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Substance Abuse Treatment in Prison Settings: A Systematic Review

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SUBSTANCE ABUSE TREATMENT IN PRISON SETTINGS: A SYSTEMATIC REVIEW

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I would like to dedicate this Capstone Project to my husband, Jonathon Cline, for his love and support throughout my educational career. I would also like to dedicate this project to my parents, Larry and Lori Dyer, for encouraging me to always follow my passions.

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A significant relationship between criminal behavior and substance abuse exists, which leads to a large proportion of individuals in the prison system who meet criteria for a substance use disorder. This review compares empirically-supported treatments for substance use disorder to current substance abuse treatment programs offered in United States prisons. A review of current literature indicates that Therapeutic Communities are the most common form of substance abuse treatment provided, and often these are combined with Cognitive-Behavioral Therapy groups. Special treatment considerations are provided based on the type of substance used, gender, and ethnicity. Empirically-supported treatments are currently being implemented by the United States prison system; however, shifts in treatment that combine treatment models and specific individual consideration could potentially result in better treatment outcomes. Future research considerations include further examination of treatment providers, financial factors, co-occurring mental health disorders, and the long-term effect of contingency management treatments utilizing positive reinforcement.

Introduction

The Diagnostic and Statistical Manual of Mental Disorders-Fifth Edition (DSM-5) states that the defining features of substance use disorders are a combination of cognitive, behavioral, and physiological symptoms that are indicative of continued abuse of a substance despite negative consequences (APA, 2013). These defining features are measured by the DSM-5 using specific diagnostic criteria to examine impaired control of use, social impairment, risky use of the substance, and pharmacological criteria (APA, 2013). This review primarily will focus on individuals within the United States prison system, making it important to note that, compared to the general population, the proportion of individuals in prison with a mental health diagnosis is significantly higher and substance use disorders have a higher prevalence rate within this setting (Al-Rousan, Rubenstein, Sieleni, Deol, & Wallace, 2017).

Access to appropriate care within the prison system is limited, leading to individuals not receiving adequate care (Martin et al., 2018). The link between substance abuse and criminal behavior is a concept that is widely accepted by both general public and professional populations (NIDA, 2014). One of the goals of this review is to explore whether implementing effective treatment for substance use disorders can help to treat the individual, which in turn might help to reduce recidivism and improve public safety.

A systematic review of substance abuse treatment currently provided within the criminal justice system seeks to answer the question of how effectively current treatment programs are addressing the individual needs of the offenders to reduce recidivism. This will be done by comparing current treatment in the criminal justice system to treatments that have empirical support for substance use disorders. It is important to explore basics of substance use disorder treatment and considerations before examining available literature. Language used to describe mental health disorders shifts with updates in the DSM and anecdotal terms are often used by laypersons. In order

to be consistent with current language, this review will use the term "substance use disorders" taken from the DSM-5 in place of outdated terms and anecdotal language.

Prevalence of Substance Use Disorders

The Substance Abuse and Mental Health Services Administration (SAMHSA) reports that survey data collected in 2014 reveals that approximately 21.5 million (8.1%) Americans ages 12 and older were classified as having a substance use disorder within the past year. Both alcohol and drug problems were seen in 2.6 million people, problems with only drugs were seen in 4.5 million people, and 14.4 million people experienced problems with only alcohol (Center for Behavioral Health Statistics and Quality, 2015).

The prevalence of substance use disorders is higher within the United States criminal justice system compared to the general population. According to the U.S. Department of Justice, between the years 2007 and 2009, 58 percent of state prisoners and 63 percent of sentenced jail inmates met DSM-IV criteria for substance abuse or dependence. Of those who met diagnostic criteria, 28 percent of state prisoners and 22 percent of jail inmates had participated in a drug abuse treatment program since admission into the criminal justice system (Bronson, Forsberg, Durbeej, Kallmen, & Hermansson, 2017). A quantitative study of 320 randomly selected individuals, men and women, who were newly incarcerated in the Iowa prison system revealed that 90 percent of these individuals met criteria for a substance use disorder (Gunter et al., 2008).

Much attention for substance abuse prevalence and treatment is directed towards men, due to men comprising approximately four-fifths of the total United States prison population; however, the number of females within the criminal justice system is significantly growing. The total number of female inmates in the United States increased by 100 percent between the years 1990 and 2009, and the number of felony convictions of women has increased by a rate 2.5 percent greater than that

of men (Proctor, 2012). The increase in felony charges is accounted for by aggravated assaults and drug related offenses, specifically drug trafficking and drug possession (Proctor, 2012). It has been determined that the prevalence rate is approximately 10.0 to 23.9 percent of female offenders for alcohol abuse or dependence and 30.3 to 60.4 percent of female offenders for drug abuse or dependence (Proctor, 2012). The increase in the number of females incarcerated and the presence of substance use disorders within this population highlights the importance of critical examination of the types of substance abuse treatment that are currently being utilized within the criminal justice system and their efficacy across gender.

Empirically Supported Treatments

The American Psychological Association (APA) Division 12 lists the following psychological treatments pertaining to substance abuse as having significant research support: behavioral couples therapy for alcohol use disorders, moderate drinking for alcohol use disorders, prize-based contingency management for alcohol use disorders, prize-based contingency management for cocaine dependence, Friends Care for mixed substance abuse/dependence, guided self-change for mixed substance abuse/dependence, motivational interviewing, motivational enhancement therapy (MET), and MET plus CBT for mixed substance abuse/dependence, prize-based contingency management for mixed substance abuse/dependence, and Seeking Safety for mixed substance abuse/dependence (APA, 2006). It is acknowledged by the APA Division 12 that other effective therapies could potentially be available but have not been scientifically tested as strenuously as the therapies previously listed. The potential usefulness of medication is mentioned by the APA Division 12 but their website does not include medication treatments.

In a research-based guide for substance use disorder treatment updated in 2018, the NIDA discusses pharmacotherapies and behavioral therapies that have empirical support for treating

substance use disorders. Pharmacotherapy treatment options are broken down into categories based on substance used; specifically, different therapies are available for opioid, tobacco, and alcohol use disorders. Behavioral therapies are also discussed by this guide, and similar to pharmacotherapy different therapies are more appropriate for different substances. Due to the many factors that contribute to the development of substance use disorders, different treatment options should be considered to determine the most appropriate treatment plan.

Pharmacotherapies.

Pharmacotherapies for opioid use disorders consist of methadone, buprenorphine, and naltrexone. Methadone and buprenorphine both work to treat withdrawal symptoms and reduce cravings in opioid addicted individuals (Jones, Campopiano, Baldwin, & McCance-Katz, 2015). Naltrexone works to reduce cravings in individuals with opioid use disorders (Korthuis et al., 2017). Research has shown that combining methadone treatment with cognitive-behavioral therapy can result in better treatment outcomes compared to methadone alone, due to individuals receiving therapy gaining higher levels of self-perception and self-efficacy (Elahei Roudposhti, Jalali, Khaledi, & Salari, 2018).

Nicotine replacement therapies, bupropion, and varenicline are the available pharmacotherapies for treating nicotine use disorders. Nicotine lozenges, patches, sprays, and gum are all forms of nicotine replacement therapies that provide low levels of nicotine to prevent withdrawal so the individual can slowly stop nicotine use (NIDA, 2018). Varenicline is a partial agonist/antagonist that works on a subset of the nicotinic receptors in the brain, meaning that the nicotine receptor is mildly stimulated but not stimulated enough to promote the release of dopamine. Varenicline reduces cravings by preventing nicotine from binding to the receptor, which prevents dopamine from being released (NIDA, 2018).

Naltrexone, Acamprosate, disulfiram, and topiramate are all forms of pharmacological treatment used in treating alcohol use disorders, but naltrexone and Acamprosate have the most current empirical support. In some studies, individuals who receive naltrexone injections are more likely to initiate and remain in treatment when they present with low levels of motivation to stop using (Korthuis et al., 2017). Acamprosate has been shown to be effective in treating individuals who abuse alcohol to obtain relief from perceived negative affects, and has shown some success in individuals who abuse alcohol for the rewarding effects (Roos, Mann, & Witkiewitz, 2017).

Behavioral therapies.

While pharmacotherapy treatment options for substance use disorders are available, it is recommended that medication assisted treatments be paired with behavioral therapies in order to best address individual treatment needs. Behavioral therapies for treating substance use disorders work to challenge the attitudes an individual has towards substance abuse, engages them to participate in treatment, helps to promote incentives for maintaining abstinence, and teaches skills to cope with cues from the environment and stressful events that could potentially trigger a return to abuse. Multiple types of behavioral therapy have empirical support in treating substance disorders (APA, 2006).

Cognitive-behavioral therapy (CBT) has demonstrated effectiveness in treating a variety of substance use disorders by helping to challenge the learning processes that lead to the development of problematic behaviors and teaching alternative healthy coping skills (Kiluk, Nich, Babuscio, & Carroll, 2010). It has been shown that individuals with substance use disorders have poor coping skills when facing situations that are associated with alcohol and drug use (Kiluk et al., 2010). Improving coping skills is an important part of substance abuse treatment, and implementing CBT focusing on coping skills can increase the likelihood that individuals will remain substance free after

completing treatment. CBT has empirical support in treating abuse of methamphetamine, alcohol, nicotine, cocaine, and marijuana (Kiluk et al., 2010).

Contingency management interventions have been shown to be effective in treating substance use disorders by increasing the probability that an individual will remain abstinent to become involved in another form of treatment (Prendergast, Podus, Finney, Greenwell, & Roll, 2006). Interventions using contingency management often use a voucher system to provide reinforcement. Voucher-based reinforcement and prize incentives can be effective to increase likelihood of remaining in treatment and abstinent (Prendergast et al., 2006).

In treating opioid, cocaine, or alcohol use disorders a community reinforcement approach with vouchers can also be used. A community reinforcement approach works on the idea that substance use can be reinforced or discouraged by environmental contingencies. This treatment modality works to change familial, recreational, occupational, or social factors in order to create an environment and lifestyle that makes being substance free more rewarding than continued substance use (Smith, Meyers, & Miller, 2001).

Motivational interviewing is one of the most widely used treatment approaches for substance use disorders. Through motivational interviewing, the individual's personal strengths are targeted by the clinician to enhance motivation for changing behaviors (Shaima & Narayanan, 2018). Collaborating with the individual allows him or her to come to the realization that change can only truly be achieved by a decision at the individual level (Shaima & Narayanan, 2018). Motivational interviewing can effectively be combined with other treatment approaches, but recent research has begun to argue that motivational interviewing cannot be effectively implemented if used in an abstinence-based program (Gallagher & Bremer, 2018). Taking emphasis away from labels, increasing the level of responsibility in the individual, placing responsibility for actions on

internal factors rather than external factors, and identifying cognitive dissonance are major areas in the motivational interviewing process, all of which potentially conflict with principles of abstinence-based programs (Gallagher & Bremer, 2018). It has been argued that using harm reduction philosophy leads to the best outcomes in reducing problematic substance use.

The Matrix Model is an empirically supported manualized treatment used for individuals who abuse stimulants. The manual addresses relapse prevention, family therapy, psychoeducation, and participation in self-help groups (Rawson et al., 2004). This treatment modality uses individual and group therapy provided by clinicians without judgement or confrontation during sessions. Family behavioral therapies can be used in combination with other behavioral treatments to begin implementing skills learned in treatment to the family environment (NIDA, 2018).

Effectiveness of Treatments

The National Institute on Drug Abuse (NIDA; 2018) presents several key aspects of substance abuse treatment that must be considered for treatment to be labelled effective. The principles outlined by the NIDA will be compared to current research in substance abuse treatment, where available, to provide appropriate background information concerning substance use disorder treatment. In order for an individual to return to productivity in different areas of life, treatment must be matched to individual needs. For treatment to have long-term effects, demographic characteristics should be considered before creating a treatment plan (Kopak, Proctor, & Hoffmann, 2017). Treatment also needs to be available to individuals with substance use disorders as quickly as possible when the decision for treatment is made. Treatment outcomes become more positive when treatment begins early in the progression of the disorder (NIDA, 2018). Medically-assisted detoxification can manage physical symptoms of withdrawal but is not appropriate if used independently for reducing future substance use. Single sessions of motivational interviewing can

be used immediately following detoxification to attempt to increase the individual's motivation to make the choice to enter substance abuse treatment (Berman, Forsberg, Durbeej, Källmén, & Hermansson, 2010).

It is also important that individuals remain in treatment for a sufficient amount of time based on the type and severity of substance use. Based on current research, individuals who engage in long-term treatment, defined as three months or more, are seen to have better treatment outcomes (Torrens, Rossi, Martinez-Riera, Martinez-Sanvisens, & Bulbena, 2012). Individuals who return to using substances benefit if they return to treatment.

Individuals who present with substance use disorders should be assessed for other mental disorders, due to substance use disorders often co-occurring with other mental health disorders (NIDA, 2018). It has been shown to be effective if treatment is integrated for the substance use disorder and co-occurring disorder (Torrens et al., 2012). Possibly most important for the current review, the NIDA also states that treatment can be effective even if it is not initially voluntary. Individuals who are participating in court-mandated treatment for substance use disorders can show positive treatment outcomes if an internal motivation for change occurs during the treatment process (Kelly, Finney, & Moos, 2005).

Treating Criminal Justice Populations

Certain treatment modalities have been implemented within the prison system (Resor & Blume, 2008), but human rights issues and structural components make others (e.g., aversion therapy) difficult or impossible to implement (Ferrito & Moore, 2017). Behavioral therapies that involve family therapy or aversion therapy are not reasonable due to system structure and human rights issues (Ferrito & Moore, 2017). The prison system presents difficulties in implementing contingency management treatments, due to it being unethical to withhold items from those in

prison (Seigafo, 2017). Medication-assisted treatments have empirical support for treatment of substance use disorders (NIDA, 2018); however, these treatments will not be discussed in detail within this review due to psychotropic medications existing outside the scope of practice for the field of psychology. This review hypothesizes that motivational interviewing (Berman et al., 2010), cognitive-behavioral therapy (Kiluk et al., 2010), community reinforcement (Smith et al., 2001), and the Matrix Model (Rawson et al., 2004) are the treatment modalities that can reasonably be implemented in the prison system.

"Principles of Drug Abuse Treatment for Criminal Justice Populations: A Research-Based Guide" provides research-based information that explores the treatment dynamics for the prison system (NIDA, 2014). When providing any type of mental health treatment it is important to consider the factors specific to the treatment population (NIDA, 2014). The following principles should be considered when treating substance use disorders in the prison system.

Individuals need to remain in treatment long enough for behavioral changes to occur. If co-occurring mental health disorders are present, longer treatment should be considered to appropriately treat the presenting problems (NIDA, 2014). When treating criminal justice populations it is important to take into consideration details specific to the individual. When the clinician is developing a treatment plan, it is important to consider the level of supervision needed, problem severity, stage in recovery, gender, age, and ethnicity and culture (NIDA, 2014).

Substance use disorder treatment for offenders should mainly focus on increasing intrinsic motivation, developing new problem solving methods, and building skills to use when faced with the desire to use substances or engage in criminal behavior (NIDA, 2014). Criminal behavior can be addressed by helping the individual recognize negative consequences directly related to criminal behavior and helping the individual find appropriate behavior to substitute. Treatment should

include healthy interpersonal skills that can increase the individual's ability to become a productive member of society (NIDA, 2014). Attitudes and beliefs that support criminal behavior often contribute to substance use, and cognitive skills training can help challenge these beliefs to begin replacing them with beliefs that support a healthy lifestyle (NIDA, 2014).

The NIDA (2014) recommends that clinicians and criminal justice staff collaborate so both parties are aware of what is needed and required. Coordination between those providing supervision and those providing treatment makes it possible for treatment to adjust to make sure that facility requirements are met. It is reported by the NIDA (2014) that individuals are more likely to remain substance free if they use community-based services when they are released. Prison-based treatment is designed to begin the process of change to reduce criminal behavior and substance use after release, but community-based treatment can help to address potential causes of relapse and problems that arise when they return to the community. Individuals are often released to the same environment, which increases the possibility that substance use and criminal behavior will be resumed. Entering community-based treatment allows for the individual to build on progress that has been made during prison-based treatment (NIDA, 2014).

Rewards and sanctions should be balanced to help encourage participation in treatment and appropriate behaviors (NIDA, 2014). When considering rewards and sanctions, they are most effective when they quickly follow the behavior and are perceived as fair for the situation. Social reinforcers can be used as rewards, and sanctions work best when they begin low in severity and gradually increase based on the level of offense. It is important that rewards and sanctions are consistent and predictable when they are being used to shape behavior (NIDA, 2014).

It is recommended that offenders who have substance use disorders and other co-occurring mental health disorders receive an integrated treatment approach (NIDA, 2014). Prison populations

and individuals with substance use disorders present with high rates of mental health problems. Mood disorders can often be treated concurrently with substance use disorder treatment, but personality, cognitive, and other serious mental health disorders are more difficult to treat with substance use disorders using an integrated approach because these disorders are often difficult to treat or resistant to treatment (NIDA, 2014).

Educational material and recommendations for prevention and treatment of serious medical conditions such as hepatitis B and C, tuberculosis, and HIV/AIDS should also be included in treatment planning for the criminal justice population (NIDA, 2014). Providing guidance for appropriate health care options is an important role of the practitioner when treating this population. This can involve things such as encouraging compliance and discussing the role of physical health in improving mental health (NIDA, 2014).

Literature Review

Methods

A comprehensive literature review was completed for the years 1990 to 2018. Search terms included "substance use disorders," "treatment," and "empirically supported treatment." Results were then combined with search results yielded from using the terms "prevalence," "criminal justice system," "drug abuse counselors," and "prison."

Through the use of EBSCOHost, the following databases were searched: Academic Search Complete, Criminal Justice Abstracts, Family & Society Studies Worldwide, MasterFILE Premier, PsycARTICLES, Psychology and Behavioral Sciences Collections, PsycINFO, Social Sciences Full Text, and Sociological Collection. Studies obtained from the aforementioned literature search were included if they fit the following inclusion criteria: randomized control group experiments, adult population, within the United States, and took place at any level within the criminal justice system.

Inclusion criteria were later revised to include correlational studies, review articles, and studies outside of the criminal justice system. Correlational studies were included due to limited randomized control group experimental studies obtained. Review studies allowed further examination of current research. Studies (N=6) outside of the criminal justice system were used to demonstrate empirically supported treatments currently being used to treat substance use disorders. Studies were excluded if they did not take place in the United States or were specific to juvenile offenders, due to author concern of the potential lack of generalizability of these studies to the United States adult prison population.

Results

The first literature search yielded 19 randomized control group articles with an adult American population in the criminal justice system. Adding correlational studies and reviews of the literature resulted in obtaining 159 total studies related to factors that affect substance use, current treatment programs, treatment for special populations, and mental healthcare workers in the prison system. The specific articles for this review were chosen because they are consistent with trends in current literature. Two studies were reviewed pertaining to factors that affect substance use, three studies were reviewed relating to current treatment programs, three studies focusing on special populations (minorities, females, and substance use disorders with co-occurring mental health disorders), and one study discussing mental health care workers in the prison system.

Factors Affecting Substance Use

Stephens, McGee, and Braithwaite (2007) examined what variables correlate independently with substance use and age within offender populations. Participants in this study were 187 adult male convicted felons who were currently incarcerated in a Georgia prison. For participants to be considered eligible to be included in this study they were required to be within 60

to 90 days of release, be enrolled in a human immunodeficiency virus (HIV)/ recidivism prevention program, and be returning to the metropolitan area of a major southeastern city. Participants were recruited from three medium security correctional institutions within middle Georgia and one transitional center which was located in a major southeastern city (Stephens et al., 2007).

Stephens et al. (2007) analyzed archival data for the HIV/recidivism prevention program. Participants in the program completed instruments provided by trained interviewers and peer educators at baseline prior to intervention, at release, and at three, six, and nine-month intervals (Stephens et al., 2007). Study instruments collected data pertaining to health, infectious disease transmission, substance use behavior, personal health empowerment, and community reintegration methods unrelated to sexual risk behaviors (Stephens et al., 2007). Data analyzed in this study utilized baseline data, specifically demographic variables and substance use.

Demographic variables were collected for participants' age, gender, race/ethnicity, prior arrest history, and years of formal education (Stephens et al., 2007). The researchers report that substance use history was obtained through asking specific questions related to alcohol or drug use prior to incarceration, as well as how often the specific substance was used. Interviewers asked specifically about use of the following substances: alcohol, marijuana or hashish, sedatives or barbiturates (downers), tranquilizers (e.g., Librium, Valium), Phencyclidine (PCP or Angel Dust), hallucinogens (e.g., LSD), crack or cocaine, inhalants (e.g., glue & aerosol sprays), amphetamines (speed), ecstasy, and heroin (Stephens et al., 2007).

Demographic information was analyzed to determine the relationship between age, ethnicity, and substance used. The majority of the participants were African American (67%, n = 126), with 27.3% of the participants being white (n = 51). Mean age for younger inmates was 28.04 years (SD = 4.27) with a range of 18 to 35 years of age, while older inmates had a mean age of 42.8

years (SD = 5.73) with a range from 36 to 59 years of age (Stephens et al., 2007). The majority of participants reported being incarcerated for the first time (69.7%) with older offenders (n = 92) being more likely to have had a prior conviction (33.9%) compared to younger offenders (25.8%, n = 95; Stephens et al., 2007).

A regression analysis was completed and revealed that younger inmates were two times more likely compared to older inmates to report alcohol use occurring (RR 2.07; 95% CI .37, 11.6) and three times more likely to report ever using marijuana (RR 3.07; 95% CI 1.52, 6.11). Younger inmates were also half as likely or less to report using sedatives (RR .53, 95% CI .22, 1.29), crack or cocaine (RR .33, 95% CI .18, .62), tranquilizers (RR .49, 95% CI .22, 1.29), heroin (RR .48, 95% CI .16, 1.25), or to have ever received treatment for a drug problem (RR .46, 95% CI .23, .90). Researchers concluded that age can be a significant predictor of substance use for the examined substances, and age-based factors should be considered in determining appropriate treatment for offenders (Stephens et al., 2007).

Proctor (2012) examined the prevalence of substance use disorders, demographic factors, and patterns among multiple substance use disorder diagnoses. The researcher obtained data by analyzing the routine clinical assessments of 801 female inmates between the ages 18 and 58 years (*M* = 32.8, SD = 8.26) who had recently been incarcerated in the Minnesota Department of Corrections state prison system from 2000 to 2003 (Proctor, 2012). Participants were predominately Caucasian (57.7%), while African American (21.5%) and Native American (13.2%) constituted the largest racial-minority groups (Proctor, 2012). Upon arrival to the Minnesota Department of Corrections state prison, certified addictions counselors assessed for the presence of substance use disorders using a computerized version of the Substance Use Disorder Diagnostic Schedule-IV

(SUDDS-IV) to determine the potential need for treatment. Statistical Package for the Social Sciences (SPSS) was used in participant response analysis (Proctor, 2012).

Proctor (2012) reports that 70 percent of the inmates met DSM-IV diagnostic criteria for substance dependence for at least one substance, and an additional 7.9 percent met criteria for substance abuse. Alcohol dependence and cocaine dependence were most prevalent, with 30.2 percent meeting diagnostic criteria for alcohol dependence and 30.1 percent meeting criteria for cocaine dependence. Stimulant dependence (24.1%) was shown to have the next highest prevalence, with marijuana dependence (15.6%) and heroin dependence (9.6%) following (Proctor, 2012). Less than 1 percent of the substance-dependence was accounted for by sedatives and hallucinogens (Proctor, 2012). Of the inmates who met DSM-IV criteria for alcohol dependence, 64.1 percent were dependent on another substance as well, and 30.1 percent of inmates dependent on drugs were also dependent on alcohol (Proctor, 2012). It is also important to consider that 44 percent of the inmates examined were dependent on two or more substances (Proctor, 2012). Due to the presence of polysubstance users in this study, the numbers reported by Proctor (2012) for individual substances do not equal 100 percent.

African Americans presented with significantly higher prevalence rates of cocaine dependence [Odds Ratio (OR) = 2.83, 95% Confidence Interval (CI) = 1.92–4.16]. Caucasians demonstrated significantly higher prevalence rates of stimulant dependence (OR = 9.24, 95% CI = 5.40–15.80). Native Americans displayed the highest rates of alcohol dependence (OR = 2.12, 95% CI = 1.38–3.25) and heroin dependence (OR = 2.67, 95% CI = 1.50–4.77). This indicates that the ethnic group to which the inmate belongs can identify elevated risk of particular substance use disorders (Proctor, 2012).

Current Treatment Programs

Resor and Blume (2008) performed a comprehensive literature review of substance abuse treatments provided for adult offenders in the United States. The authors report that data current to 2008 shows that physiological testing for substances was widely used, but the use of clinical and empirically supported means to determine degree of substance abuse and dependence was limited (Resor & Blume, 2008). Within this review, studies that examined commitment to change, drug courts, therapeutic communities, and special populations were included. The timeframe of the studies examined is from 1999 to 2006, including studies providing empirical evidence on the use of behavioral approaches to treat substance use disorders.

The first concept addressed within this article is commitment to change. This concept comes from motivational interviewing and addresses the process of evoking talk related to changing behavior while moving towards making a commitment to change (Shaima & Narayanan, 2018). Resor and Blume (2008) included studies that examined the effect of implementing motivational interviewing to build motivation level for commitment in inmates to support the stance that behavior change can be encouraged through effective use of motivational interviewing. Individuals who participate in brief motivational interviewing specific to alcohol abuse demonstrate a decrease in drinking behavior (Sharp & Atherton, 2003). Individuals attribute this to beginning to be able to make the connection between alcohol use and problematic or criminal behavior, and perceived the interaction with the counselors to be non-judgmental in approach (Sharp & Atherton, 2006). The studies discussed by Resor and Blume (2008) will be reviewed further to demonstrate the effect of motivational interviewing.

In one of the reviewed studies (Baird & Frankel; 2001) the researchers examined 62 male inmates (the majority incarcerated for drug-related offenses and all had at least six months remaining on their sentences) who were encouraged to participate in community-based treatment.

Inmates who were used in this study were recruited from one state and one county correctional system in Philadelphia. Treatment focused on changing behaviors related to substance use through individual and group therapy (Baird & Frankel, 2001). Individuals were encouraged to participate in 12-step meetings and were involved in a contingency management system that provided them more access to community resources as they progressed in treatment. Individuals who did not follow treatment guidelines were reprimanded by losing gained privileges, such as unsupervised time in the community. The results of this study reveal that 64.9 percent of the individuals who were involved in the program successfully completed (Baird & Frankel, 2001).

Vanderburg (2003) examined the effect of implementing motivational interviewing to prepare individuals for substance abuse treatment. This study utilized 96 inmates from a medium security federal prison, all of whom had substance use problems. Participants were randomly assigned into three conditions: a 45 to 60 minute motivational interviewing condition, a 45 to 60 minute control interview condition, or a no-interview control condition. The majority of the participants then entered a six week CBT substance abuse treatment program. It was observed that individuals who participated in motivational interviewing were more likely to follow through with the behavioral steps of change, specifically utilizing it as a precursor for entering longer term treatment (Vanderburg, 2003).

Davis, Baer, Saxon, & Kivlahan (2003) examined the impact that providing brief motivational feedback for offenders has on entering treatment for substance use disorders upon release. A randomized clinical trial was completed using 73 veterans incarcerated in a county jail, all of whom met criteria for a substance use disorder. Participants were randomly assigned to a control group receiving no feedback or a feedback condition in which participants received personalized feedback regarding their substance use and a single motivational interviewing session

to explore ambivalence related to treatment and encourage change behaviors. It was found that 67 percent of participants in the feedback condition scheduled appointments at a Veterans Administration addictions clinic within 60 days of being released from jail, compared to 41 percent in the control condition. Of those who made appointments, 47 percent from the feedback condition attended the appointment and 31 percent remained in treatment after 90 days. From the control condition, 32 percent of participants attended the appointment they scheduled and 14 percent remained in treatment after 90 days. It is important to note that the appointments were more likely to occur when the participants received the intervention close to their release date (Davis et al., 2003). This study indicates that brief motivational feedback can be utilized to encourage participation in treatment upon release for those incarcerated.

An examination of Resor and Blume (2008) reveals that the primary treatment programs utilized for the criminal justice population between the years 1968 and 1996 were therapeutic communities, group counseling or boot camps. Prison-based boot camps are defined as prison-based treatment models that share characteristics with military boot camps. In prison-based boot camps, inmates are provided with strict discipline, military drills, and physical training. It was found that methodological concerns were present in the use of boot camps and group counseling lacked theoretical substance (Resor & Blume, 2008). Group counseling did not produce what would be considered effective treatment outcomes. Effective treatment was defined as reducing the rate of recidivism in offenders. Within this review of treatment, therapeutic communities were considered effective in reducing recidivism. The most common form of treatment utilized within the criminal justice system was implementing a therapeutic community (Resor & Blume, 2008). Therapeutic communities are a holistic form of long-term residential treatment in which the individual's relationship to the community plays a vital role in the therapeutic process. Individual responsibility

to community functioning relies on social learning theory and behavior modification to modify behavior that is not conducive with the community and learn necessary coping skills such as problem solving or assertive communication. (Inciardi, Martin, & Butzin, 2004).

Kelly and Welsh (2016) sought to examine the role that the therapeutic climate plays across various types of substance abuse treatment programs. Therapeutic climate is defined by the researchers as the degree of connection between the individual receiving treatment and the treatment group (Kelly & Welsh, 2016). The study took place at the State Correctional Institution (SCI) at Chester, located approximately 20 minutes south of Philadelphia, PA. SCI-Chester is a 1,200 bed medium security facility for men that only houses inmates who have been classified as having serious substance abuse problems (Kelly & Welsh, 2016). Final sample size for this study was 604 male inmates from SCI-Chester, with an average age of 32.4 years (SD = 9.0). Random assignment using inmate number allowed researchers to place participants in one of two treatment modalities: a 12 month therapeutic community program or a 12 month group counseling program. Treatment services for both programs were contracted to a single accredited and well-established substance abuse treatment provider (Kelly & Welsh, 2016).

Participants in the therapeutic community received approximately 30 hours per week of treatment throughout the duration of the program. A typical day of treatment consisted of one or more therapy groups which were led by professional addictions counselors, and in addition members of the unit led self-help groups, such as Alcoholics Anonymous and Narcotics Anonymous (Kelly & Welsh, 2016). Unit counselors provided one-on-one counselling for the inmates in this condition weekly. Formal and informal mechanisms were expected to be used by participants in this modality to take responsibility for their own recovery, as well as the recovery of the others in the program (Kelly & Welsh, 2016).

The group counseling modality was modeled after an outpatient treatment program and allowed participants to have the flexibility of being involved in other activities within the prison (Kelly & Welsh, 2016). Participants received approximately six to eight hours of treatment per week. Depending on the stage of the program, one to three counselor-led group sessions were provided, along with one individual session (Kelly & Welsh, 2016). As the client went through the program the number of group sessions would decrease.

Dependent variables were defined as program structure, counselor rapport, and counselor competence, which were measured using the Resident Evaluation of Self and Treatment (REST; Kelly & Welsh, 2016). The REST is a self-report questionnaire that measures psychological and social functioning, motivation for and participation in treatment, and ratings of the counselor and program attributes (Kelly & Welsh, 2016). The researchers examined seven subscales of the REST relating to climate within the treatment group at the one month and six month interval. The hypothesis presented by the researchers was that the therapeutic climate would directly impact the perception of treatment held by the individual, and this difference would be seen at the six month interval.

Kelly and Welsh (2016) performed intra-class correlations (ICC) for the seven subscales within each treatment group. They then performed a one-way analysis of variance (ANOVA) for each REST subscale at the one month and six month intervals. The ANOVA revealed no significant differences at the one-month interval, but significant differences were observed at the six-month interval. Results of the ANOVA performed at the six-month interval are as follows: Therapeutic Engagement, $F(11) = 2.106$, $p = .018$; Trust Group, $F(11) = 1.584$, $p = .099$; Peer Support, $F(11) = 2.062$, $p = .021$; Program Staff, $F(11) = 2.092$, $p = .019$; Program Structure, $F(11) = 4.022$, $p < .001$; Counselor Rapport, $F(11) = 3.599$, $p < .001$, and Counselor Competence, F

(11) = 2.900, p = .001 (Kelly & Welsh, 2016). Post hoc comparisons between treatment groups were then completed. Significant variation in treatment climate (3–5%) was accounted for between the 12 treatment groups in program structure (ICC = .053), counselor rapport (ICC = .043) and counselor competence (ICC = .033; Kelly & Welsh, 2016). Better treatment outcomes were observed in participants involved in the therapeutic community condition.

When creating prison substance abuse programs and determining their effectiveness, previous research has primarily focused on treatment and counselor factors (Kelly & Welsh, 2016). The results of this study indicate the importance of considering group differences in substance abuse treatment. It is possible that considering group differences in treatment can allow practitioners to provide the most effective treatment possible (Kelly & Welsh, 2016). An additional consideration in interpreting this study is the different amount of time that participants spent in therapeutic activities per week (30 hours for the therapeutic community and 6 to 8 hours for the group counseling condition).

Burdon, St. De Lore, and Prendergast (2011) sought to examine the possible impact of implementing a contingency management system with positive reinforcement in combination with CBT to reinforce positive behaviors associated with substance abuse treatment. The researchers created a positive behavioral reinforcement intervention to be implemented in prison-based settings entitled Project Behavioral Reinforcement to Increase Treatment Engagement (BRITE; Burdon et al., 2011). Individuals who participated in Project BRITE earned motivational incentive points in three different categories: treatment, programs and activities, and behavior. Treatment points were earned by actively participating in all treatment activities. Programs and activities points were earned through engaging in supervised and structured prison programs. Behavior points were earned through displaying prosocial behaviors and behaviors consistent with recovery, such as

refraining from violence and implementing skills learning during therapy (Burdon et al., 2011). Earned points could be redeemed for items in prison commissary or increased privileges. Participants in the control condition were awarded motivational incentive points based on the mean number of points awarded in the experimental condition (Burdon et al., 2011).

Burdon et al. (2011) implemented Project BRITE in a medium-security male prison and a minimum-security female prison, utilizing a 12-week intensive outpatient program (IOP) at each. The male prison in this study held 1,600 inmates and the IOP program had 48 possible treatment slots. The female prison studied held 175 inmates and the IOP program had 24 possible treatment slots. Standardized treatment was provided at both sites, involving 72 hours of CBT broken into three two-hour sessions per week (Burdon et al., 2011). Participants were randomly assigned to behavioral reinforcement (BR) or standard treatment (ST) IOP groups once baseline data was collected. (Burdon et al., 2011). The participants included in the study were 187 males, 95 in the BR group and 92 in the ST group, and 143 females, 73 in the BR group and 70 in the ST group. No significant difference was found in the descriptive statistics measured for females, but 72.8 percent of male participants in the BR treatment group reported past treatment experience while only 55.8 percent of participants in the ST group reported past treatment experience (Burdon et al., 2011).

For the male participants, 69.2 percent of the motivational incentive points were earned through engagement in treatment. Female participants in the experimental condition earned 41.5 percent of their motivational incentive points through treatment engagement and 42 percent through participating in structured programs and activities, making these two categories relatively equal in terms of points earned (Burdon et al., 2011). The results indicate that utilizing positive reinforcement as a substance-abuse contingency-management treatment in prisons was effective; however, important limitations of this study are necessary to discuss.

Project BRITE was heavily branded throughout the prison to encourage participation in this study (Burdon et al., 2011). It is possible that this branding contaminated the yoked control design due to participants in the ST group potentially being unable to differentiate between the retrieval of motivational incentives and treatment participation. Another limitation to be considered is the inability that the researchers had to keep the two treatment groups completely separate. The study was designed to have BR and ST treatment groups in different sessions, but this was unable to be maintained and the treatment groups were mixed in the same sessions. Burdon et al. (2011) indicates that the participants identified who was in each condition. Participants in the ST treatment groups encouraged those in the BR groups to engage in treatment and other activities to earn points, due to identifying that the number of points they were able to receive was based on points received by those in the BR groups (Burdon et al., 2011)

Treatment for Special Populations

Grella and Rodriguez (2011) sought to examine the role aftercare plays in reducing the rate of recidivism in female offenders with substance use problems once they are released from prison. They did so by measuring motivation and participation in the Female Offender Treatment and Employment Program (FOTEP). FOTEP involved a structured system to connect female offenders with community-based aftercare services to improve their ability to reintegrate into the community. Surveys to measure willingness and motivation to enroll in aftercare were obtained from 1,158 female inmates from seven different treatment programs located in four California women's prisons (Grella & Rodriguez, 2011). Return to prison was measured for a 12 month period following release.

Data analysis revealed that 41 percent of the participants who answered the survey while in prison were White, approximately 25 percent were Hispanic, approximately 25 percent were

African American, and the other nine percent were classified as "Other" (Grella & Rodriguez, 2011). Mean age of participants was 36.6 years (SD = 8.7). Participants who followed through with aftercare programs and completed FOTEP treatment were approximately 80 percent less likely to return to prison compared to those who did not complete (CI: 0.13, 0.28; $p < .0001$).

Resor and Blume (2008) examined a study completed by Pelissier and Jones (2006) that involved 1189 men and 300 women who received substance abuse treatment while incarcerated. Women were more effectively able to identify their substance use problems but reported lower levels of self-efficacy related to their ability to resist substance use if placed in a "tempting situation" following release (Pelissier & Jones, 2006). Social support was a potential coping skill identified by women more often than men. This study indicates that it is potentially necessary to utilize different treatment approaches for men and women, as men typically need motivational interviewing to increase motivation, while women are more likely to benefit from building self-efficacy and creating a plan to avoid future high-risk situations (Pelissier & Jones, 2006).

Offenders with substance use disorders and co-morbid mental health disorders were examined in a study by Sacks, Sacks, McKendrick, Banks, and Stommel (2004) that included 136 male inmates randomly assigned to a therapeutic community with cognitive behavioral focus or mental health treatment (Resor & Blume, 2008). Within the therapeutic community, participants were encouraged to challenge inappropriate behavioral responses and maladaptive patterns of behavior while attempting to implement healthy cognitive and behavioral coping mechanisms (Sacks et al., 2004). Participants who completed this program were offered the opportunity to enter residential aftercare once released.

In the mental health treatment condition, CBT and group therapy were provided. The primary focus of the therapy involved topics such as domestic violence and anger management, and

addressed these topics through challenging criminal behavior and teaching adaptive responses (Sacks et al., 2004). Relapse prevention and psychoeducation were the focus of substance abuse intervention. Participants in the mental health treatment condition were offered the opportunity for outpatient mental health treatment in the community after release. Psychotropic medications were included in each condition if the participant presented with symptoms that required medication. One year post-release 9% of participants in the therapeutic community condition were reincarcerated while 33% of those in the mental health condition were reincarcerated, indicating the importance of peer and community support for treatment (Sacks et al., 2004).

Resor and Blume (2008) examined a study conducted by Messina, Burdon, Hagopian, and Prendergast (2004) involving 8850 male and female inmates, some of whom had co-occurring mental health disorders. Within this study, 93% of the participants met criteria for a substance use disorder and 26% of those also had other co-occurring mental health disorders. Participants with substance use disorders and other co-occurring mental health disorders displayed more severe drug use histories and criminal activity prior to incarceration (Messina et al., 2004). Aftercare was left sooner by those with co-occurring mental disorders (M = 4.3 months in aftercare for co-occurring and 5.1 months for solely substance use disorders) and higher recidivism rates were observed in those with co-occurring mental health disorders (48% reincarceration for inmates with multiple disorders, 31% reincarceration for inmates with only substance use disorders; Messina, et al, 2004). Treatment involving therapeutic communities was used in this study. The researchers concluded that modifying therapeutic communities to include behavioral training for target behaviors could be warranted to treat inmates with co-occurring substance use disorders and other mental health difficulties (Messina et al., 2004).

Mental Health Workers in Criminal Justice System

Research that included specific information on the providers' perceptions of substance abuse treatment in the prison system was not found; however, studies concerning the treatment of other mental health disorders are available. Ferrito and Moore (2017) performed an exploratory study to examine issues encountered by clinicians when using CBT to treat offenders located in secure hospitals within prisons. A qualitative research design was used to examine perceived concerns and issues in treating this population due to patients displaying high-risk behaviors and co-occurring mental illnesses, while in an environment that is not conducive to developing a strong therapeutic relationship (Ferrito & Moore, 2017).

This study was completed within a high security hospital that offered treatment to male patients whom all had a history of violence and severe psychopathology. A purposive sampling strategy was used to obtain participants who were employed as a chartered psychologist, accredited CBT therapist, or a qualified nurse, and who currently had a caseload containing referrals for CBT interventions (Ferrito & Moore, 2017). In-depth interviews were completed with six female staff members; specifically, the researchers used semi-structured interviews focusing on delivering CBT in this specific setting. The researchers questioned participants specifically about challenges they had faced in treatment delivery.

Thematic analysis of the interviews revealed two main response themes (Ferrito & Moore, 2017). The first theme was "critical challenges and issues" that involved characteristics of the patients, treatment challenges, the therapeutic context, and ethical challenges. Rigidity, resistance, and emotional difficulties were characteristics of patients experienced that participants reported as a challenge. System procedures and boundaries necessary for security were reported as posing a difficulty for the therapeutic context. Ethical challenges were reported as being concerns related to

confidentiality of the patient. The inability to provide homework produced treatment challenges for the participants when attempting to implement CBT practices (Ferrito & Moore, 2017).

The second theme that presented itself was "overcoming obstacles," which included promoting safety, how to create an enabling space, emphasis on non-specifics, and creative practice (Ferrito & Moore, 2017). This specific theme related to how the participants described overcoming the issues that they reportedly face. All participants reported attempting to shift treatment approaches to better fit the individual needs of the patient and address environmental problems. Ferrito & Moore (2017) highlight the importance of being responsive to the individual while establishing safety measures when working within the prison system.

Discussion

Therapeutic communities are the most common form of substance abuse treatment implemented in prison settings, and these have demonstrated effectiveness in reducing the rate of committing new crimes and returning to drug use (Inciardi et al., 2004). Review of literature from 1990 to 2018 reveals that many empirically-supported treatments for substance use disorders are currently being implemented, including motivational interviewing, contingency management interventions, and cognitive-behavioral therapies. Motivational interviewing at the onset of treatment has been shown to produce increased levels of motivation to engage in treatment while in the prison setting (Rosen et al., 2014). Common practice of substance abuse treatment in this setting appears to begin with motivational enhancement strategies and shift to other forms of treatment, due to the entrance of treatment in prisons often being forced or coerced.

It is important to note that there are gaps in the current literature. Limited information is available concerning the mental health professionals who are providing treatment. The majority of the literature this review addressed referred to providers as "substance abuse counselors" or "mental health workers" and did not provide specific information about the credentialing of these providers.

This is an important aspect to consider when discussing present substance abuse treatment in prisons, due to access to appropriate care within the prison system being limited, leading to individuals not receiving adequate care (Martin et al., 2018).

Much of the available literature addresses the male prison population. It has been shown in the review by Resor and Blume (2008) that female offenders respond differently to the treatment currently offered in prisons, making it important to consider possible structural changes when implementing therapeutic community style treatments. Specifically, females tend to display deficits in self-efficacy, making this something that is important to address in their treatment (Resor & Blume, 2008).

Prison systems rely heavily on the use of punishment to change behavior, but research has been completed to attempt to utilize positive reinforcement to encourage changing to desirable behavior (Burdon et al., 2011). It has been demonstrated that contingency management treatments with positive reinforcement components can effectively be implemented in a prison setting, but research design concerns produce possible generalizability issues due to limited number of studies that have examined this treatment. Further research should be completed with an attempt to correct issues related to random assignment, as well as longitudinal studies to determine the effect size on returning to substance use upon release.

When comparing current substance abuse treatment programs to the research-based guide for treating substance abuse in the criminal justice population provided by the NIDA (2014), many principles are met but some are of concern. The NIDA (2014) recommends that treatment should address aspects of criminal behavior and implementing skills to improve appropriate social functioning. It is speculated that this is effectively being addressed through the use of therapeutic communities combined with CBT. Skills to address changing behavior are taught through CBT

groups and sessions, and the presence of therapeutic communities provides the opportunity for the implementation of these skills in the individual's present social situation (Resor & Blume, 2008).

It is also important for individual treatment planning to be present throughout the treatment process (NIDA, 2014). Many of the treatment programs implemented one treatment model for all participants, making it important to examine possible changes to the treatment planning process. Individual treatment considerations should be made in order to match offenders to the most appropriate treatment, when possible, due to different styles of treatments having empirical support for different substances (APA, 2006). A final principle discussed by the NIDA (2014) that should be mentioned states that having a balance of rewards and sanctions will encourage treatment participation and pro-social behavior. Current research discusses the reliance on punishment by the correctional system, but limited information is available concerning reward systems being utilized.

Guiding Clinical Practice

When providing treatment to individuals with mental health disorders it is imperative to take into consideration, when planning treatment and throughout treatment, social and cultural factors specific to the individual receiving treatment. The APA Division 12 provides information on empirically-supported treatments that is different for specific substances, making it important to include specific substances used in developing an appropriate treatment plan (APA, 2006). It is speculated that matching appropriate treatment to the individual's substance use history can potentially improve treatment outcomes.

It is well known by mental health professionals that cultural considerations are an important aspect of providing treatment to an individual. Research indicates that prevalence rates of certain substances are higher based on ethnicity, and ethnicity also plays a role in the perception of treatment (Kerrison, 2018). A final consideration for clinical practice is an assessment of the

presence of substance use disorders with other co-occurring mental health disorders. The presence of co-occurring mental health disorders can impact the effectiveness of treatment interventions, and should be considered in treatment planning to determine if an integrated treatment approach is appropriate.

Future Research

Future research should be completed concerning current substance abuse treatment programs in the prison setting. Furthering the research on the use of contingency management with positive reinforcement in this setting can help in determining potential long-term treatment effects. Examining the implementation of an integrated treatment approach for substance use disorders with co-occurring mental health disorders is an important area of future research, due to the known relationship among substance use disorders and other mental health disorders.

Examining the role the prison environment has in changing substance use attitudes and behaviors is also an important area of consideration. Anecdotally prisons are thought of as being unconducive to pro-social behaviors, so this warrants future research to determine possible systematic issues in providing treatment. With that said, cost effectiveness of treatment should also be considered in future research. Limited financial resources could potentially be problematic when attempting to implement treatment and the ability to obtain trained, qualified professionals to provide treatment. It is also important to note that the majority of research utilizes previous editions of the DSM for diagnostic criteria of substance use disorders, and future research should be conducted utilizing the updated DSM-5.

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