be talking about today. So major depression, bipolar disorder, some of the anxiety disorders, especially social anxiety and panic, schizophrenia, and sort of schizophrenia psychotic spectrum illnesses, attention deficit hyperactivity disorder, ADHD, and PTSD or Post Traumatic Stress Disorder.

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And then for the most part, we're going to be roughly keeping to with as far as substances like alcohol, stimulants, opioids, cannabis and benzos.

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So I mentioned that this is this is really important to keep in mind and to think about, as we think about these patients, for so long, and this is I think a lot of this is probably preaching to the choir, but as you all know, a lot of times psychiatric care, and psychiatric care has been siloed or separate, kept separate from medical care. And that, you know, that goes back hundreds of years. And I think similarly, with addiction, that has also been the case that it hasn't always been well-integrated. So I think what has happened is that there, there are now also two different systems that care for these patients.

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So what does that mean for how we care for these patients? So the- the legislation that deals with psychiatric illness and with substance use, can also can often be be separate or different. I think there's a lot of new laws now with that sort of parity. And I think there's a lot of efforts to change that. But even things like sort of treatment over objection which we see in varying degrees across different states, often those sort of treatment over objection, even though some states in their statutes have in

there that it can be applied to folks with substance use disorder. That's not, that's not always how it works on the ground, and it's very rarely done, but for folks with mental illness, treatment over objection, you see more commonly done are sort of involuntary hospitalizations. So those sort of like the laws affecting their care are different.

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The funding streams of where, who's funding this funding funding, the treatment for mental illness versus addiction is also different. Who's, who is caring for these patients, the training they've received, can also be very different. You see with mental illness, it's often psychiatrists, but not necessarily, you know, a lot of primary care doctors that are treating depression and anxiety. But often very different than than folks who necessarily are treating substance use disorder. So it's not always the same person.

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And in sites, I think this is one of the most striking things for when I treat my patients who come in with severe mental illness, who were then referred to care. So they have severe mental illness, they also have concomitant substance use. We refer them to the clinic that typically cares for a patient with- with severe mental illness. And then we learn, oh, no, that that person has, you know, too severe substance use, they need to get addiction treatment, we don't feel comfortable managing that. But then when we send that, that same patient to a place that has more substance use care, more addiction treatment, they often don't feel capable or comfortable, maybe it's a better word, to treat the severe mental illness. So they the care is literally physically separated. And often it's really difficult to get care for these folks.

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And then also, I think there's like a different, there's a different culture in addiction, addiction recovery, in versus psychiatric illness. So I think a lot of those things can make care for these patients really complicated. And so I just think it's a really important thing to keep in mind as you think about this patient in front of you and sort of how they're trying to access care and what that looks like for them.

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Okay, so this has a lot of words and numbers on it, but we're gonna walk through it. So I wanted to start out with sort of thinking about how many, just to get a general sense of how often are we seeing these folks that are have co-occurring- also have dual diagnosis. So this is data that is comes from the NESARC study. So that's a National Epidemiologic Survey on Alcohol and Related Conditions. It's something done by the National Institute on Alcohol Abuse and Alcoholism, they've actually done four of these surveys over the years starting in the late 1980s. Over time, so they're cross-sectional, national surveys of adults, so 18 and over and for folks who are not institutionalized and civilian. And it's really was one of the first studies surveys that was designed to really look at this question about distinguishing independent versus substance induced mood and anxiety disorders.

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So this particular chart is looking at the prevalence of mood and anxiety disorders among people who participated in the survey, who had substance use disorders, who were seeking treatment. And, you know, that does change the population, right, because it does have folks who are presenting for care, but I think relevant to us, because we are treating people who are presenting for care. So I think this gives us a good idea, a rough idea of of who is coming in for care and and what else they might be be struggling with. So this is for folks who have substance or have alcohol use disorder who are coming in for care. So among those, having any mood disorders is 40%, that's quite high. That's almost half of folks who are meeting criteria in the survey for alcohol use disorder and major depression. Then you also see dysthymia in there. Mania and hypomania. So that's at about 15%, if you combine them so far. Bipolar disorder, then any anxiety disorder is a third about 33%, also quite high. And then you see it separated out into panic disorder, social phobia, generalized anxiety. So, you know, I think these numbers are pretty striking. And I think that's why it's really important to be thinking about these folks who have dual diagnosis.

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This is the same- sort of- very busy slide, but for folks who have drug use, so I think it's pretty similar in a lot of ways, maybe even more so with mood disorders at 60%. Again, a lot of major depression at 44%. It looks like about a fifth of or about 22% with bipolar disorder, and then similarly quite high with anxiety disorders. And then you can also see any alcohol use disorder. So there's like high comorbidity there.

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You know, I think there are some limitations to this study. There is limitations of the fact that these are lay interviewers. So they're not, they're not psychiatrists, they're not social workers.

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They're not, you know, folks who are typically treating so that that can skew a little bit. It also is possible that folks are under reporting because they're talking to the stranger and they're not necessarily going to be as forthcoming. Is it also possible that it's over diagnosing so you're- they're looking at a checklist and looking at, you know, maybe they just meet criteria for based on the DSM but doesn't necessarily get to the level of func- of a functional impairment, which is an important part of a diagnosis for a psychiatric illness. So, you know, it's not perfect, but I think it certainly gives us a really good idea of like, just how prevalent this is, and why it's so important to be thinking about these folks. And then of course, it doesn't speak to any causal relationships.

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Okay, so as we start thinking about, you know, how to identify these folks and separating them differentiating them for substance induced mood disorders, psychotic illnesses, we have to really clarify the diagnosis. So I, when I, when I think about this, I actually really like that you can sometimes

write out a timeline. And that way you can and look at the temporal relationship between the two. And that can often help you distinguish between substance induced versus independent.

11:00

So when did the psychiatric symptoms start? When was their onset? How does that relate to the the start of a substance use? Or when substance use was most most the heaviest? Where did this patient have any periods of abstinence from substance use? Okay, so what happened to the psychiatric symptoms during those during those periods, and then the resolution of symptoms, so if if someone has a period of abstinence, and then the symptoms resolved, like, at what timeframe. Most of the time psychiatric illnesses that are substance-induced tend to resolve within a couple of weeks, a month or so after the sort of the sort of stopping the substance use. So I have to think about the timeline there. So I think once you map that out, you can really get a better idea of what's, what's going on and how, what your next step is in care, because the care is going to be different. And if it's substance-induced, so your primary focus is going to be the substance use disorder. But if it's, if it's independent, and you, and that part isn't getting addressed, then you're not addressing all the issues that are going on for this patient, which can affect their ability, their response to this, that addiction treatment.

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So, as we start, you know, we'll start thinking about this, and we'll go into our first diagnostic categories, we're gonna be talking about depression. And we'll walk through this case. So Rafael is a 45 year old man, he's in your addictions program for alcohol use disorder. He has a history of recurrent depressive episodes, and he started drinking more heavily in his late 20s. So we want to know, you know, what, what's

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the first thing we want to know about? You know, based on what we were just talking about with the timeline.

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I think the the thing that I think of first is okay, when when did he first have depression? Like, what what did that look like for him? So his first depressive episode was in his early 20s. Okay, so that gives us an idea that this was probably likely happening. Before he was really, before he was really drinking more heavily. And so we also might wonder, okay, so what happens? Has he had any periods where he hasn't been drinking, and sort of periods of abstinence, per se, and then what happened to his symptoms at that time? So it turns out, he has had periods of sobriety, and he has had depressive episodes at that time. So, you know, obviously, this is a very, this is not a lot of information. But this is sort of just introducing the way of thinking through this that this is likely Raphael is likely someone who has co-occurring alcohol use disorder and major depression.

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Okay, so major depressive disorder. Here's a review. Major depressive disorder is having either depressed mood or anhedonia. So lack of interest in activities or the things that finding pleasure, lack of getting pleasure from the activities, one of those needs to be present most of the time, nearly every day for a period of two weeks. And then in addition to that, for their symptoms that include changes in appetite, sleep, psychomotor activity, energy and concentration. Could also include feelings of guilt or worthlessness, and then thoughts of death and suicide.

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So in folks who have major depressive disorder, 15 to 20%, so about a fifth of them, have co-occurring substance use disorders. When we look at that, sort of flipped from the other end, and you're looking at folks with substance use disorders, this is a pretty broad range. And I think it's it's sometimes hard to sort of accurately get a clear number of this for every population. But Denver's putting it up at like 15 to 50% of patients with substance use disorder have co-occurring in major depression, so it's pretty high.

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For folks that have co-occurring major depression and substance use, they tend to have worse substance use outcomes. They have worse psychiatric symptoms, and they have an increased suicide risk. So it's really important to identify these folks and make sure they're getting proper care.

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So to review the treatment of depression, so psychotherapy is, is, you know, evidence-based and there is a lot, it's a very effective treatment, I wrote CBT and intrapersonal. Both of those are, are great therapies. There's also many more, but I think those have a lot of evidence and really the best predictor of someone's response to psychotherapy is two things. The rapport that there is- the rapport between the patient and their provider, and also the confidence that the patient has in that treatment modality. Those are the best predictors of of, of response to psychotherapy.

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So pharmacotherapy for depression. First line is usually SSRIs. Sometimes folks, you'll also see SNRIs, especially so like duloxetine. For example, if someone has chronic pain, not typically as first line, but there certainly could be an argument made for something like that, or like venlafaxine, for example. Sometimes atypical depressants depending on some of the other sort of the symptoms that someone's presenting with. So buproprion. You see use a lot with mirtazapine, especially if someone's doesn't have an appetite and has had trouble sleeping. Tricyclics- TCAs- and MAOIs or not firstline. So they tend to have much higher side effect burdens and aren't used so much. They certainly are still used for folks with treatment resistant depression. At that point, you're probably referring someone to a specialist to help you manage their depression. And there's just a lot more drug-drug interactions, so best to avoid those.

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We'll talk about SSRIs a little bit more in sort of the anxiety disorders. But in general, if you are having someone who is depressive also is anxious, just be mindful of starting at a low dose and going slow, because they can initially cause like worsening of agitation, restlessness. So you have to be mindful that.

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Combination of psychotherapy and pharmacotherapy is the most effective. And in looking at studies of depression and co-occurring substance use disorder, interesting thing is that a lot of times the placebo response moderated the effects of medication. So in studies that had a low placebo response, they tended to have a larger medication effect size. And if there was a high placebo response in the in the, in the trial, in the studies, there tended to be a much lower medication effect size, I think that likely shows that depression was also responding to treatment as usual, which was usually substance use treatment, which is sort of an interesting thing to think about that sort of contact with providers and, and, you know, talking about other things that are happening, that are likely affecting your substance use can also be contributing to depression- depressive symptoms.

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So I think this is a really fascinating study that looks at this treatment of, of depression, and alcohol use. So this was a double blind, placebo-controlled trial that looked at sertraline and naltrexone. So the sertraline was in for folks who had co-occurring illnesses. The sertraline was dosed up to 200 milligrams a day and the naltrexone was dosed at 100 milligrams a day. And these graphs here are looking at time to first drinking day, which is on the left, and then the time to first heavy drinking day on the right. So both of these the colors are the same. The blue line indicates folks who are getting sertraline and naltrexone. And then the other lines, the red is the placebo. Purple is sertraline alone and green is naltrexone. So, you can see that the combination really separates out pretty impressively showing the benefit of co- of treating both of these illnesses at the same time on on the person's response to treatment.

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And then conversely when we are similarly when we look at the the depression scale with the HAM-D, which is a rating scale that's used clinically and in also a lot of trials to, to quote, quantify, objective, objectively measure someone's depressive symptoms, you can also see that this combination, the blue line shows the greatest improvement in depressive symptoms as well.

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Okay, so this is a brief sort of detour, but related that you- some of you might see questions like this on the exam. So I just wanted to make sure that we talked about serotonin syndrome. And also because a lot of the medications that we use to treat depression, or the substances that people are using sort of not prescribed for a variety of reasons, which is why we're here today can be a contributing to this. So I just want to make sure we talk about it. So serotonin syndrome is a clinical diagnosis and it's life-threatening. So, you want to think about three things mental status changes,

autonomic manifestations and neuromuscular activity as a result of increased serotonergic activity in CNS. So clinical features are things like clonus, diaphoresis, agitation, tremor, hyperreflexia, hypertonia, and elevated temperature. So the most of the most important thing for treatment is discontinuing the offend- discontinuing the offending agent.

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So what might those be? It's actually quite an extensive list. There's a lot of things that modulate serotonin. So increase in first thing would be something that like increases the serotonin release, for example. So amphetamines or ... amphetamines, MDMA, cocaine, mirtazapine, which is what we just talked about. Anything that impairs their re uptick, so SSRIs of course, St. John's Wort, Tramadol, MAOIs, which I mentioned before, but also modulate serotonin, and then serotonin agonists like LSD and buspirone. So those are all things that could be contributed to serotonin syndrome.

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And also be thinking about things like starting a new agent, a change in the dose, sometimes people have patches of like an MAOI for example, so those are things that most important thing is stopping that agent, and then providing supportive care, which is usually supplemental oxygen, intravenous fluids and cardiac monitoring. Used typically with benzos. Sometimes you see cyproheptadine use as well, which is histamine-1 receptor antagonist. It actually also has nonspecific 5HT1A and 5HT2A active antagonistic antagonist properties. And so that is also sometimes helpful in managing serotonin syndrome.

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This is also just a great, very simple straightforward chart from UpToDate, because I think there's sometimes some confusion or overlap with serotonin syndrome and NMS. So usually, with NMS, you're looking at dopamine antagonists. So anti-psychotics typically. Usually the timeline's a little bit different. Serotonin syndrome, the onset is usually within 24 hours, and the course is much shorter, but NMS is usually days to weeks. Serotonin syndrome, as we mentioned, hyperactivity and NMS you see more bradyreflexia and rigidity. And the treatment. I mean, I think you see benzos certainly used in both. But typically also within NMS, you see bromocriptine being added as well.

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Okay, so back to regularly scheduled programming, we'll go to another case. Justine is a 38-year-old woman she presents to methadone clinic for treatment. She has been using IV heroin or other opiates for 20 years, she has a history of depression, suicide attempts and overdoses. Do you start an antidepressant in addition to methadone?

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So this is a little bit different than the study that we looked at with alcohol use. And I think, you know, I think this is it's surprising, but we'll look at the data. Okay, so the lifetime prevalence of depression and folks with opioid use disorder is quite high; 44 to 54% versus 16% In the general population

and folks with opioid use disorder is quite high: 44 to 54% versus 16%. In the general population. There's a lot of heterogeneity of the effect of antidepressant medications across trials. So some show that there's some benefit, some shows that there's actually little to none. So when Cochrane Review did a metaanalysis, they saw that there was actually low evidence for supporting antidepressant use for treatment of depression in folks with opioid use disorder on opioid agonists, opioid agonists being bupe and methadone. Important thing to keep in mind.

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Okay, so now we're going to switch to our next diagnostic category, which is bipolar disorder. And a really important reason this should follow up major depression is I think, often folks with bipolar sort of present when they're depressed. It's less common, certainly way less common for folks when they're manic or hypomanic, to feel like they're suffering or not well, and that they need care. They often feel euphoric, elated, and they're not necessarily presenting for care. Unless they, you know, engage in something really risky and that sort of thing. You're sort of looking at a different picture. So most of the time, if patients are presenting for outpatient care, they're going to look depressed, and the treatment for depression- unipolar depression is very different and can actually worsen folks who have bipolar or diathesis. So that's why it's really important to keep this in mind and take a thorough history.

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So, bipolar disorder, bipolar I is one episode of mania, and bipolar II is one episode of mani-hypomania and one episode of depression. So mania is one week of elevated mood and increased energy, and then three of the following: so grandiosity, decreased need for sleep, talkativeness, racing thoughts, distractibility, increase in goal directed activity, psychomotor agitation, and risk-taking.

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So folks who have Bipolar disorder have rates, four times the general population for substance use. And up to 40% of folks who have bipolar disorder have co-occurring substance use disorder, I think likely related to the severity of their depressive symptoms, as well as the sort of nature of mania, hypomania, itself is that you're increasing, you're taking risks. There's increasing goal-directed activity. There's some impulsivity. And I think that is sort of a perfect storm or environment for sort of increasing your use of substances.

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Again, as I mentioned, they often present depressed so treatment with an antidepressant isn't indicated, it can cause them to flip into mania, it can sometimes create a mixed state which is having symptoms of mania and depression together, or it can just be in general destabilizing for their mood. So treatment is usually a mood stabilizer and an atypical antipsychotic. So most people would sort of use something like lithium or valproic acid. There is evidence that valproic acid in particular is helpful for folks who have a subs- a concomitant substance use disorder or substance use. And then an atypical antidepressant would be something like olanzapine or risperidone.

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Okay, so now we're going to shift to anxiety disorders. Almost 20% of folks with a substance use disorder have co-occurring anxiety disorder. 15% of, of those who have anxiety disorder, have comorbid substance disorder. So it's like looking at the flip side, and they have double the rates of nicotine and opioid use in the general population. The most common substance use- alcohol use disorder is alcohol. And then the other substances would be like 15% cannabis, and then about 5% or less for cocaine, amphetamines, hallucinogens sedatives. The most common co-occurring are generalized anxiety, social anxiety and panic.

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Okay, so treatment of anxiety disorders is pharmacotherapy and psychotherapy. SSRIs are the gold standard, start low and go slow. As I mentioned earlier, they really can significantly worsen anxiety, anxiety, agitation, restlessness initially. And if you end up making someone feel worse, they're going to sort of, like, be done with SSRIs in general, so you don't want to scare them off. It's really important to start low and go slow for these folks. Sometimes you see SNRIs or mirtazapine. But SSRIs are really your first line. In general, I'd recommend avoiding benzodiazepines- just the addictive perc- potential is, I think it's complicated. I think in general, for folks, you're really- it's always a question of like weighing the risks and benefits and making your own decision. So I don't I don't know that's like a hard, a hard no that you can never use benzos. But you certainly there are other options that you can use to manage acute anxiety. Hydroxyzine for example, gabapentin sometimes.

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And in psychotherapy, CBT is really your gold standard. For social anxiety, CBT and SSRIs are equally effective. So for generalized anxiety disorder, it's the most frequent anxiety disorder seen in primary care. So 22%.

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50% have a lifetime comorbid substance use disorder- 90% of those are using alcohol. So 12 to 22% of folks with substance use disorder presenting for treatment have generalized anxiety. So it's quite high. Alcohol use is more prevalent in generalized anxiety than it is in other anxiety disorders. And comorbid substance use can affect recovery. So folks who, with generalized anxiety and substance use, tend to have decreased likelihood of recovery from generalized anxiety and then increased risk of exacerbation.

28:57

Next, we're going to switch here to social anxiety. And I think that this is important to think about, because I think a lot of times some of the somatic symptoms of anxiety can very much mirror so... intoxication or withdrawal from substances, so things like stuttering, blushing, palpitations, sweating,

butterflies, trembling, and shaking, are all often physical complaints that people have who have social anxiety. And these are also sometimes things that happen when someone's intoxicated or withdrawing.

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So this is a screening that you can do for social anxiety. It's called the mini-SPIN. It's actually quite sensitive and specific for looking at social anxiety. So it can be helpful in helping you figure out, you know, what's the next step of treatment for these folks? So ask these questions and then have them answer on a Likert scale, so zero to four in how much it applies to them. A score of six or more is pretty sensitive and specific for social anxiety. So just fear of embarrassment causes you to avoid doing things or speaking to others? Do, do you avoid activities in which you're going to center of attention, and is being embarrassed or looking stupid, among your worst fears. And I think another thing that's really important to think why we think about these patients, is because it can affect their care. We'll talk about that in one second.

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So for social anxiety, it usually starts in childhood or adolescence and it's extremely rare for it to have an onset after the age of 30. The- there's a pretty significant risk factor for alcohol use, in and of itself, the prevalence of alcohol use disorder is 48%. And, for, you know, as I mentioned, also, addiction treatment itself can like worsen the social anxiety.

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So what do I mean by that? So you are taking it so you know, you hear, you'll hear alcohol is a social lubricant. So for folks who are socially anxious, you're taking away that thing that helps them feel more comfortable in social settings. And then say, for example, you refer someone to AA, who has social anxiety, you're now putting, put, being put in a novel social situation without sort of their the crutch that they use. So like, what how do you how do you manage that? So Rick Ries actually gave his talk for years, wrote an article about this, and I have a list here to talk about a little bit from his paper about how you can manage this for this patient.

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So you had this patient with social anxiety, you refer them to AA, which you think would be really helpful for them. So your patient comes to you. You've- they've thought about going to a meeting, but they were afraid that they would panic if they were called on so you don't end up going. Okay, so what do you do? First, you treat the social phobia with medication. Again, an SSRI- start low go slow. You can also consider propranolol. So propranolol is used all the time for performance anxiety- 10 to 20 milligrams before the meeting could be helpful. You can also help them rehearse what they're gonna say. They could practice with you, they can practice at home. "Hi, I'm Kelly, I'm glad to be here." Also remind them they don't have to actually speak, they can go and participate. They can go and take part and be present in the meeting without actually speaking. So it's really important to think about this for these folks and how to help them be successful in their treatment.

32:30

Okay, this is onto another case. Marina is a 28-year-old woman. She complains to her primary care doctor about frequent panicky feelings, anxiety and feeling sweaty in afternoons at work. She said she feels better once home and has a large glass of wine. She's worried because she's drinking more. She thinks she has panic disorder and that this is causing more drinking. So again, this is important to figure out is, is Marina having panic attacks, and that they're extremely frequent, or is she actually having withdrawal symptoms.

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So what is a panic attack? A panic attack is a surge of fear or discomfort that lasts for several minutes to an hour. So most typically, it's going to be under like 10 or 15 minutes. Technically can be up to an hour, but if it's lasting for hours, like it sounds like it is for Marina, that's not a panic attack. And it tends to have four associated symptoms so palpitations, sweating, trembling or shaking, shortness of breath, chest pain, nausea, dizziness, chills or hot flashes, paresthesias, derealization, depersonalization, fear of losing control, and fear of dying.

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So I think in Marina's case, it sounds like she actually probably is actually withdrawing from alcohol. But it's important to distinguish between these two things. And again, you know, similar like to other anxiety disorders, treatment of panic is is a combination of, of psychotherapy, like CBT, exposure, and medications. SSRIs, usually.

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Okay, the next diagnostic category that we're gonna talk about is PTSD, post traumatic stress disorder. So in order to meet criteria for PTSD, you have to meet all five criteria for at least a month. So the first is exposure to a traumatic event. The second is re-experiencing. So that's, you know, typically you think of like flashbacks, so we're re-experiencing the trauma, avoidance, people... not going places or certain things that remind you of the trauma, negative alterations in mood and cognition. So how you think about yourself. how you think about the world, Alterations in arousal reactivity, so it's like sort of exaggerated startle response, sometimes and then nightmares as well. There's often comorbid depression and anxiety for folks with PTSD. It increases the likelihood of substance use about two to four times.

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You know, I think there's a lot of theories about why that might be. And you know, the, I think the hypothalamic-pituitary-adrenal-axis involved with response to stress. Also the noradrenergic systems that somehow, which also sometimes play a role in alcohol and some substance use. So are those somehow interacting, and PTSD usually precedes a substance use disorder.

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So treatment, so psychotherapy, there's a lot of evidence, really great evidence for the effectiveness of exposure therapy, cognitive therapy, it's like trauma focused CBT, cognitive, cognitive processing, EMDR and then pharmacotherapy. So there are multiple trials that show improvement of symptoms decrease of symptoms, with SSRIs. There's FDA approval for sertraline and paroxetine. There's also some promise for venlafaxine and mirtazapine as well. And prazosin is also used for the treatment of nightmares.

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Okay, we'll move on to Attention Deficit Hyperactivity Disorder- ADHD. So in order to make a diagnosis of ADHD, I think the most important thing to consider is this is really needs to be done by comprehensive assessment, with a diagnostic interview. It can't be based on patient self-report screen, and you really need to be given a thorough history of like development, learning history, things like that. In order to make this diagnosis, you're looking at five or more symptoms in either the inattentive or hyperactive impulsive domains and two or more settings for six months. So inattentive, things like difficulty paying attention, sustaining attention, not wanting to initiate activities that require sustained attention. Organizing, being forgetful, losing things, easily distracted.

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For the hyperactive impulsive type, folks are fidgety or restless. This whole idea like being sort of driven by motor, talking excessively, and difficulty waiting your turn. They also have significant increase in substance use from the general population- two to three times.

36:53

Okay, so treatment for ADHD, typically, it's amphetamines. So the first line treatments are extremely effective, extremely helpful, can really be life-changing for folks. So a little bit complicated if someone has substance use history, especially if they're actively using. So atomoxetine, it's usually would be like, so the first go to for these folks. And if they're actively using, you really also need to stabilize and treat the substance use. Sometimes bupropion can be really helpful. It can help with ADHD symptoms, and also, especially if there's co-occurring depression. Again, I don't think there's any hard or fast sort of black and white rules, I do think that if it if you have a patient that you feel comfortable prescribing, you know, having them taking like an amphetamine, who have substance use, or I think that's really a risk benefit conversation, you need to have that patient and their other providers. Because they really are quite effective.

37:50

Okay, we're going to switch to a case, Calvin is a 28-year-old man who presents to urgent care. He's concerned that his computer and his phone are bugged. And he's also paranoid that police had been following him. He knows these substances have been occurring for months, and he denies substance use. So we talked about the timeline, but we also have to think, you know, in patients that present like this, what else might be the cause of the symptoms, and what we might do to- what other additional information we might need.

38:23

For patients like this, we would certainly want a Utox. Psychosis is caused by a lot of substances as we're all learning or reviewing. So you do a Utox, it's positive for amphetamines, he then acknowledges that he's been frequently using crystal meth. Okay, so how do we distinguish between these two.

38:42

So substance-induced psychosis, there tends to, of course, be heavy drug use, patients aren't necessarily forthcoming about that, which so you can get a Utox or talk to collateral. Family, whether or not you know, if they have a sense of the person, if the person has been using any substances. They're actually more likely to have preserved general function. These are both sort of general guidelines. Not always the case, but for the most part, and their symptoms are usually positive symptoms. So things like paranoid hallucinations, but not necessarily the negative symptoms, like alogia, amotivation, asociality.

39:21

Schizophrenia tends to have an earlier onset, and often marked by a program of withdrawal, negative symptoms that we just talked about, having fewer friends, and there often is more global impairment. Because so often, there's a, you know, a marked thought disorder in folks who have psychotic spectrum illnesses.

39:39

So up to 15% of folks with substance induced psychosis can persist after a month of abstinence. And we talked about how that can be helpful in determining if it's substance abuse or not, you know, I think in that case, you know, psychotic symptoms can often cause a significant amount of distress. So at that point, you would, you would treat the symptoms likely regardless. Just, just to decrease the patient's suffering, but just be mindful of that, because, you know, if it's there was clear, there was clear and heavy substance use, it could be something that eventually they could come off of the, the antipsychotic.

40:14

Up to 15% of folks with schizophrenia have, or psychotic spectrum illnesses have co-occurring substance use. And you you see numbers up to 75% have tobacco use, which is really quite high. I think there's a number of reasons for that. So the hydrofluorocarbons can decrease- that are in cigarettes often can decrease the levels of a lot of the atypical antipsychotics or in antipsychotics in general in the blood. So they're getting less side effects from their medication. Also nicotine is is has that really unique combination of being both a stimulant and an anxiolytic. So for folks who are struggling with negative symptoms, but also the distress of of psychotic symptoms is it is probably why it's uniquely appealing to them.

40:59

Cannabis use does, you know, I think there's there's, this could be a whole other talk about the relationship between psychotic illnesses and cannabis use. But it does seem that in teens, it doubles the odds of developing a psychotic illness to have significant amount of cannabis use history. And it seems to have some dose dependence that sort of the heavier a user is, the more likely they are to develop a psychotic illness. Again, we don't know anything about the causal relationships necessarily, or those folks who are prodromal, who would have been using cannabis, who are using cannabis. And so it's not necessarily you know, it's impossible to know.

41:35

Substance use individuals with psychotic illnesses, it, it certainly affects their care and impacts impacts their disease progression. So it is associated with increase in the duration of untreated illness. That's really important, because, you know, there's a lot of thought that the longer someone goes with untreated psychosis, and the effects that has on the brain, the worse their outcome. So it's really important to get someone in treatment as quickly as possible. It impacts their adherence with psychiatric care, I have so many patients who you know, use substances, so they didn't take their psychotic, you know, their antipsychotics or their medications-

42:11

end up having worsening symptoms and ends up sort of perpetuating the spiral. So I often in harm reduction, even if you have... drink.... a ton of alcohol, please still take your medications, and just really providing psychoeducation about, you know, from that harm reduction perspective. And then it can also lead to increase in symptom burden, and poor quality of life.

42:34

It's such an important thing to talk about, up to 40% of patients seeking substance use disorder treatment report, a history of substance use, I'm sorry, report a history of suicide attempts. And it's the 10th leading cause of death in the United States. It's, it's really an important thing to be keeping in mind. All of the things that often go along with substance use are also you know, risk factors for suicide. So substance use itself, withdrawal, the impulsivity, social isolation, life problems, all those things can really contribute and really increase someone's risk.

43:14

So, you know, the National Violent Death Registry System looked at suicides in United States, and 30 to 40% of them involved alcohol. 22% involved alcohol intoxication, 20%, opioids 10% cannabis, so it's really quite high.

43:31

It's really hard to get an accurate estimate of, of substance use because of this, but you see, close to 2-100 times the risk of the general population for suicide that's astronomical, so important to be thinking about these things with our patients. For the most part, I would say it's probably like five to 10 the risk of the general population, which is really high, that's not broken down by each substance. But just really important to keep in mind.

43:59

There's some limitations of suicide research. It's often excluded women. But really, it's it just highlights the the seriousness of this issue.

44:12

So we're looking at a US study that of folks who had alcohol use disorder, 4.5% attempted suicide. It's related. So suicide attempts are related to more severe substance use, substance-induced psychiatric disorders, being separated or divorced is a risk factor, which is a risk factor, honestly, for suicide in general. And then also prior attempts is related as well.

44:36

Just another study that in Europe looked at an autopsy study found that 40% had alcohol use disorder, so really, really significant significantly elevated risk.

44:47

And of course, we can't talk about suicide without talking about opioid overdose. 50,000 deaths from each of these in the last year. It's really hard... So in 2017, so this number is a little bit old, but about over 40% of all suicides and ove- overdose deaths involve opioids. That's incredibly high. And it's, you know, I said here the intentionality of overdose is dimensional, not categorical, so fatal or non fatal events. They may not be fully intentional or unintentional. So why is that? So sometimes after the fact, it's really hard to differentiate, especially if someone has has ended up taking their life and, or has ended up dying- It's from the overdose, it's hard to know. So if they didn't leave a suicide note, for example, what what, what was, what was their intention? Did they mean, was it an accident? Was it intentional? So sometimes you can't differentiate. And then sometimes if folks who survive, the perceived intent of of their use at that time might change in retrospect, right? Like, if they're still alive, what they might have been intending to do might sort of change as they look back on it. So it's really hard to know. And I think they're probably likely very integrally related.

46:02

There's a number of people that come up with different interventions, to think about the the risk, you know, to think about the risk factors and how we can intervene. So the quality of pain care, access to psychotherapy, and of course, preaching to the choir, access- access to medication-assisted treatment for subst- for opioid use, is one of the biggest things that we can do to decrease the risk of in these patients.

46:25

And just the last thing I want us to think about, as we're sitting with these patients and thinking about the risk is really thinking about their imminent risk of of harming themselves in some way, when when they leave in, when they leave the clinic or where your treatment setting, are they withdrawaling. Are they having cravings? Has there been a change in their pattern of use? You know, this notorious is someone who was using the ended up incarcerated, they're in jail or they're in prison, they get released, they go back to the same use and end up overdosing on accident. Or it has escalated. Loss of agency or identity, shame, humiliation, erosion of social support. So these things are all huge risk factors, increased use of other substances and then stressful life events. Did they recently relapse? Are they having legal problems? Did they recently have a breakup? So these are all things that we can be thinking about as we sit with these patients to really make sure that we are doing what we can to help keep them safe. So thank you so much for joining me today. It's been a pleasure. If you have more questions feel- please feel free to put them in the in the chat or you should have my email. You can also email me as well.