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Polysubstance Abuse Part 1

Introduction

Polysubstance abuse can be diagnosed when an individual is found to be dependent on three or more substances or substance groups within a 12-month period. An individual may receive this diagnosis even if they do not meet criteria for dependence on a singular substance. Although similarities exist between substance abuse and polysubstance abuse, the latter may present unique challenges, which include a lengthier detoxification period and an increase in physical side effects of the substances consumed. However, in some cases, polysubstance abusers may be more tolerant of the detoxification process since a physical reliance upon any singular substance may not have developed. Consequently, each polysubstance abuser requires a personalized treatment plan developed according to their unique medical, psychiatric, and substance use history. The treatment plan will need to consider resources available within the patient's support network, hospital or treatment facility, and community.

It is important to understand the distinction between polysubstance abuse and single substance abuse, as polysubstance abusers will require different diagnostic and treatment strategies than those who are dependent on a single substance. Nonetheless, there are some similarities between the conditions and treatment approaches; and, polysubstance users may benefit from some of the strategies used to treat single substance users.

Polysubstance Abuse Defined

Polysubstance abuse is defined as a substance dependence disorder in which the individual uses at least three or more substances or substance groups on a regular basis (1). However, unlike single substance abusers, the polysubstance abuser does not have a single substance that he or she favors over other substances and would not need to qualify as substance dependent in any single substance category (2).

While individuals with polysubstance use disorders may go through the same five stages of addiction as single substance abusers, what differentiates them from single substance abusers is the onset, development, and severity of their addiction. Many polysubstance abusers will not show signs of addiction as quickly and readily as single substance users because they will switch the substances they consume on a regular basis (3). Therefore, unlike an alcoholic who will drink heavily on a regular basis, the polysubstance user may only consume small amounts of alcohol before switching to another substance. This will minimize the telltale signs associated with single substance abuse. In addition, the polysubstance user may not progress through the five stages of addiction, as he or she may never develop an addiction to one specific substance. The individual will develop a reliance on multiple substances, but this development may occur in different stages (4).

To define polysubstance abuse, it is necessary to identify the specific components that are used to diagnose and define substance abuse in general. The Diagnostic and Statistical Manual of Mental Disorders

(DSM) specifies that three or more of the following symptoms must occur at any time during a 12-month period, and cause significant impairment or distress, in order to meet diagnostic criteria for substance dependence: tolerance, withdrawal and loss of control. These symptoms are defined below and discussed throughout various sections of this study.

Tolerance

When tolerance to a substance develops the individual finds that the same amount of the substance has much less of an effect over time than before and the individual has to use increasingly higher amounts of the substance in order to achieve the same effect. After using several different substances regularly over a period of time, an individual may find that he or she needs to use at least half as much more of the amount they began using in order to get the same effect.

Withdrawal

Withdrawal to a substance occurs as the individual experiences the withdrawal symptoms when he or she stops using the substance. Additionally, withdrawal can be diagnosed in an individual known to use a substance in order to avoid or relieve withdrawal symptoms.

Loss of control

The individual who demonstrates a loss of control either repeatedly uses more substances than planned or uses the substances over longer periods of time than planned. For instance, an individual who previously used substances on the weekends may begin using substances (any combination of three or more types of substances) on weekdays in addition to weekends.

Inability to stop using

The individual that shows an inability to stop using substances has either unsuccessfully attempted to cut down or stop using substances coupled with a persistent desire to stop using them. For example, an individual who desires to stop using substances on weekdays finds that he or she is unable to do so despite well-intentioned efforts to discontinue.

Time using and interference with life activities

A polysubstance use disorder often interferes with life activities when the individual using spends a lot of time obtaining and using substances, being under the influence of substances, and recovering from the effects of substance use. The individual either gives up or reduces the amount of time involved in recreational activities, social activities, and/or occupational activities because of the use of substances. An individual may use substances instead of engaging in hobbies, spending time with friends, or going to work.

Harm to self

Harm to self develops when an individual continues to use substances despite having either a physical or psychological problem that is caused by or made worse because of the use of substances ⁽⁵⁾. While the criteria listed above are used to identify dependence in substance users, it is important to note that some polysubstance users will not display three or more of the symptoms listed in the criteria due to continuous transition from one substance to another.

It is important that health professionals involved in the treatment of potential polysubstance abusers utilize various diagnostic screening tools to assist with identification of the disorder (6). Health professionals need to also remember that some polysubstance abusers may have developed dependence on one or more of the substances regularly used when considering diagnostic criteria referenced in an assessment and treatment plan. Approaches to individualized treatment of the polysubstance user and various screening tools used to develop a treatment plan will be discussed further on the study.

Progression stages

Substance use disorder develops over time and goes through five distinct stages of progression. The length of time for each stage, and the duration of the progression to a complete addiction to substance(s) will vary by individual. In some instances, the progression will occur quickly, with the individual spending brief periods in each stage. In other instances, the individual will slowly progress through the stages of addiction and will not reach becoming addicted to substances for an extended period of time (7).

The following table provides a description of each stage of progression:⁽⁸⁾

STAGE	DESCRIPTION
Stage One: Experimentation	The first stage, experimentation, is the voluntary use of alcohol or other drugs. Quite frequently, the person experimenting is trying to erase another problem. The substance seems to solve the problem so the person takes more, and moves from experimentation to regular use, which is the next stage.
Stage Two: Regular Use	Here the person has moved from experimentation to regular use. Some people stay in the regular use stage indefinitely. They will not develop a problem, and they are able to stop using substances by themselves. Others start using substances in a manner that is risky or hazardous to themselves or to others.
Stage Three: Risky Use	Here the individual engages in "risky behavior". When and how the transition from regular to risky use happens differs for every individual because what constitutes "risky behavior" for one person may not be considered risky behavior for another. People can pass quickly from risky use to dependence.
Stage Four: Dependence	Characteristics of dependence include: <ul style="list-style-type: none"> • Repeated use of alcohol or other drugs that leads to failure to fulfill major responsibilities related to work, family, school or other roles. • Repeatedly drinking or using drugs in situations that are physically hazardous, such as driving while intoxicated or using heavy machinery when intoxicated.

	<ul style="list-style-type: none"> • Repeated legal problems. <p>Many dependent people are able to work, maintain family relationships and friendships, and limit their use of alcohol or other drugs to certain time periods, such as evenings or weekends.</p>
Stage Five: Addiction	The last phase of the spectrum of substance use problems is addiction. Addiction is a medical condition involving serious psychological and physical changes from repeated heavy use of alcohol, other drugs, or both. Symptoms include uncontrollable alcohol or other drug craving, seeking, and use, that persists even in the face of negative consequences.

Common Characteristics Of Polysubstance Use

Although polysubstance use can affect any individual, there are some common characteristics that are found in the majority of polysubstance abusers. The following section discusses factors known to increase an individual’s risk of developing substance abuse issues.

Homelessness

Homelessness and substance abuse are often co-occurring conditions. In fact, substance abuse is more common among homeless individuals than the general population. Approximately 64% of homeless individuals abuse alcohol and/or other substances (9). In most instances, substance abuse is the cause of homelessness. Individuals with addictive disorders will often experience a loss of support from friends and family, along with chronic unemployment. These factors will increase their chances of becoming homeless. In fact,

approximately 65% of homeless individuals self-report that their homelessness was directly caused by drug and alcohol abuse (10).

In some instances, individuals will develop dependence as a means of coping with their housing situation. It is common for homeless individuals to begin using, or increase their consumption of, drugs or alcohol as a means of coping with their situation (11). Drugs and alcohol are readily available and easily accessible in the homeless community, and they provide an opportunity for the homeless individual to self-medicate as a means of finding temporary relief from their problems (12).

It can be difficult for homeless individuals to identify their substance abuse problems, as many also suffer from mental health issues and may not be aware of their problematic behaviors (13). Recovery can also be more challenging for individuals who have substance abuse and mental illness comorbidity (having both disorders at the same time). In addition, homeless individuals have limited access to the support networks and services necessary to successfully recover from substance abuse (14). Most treatment programs for homeless individuals focus on abstinence rather than harm reduction, which can make it difficult for individuals to adhere to the program. Consequently, many homeless individuals do not seek assistance with their addiction recovery (10).

The following summarizes the common characteristics and statistics associated with homelessness and substance use disorders:

- An estimated 50 percent of homeless adults with serious mental illnesses have a co-occurring substance use disorder. Individuals

with co-occurring disorders have more problems, need more help, and are more likely to remain homeless than other groups of people.

- Homeless people with mental and substance use disorders often have significant acute and chronic medical conditions, including diabetes, liver disease, upper respiratory infections, severe dental health problems, tuberculosis, and AIDS. Homeless individuals with a substance abuse disorder are in especially poor health.
- People with substance use disorders who are homeless are more likely to have arrest histories, to have been arrested in the past year, and to report that they have a felony drug conviction. Fifty percent of all arrests of homeless people relate to drinking alcohol in public places.
- Homeless people with substance use disorders, especially those with co-occurring mental disorders, are at risk for losing their housing due to eviction, arrest, and incarceration. Once homeless, they are unlikely to succeed in treatment without access to safe, sober housing.
- Fewer than one quarter of individuals who need treatment for alcoholism or the use of illicit drugs receive treatment. Those with the least resources face the most significant barriers to care.

- There is often a discrepancy between what homeless individuals want and what health providers believe they need. Homeless individuals may urgently want a job, housing, and help with housing expenses. Only 9 % of homeless respondents to a national survey mentioned alcohol and drug treatment as something they needed “right now.” (11)

Personality disorders

Personality disorders and polysubstance abuse disorders are common co-occurring conditions. Personality disorders are present in approximately 34 % of substance abusers (15). Personality disorders are a form of mental illness that affects an individual’s behavior, emotions, and thoughts. These individuals express their thoughts and emotions differently than what is considered socially normal (16). Personality disorders can have a significant impact on an individual’s life, and are commonly associated with substance abuse problems.

The general characteristics of personality disorders include the following: (17)

- Pattern of problematic relationships
- Tendency to blame difficulties on others, or on “bad luck”
- A lack of personal responsibility
- Impaired ability to learn from previous experience

The above is a list of the general characteristics associated with personality disorders. However, there are a number of different personality disorders that are characterized by their effect on the individual’s thoughts and behaviors. Personality disorders are categorized into the groups listed below (18).

- Antisocial personality disorder:
Manipulating, exploiting or violating other's rights
- Avoidant personality disorder:
Excessive shyness, inadequacy and fear of rejection
- Borderline personality disorder:
Unstable and turbulent emotions, actions and relationships
- Dependent personality disorder:
Excessive dependence on other people
- Histrionic personality disorder:
Acting emotional or dramatic to draw attention
- Narcissistic personality disorder:
Inflated ego and an obsession with the self
- Obsessive-compulsive personality disorder:
A preoccupation with rules, orderliness and control
- Paranoid personality disorder:
Unfounded distrust and suspicion of others
- Schizoid personality disorder:
Feelings of social isolation and indifference to people
- Schizotypal personality disorder:
Difficulty with relationships and irregular lifestyle patterns

The various personality disorders are quite diverse in their symptoms and severity. While some individuals will experience significant complications, others may only experience minor complications. Individuals with substance abuse problems and personality disorders will experience additional complications, as their inability to appropriately process and express thoughts and emotions makes it difficult for them to address their problem behaviors (19).

There is a direct correlation between those who abuse drugs and those who have a personality disorder. In fact, there is a 50 to 65 % likelihood that an individual with substance abuse problems will also be afflicted with one or more personality disorders (20). While all personality disorders can co-occur with substance abuse, some disorders are more common and associated with an increased risk of substance abuse. The following is a list of the percentage of the occurrence of specific personality disorders in individuals who use alcohol and at least one other substance: (15)

- Obsessive Compulsive Disorder: 21%
- Antisocial Personality Disorder: 21%
- Narcissistic: 14.5%
- Borderline Personality Disorder: 11%
- Paranoid: 10%
- Dependent Disorder: 9%

It is difficult to determine if substance abuse is caused by the personality disorder or if the substance use increases the development and severity of the personality disorder. In some instances, an individual who experiences symptoms associated with a personality disorder will self-medicate with alcohol and other drugs. In other

instances, the substances that the individual consumes will alter brain chemistry and trigger the onset and subsequent development of the personality disorder (21).

Psychiatric disorders

Comorbid psychiatric and substance abuse disorders are quite common. While there are differing views on how and why they occur, there is consensus regarding the fact that comorbidity is a significant problem in both groups. The following data shows the significance and prevalence between substance abuse and psychiatric disorders.

In the National Comorbidity Study, a nationally representative population study, about 41-65% of participants with any lifetime substance use disorder also had a lifetime history of at least one mental health disorder. The most common individual diagnosis was conduct disorder (29%), followed by major depression (27%), and social phobia (20%). Among those with a lifetime history of any mental disorder, 51% had a co-occurring addictive disorder, with those respondents with conduct disorder or adult antisocial personality having the highest prevalence of lifetime substance use disorder (82%), followed by those with mania (71%) and PTSD (45%). In the Epidemiologic Catchment Area Study, lifetime prevalence of alcohol use disorder was highest among persons with bipolar disorder (46%) and schizophrenia.

In 501 patients seeking addictions treatment, 78% had a lifetime psychiatric disorder in addition to substance abuse and 65% had a current psychiatric disorder. The most common lifetime disorders were antisocial personality disorder, phobias, psychosexual dysfunctions,

major depression, and dysthymia (mild, chronic depression). Similarly, in 298 patients seeking treatment for cocaine use disorders, 73.5% met lifetime, and 55.7% met current, criteria for a psychiatric disorder. These rates accounted for conditions of major depression, bipolar spectrum conditions such as hypomania and cyclothymic personality, anxiety disorders, antisocial personality, and history of childhood attention deficit disorder.

A variety of mental illnesses such as post-traumatic stress disorder, antisocial personality disorder (characterized by a lack of empathy toward other people), anxiety, sleep disorders, or depression, increase the risk of addiction. Those with the highest risk of addiction have bipolar disorder or schizophrenia: up to 50 percent of people with these conditions can have an addiction (22).

Certain mental conditions frequently associated with alcohol and drug dependency are listed below: (23)

- Depression
In some cases, individuals may start to abuse a substance to mask the symptoms of depression. Female substance abusers are particularly likely to have depression, but it also occurs in male substance abusers.
- Bipolar disorder
Those with bipolar disorder — a condition that causes alternating cycles of depression and an abnormally elevated mood — may attempt to smooth out mood swings with substances.

- Anxiety
Alcohol abuse is more common in both men and women with anxiety disorders.
- Schizophrenia
Psychotic symptoms, such as hallucinations and delusions, may lead to substance abuse as a way to ease the distress that these symptoms can cause.

There are also other factors that may explain the frequent simultaneous occurrence of addiction and mental illness. These factors include: ⁽²⁴⁾

- Genetics
Genetic factors seem to account for some of the comorbidity of substance abuse and mental disorders. Studies comparing identical and fraternal twins found more instances of having two disorders among the identical twins, indicating that genetics likely play some role.
- Chemical deficiency
Neurochemical factors were also found to be a common thread when mental disorders and addiction occur together. A reduction in the amount of serotonin, a chemical critical to brain functioning, may be the reason that alcoholism and anxiety disorders coincide so often. There is also evidence that addiction and mental disorders are associated with the dysfunction of a group of brain chemicals called monoamine oxidases.
- Shared environment

Studies surrounding twins also show that environment plays a major role in having both a substance abuse problem and another mental disorder.

- **Withdrawal symptoms**
Abruptly stopping alcohol intake can lead to withdrawal symptoms — including hallucinations — that may look just like schizophrenic symptoms.
- **Personality changes and mental disorders**
Alcoholism and drug abuse can cause changes in the brain, sometimes leading to changes in personality and mental disorders. Alcoholics of both genders frequently suffer depression and anxiety disorders, while men are more likely to exhibit antisocial personality disorder than non-abusers of alcohol.

Screening For Polysubstance Use

Screening refers to methods and procedures, often of a brief nature, designed to rule out the possibility of substance use problems. Screening is not the same thing as providing a diagnosis (determining if one meets criteria as established in a diagnostic manual) or evaluation (a more thorough analysis of substance use problems, of which screening is but one component). Screening procedures are designed to detect the possible presence of a substance abuse issue and the need for further care. In general, screening methods can be

informal and observational or more formal with the use of brief screening instruments (25).

Unlike substance specific dependence disorders, which only screen for addiction of one substance, polysubstance abuse requires screening with multiple instruments. Since individuals will have multiple dependence problems, practitioners will have to rely on more than one instrument to identify dependence issues and severity (1). Until recently, the Diagnostic and Statistical Manual of Mental Disorders was used to identify and categorize substance use disorders, including polysubstance abuse. However, with the creation of the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5), the diagnostic criteria have changed significantly.

Changes have been made to the substance abuse category of the DSM-5; polysubstance dependence has been removed from DSM-5. It was historically diagnosed by the use of three or more substances (excluding caffeine and nicotine) with no single substance dominating. Key to diagnosis was the lack of a specific drug preference, with the primary motivation for use being uninterrupted intoxication. Dependence criteria also needed to be met for substances as a group, but not for any individual substance. The diagnostic terms of 'Abuse' and 'Dependence' for all substances have also been removed from DSM-5 based on evidence for unidimensionality of diagnostic criteria. The nondichotomized diagnosis term 'Substance Use Disorders' is now represented on a continuum of severity ranging from 2 'mild' to 11 'severe'.

Patients who use multiple substances will be diagnosed by substance type and graded on this scale. This subtle change means that the relatively small but clinically unique group of patients who previously met DSM Polysubstance Dependence criteria will now be subsumed into a broader diagnostic umbrella. This may have implications from a comparative, epidemiological standpoint – although most population level research has not included diagnostic criteria or severity, only frequency of substance use. The prospective clinical implications are not yet known, nor are the reliability of clinical assessments of the DSM-5 severity index (26).

Polysubstance abuse requires a thorough screening and assessment process to ensure the level of dependence and types of substances used are appropriately identified. Therefore, the clinician will rely on a combination of tools to assess the patient. To ensure the appropriate tools are used, it is important to identify the goals of addiction screening and assessment. The goals of addiction screening are as follows: (3)

- Identify individuals who are at risk for developing drug- or alcohol- related problems;
- Identify individuals who may have developed drug- or alcohol- related problems or addiction;
- Identify individuals who require further medical or addiction assessment;
- Diagnose addiction or other substance- related disorders;

- Develop recommendations and plan for appropriate addiction treatment;
- Assess the biopsychosocial needs of patients with addictions.

The initial screening process will utilize a variety of tools, including screening instruments, laboratory evaluations, and patient interviews. Once a problem has been identified, the clinician will determine what type of further assessment is needed. In most instances, the clinician will utilize in-depth interviews, family interviews, and diagnostic assessments (27).

Screening typically occurs via a diagnostic or intake interview; if the client reports problems in a specific area, the clinician has the option to focus in by asking more specific questions related to the substance problem. Screening also occurs through observation of the client's immediate signs and symptoms as well as his or her behavior outside the counseling setting, including past history (28). Part of screening is addressing and exploring the red flags that provide clues as to what role, if any, alcohol or drug use plays in the client's life. These red flags become even more important when the client is not forthcoming about his or her substance use at the beginning of the screening. In general, observational red flags fall into the three categories of physiological, psychological, and behavioral.

Physiological category

A brief inquiry into typical physiological issues or general medical conditions can sometimes point to the extent of possible substance use problems. Liver problems, hypertension, ulcers, tremors, or injection

track marks are indications of severe use. For clients who do not immediately admit to use but who are still using problematically, these and other physiological symptoms can tip off the clinician that problematic substance use is a possibility and that substance use needs further exploration.

An additional area of exploration, although not directly about current physiological symptoms, is the client's potential genetic predisposition. Inquiry about family history of substance use provides additional insights to help clarify the assessment and diagnostic picture. For example, a client who suggests that he or she has a drink now and then, but insists that his or her drinking is not a problem, may report that their mother and father were "alcoholics" and that the father used other substances as well. In this case, the possible genetic link to alcohol use would warrant further and more targeted substance use assessment, especially if the client reports some negative consequences as a result of drinking alcohol.

Psychological category

Many clients report symptoms of depression, anxiety, or other emotional problems and use substances to self-medicate or cope. Indeed, psychological symptoms, such as depression and anxiety, are often associated with problematic substance use. Also associated with substance use are negative or difficult emotions such as guilt, shame, anger, or boredom. At minimum, practitioners should check in with clients who report severe negative emotions related to their substance use history, current behavior, and typical methods of coping.

Behavioral category

There are many behavioral signs of substance addiction, some of which are obvious (*e.g.*, evidence of intoxication), and some of which are indirectly related (*e.g.*, work problems). Perhaps the most important area of inquiry is if there has been any past treatment for substance-related problems. Clients who affirm previous attempts at treatment to address substance-related problems often struggle currently with those same problems. Additional behavioral problems often associated with substance use include legal problems, poor work history, financial problems, extreme talkativeness, poor judgment, erratic behavior, frequent falls, increase in risk taking, and frequent hospitalizations. One or more of these behavioral issues should alert the clinician to the possibility of significant substance use (29).

Biological screens

An effective addition to self-report screening instruments is biological lab tests designed to detect the presence of substances. Typically, biological drug screens occur by sampling via urinalysis or hair analysis. These tests may be most useful to corroborate self-report data, especially when there is high suspicion that one is not being honest about his or her substance use (30). Some agencies or substance abuse programs require random screens, particularly when medication is used as part of the addiction treatment. Clinicians, however, may not have the ability to screen for recent drug use within their agency. In these instances, the clinician will utilize a referral list of medical specialists who are trained to perform biologically based substance abuse screening (31).

It is important to know that biologically based screens are not a substitute for self-report data. Biological screening tests tend to have low sensitivity (producing a high false positive rate) and are impacted by one's age, gender, smoking status, metabolism, how the drug was taken, how long ago the drug was ingested, and the drug's potency (32). They are best used as one piece of the screening process and in conjunction with self-report data. If possible, the clinician should utilize all available resources in the screening process: well-established screening instruments, biological measures, intake interviews, and collateral reports (6).

Dimensions of addiction

There are seven dimensions of substance addiction that are interrelated but also operate independently. The dimensions are thought to be on a continuum from less severe or low risk to more severe or high risk. Knowledge of where a client falls along each continuum can provide useful clinical information and strengthen the assessment process (33).

Clinicians can use the seven dimensions of addiction as a starting point when assessing their clients. They are useful in determining the extent or severity of one's substance use. For example, a client that abuses alcohol might self-report moderate use but be extremely high on consequences, behavioral dependence, and medical harm. Subsequent treatment could focus on these "higher" dimensions with an eye on reducing or eliminating use (34). Assessing the dimensions could be accomplished as part of a clinical interview or as seven lines drawn on a piece of paper, ranging from low to high, for each dimension. If using seven lines, the clinician could place a mark on each line

indicating the extent of the problem related to a particular dimension. Once completed, the clinician has a snapshot of the client's addiction pattern, which can inform placement and treatment-planning decisions (35). The seven dimensions are as follows: (36)

1. Use:

Three behaviors characterize use: quantity, frequency, and variability. Quantity refers to how much one uses a substance on a "typical occasion;" frequency refers to how often one uses on a typical occasion; and, variability addresses the pattern of substance use.

2. Consequences:

Clients do not often come to counseling because they are drinking and/or using but rather because their using behaviors have gotten them into trouble. Exploring the consequences of substance use can lead to enhanced motivation and is a key part of motivational interviewing. The consequences of substance use range from none to many within a typical day.

3. Physical adaptation:

Another dimension of addiction is the presence or absence of physical dependence. The presence of tolerance and/or withdrawal is usually the hallmark of physical dependence.

4. Behavioral dependence:

In the DSM-5 definition of substance dependence (discussed later), tolerance or withdrawal do not have to be present for someone to be dependent on a substance. Clients may be psychologically dependent, in which case they develop a mental

need for the substance to get through the day or cope with stress. They believe they cannot do this without the substance.

5. Cognitive impairment:

Substance use alters brain chemistry. Even relatively brief stints with substance use can have noticeable negative cognitive effects. Long-term use of some chemicals, such as alcohol, can result in permanent damage to memory, motor skills, and attention.

6. Medical harm:

Substance use also impacts physical health. For example, smoking marijuana is especially dangerous due to high levels of carcinogens that enter the bloodstream. Cocaine and other stimulant drugs can have deleterious effects on cardiovascular functioning. Excessive, long-term alcohol use can damage almost every organ system in the body.

7. Motivation for change:

Lack of client motivation can make treatment planning and movement toward goals a difficult process. Knowing how important making a change in substance use is to the client can help clinicians gauge what strategies might be most helpful. Many techniques are available that can assist in enhancing motivation to change.

For more formal methods of assessment, a number of instruments (discussed in the following sections) correspond with each of these seven dimensions.

Addiction Screening Instruments

There are a number of valid addiction screening instruments available for clinicians to include in the evaluation of individuals with polysubstance use. In most instances, substance specific screening instruments will be used to determine the extent and severity of addiction to each substance. Some medical providers and clinicians will develop their own screening tools to identify the presence of substance abuse and other comorbid conditions ⁽³⁷⁾. Examples of addiction screening instruments are described in greater detail in this section, beginning with the following list of various available screening instruments.

Drug screening

- COWS (Clinical Opiate Withdrawal Scale)
- SOWS (Subjective Opiate Withdrawal Scale)
- DAST- 10 (Drug Abuse Screening Test)
- CINA (Clinical Institute Narcotic Assessment Scale for Withdrawal Symptoms)
- CAGE- AID (CAGE alcohol screening questionnaire adapted to include drugs)
- Narcotic Withdrawal Scale

Alcohol screening

- CAGE (Alcohol screening questionnaire)
- AUDIT (Alcohol Use Disorders Identification Test)
- MAST (Michigan Alcohol Screening Test)
- SMAST (Short Michigan Alcohol Screening Test)

The following will provide more detailed information regarding the most *widely used* screening instruments.

CAGE and CAGE-AID

The CAGE is a four question-screening instrument that is used to detect alcohol dependence in patients. The questions typically focus on current feelings and actions associated with alcohol use, but can be modified to assess the patient's history with alcohol (39). The assessment is intended to be completed in less than a minute and to be useful as an initial screening instrument for the detection of abuse issues. Primary care physicians, nurses, and general internists often rely on it. The assessment can be administered in three formats: (47)

- pencil-and-paper self-administered
- through an interview
- computer self-administered

The CAGE-AID is a modified version of the CAGE that is used to screen for substances other than alcohol. The CAGE-AID also focuses on lifetime use, which means that individuals who are at risk of developing a substance abuse problem may not be identified through the use of the screening instrument (48).

The CAGE-AID has a lower success rate than the CAGE due to its focus on illicit substances rather than alcohol. Many patients are less willing to disclose other substance use than they are to discuss alcohol use due to the stigma attached to the former. The CAGE-AID has a sensitivity of 79 % and a specificity of 77 % (27).

In addition the administration formats listed above, the CAGE-AID can also be structured as a parent report-screening tool to assess adolescent substance abuse. This format is especially useful with adolescents in mental health care (49). While the CAGE and CAGE-AID are considered valid and useful screening instruments for alcohol and substance abuse, there are three primary concerns regarding the assessment tools: (50)

- The CAGE or CAGE-AID is not gender-sensitive, and women who are problem drinkers and/or substance abusers are less likely to screen positive than men.
- The instrument identifies alcohol-dependent and substance dependent persons, but may not identify binge drinkers.
- The CAGE asks about “lifetime” experience rather than current drinking and substance use, so a person who no longer drinks or uses substances may screen positive unless the clinician directs the questions to focus on a more current time frame.

CAGE or CAGE-AID Scoring

One or more “yes” responses constitute a positive screening test. Note, however, that due to language barriers, individual interpretation of the questions, or other confounding factors, individuals answering “no” to all CAGE or CAGE-AID questions, may still be at risk due to elevated drinking or drug use levels (47).

CAGE Substance Abuse Screening Tool

Directions: Ask patients these four questions and use the scoring method described below to determine if substance abuse exists and needs to be addressed.

CAGE Questions

1. Have you ever felt you should cut down on your drinking?
2. Have people annoyed you by criticizing your drinking?
3. Have you ever felt bad or guilty about your drinking?
4. Have you ever had a drink first thing in the morning to steady your nerves or to get rid of a hangover (eye-opener)?

CAGE Questions Adapted to Include Drug Use (CAGE-AID)

1. Have you ever felt you ought to cut down on your drinking or drug use?
2. Have people annoyed you by criticizing your drinking or drug use?
3. Have you felt bad or guilty about your drinking or drug use?
4. Have you ever had a drink or used drugs first thing in the morning to steady your nerves or to get rid of a hangover (eye-opener)?

Score: ___ /4

2/4 or greater = positive CAGE, further evaluation is indicated.

Scoring: Item responses on the CAGE questions are scored 0 for "no" and 1 for "yes".

Alcohol Use Disorders Identification Test (AUDIT)

The Alcohol Use Disorders Identification Test (AUDIT) is a screening instrument that was developed by the World Health Organization (WHO). Its primary purpose is to identify patterns of alcohol use in patients, with the goal of determining if the patient's level of use is harmful and/or excessive (51). It is used frequently in primary care settings as an initial screening instrument to identify individuals who may benefit from a reduction or cessation of alcohol consumption. If a patient is identified as a risk, he or she will require additional assessments to determine the specific level of treatment needed (52).

The AUDIT, as a valid screening tool, can be used successfully with various populations. The AUDIT is intended as a screening tool to be used by practitioners and clinicians in various health care settings; however, it can be self-administered or used by non-health care professionals in other settings. The instrument does not require any specific training to be administered, so it is often used by individuals in community crisis centers and social service organizations (53). The following is a description of the screening instrument and how it is scored.

The test uses a 10-item scale, takes 2-4 minutes to complete and is quick and simple to score. The test is in the public domain and can be used without cost with acknowledgement of the source. Guidelines for use of the screening test in primary care propose that, ideally, all patients should be screened for alcohol use once a year. This can be done by administering the tool on its own, or by combining the AUDIT with other questions as part of a general health interview or medical history.

Each question has a set of possible responses and each response has a score ranging from 0-4 (items 1 to 8 are scored on a 0-4 scale and items 9 and 10 are scored 0, 2, 4). Scores are added together and the total score can be compared with the cut-off scores provided to identify hazardous and harmful drinkers, and those with established alcohol dependence. A cut-off score of 8 or more indicates a hazardous or harmful pattern of drinking.

In addition to the total AUDIT score, a sub-total of 'dependence' can be calculated by adding the scores of questions 4 to 6. If this sub-total score is 4 or more, the patient is likely alcohol dependent and further assessment should be considered (54).

The Alcohol Use Disorders Identification Test (AUDIT)

Please circle the answer that is correct for you.

1. How often do you have a drink containing alcohol?

- Never
- Monthly or less
- 2-4 times a month
- 2-3 times a week
- 4 or more times a week

2. How many standard drinks containing alcohol do you have on a typical day when drinking?

- 1 or 2
- 3 or 4
- 5 or 6
- 7 to 9
- 10 or more

3. How often do you have six or more drinks on one occasion?

- Never
- Less than monthly
- Monthly
- Weekly
- Daily or almost daily

4. During the past year, how often have you found that you were not able to stop drinking once you had started?

- Never
- Less than monthly
- Monthly
- Weekly
- Daily or almost daily

5. During the past year, how often have you failed to do what was normally expected of you because of drinking?

- Never
- Less than monthly
- Monthly
- Weekly
- Daily or almost daily

6. During the past year, how often have you needed a drink in the morning to get yourself going after a heavy drinking session?

- Never
- Less than monthly
- Monthly
- Weekly
- Daily or almost daily

7. During the past year, how often have you had a feeling of guilt or remorse after drinking?

- Never
- Less than monthly
- Monthly
- Weekly
- Daily or almost daily

8. During the past year, have you been unable to remember what happened the night before because you had been drinking?

- Never
- Less than monthly
- Monthly
- Weekly
- Daily or almost daily

9. Have you or someone else been injured as a result of your drinking?

- No
- Yes, but not in the past year
- Yes, during the past year

10. Has a relative or friend, doctor or other health worker been concerned about your drinking or suggested you cut down?

- No
- Yes, but not in the past year
- Yes, during the past year

Scoring the AUDIT

Scores for each question range from 0 to 4, with the first response for each question (e.g. never) scoring 0, the second (e.g. less than monthly) scoring 1, the third (e.g. monthly) scoring 2, the fourth (e.g. weekly) scoring 3, and the last response (e.g. daily or almost daily) scoring 4. For questions 9 and 10, which only have three responses, the scoring is 0, 2 and 4 (from left to right).

A score of 8 or more is associated with harmful or hazardous drinking, a score of 13 or more in women, and 15 or more in men, is likely to indicate alcohol dependence.

Michigan Alcoholism Screening Test (MAST)

The most researched diagnostic instrument is the self-administered Michigan Alcoholism Screening Test (MAST), which was created in 1971 by M. L. Selzer (38). The 22-item MAST correctly identifies up to

95% of alcoholics, and the SMAST, an even shorter 13-question form of the MAST, has also been shown to identify over 90% of the alcoholics entering general psychiatric hospitals (39). The MAST was originally validated with treatment-seeking alcoholics. Numerous studies have used it to assess both adolescent and adult populations in a variety of settings. The MAST may realistically and effectively be used with virtually any population (38).

The MAST is simple to administer; clients are instructed to answer all questions either yes or no. After clients complete the test, the points assigned to each question are totaled. The MAST text indicates a number of points assigned for each question. A total of 4 points is presumptive evidence of alcoholism and a total of 5 or more points makes it extremely unlikely that the individual is not an alcoholic. In addition, given the scoring values, a positive (yes) response to three test questions - 10, 23, or 24 - is enough to diagnose alcohol addiction. Three questions from the MAST that quickly diagnose potential alcohol problems are: (39)

- Has your family ever objected to your drinking?
- Did you ever think you drank too much in general?
- Have others said you drink too much for your own good?

These three questions can be easily incorporated into the interview process to serve as indicators for a more thorough evaluation. The above questions may also be adapted to use with clients who may be abusing other substances by inserting the term "using" (to address the substance(s) used) instead of limiting each question to "drinking."

The questions used on the MAST specifically utilize the patient's self-appraisal of social, vocational, and family issues that can often be associated with alcohol abuse. It is used in the general population as an initial assessment and is considered very effective in identifying alcohol addiction (40). However, there are two primary drawbacks associated with the MAST that are not present with other alcohol screening instruments. The standard test is very lengthy, which makes it difficult to administer to patients in emergency room settings or during short visits in primary care offices. To address this concern, shorter versions of the MAST have been developed, including the brief MAST, the short MAST, and the self-administered MAST (37). The second concern with the MAST is that the questions used in the screening tool attempt to discern the presence of alcohol issues throughout the duration of the patient's lifetime, rather than in the recent time frame. As a result, the test may not detect problems while they are in the early stages of addiction (41).

The following is the 22-question, self-administered MAST.

Michigan Alcoholism Screening Test (MAST)

This test is nationally recognized by alcoholism and drug dependence professionals. You may substitute the words "drug use" in place of "drinking".

1. Do you feel you are a normal drinker? ("normal" - drink as much or less than most other people)

Circle Answer: YES NO

2. Have you ever awakened the morning after some drinking the night before and found that you could not remember a part of the evening?

Circle Answer: YES NO

3. Does any near relative or close friend ever worry or complain about your drinking?

Circle Answer: YES NO

4. Can you stop drinking without difficulty after one or two drinks?

Circle Answer: YES NO

5. Do you ever feel guilty about your drinking?

Circle Answer: YES NO

6. Have you ever attended a meeting of Alcoholics Anonymous (AA)?

Circle Answer: YES NO

7. Have you ever gotten into physical fights when drinking?

Circle Answer: YES NO

8. Has drinking ever created problems between you and a near relative or close friend?

Circle Answer: YES NO

9. Has a family member/close friend gone to anyone for help about your drinking?

Circle Answer: YES NO

10. Have you ever lost friends because of your drinking?

Circle Answer: YES NO

11. Have you ever gotten into trouble at work because of drinking?

Circle Answer: YES NO

12. Have you ever lost a job because of drinking?

Circle Answer: YES NO

13. Have you ever neglected your obligations, your family, or your work for two or more days in a row because you were drinking?

Circle Answer: YES NO

14. Do you drink before noon fairly often?

Circle Answer: YES NO

15. Have you ever been told you have liver trouble such as cirrhosis?

Circle Answer: YES NO

16. After heavy drinking have you ever had delirium tremens (D.T.'s), severe shaking, visual or auditory (hearing) hallucinations?

Circle Answer: YES NO

17. Have you ever gone to anyone for help about your drinking?

Circle Answer: YES NO

18. Have you ever been hospitalized because of drinking?

Circle Answer: YES NO

19. Has your drinking ever resulted in your being hospitalized in a psychiatric ward?

Circle Answer: YES NO

20. Have you ever gone to any doctor, social worker, clergyman or mental health clinic for help with any emotional problem in which drinking was part of the problem?

Circle Answer: YES NO

21. Have you been arrested more than once for driving under the influence of alcohol?

Circle Answer: YES NO

22. Have you ever been arrested, even for a few hours because of other behavior while drinking? (If Yes, how many times _____)

Circle Answer: YES NO

SCORING

Please score one point if you answered the following:

1. No
2. Yes
3. Yes
4. No
5. Yes
6. Yes
- 7 through 22: Yes

Add up the scores and compare to the following score card:

- 0 - 2 No apparent problem
- 3 - 5 Early or middle problem drinker
- 6 or more Problem drinker

Short Michigan Alcoholism Screening Test (SMAST)

The Short Michigan Alcoholism Test (SMAST) can be administered in the same manner as the MAST, or it can be given verbally. It consists of thirteen questions selected from the twenty two questions that comprise the MAST ⁽⁴²⁾.

The SMAST is very easy to score. One point is given for each of the following answers: *no* on questions 1, 4, and 5; *yes* on all other questions (2, 3, and 6–13). A score of 0–1 indicates a low probability of alcoholism, a score of 2 points indicates the client is possibly alcoholic, and a score of 3 or more points indicates a strong probability of alcoholism.

SHORT MICHIGAN ALCOHOL SCREENING TEST (SMAST)

The following questions concern information about your involvement with alcohol during the past 12 months. Carefully read each question and decide if your answer is "YES" or "NO". Then, check the appropriate box beside the question.

Please answer every question. If you have difficulty with a question then choose the response that is mostly right. These questions refer to the past 12 months only.

YES NO

1. Do you feel that you are a normal drinker? (by normal we mean do you drink less than or as much as most other people.) ____ ____
2. Does your wife, husband, a parent, or other near relative ever worry or complain about your drinking? ____ ____
3. Do you ever feel guilty about your drinking? ____ ____
4. Do friends or relatives think you are a normal drinker? ____ ____
5. Are you able to stop drinking when you want to? ____ ____
6. Have you ever attended a meeting of Alcoholics Anonymous (AA)? ____ ____
7. Has your drinking ever created problems between you and your wife, husband, a parent or other near relative? ____ ____
8. Have you ever gotten into trouble at work because of your drinking? ____ ____
9. Have you ever neglected your obligations, your family, or your work for two or more days in a row because you were drinking? ____ ____
10. Have you ever gone to anyone for help about your drinking? ____ ____
11. Have you ever been in a hospital because of drinking? ____ ____
12. Have you ever been arrested for drunken driving, driving while intoxicated, or driving under the influence of alcoholic beverages? ____ ____
13. Have you ever been arrested, even for a few hours, because of other drunken behaviors? ____ ____

<u>SMAST Score</u>	<u>Degree of Problem</u>	<u>Suggested Action</u>
0-2	No problems reported	None at this time.
3	Borderline alcohol	Further investigation problem reported is required.
4 or more	Potential Alcohol Abuse	A full assessment reported is reported.

Drug Abuse Screening Test (DAST)

The Drug Abuse Screening Test (DAST), which was developed in 1982, is widely used to screen for substance abuse. The instrument consists of twenty-eight items that the patient self-reports on. These items are similar to those found on the Michigan Alcohol Screening Test, but the focus is on substances other than alcohol (43). The DAST has proven to be highly reliable and valid as a screening instrument for identifying substance abuse (25). It can be administered in one of two ways: the patient can provide a self-report using the twenty-eight items, or the clinician can conduct the assessment using an interview format. The purpose of the assessment is twofold: (44)

- 1) To provide a brief, simple, practical, yet valid method for identifying individuals who are abusing psychoactive drugs
- 2) To yield a quantitative index score of the degree of problems related to drug use and misuse.

Although the DAST is highly reliable and corresponds well with the DSM diagnosis of substance abuse, the instrument is somewhat limited. It does not obtain information regarding the specific substances the patient is using. However, it does attempt to discern if the patient is using multiple substances (45). In addition to drug use, the DAST also identifies the severity of the problem in regard to the impact the patient's use is having on other areas of his or her life.

Specifically, the instrument surveys the following life areas: (44)

- a. Marital-family relationships
- b. Social relationships
- c. Employment
- d. Legal
- e. Physical (medical symptoms and conditions)

A description of how the DAST is scored and the ways in which it identifies substance use issues in patients is explained below, and the DAST screening tool is shown on page 44-46.

A factor analysis of the 20 items has indicated that the DAST is essentially a unidimensional scale. Accordingly, it is planned to yield only one total or summary score ranging from 0 to 20, which is computed by summing all items that are endorsed in the direction of increased drug problems. Only two items are keyed for a "No" response: "*Can you get through the week without using drugs?*" and "*Are you always able to stop using drugs when you want to?*" (46)

A DAST score of six or above is suggested for case finding purposes, as it increases the sensitivity of not missing a case of substance abuse. It is also suggested that a score of 16 or greater be considered to indicate a very severe abuse or a dependency condition.

The DAST is one of the few instruments for the assessment of drug use and related problems, which may be of interest to those programs that are more diagnostically or psychiatrically oriented. The DAST provides a score that should be sensitive to changes in substance using experiences over a 6 and 12-month follow-up period; however, no studies have been published using the DAST as an outcome measure (46).

Drug Abuse Screening Test (DAST)

Directions: The following questions concern information about your involvement with drugs. Drug abuse refers to (1) the use of prescribed or "over-the-counter" drugs in excess of the directions, and (2) any non-medical use of drugs. Consider the past year (12 months) and carefully read each statement. Then decide whether your answer is YES or NO and check the appropriate space. Please be sure to answer every question.

YES NO

1. Have you used drugs other than those required for medical reasons? ____ ____
2. Have you abused prescription drugs? ____ ____
3. Do you abuse more than one drug at a time? ____ ____
4. Can you get through the week without using drugs (other than those required for medical reasons)? ____ ____
5. Are you always able to stop using drugs when you want to? ____ ____
6. Do you abuse drugs on a continuous basis? ____ ____
7. Do you try to limit your drug use to certain situations? ____ ____
8. Have you had "blackouts" or "flashbacks" as a result of drug use? ____ ____
9. Do you ever feel bad about your drug abuse? ____ ____
10. Does your spouse (or parents) ever complain about your involvement with drugs? ____ ____
11. Do your friends or relatives know or suspect you abuse drugs? ____ ____
12. Has drug abuse ever created problems between you and your spouse? ____ ____

13. Has any family member ever sought help for problems related to your drug use? ____ ____

14. Have you ever lost friends because of your use of drugs? ____ ____

15. Have you ever neglected your family or missed work because of your use of drugs? ____ ____

16. Have you ever been in trouble at work because of drug abuse? ____ ____

17. Have you ever lost a job because of drug abuse? ____ ____

18. Have you gotten into fights when under the influence of drugs? ____ ____

19. Have you ever been arrested because of unusual behavior while under the influence of drugs? ____ ____

20. Have you ever been arrested for driving while under the influence of drugs? ____ ____

21. Have you engaged in illegal activities in order to obtain drug? ____ ____

22. Have you ever been arrested for possession of illegal drugs? ____ ____

23. Have you ever experienced withdrawal symptoms as a result of heavy drug intake? ____ ____

24. Have you had medical problems as a result of your drug use (e.g., memory loss, hepatitis, convulsions, bleeding, etc.)? ____ ____

25. Have you ever gone to anyone for help for a drug problem? ____ ____

26. Have you ever been in a hospital for medical problems related to your drug use? ____ ____

27. Have you ever been involved in a treatment program specifically related to drug use? ____ ____

28. Have you been treated as an outpatient for problems related to drug abuse? ____ ____

Scoring and interpretation:

A score of "1" is given for each YES response, except for items 4,5, and 7, for which a NO response is given a score of "1." Based on data from a heterogeneous psychiatric patient population, cutoff scores of 6 through 11 are considered to be optimal for screening for substance use disorders.

Using a cutoff score of 6 has been found to provide excellent sensitivity for identifying patients with substance use disorders as well as satisfactory specificity (*i.e.*, identification of patients who do not have substance use disorders).

Using a cutoff score of <11 somewhat reduces the sensitivity for identifying patients with substance use disorders, but more accurately identifies the patients who do not have a substance use disorders.

Over 12 is definitely a substance abuse problem.

In a heterogeneous psychiatric patient population, most items have been shown to correlate at least moderately well with the total scale scores. The items that correlate poorly with the total scale scores appear to be items 4,7,16,20, and 22.

SUMMARY

An individual who is dependent on three or more substances or substance groups within a 12-month period can be diagnosed with polysubstance abuse. They may receive this diagnosis even if they do not meet the criteria for dependence on any singular substance.

Although there are similarities between substance abuse and polysubstance abuse, the latter may present unique challenges, including a lengthier detoxification period and an increase in physical

side effects of the substances consumed. However, in some cases, polysubstance abusers may be more tolerant of the detoxification process since their bodies may not have developed a reliance on any singular substance. As a result, each polysubstance abuser requires a personalized treatment plan developed according to their unique medical, psychiatric, and substance use history. The treatment plan will need to consider resources available within the patient's support network, hospital or treatment facility, and community.

It is important to understand the distinction between polysubstance abuse and single substance abuse, as polysubstance abusers will require different diagnostic and treatment strategies than those who are dependent on a single substance. However, there are some similarities between the conditions, and polysubstance users will benefit from some of the strategies used with single substance users, such as treatment approaches. This study introduces the learner to overlapping factors and comorbid conditions often seen in those with polysubstance abuse issues. It also aims to inform health professionals of the various screening tools available to identify polysubstance abuse. Polysubstance Abuse: Part II will discuss additional aspects of the evaluation process important in the development of an individualized treatment plan.

Reference List:

The following includes literature supporting the courses for Polysubstance Abuse, Part I – IV.

1. Connor JP, Gullo MJ, White A, Kelly AB. Polysubstance use: diagnostic challenges, patterns of use and health. *Curr Opin Psychiatry*. 2014;27:269–75.
2. Staines GL, Magura S, Foote J, Deluca A, Kosanke N. Polysubstance use among alcoholics. *J Addict Dis*. 2001;20:53–69.
3. Conway KP, Vullo GC, Nichter B, Wang J, Compton WM, Iannotti RJ, et al. Prevalence and patterns of polysubstance use in a nationally representative sample of 10th Graders in the United States. *J Adolesc Heal*. 2013;52:716–23.
4. Birnbach DJ, Browne IM, Kim A, Stein DJ, Thys DM. Identification of polysubstance abuse in the parturient. *Br J Anaesth*. 2001;87:488–90.
5. American Psychiatric Association. Highlights of Changes from DSM-IV-TR to DSM-5. *Am Psychiatr Assoc Washington, ...* 2013;
6. Polysubstance Use: Diagnostic Challenges and Patterns of Use [Internet]. [cited 2014 Sep 15]. Available from: <http://www.medscape.com/viewarticle/826373>
7. Rowe CL, Liddle HA. SUBSTANCE ABUSE. *J Marital Fam Ther*. 2003 Jan 8;29(1):97–120.
8. Martin PR. Substance Abuse: A Comprehensive Textbook, 4th ed. *The Journal of Clinical Psychiatry*. 2006. p. 1312–3.
9. Vangeest JB, Johnson TP. Substance abuse and homelessness: Direct or indirect effects? *Ann Epidemiol*. 2002;12:455–61.
10. Cronley C. Unraveling the Social Construction of Homelessness. *Journal of Human Behavior in the Social Environment*. 2010. p. 319–33.
11. A Comprehensive Approach to Substance Abuse and Homelessness [Internet]. [cited 2014 Sep 14]. Available from: <http://www.nhchc.org/wp-content/uploads/2012/02/hh-1003.pdf>
12. Ibabe I, Stein JA, Nyamathi A, Bentler PM. Predictors of substance abuse treatment participation among homeless adults. *J Subst Abuse Treat*. 2014;46:374–81.
13. Pearson GS, Linz S. Linking homelessness with mental illness. *Perspectives in Psychiatric Care*. 2011;47:165–6.

14. Orwin RG, Scott CK, Arieira C. Transitions through homelessness and factors that predict them: Three-year treatment outcomes. *J Subst Abuse Treat.* 2005;28.
15. Personality Disorders in Patients With Substance Abuse [Internet]. [cited 2014 Sep 14]. Available from: <http://www.medscape.com/viewarticle/778352>
16. Cohen P, Chen H, Crawford TN, Brook JS, Gordon K. Personality disorders in early adolescence and the development of later substance use disorders in the general population. *Drug Alcohol Depend.* 2007;88.
17. Samuels J. Personality disorders: epidemiology and public health issues. *Int Rev Psychiatry.* 2011;23:223–33.
18. Ball SA. Personality Traits, Disorders, and Substance Abuse. *On the Psychobiology of Personality: Essays in Honor of Marvin Zuckerman.* 2004. p. 203–22.
19. Sher KJ, Bartholow BD, Wood MD. Personality and substance use disorders: a prospective study. *J Consult Clin Psychol.* 2000;68:818–29.
20. E. P, A. P, F. R, F. M. Polydrug abuse and personality disorders in a sample of substance-abusing inpatients. *Mental Health and Substance Use: Dual Diagnosis.* 2011. p. 256–66.
21. Hasin D, Samet S, Nunes E, Meydan J, Matseoane K, Waxman R. Diagnosis of comorbid psychiatric disorders in substance users assessed with the psychiatric research interview for substance and mental disorders for DSM-IV. *Am J Psychiatry.* 2006;163:689–96.
22. Landheim AS, Bakken K, Vaglum P. Impact of comorbid psychiatric disorders on the outcome of substance abusers: a six year prospective follow-up in two Norwegian counties. *BMC Psychiatry.* 2006;6:44.
23. Brady KT, Sinha R. Co-Occurring Mental and Substance Use Disorders: The Neurobiological Effects of Chronic Stress. *Focus J Lifelong Learn Psychiatry.* American Psychiatric Association; 2007 Apr 1;5(2):229–39.
24. Tiet QQ, Finney JW, Moos RH. Screening psychiatric patients for illicit drug use disorders and problems. *ClinPsycholRev.* 2008;28:578–91.
25. Mdege ND, Lang J. Screening instruments for detecting illicit drug use/abuse that could be useful in general hospital wards: A systematic review. *Addictive Behaviors.* 2011. p. 1111–9.
26. Hasin DS, O'Brien CP, Auriacombe M, Borges G, Bucholz K, Budney A, et al. DSM-5 criteria for substance use disorders: Recommendations and rationale. *American Journal of Psychiatry.* 2013. p. 834–51.

27. Nesvag R, Lange EH, Faerden A, Barrett EA, Emilsson B, Ringen PA, et al. The use of screening instruments for detecting alcohol and other drug use disorders in first-episode psychosis. *PSYCHIATRY Res.* 2010;177:228–34.
28. McConnell KJ, Hoffman KA, Quanbeck A, McCarty D. Management practices in substance abuse treatment programs. *J Subst Abuse Treat.* 2009;37:79–89.
29. Connors GJ, DiClemente CC, Velasquez MM, Donovan DM. *Substance Abuse Treatment and the Stages of Change, Second Edition: Selecting and Planning Interventions* (Google eBook). Guilford Press; 2012.
30. Substance Abuse: Clinical Issues in Intensive Outpatient Trea... [2006] - PubMed - NCBI [Internet]. [cited 2014 Feb 15]. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/22514853>
31. Lucey MR, Weinrieb RM. Alcohol and substance abuse. *Semin Liver Dis.* 2009;29:66–73.
32. Fields D, Roman PM. Total quality management and performance in substance abuse treatment centers. *Health Serv Res.* 2010;45:1630–49.
33. Hall PB, Hawkinberry D, Moyers-Scott P. Prescription drug abuse & addiction: past, present and future: the paradigm for an epidemic. *W V Med J.* 2010 Jan;106(4 Spec No):26–32.
34. Fields D, Roman PM. Total quality management and performance in substance abuse treatment centers. *Health Serv Res.* 2010;45:1630–50.
35. Maldonado JR. An approach to the patient with substance use and abuse. *Med Clin North Am.* 2010;94:1169–1205, x–i.
36. Ducharme LJ, Mello HL, Roman PM, Knudsen HK, Johnson JA. Service delivery in substance abuse treatment: reexamining “comprehensive” care. *J Behav Health Serv Res.* 2007 Apr;34(2):121–36.
37. John PDS, Montgomery PR, Tyas SL. Alcohol screening and case finding instruments. *International Journal of Geriatric Psychiatry.* 2009. p. 433–4.
38. Johnson-Greene D, McCaul ME, Roger P. Screening for hazardous drinking using the Michigan Alcohol Screening Test-Geriatric version (MAST-G) in elderly persons with acute cerebrovascular accidents. *Alcohol Clin Exp Res.* 2009;33:1555–61.
39. O’Connell H, Chin AV, Hamilton F, Cunningham C, Walsh JB, Coakley D, et al. A systematic review of the utility of self-report alcohol screening instruments in the elderly. *Int J Geriatr Psychiatry.* 2004;19:1074–86.

40. Freedy JR, Ryan K. Alcohol Use Screening and Case Finding: Screening Tools, Clinical Clues, and Making the Diagnosis. *Primary Care - Clinics in Office Practice*. 2011. p. 91–103.
41. Rubinsky AD, Kivlahan DR, Volk RJ, Maynard C, Bradley KA. Estimating risk of alcohol dependence using alcohol screening scores. *Drug Alcohol Depend*. 2010;108:29–36.
42. Naegle MA. Screening for alcohol use and misuse in older adults: using the Short Michigan Alcoholism Screening Test--Geriatric Version. *Am J Nurs*. 2008;108:50–58; quiz 58–59.
43. Skinner HA. DAST (Drug Abuse Screening Test). *Addict Behav*. 1982;7:363–71.
44. Yudko E, Lozhkina O, Fouts A. A comprehensive review of the psychometric properties of the Drug Abuse Screening Test. *J Subst Abuse Treat*. 2007;32:189–98.
45. Cunningham RM, Bernstein SL, Walton M, Broderick K, Vaca FE, Woolard R, et al. Alcohol, tobacco, and other drugs: Future directions for screening and intervention in the emergency department. *Academic Emergency Medicine*. 2009. p. 1078–88.
46. EMCDDA | Drug Abuse Screening Test (DAST-20) [Internet]. [cited 2014 Oct 24]. Available from: <http://www.emcdda.europa.eu/html.cfm/index3618EN.html>
47. Mersy DJ. Recognition of alcohol and substance abuse. *Am Fam Physician*. 2003;67:1529–1532+1535.
48. Couwenbergh C, Van Der Gaag RJ, Koeter M, De Ruiter C, Van den Brink W. Screening for substance abuse among adolescents validity of the CAGE-AID in youth mental health care. *Subst Use Misuse*. 2009;44:823–34.
49. Schydlower M, Arredondo RM. Substance Abuse Among Adolescents. *Adolescent Medicine Clinics*. 2006;17.
50. Shields AL, Caruso JC. A Reliability Induction and Reliability Generalization Study of the Cage Questionnaire. *Educational and Psychological Measurement*. 2004. p. 254–70.
51. Gache P, Michaud P, Landry U, Accietto C, Arfaoui S, Wenger O, et al. The Alcohol Use Disorders Identification Test (AUDIT) as a screening tool for excessive drinking in primary care: reliability and validity of a French version. *Alcohol Clin Exp Res*. 2005;29:2001–7.
52. De Meneses-Gaya C, Zuardi AW, Loureiro SR, Crippa JAS. Alcohol Use Disorders Identification Test (AUDIT): An updated systematic review of psychometric properties. *Psychology and Neuroscience*. 2009. p. 83–97.
53. Aalto M, Alho H, Halme JT, Seppä K. The alcohol use disorders identification test (AUDIT) and its derivatives in screening for

- heavy drinking among the elderly. *Int J Geriatr Psychiatry*. 2011;26:881–5.
54. T. Babor, J. C. Higgins-Biddle, J. B. Saunders MGM. The Alcohol Use Disorders Identification Test: Guidelines for use in primary care. *Geneva World Heal Organ*. 2001;1–40.
 55. Screening, Assessment, and Drug Testing Resources | National Institute on Drug Abuse (NIDA) [Internet]. [cited 2014 Sep 16]. Available from: <http://www.drugabuse.gov/nidamed-medical-health-professionals/tool-resources-your-practice/additional-screening-resources>
 56. Neushotz LA, Fitzpatrick JJ. Improving Substance Abuse Screening and Intervention in a Primary Care Clinic. *Arch Psychiatr Nurs*. 2008;22:78–86.
 57. Marshall EJ. Multiple substance use. *Psychiatry*. 2006. p. 461–3.
 58. Feldstein SW, Miller WR. Does subtle screening for substance abuse work? A review of the Substance Abuse Subtle Screening Inventory (SASSI). *Addiction*. 2007. p. 41–50.
 59. Becker SJ, Curry JF. Outpatient interventions for adolescent substance abuse: A quality of evidence review.
 60. Padgett DK, Hawkins RL, Abrams C, Davis A. In their own words: Trauma and substance abuse in the lives of formerly homeless women with serious mental illness.
 61. Broyles 2012. Substance Abuse. *Med Educ*. 2012;37–41.
 62. Didden R, Embregts P, van der Toorn M, Laarhoven N. Substance abuse, coping strategies, adaptive skills and behavioral and emotional problems in clients with mild to borderline intellectual disability admitted to a treatment facility: A pilot study. *Res Dev Disabil*. 2009;30:927–32.
 63. Conway KP, Kane RJ, Ball SA, Poling JC, Rounsaville BJ. Personality, substance of choice, and polysubstance involvement among substance dependent patients. *Drug Alcohol Depend*. 2003;71:65–75.
 64. Migneault JP, Adams TB, Read JP. Application of the Transtheoretical Model to substance abuse: historical development and future directions. *Drug Alcohol Rev*. 2005;24:437–48.
 65. Velasquez MM, von Sternberg K, Dodrill CL, Kan LY, Parsons JT. The Transtheoretical Model as a Framework for Developing Substance Abuse Interventions. *J Addict Nurs*. 2005;16:31–40.
 66. Vilela FADB, Jungerman FS, Laranjeira R, Callaghan R. The transtheoretical model and substance dependence: theoretical and practical aspects. *Rev Bras Psiquiatr*. 2009;31:362–8.

67. Torrens M, Martin-Santos R, Samet S. Importance of clinical diagnoses for comorbidity studies in substance use disorders. *Neurotox Res.* 2006;10:253–61.
68. Simpson DD. A conceptual framework for drug treatment process and outcomes. *J Subst Abuse Treat.* 2004 Sep;27(2):99–121.
69. Treatment C for SA. Chapter 7. Phases of Treatment. Substance Abuse and Mental Health Services Administration (US); 2005.
70. Moyers TB, Houck J. Combining Motivational Interviewing With Cognitive-Behavioral Treatments for Substance Abuse: Lessons From the COMBINE Research Project. *Cogn Behav Pract.* 2011;18:38–45.
71. Carroll KM, Ball SA, Nich C, Martino S, Frankforter TL, Farentinos C, et al. Motivational interviewing to improve treatment engagement and outcome in individuals seeking treatment for substance abuse: a multisite effectiveness study. *Drug Alcohol Depend.* 2006 Feb 28;81(3):301–12.
72. Bruchmüller K, Margraf J, Suppiger A, Schneider S. Popular or Unpopular? Therapists' Use of Structured Interviews and Their Estimation of Patient Acceptance. *Behav Ther.* 2011;42:634–43.
73. Greenfield SF, Hennessy G. Assessment of the patient. *Psychotherapy for the treatment of substance abuse.* 2011. p. 1–51.
74. Aertgeerts B, Buntinx F, Ansoms S, Fevery J. Screening properties of questionnaires and laboratory tests for the detection of alcohol abuse or dependence in a general practice population. *Br J Gen Pract.* 2001;51.
75. Allen JP, Litten RZ. The role of laboratory tests in alcoholism treatment. *J Subst Abuse Treat.* 2001;20:81–5.
76. Westreich LM, Rosenthal RN. Physical examination of substance abusers. How to gather evidence of concealed problems. *Postgrad Med.* 1995;97:111–2, 117–20, 123.
77. Commonly Abused Drugs Chart | National Institute on Drug Abuse (NIDA) [Internet]. [cited 2014 Feb 12]. Available from: <http://www.drugabuse.gov/drugs-abuse/commonly-abused-drugs/commonly-abused-drugs-chart>
78. Commonly Abused Prescription Drugs Chart | National Institute on Drug Abuse (NIDA) [Internet]. [cited 2014 Apr 6]. Available from: <http://www.drugabuse.gov/drugs-abuse/commonly-abused-drugs/commonly-abused-prescription-drugs-chart>
79. O'Toole TP, Pollini RA, Ford D, Bigelow G. Physical health as a motivator for substance abuse treatment among medically ill adults: Is it enough to keep them in treatment? *J Subst Abuse Treat.* 2006;31:143–50.

80. Greenfield SF, Hennessy G. Assessment of the patient. The American Psychiatric Publishing textbook of substance abuse treatment (4th ed). 2004. p. 55–78.
81. Brunette MF, Noordsy DL, Green AI. Co-occurring substance use and other psychiatric disorders. Essentials of schizophrenia. 2012. p. 131–58.
82. McClean R. Patients with Substance Abuse Problems: Effective Identification, Diagnosis, and Treatment. Ulster Med J. 2008;77:141–2.
83. Chapter 3 -- Mental Health And Addiction Treatment Systems: Philosophical and Treatment Approach Issues [Internet]. [cited 2014 Oct 23]. Available from: <http://www.dualdiagnosis.org/resource/patient-assessments/treatment-systems/>
84. Hakansson A, Schlyter F, Berglund M. Associations between polysubstance use and psychiatric problems in a criminal justice population in Sweden. Drug Alcohol Depend. 2011;118:5–11.
85. Nocon A, Bergé D, Astals M, Martín-Santos R, Torrens M. Dual diagnosis in an inpatient drug-abuse detoxification unit. Eur Addict Res. 2007;13:192–200.
86. Buckley PF. Prevalence and consequences of the dual diagnosis of substance abuse and severe mental illness. Journal of Clinical Psychiatry. 2006. p. 5–9.
87. Gold MS, Frost-Pineda K. Substance Abuse and Psychiatric Dual Disorders. Journal of Dual Diagnosis. 2005. p. 15–36.
88. Ndeti D, Pizzo M, Kuria M, Khasakhala L, Maru M, Mutiso V. Substance abuse and psychiatric co-morbidities: a case study of patients at Mathari Psychiatric Hospital, Nairobi, Kenya. African Journal of Drug and Alcohol Studies. 2009.
89. Kelly TM, Daley DC, Douaihy AB. Treatment of substance abusing patients with comorbid psychiatric disorders. Addictive Behaviors. 2012. p. 11–24.
90. Swendsen J, Conway KP, Degenhardt L, Glantz M, Jin R, Merikangas KR, et al. Mental disorders as risk factors for substance use, abuse and dependence: results from the 10-year follow-up of the National Comorbidity Survey. Addiction. 2010 Jun;105(6):1117–28.
91. Watkins KE, Hunter SB, Wenzel SL, Tu W, Paddock SM, Griffin A, et al. Prevalence and Characteristics of Clients with Co- Occurring Disorders in Outpatient Substance Abuse Treatment. Informa UK Ltd UK; 2009 Aug 24;
92. Lybrand J, Caroff S. Management of Schizophrenia with Substance Use Disorders. Psychiatric Clinics of North America. 2009. p. 821–33.

93. Gregg L, Barrowclough C, Haddock G. Reasons for increased substance use in psychosis. *Clin Psychol Rev.* 2007;27:494–510.
94. Benazzi F. Various forms of depression. *Dialogues Clin Neurosci.* 2006;8:151–61.
95. State Government Victoria. Depression - different types [Internet]. Better Health Channel. 2013. Available from: http://www.betterhealth.vic.gov.au/bhcv2/bhcarticles.nsf/pages/Depression_different_types
96. Rothschild AJ. Challenges in the treatment of major depressive disorder with psychotic features. *Schizophr Bull.* 2013;39:787–96.
97. Weissman M. Depression. *Ann Epidemiol.* 2009;19:264–7.
98. Levin FR, Hennessy G. Bipolar disorder and substance abuse. *Biological Psychiatry.* 2004. p. 738–48.
99. Goldberg JF, Garno JL, Callahan AM, Kearns DL, Kerner B, Ackerman SH. Overdiagnosis of bipolar disorder among substance use disorder inpatients with mood instability. *J Clin Psychiatry.* 2008 Nov 1;69(11):1751–7.
100. Kessler RC, Ruscio AM, Shear K, Wittchen HU. Epidemiology of anxiety disorders. *Curr Top Behav Neurosci.* 2010;2010:21–35.
101. Craske MG, Waters AM. Panic disorder, phobias, and generalized anxiety disorder. *Annu Rev Clin Psychol.* 2005;1:197–225.
102. Garakani A, Mathew SJ, Charney DS. Neurobiology of anxiety disorders and implications for treatment. *Mt Sinai J Med.* 2006;73:941–9.
103. Kotov R, Gamez W, Schmidt F, Watson D. Linking “big” personality traits to anxiety, depressive, and substance use disorders: a meta-analysis. *Psychol Bull.* 2010;136:768–821.
104. Chapter 12. Treatment of Co-Occurring Disorders. Substance Abuse and Mental Health Services Administration (US); 2005.
105. Bishop DVM. Genes, cognition, and communication: insights from neurodevelopmental disorders. *Ann N Y Acad Sci.* 2009;1156:1–18.
106. Rief W, Barsky AJ. Psychobiological perspectives on somatoform disorders. *Psychoneuroendocrinology.* 2005;30:996–1002.
107. Sansone RA, Sansone LA. Substance use disorders and borderline personality: Common bedfellows. *Innov Clin Neurosci.* 2011;8:10–3.
108. Holmes D. Prescription drug addiction: the treatment challenge. *Lancet.* 2012 Jan 7;379(9810):17–8.
109. Adoption of Evidence-Based Practices among Substance Abuse Treatment Providers [Internet]. [cited 2014 Feb 15]. Available from: <http://baywood.metapress.com/app/home/contribution.asp?refer>

- rer=parent&backto=issue,6,6;journal,19,168;linkingpublicationresults,1:300320,1
110. Greenfield SF, Brooks AJ, Gordon SM, Green CA, Kropp F, McHugh RK, et al. Substance abuse treatment entry, retention, and outcome in women: a review of the literature. *Drug Alcohol Depend.* 2007 Jan 5;86(1):1–21.
 111. Flynn PM, Brown BS. Co-occurring disorders in substance abuse treatment: Issues and prospects. *J Subst Abuse Treat.* 2008;34:36–47.
 112. The Substance Abuse and Mental Health Services Administration (SAMHSA) Website [Internet]. [cited 2014 Apr 3]. Available from: <http://buprenorphine.samhsa.gov/about.html>
 113. Detoxification and Substance Abuse Treatment [2006] - PubMed - NCBI [Internet]. [cited 2014 Feb 15]. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/22514851>
 114. White WL. Medication-assisted recovery from opioid addiction: historical and contemporary perspectives. *J Addict Dis.* Routledge; 2012 Jan;31(3):199–206.
 115. Chapter 1 Substance Abuse Treatment and Family Therapy. Substance Abuse and Mental Health Services Administration (US); 2004.
 116. Roman PM, Abraham AJ, Knudsen HK. Using medication-assisted treatment for substance use disorders: Evidence of barriers and facilitators of implementation. *Addict Behav.* 2011;36:584–9.
 117. Bart G. Maintenance medication for opiate addiction: the foundation of recovery. *J Addict Dis.* Routledge; 2012 Jan;31(3):207–25.
 118. Federal Guidelines for Opioid Treatment [Internet]. [cited 2014 Apr 3]. Available from: http://www.dpt.samhsa.gov/pdf/FederalGuidelinesforOpioidTreatment5-6-2013revisiondraft_508.pdf
 119. Osilla KC, Hepner KA, Munoz RF, Woo S, Watkins K. Developing an integrated treatment for substance use and depression using cognitive-behavioral therapy. *J Subst Abuse Treat.* 2009;37:412–20.
 120. Treatment Settings | National Institute on Drug Abuse (NIDA) [Internet]. [cited 2014 Oct 24]. Available from: <http://www.drugabuse.gov/publications/principles-adolescent-substance-use-disorder-treatment-research-based-guide/treatment-settings>
 121. Treatment C for SA. 6 Traditional Settings and Models. Substance Abuse and Mental Health Services Administration (US); 2005.

122. Greenberg GA, Rosenheck RA. Jail incarceration, homelessness, and mental health: a national study. *Psychiatr Serv.* 2008;59:170–7.
123. Galanter M, Glickman L, Singer D. An Overview of Outpatient Treatment of Adolescent Substance Abuse. *Substance Abuse.* 2007. p. 51–8.
124. Pollack HA, D’Aunno T, Lamar B. Outpatient substance abuse treatment and HIV prevention: an update. *J Subst Abuse Treat.* 2006 Jan;30(1):39–47.
125. Substance Abuse Treatment: Group Therapy [2005] - PubMed - NCBI [Internet]. [cited 2014 Feb 15]. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/22514847>
126. NIDA - Publications - An Individual Drug Counseling Approach to Treat Cocaine Addiction [Internet]. [cited 2014 Oct 24]. Available from: <http://archives.drugabuse.gov/TXManuals/IDCA/IDCA10.html>
127. Chapter 4. Services in Intensive Outpatient Treatment Programs. Substance Abuse and Mental Health Services Administration (US); 2006.
128. Cornwall A, Blood L. Inpatient versus day treatment for substance abusing adolescents. *J Nerv Ment Dis.* 1998;186:580–2.
129. Clark RE, Samnaliev M, McGovern MP. Treatment for co-occurring mental and substance use disorders in five state Medicaid programs. *Psychiatr Serv.* 2007;58:942–8.
130. Balester MS. Inpatient care in the treatment of alcohol use disorders. *Rev Prat.* 2011;61:1381–5.
131. Messina N, Nemes S, Wish E, Wraight B. Opening the black box: The impact of inpatient treatment services on client outcomes. *J Subst Abuse Treat.* 2001;20:177–83.
132. Shumway ST, Bradshaw SD, Harris KS, Baker AK. Important Factors of Early Addiction Recovery and Inpatient Treatment. *Alcohol Treat Q.* 2013;31:3–24.
133. McLoughlin KA, Geller JL. Interdisciplinary treatment planning in inpatient settings: From myth to model. *Psychiatr Q.* 2010;81:263–77.
134. Tetrault JM, O’Connor PG. Substance Abuse and Withdrawal in the Critical Care Setting. *Critical Care Clinics.* 2008. p. 767–88.
135. Mark TL, Dilonardo JD, Chalk M, Coffey RM. Factors associated with the receipt of treatment following detoxification. *J Subst Abuse Treat.* 2003;24:299–304.
136. Hurtado SL, Crain J a, Simon-Arndt CM, Highfill-McRoy RM. Substance abuse counselor and client reports of mental health screening and enhanced practices. *Mil Med.* 2012;177:1049–57.

137. Friedmann PD, Lemon SC, Stein MD, D'Aunno TA. Accessibility of Addiction Treatment: Results from a National Survey of Outpatient Substance Abuse Treatment Organizations. *Health Serv Res.* 2003 Jun;38(3):887–903.
138. Alfonso JP, Caracuel A, Delgado-Pastor LC, Verdejo-García A. Combined goal management training and mindfulness meditation improve executive functions and decision-making performance in abstinent polysubstance abusers. *Drug Alcohol Depend.* 2011;117:78–81.
139. The Motivational Component of Withdrawal in Opiate Addiction: Role of Associative Learning and Aversive Memory in Opiate Addiction from a Behavioral, Anatomical and Functional Perspective : *Reviews in the Neurosciences* [Internet]. [cited 2014 Apr 6]. Available from: [http://www.degruyter.com/dg/viewarticle/j\\$002frevneuro.2005.16.3\\$002frevneuro.2005.16.3.255\\$002frevneuro.2005.16.3.255.xml;jsessionid=A4F82F4AF16066126EDA097783D15744](http://www.degruyter.com/dg/viewarticle/j$002frevneuro.2005.16.3$002frevneuro.2005.16.3.255$002frevneuro.2005.16.3.255.xml;jsessionid=A4F82F4AF16066126EDA097783D15744)
140. *Relapse Prevention: Maintenance Strategies in the Treatment of Addictive Behaviors.* Guilford Press; 2005.
141. Carroll KM, Onken LS. Behavioral therapies for drug abuse. *American Journal of Psychiatry.* 2005. p. 1452–60.
142. Osilla KC, Hepner KA, Muñoz RF, Woo S, Watkins K. Developing an integrated treatment for substance use and depression using cognitive-behavioral therapy. *J Subst Abuse Treat.* 2009;37:412–20.
143. Brugha TS, Weich S, Singleton N, Lewis G, Bebbington PE, Jenkins R, et al. Primary group size, social support, gender and future mental health status in a prospective study of people living in private households throughout Great Britain. *Psychol Med.* 2005;35:705–14.
144. Chapter 7: Substance Abuse Treatment for Women. Substance Abuse and Mental Health Services Administration (US); 2009.
145. NICE. Drug misuse: opioid detoxification [Internet]. Do not do' recommendations: CG52. 2007. Available from: <http://www.nice.org.uk/usingguidance/donotdorecommendations/detail.jsp?action=details&dndid=68>
146. Carroll CP, Triplett PT, Mondimore FM. The Intensive Treatment Unit: A brief inpatient detoxification facility demonstrating good postdetoxification treatment entry. *J Subst Abuse Treat.* 2009;37:111–9.
147. Stein BD, Kogan JN, Sorbero M. Substance abuse detoxification and residential treatment among Medicaid-enrolled adults: Rates and duration of subsequent treatment. *Drug Alcohol Depend.* 2009;104:100–6.

148. Wesson DR, Ling W. The Clinical Opiate Withdrawal Scale (COWS). *J Psychoactive Drugs*. Routledge; 2003 Jun;35(2):253–9.
149. Current Opinion in Psychiatry [Internet]. [cited 2014 Apr 5]. Available from: http://journals.lww.com/co-psychiatry/Abstract/2006/05000/The_place_of_detoxification_in_treatment_of_opioid.6.aspx
150. Laudet AB, Stanick V. Predictors of motivation for abstinence at the end of outpatient substance abuse treatment. *J Subst Abuse Treat*. 2010;38:317–27.
151. Lash SJ, Burden JL, Monteleone BR, Lehmann LP. Social reinforcement of substance abuse treatment aftercare participation: Impact on outcome. *Addict Behav*. 2004 Feb;29(2):337–42.
152. Weiss RD, Griffin ML, Jaffee WB, Bender RE, Graff FS, Gallop RJ, et al. A “community-friendly” version of integrated group therapy for patients with bipolar disorder and substance dependence: A randomized controlled trial. *Drug Alcohol Depend*. 2009;104:212–9.
153. Xie H, Drake RE, McHugo GJ, Xie L, Mohandas A. The 10-year course of remission, abstinence, and recovery in dual diagnosis. *J Subst Abuse Treat*. 2010;39:132–40.
154. Majer JM, Jason LA, Olson BD. Optimism, abstinence self-efficacy, and self-mastery: a comparative analysis of cognitive resources. *Assessment*. 2004;11:57–63.
155. Ilgen M, McKellar J, Tiet Q. Abstinence self-efficacy and abstinence 1 year after substance use disorder treatment. *J Consult Clin Psychol*. 2005;73:1175–80.
156. Dennis ML, Foss MA, Scott CK. An eight-year perspective on the relationship between the duration of abstinence and other aspects of recovery. *Eval Rev*. 2007;31:585–612.
157. Brandon TH, Vidrine JI, Litvin EB. Relapse and relapse prevention. *Annu Rev Clin Psychol*. 2007;3:257–84.
158. Hendershot CS, Witkiewitz K, George WH, Marlatt GA. Relapse prevention for addictive behaviors. *Subst Abuse Treat Prev Policy*. 2011;6:17.
159. Witkiewitz K, Marlatt GA. Overview of Relapse Prevention. *Therapist’s Guide to Evidence-Based Relapse Prevention*. 2007. p. 3–17.
160. Price RK, Risk NK, Spitznagel EL. Remission from drug abuse over a 25-year period: Patterns of remission and treatment use. *Am J Public Health*. 2001;91:1107–13.

161. Drake RE, Wallach MA, McGovern MP. Future directions in preventing relapse to substance abuse among clients with severe mental illnesses. *Psychiatr Serv.* 2005;56:1297–302.
162. Rieckmann T, Fuller BE, Saedi GA, McCarty D. Adoption of practice guidelines and assessment tools in substance abuse treatment. *Subst Abuse Treat Prev Policy.* 2010;5:4.
163. Adesso VJ, Cisler RA, Larus BJ, Hayes BB. Substance Abuse. *Psychological assessment in clinical practice: A pragmatic guide.* 2004. p. 147–73.
164. McCarty D, Fuller B, Kaskutas LA, Wendt WW, Nunes E V., Miller M, et al. Treatment programs in the National Drug Abuse Treatment Clinical Trials Network. *Drug Alcohol Depend.* 2008;92:200–7.
165. Knutson MB, Newberry S, Schaper A. Recovery Education: A tool for psychiatric nurses. *J Psychiatr Ment Health Nurs.* 2013;20:874–81.
166. Witkiewitz K, Bowen S, Douglas H, Hsu SH. Mindfulness-based relapse prevention for substance craving. *Addict Behav.* 2013;38:1563–71.
167. Thakker J, Ward T. Relapse Prevention : A Critique and Proposed Reconceptualisation. *Behav Chang.* 2010;27:154–75.
168. Witkiewitz K, Bowen S. Depression, craving, and substance use following a randomized trial of mindfulness-based relapse prevention. *J Consult Clin Psychol.* 2010;78:362–74.
169. Moeller FG, Dougherty DM. Impulsivity and Substance Abuse: What Is the Connection? *Addictive Disorders & Their Treatment.* 2002. p. 3–10.
170. Teasdale JD, Segal Z V, Williams JM, Ridgeway VA, Soulsby JM, Lau MA. Prevention of relapse/recurrence in major depression by mindfulness-based cognitive therapy. *Journal of consulting and clinical psychology.* 2000 p. 615–23.
171. Winters KC, Botzet AM, Fahnhorst T. Advances in adolescent substance abuse treatment. *Current Psychiatry Reports.* 2011. p. 416–21.
172. De Wilde B, Verdejo-García A, Sabbe B, Hulstijn W, Dom G. Affective decision-making is predictive of three-month relapse in polysubstance-dependent alcoholics. *Eur Addict Res.* 2012;19:21–8.
173. Branson CE, Clemmey P, Harrell P, Subramaniam G, Fishman M. Polysubstance Use and Heroin Relapse Among Adolescents Following Residential Treatment. *Journal of Child & Adolescent Substance Abuse.* 2012. p. 204–21.

174. Catalano RF, Haggerty KP, Fleming CB, Skinner ML. Therapist's Guide to Evidence-Based Relapse Prevention. Therapist's Guide to Evidence-Based Relapse Prevention. 2007.
175. Kiluk BD, Nich C, Babuscio T, Carroll KM. Quality versus quantity: Acquisition of coping skills following computerized cognitive-behavioral therapy for substance use disorders. *Addiction*. 2010;105:2120-7.
176. Moos RH. Theory-based processes that promote the remission of substance use disorders. *Clinical Psychology Review*. 2007. p. 537-51.
177. R.K. MRK, B.A. H, M.W. O. Cognitive behavioral therapy for substance use disorders. *Psychiatric Clinics of North America*. 2010. p. 511-25.
178. Dowd ET. Cognitive Behavior Therapy: Evidence and New Directions. *J Cogn Behav Psychother*. 2005;5:95-108.
179. O'Donnell C. Cognitive-Behavioral Therapies for Psychological Trauma and Comorbid Substance Use Disorders. *Journal of Chemical Dependency Treatment*. 2006. p. 15-39.
180. Pilecki B, McKay D. The theory-practice GAP in cognitive-behavior therapy. *Behav Ther*. 2013;44:541-7.
181. Ball SA. Cognitive-Behavioral and Schema-Based Models for the Treatment of Substance Use Disorders. *Cognitive schemas and core beliefs in psychological problems: A scientist-practitioner guide*. 2007. p. 111-38.
182. Beck AT, Wright FD, Newman CF, Liese BS. *Cognitive Therapy of Substance Abuse* (Google eBook). Guilford Press; 2011.
183. Rosenblum A, Foote J, Cleland C, Magura S, Mahmood D, Kosanke N. Moderators of effects of motivational enhancements to cognitive behavioral therapy. *The American journal of drug and alcohol abuse*. 2005 p. 35-58.
184. Dimidjian S, Davis KJ. Newer variations of cognitive-behavioral therapy: Behavioral activation and mindfulness-based cognitive therapy. *Current Psychiatry Reports*. 2009. p. 453-8.
185. Alessi H, Ballard M, Kirk A, Montalbano N. Cognitive Impairment and Substance Abuse: Implications for Treatment Planning. *J Alcohol Drug Educ*. 2006;50:55-66.
186. Dattilio FM, Hanna MA. Collaboration in Cognitive-Behavioral Therapy. *J Clin Psychol*. 2012;68:146-58.
187. McHugh RK, Hearon BA, Otto MW. Cognitive behavioral therapy for substance use disorders. *Psychiatr Clin North Am*. 2010;33:511-25.
188. Leahy RL. The Therapeutic Relationship in Cognitive-Behavioral Therapy. *Behavioural and Cognitive Psychotherapy*. 2008. p. 769.

189. Baardseth TP, Goldberg SB, Pace BT, Wislocki AP, Frost ND, Siddiqui JR, et al. Cognitive-behavioral therapy versus other therapies: Redux. *Clinical Psychology Review*. 2013. p. 395–405.
190. Baron D, Garbely J, Boyd RL. Evaluation and management of substance abuse emergencies. *Prim Psychiatry*. 2009;16:41–7.
191. Druss BG, Bornemann T, Fry-Johnson YW, McCombs HG, Politzer RM, Rust G. Trends in mental health and substance abuse services at the nation's community health centers: 1998-2003. *Am J Public Health*. 2006;96:1779–84.
192. Van Loggerenberg CJ. Management of stimulant drug overdose. *Contin Med Educ*. 2007;25.
193. Katz G, Durst R, Shufman E, Bar-Hamburger R, Grunhaus L. Substance abuse in hospitalized psychiatric patients. *Isr Med Assoc J*. 2008;10:672–5.
194. Gomez EA, Turoff M. Community crisis response teams: Leveraging local resources through ICT E-readiness. *Proceedings of the Annual Hawaii International Conference on System Sciences*. 2007.
195. Osborne VA, Benner K. Utilizing screening, brief intervention, and referral to treatment: Teaching assessment of substance abuse. *American Journal of Public Health*. 2012.
196. Community Corrections | National Institute of Justice [Internet]. [cited 2014 Oct 25]. Available from: <http://www.nij.gov/topics/corrections/community/Pages/welcome.aspx>
197. The Potential of Community Corrections to Improve Safety and Reduce Incarceration [Internet]. [cited 2014 Oct 25]. Available from: <http://www.in.gov/idoc/files/potential-of-community-corrections.pdf>
198. Young DW, Dembo R, Henderson CE. A national survey of substance abuse treatment for juvenile offenders. *J Subst Abuse Treat*. 2007;32:255–66.
199. Police and Community Together (P.A.C.T.) - official website of THE LOS ANGELES POLICE DEPARTMENT [Internet]. [cited 2014 Oct 25]. Available from: http://www.lapdonline.org/west_la_community_police_station/content_basic_view/23745
200. PACT360 [Internet]. [cited 2014 Oct 10]. Available from: <http://pact360.org/home>
201. Powell T, Perron BE. Self-help groups and mental health/substance use agencies: the benefits of organizational exchange. *Subst Use Misuse*. 2010;45:315–29.
202. Humphreys K, Wing S, McCarty D, Chappel J, Gallant L, Haberle B, et al. Self-help organizations for alcohol and drug problems:

- Toward evidence-based practice and policy. *Journal of Substance Abuse Treatment*. 2004. p. 151–8.
203. Moos RH. Active ingredients of substance use-focused self-help groups. *Addiction*. 2008. p. 387–96.
204. Tangenberg KM. Twelve-Step Programs and Faith-Based Recovery. *Journal of Evidence-Based Social Work*. 2005. p. 19–40.
205. Detar DT. Alcoholics Anonymous and Other Twelve-Step Programs in Recovery. *Primary Care - Clinics in Office Practice*. 2011. p. 143–8.
206. Donovan DM, Floyd AS. Facilitating involvement in twelve-step programs. *Recent Dev Alcohol*. 2008;18:303–20.
207. Self Help Addiction Recovery | SMART Recovery® [Internet]. [cited 2014 Oct 25]. Available from: <http://www.smartrecovery.org/>
208. Brooks AJ, Penn PE. Comparing treatments for dual diagnosis: twelve-step and self-management and recovery training. *Am J Drug Alcohol Abuse*. 2003 May;29(2):359–83.
209. Women for Sobriety, Inc. [Internet]. [cited 2014 Oct 25]. Available from: <http://www.womenforsobriety.org/beta2/>
210. Gross M. Alcoholics anonymous: Still sober after 75 years. *Am J Public Health*. 2010;100:2361–3.
211. Kaskutas LA. Alcoholics anonymous effectiveness: faith meets science. *J Addict Dis*. 2009;28:145–57.
212. Vaillant GE. Alcoholics anonymous: Cult or cure? *Australian and New Zealand Journal of Psychiatry*. 2005. p. 431–6.
213. Gossop M, Stewart D, Marsden J. Attendance at Narcotics Anonymous and Alcoholics Anonymous meetings, frequency of attendance and substance use outcomes after residential treatment for drug dependence: A 5-year follow-up study. *Addiction*. 2008;103:119–25.
214. Alcoholics Anonymous [Internet]. [cited 2014 Oct 25]. Available from: <http://www.aa.org/>
215. Krentzman AR, Robinson EAR, Moore BC, Kelly JF, Laudet AB, White WL, et al. How Alcoholics Anonymous (AA) and Narcotics Anonymous (NA) Work: Cross-Disciplinary Perspectives. *Alcoholism Treatment Quarterly*. 2010. p. 75–84.
216. Kelly JF, Stout RL, Magill M, Tonigan JS, Pagano ME. Mechanisms of behavior change in alcoholics anonymous: Does Alcoholics Anonymous lead to better alcohol use outcomes by reducing depression symptoms? *Addiction*. 2010;105:626–36.
217. Laudet AB. The impact of alcoholics anonymous on other substance abuse-related twelve-step programs. *Recent Dev Alcohol*. 2008;18:71–89.

218. Peyrot M. Narcotics anonymous: its history, structure, and approach. *Int J Addict*. 1985;20:1509–22.
219. NA [Internet]. [cited 2014 Oct 25]. Available from: <http://www.na.org/>
220. Ries RK, Galanter M, Tonigan JS. Twelve-step facilitation. *The American Psychiatric Publishing textbook of substance abuse treatment* (4th ed). 2008. p. 373–86.
221. Toumbourou JW, Hamilton M, U'Ren A, Stevens-Jones P, Storey G. Narcotics Anonymous participation and changes in substance use and social support. *J Subst Abuse Treat*. 2002;23:61–6.
222. Sussman S. A review of Alcoholics Anonymous/ Narcotics Anonymous programs for teens. *Eval Health Prof*. 2010;33:26–55.