OPIOID SUBSTANCE ABUSE TREATMENT: ABSTINECE BASED THERAPY SOBRIETY RATES VERUS NARCOTIC MAINTANICE THERAPY SOBRIETY RATES

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A Seminar Paper

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ABSTRACT

Treatment options remain limited for the opioid-dependent population utilizing few different modalities, abstinence based therapy based on community support groups, individual and group therapies within hospitals, detox programs and private counseling agencies and narcotic maintenance therapies where this population is provided another drug such as Methadone, Suboxone (Buprenorphine/Naloxone) to manage the opiate side-effects without withdrawal while reducing the medication over time until sobriety is achieved. The historic article review completed looked to determine the success rates between the two predominate recovery types, medication assisted therapies versus abstinence based therapies. Within each type the different modalities were reviewed within the research studies reviewed. The findings were diverse

showing MAT to be effective with opioid dependent patients and when utilized with non medication modalities followed by abstinence therapies success rates improved. Medications utilized like methadone and buprenorphine showed equal benefits when used with the appropriate patients and other medications such as slow release morphine and some natural plant based medications have benefits when used in support of MAT. Lastly the program staff competency to deliver effective treatment care is as important for the success rates of the patients involved in recovery based MAT programs. With continued research on this topic even more specific findings could be generated supporting that all the modalities are equally important when connected the care needs of opioid dependent patients.

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INTRODUCTION

OPIOID SUBSTANCE ABUSE TREATMENT: ABSTINECE BASED THERAPY SOBRIETY RATES VERUS NARCOTIC MAINTANICE THERAPY SOBRIETY RATES

Heroin is an opioid drug synthesized from morphine, a naturally occurring substance extracted from the seed pod of the Asian poppy plant. Use of this illegal and highly addictive drug ranges from smoked, sniffed or IV injection directly into the bloodstream. In 2011 4.2 million Americas aged 12 or older had used heroin at least one time in their lives and it is estimated that 23 percent of individuals who use heroin become dependent on it. (National Institute on Drug Abuse 2014)

The United States FBI indicates heroin abuse seems to be getting worse and is likely to continue in Wisconsin as abusers seek a cheaper alternative to prescription pills such as Vicodin and Percocet, over 80 percent of the people who have started using heroin in the last several years started with prescription drugs and in the body and the brain (Copsey, J. 2015), there's no difference between taking an opiate in pill form and shooting heroin. Either way, in time a tolerance is developed the individual becomes an opioid addict. And the reason this is on the streets in the communities is that individuals switch to heroin because it is cheaper and more easily available than prescription opiates on the street. Federal and state partners mirror these views indicating heroin today is an urban problem and a sub-urban problem. It's a black and white problem, a rich and poor problem; it's everywhere and everybody having moved out of the streets and into every community and residential neighborhood in this and many countries around the world.

Treatment options remain limited for the opioid-dependent population utilizing a number of different modalities such as abstinence based therapy based on community support groups,

individual and group therapies within hospitals, detox programs and private counseling agencies and narcotic maintenance therapies. This modality is provided another drug such as Methadone, Suboxone (Buprenorphine/Naloxone) to manage the opiate side-effects without withdrawal while reducing the medication over time until sobriety is achieved. For the literature review, a broad interpretation of these modalities will be used where abstinence based therapy and narcotic maintenance therapy are being referred to as encompassing the many sub-treatment types within each, also there may be modalities used where the utilization of both are used within the research to achieve sobriety within the population.

Purpose of the Study

A review of literature is preformed to better inform practice within the substance abuse community allowing all who read it to the ability to serve this population more effectively.

Significance of the Study

Understanding success rates within addiction modality treatment programs will allow providers within the industry to improve services and aid in the development of long term sobriety for those seeking treatment from opioid drug abuse and dependency.

Statement of the Problem

With the rates of opiate addiction ever increasing throughout the United States as well as here in Wisconsin, the need to better understand success rates between abstinence based programs, narcotic maintenance based programs or a combination of both programs is vital for those in the addictions counseling field when develop and improving addiction recovery programs as well as choosing proper modalities to work within that meet the needs of the clients and patients seeking support and help to find sobriety.

Definition of Terms

Abstinence Based Therapy: Abstinence-based treatment of drug and alcohol addiction is based on the concept of addiction as a disease. According to this treatment model, no cure exists for the disease of addiction, although through counseling and continued support, the addicted person can recover as long as he or she maintains lifelong abstinence from drugs and alcohol. (Salem Press 2015)

Bupernorphone: a semisynthetic narcotic analgesic that is derived from thebaine and is administered in the form of its hydrochloride C₂₉H₄₁NO₄·HCl intravenously or intramuscularly to treat moderate to severe pain and sublingually to treat opioid dependence (Merriam-Webster 2015)

<u>Medication Assisted Therapy:</u> MAT is the use of medications, in combination with counseling and behavioral therapies, to provide a whole-patient approach to the treatment of substance use disorders. (SAMHSA 2015)

<u>Methadone:</u> a synthetic addictive narcotic drug $C_{21}H_{27}NO$ used especially in the form of its hydrochloride for the relief of pain and as a substitute narcotic in the treatment of heroin addiction. (Merriam-Webster 2015)

<u>Naloxone</u>: a potent synthetic antagonist of narcotic drugs and especially morphine that is administered in the form of its hydrochloride $C_{19}H_{21}NO_4 \cdot HC$. (Merriam-Webster 2015)

Delimitations of Research

The references used for the review of literature were collected over a period of 60 days using the resources of the Karmann Library at the University of Wisconsin – Platteville. Several search engines provided by EBSCOHOST were used. The key search terms were "Methadone, Suboxone, Subutex, sobriety, abstinence, recovery, treatment programs, success rates, 12 step programs, IOP (intensive outpatient),

CHAPTER 2

REVIEW OF LITERATURE

OPIOID SUBSTANCE ABUSE TREATMENT: ABSTINECE BASED THERAPY SOBRIETY RATES VERUS NARCOTIC MAINTANICE THERAPY SOBRIETY RATES

With the state of emergency the country is facing, as a result to the effects of opioid addiction and abuse, a better understanding of the ways communities and professionals can approach treatment for this population must become the priority. Failing to expand and grow the practice of considering new and better ideas and methods will have long lasting implications for this country and every person. By looking at that current literature with the focus on opioid treatment modalities and success rates those impacted can receive better specialized care resulting in drug free lifestyles long term.

A review of the published literature was made looking at over fifty research based studies and articles, of the fifty reviewed and considered twenty are being utilized as they met the parameters for the research topic. The criteria used to narrow the search included studies focusing on a population determined to have an opioid dependency, studies that utilized some form of narcotic maintenance therapy, research related to the use of methadone, Suboxone, buprenorphine or

morphine and research that explored treatment modalities for opioid dependency focusing on non-medication assisted treatment or a combination of all the above criteria. This information was then separated into two types, one being non-medication assisted therapies and the second being medication assisted therapies.

Medication Assisted Therapies (MAT)

MAT is the use of medications, in combination with counseling and behavioral therapies, to provide a whole-patient approach to the treatment of substance use disorders (SAMHSA 2015). Two specific medications are used predominately when treating opioid addition, Methadone, or Bupernorphone (Bupernorphone-naloxone / brand name Suboxone), and like other medications the need for an induction period where individuals are given the medication slowly over time working towards a stable dose. During this process the use of and cravings for other opioid type drugs is expected to decrease and eventually stop. In a study Early impact of methadone induction for heroin dependence: Differential effects of two dose sequences in a randomized controlled study authored by Greenwald 2006, the question was asked whether dose sequences, rapid induction or step wise induction over a 2-week period affected a patients use of opioid drugs, withdrawal symptoms and mood. A double-blind comparison was developed for the induction of the medication of Methadone over a time period of 15 consecutive days with assessments over that time. The subjects were recruited from local newspaper ads and word of mouth in the greater Detroit area resulting in one hundred twenty six volunteers screened and providing informed consents. Further elimination through screenings occurred leaving a total of 42 patients for the study. Findings indicated an overall improvement in decreasing the use of

opiates, a 20% reduction in cravings to use opiates and withdrawal symptoms reported decreased by 40% with an increase of mood for the test subjects independent of the methadone dose sequence over the two week study period along. Greenwald described a limitation within the research and data that was discussed in the results section questioning the use of contingency-management as part of the study, participants were paid \$5.00 for drug-free urine samples for both groups. The findings that methadone suppressed cravings across both groups is consistent with other findings.

In the study "Utilizing buprenorphine/naloxone or (BN) to treat illicit and prescription opioid dependence" (Mauger, S., Fraser, R., & Gill, K. 2014). a review of BN as a viable treatment option for opioid-use disorders is made looking at the current evidence in the literature. A review using the Cochrane Database of Systematic Reviews and Medline were utilized with the keyword buprenorphine in 2013 with the potential articles for review being two thousand one hundred sixty. From the article review the conclusion drawn indicates BN as a safe and effective medication that is suitable for an office-based maintenance treatment for opioid-use disorder. This article review is very in depth going over all aspects of what BN is as a medication, dosing, screening, induction stabilization and maintenance providing the reader a full understanding of BN but also its use in an effective way to support treatment for opioid-use disorder.

The authors of "A Comparison of methadone and buprenorphine for opiate detoxification: a randomized controlled trial where it was the aim of the study was to evaluate which drug methadone or buprenorphine" (Wright N, Sheard L, Tompkins C, Adams C, Rushforth B, Harrison W, Bound N, 2011), helped patients with opioid addiction achieve abstinence following completion a detoxification within the prison health care in the UK. In the one-label randomized controlled study using three prison healthcare departments in north England, three hundred sixty

two individuals were recruited with the final qualifying total used for the study at two hundred eighty nine, this group was determined to be using illicit opiates at a median duration of 10 years with a median age of 30.8 years. They were randomly divided with one hundred forty eight given buprenorphine and one hundred and forty one taking oral methadone during a detoxification time of no more than twenty days. One hundred fifty two provided urine drug screens samples at eight days post detoxification with the results indicated an abstinence rate of 73.7 % at eight days post detoxification when it came to both medications and an equal amount of effectiveness between methadone and buprenorphine. "No statistically significant difference in the odds of achieving abstinence between methadone and buprenorphine was found" (Wright N, Sheard L, Tompkins C, Adams C, Rushforth B, Harrison W, Bound N, 2011), They go on to speculate that "those who failed to achieve abstinence at 8 days post detoxification were unlikely to be abstinent at a later time point." (Wright N, Sheard L, Tompkins C, Adams C, Rushforth B, Harrison W, Bound N, 2011).

A comparative look also was considered in the study titled "Treatment retention among patients randomized to buprenorphine/naloxone (BN) compared to methadone in a multi-site trial" Hser, Y., Saxon, A. J., Huang, D., Hasson, A., Thomas, C., Hillhouse, M., & Ling, W. 2014). This study looked to better understand the retention rates and continued use of illicit opioid in those patients using methadone versus BN. Between 2006 and 2009 at total of one thousand two hundred sixty nine eligible patients selected from nine opioid treatment programs in the United States received an open-label randomized dose of methadone or BN over a 24 week period. Seven hundred forty were inducted to BN and five hundred twenty nine were inducted to methadone. The findings at the end of the study indicated that patients who were provided BN were more than 50% less likely to remain in treatment for 24 weeks compared to those receiving

methadone. 25% of patients taking BN were found to stop attending treatment within the first 30 days, and those that continued with treatment on BN provided positive opiate urine drug screen results lower compared to methadone within the first 9 weeks of treatment. Hser, Y., Saxon, A. J., Huang, D., Hasson, A., Thomas, C., Hillhouse, M., & Ling, W. 2014).

In another comparison study titled "Comparing methadone and Suboxone in applied treatment settings: the experiences of maintenance patients in Lanarkshire" (Tanner, G. R., Bordon, N., Conroy, S., & Best, D. 2011). The study looked at participants who had experienced both buprenorphine and methadone by history and had them report on the strengths and weaknesses they experienced while on each medication. Using two data sources consisting of structured interviews and narrative accounts within treatment programs in Lanarkshire England preferences could be determined. The first phase of data collection consisted of a short structured interview from randomly approached clients in a treatment program. This resulted in nine users agreeing to be interviewed. Narrative accounts were collected from a group of twelve individuals who had successfully been switched from methadone to Suboxone and still actively in a treatment program. The results of the study showed that those who made the choice to change from methadone to buprenorphine were more positive about taking buprenorphine than they were about receiving methadone. Those taking buprenorphine indicated greater clarity of thinking and the ability to be more productive in their lives. It was noted that the sample size was very small and no standardized date was collected in either phase leaving the reader to questions the findings.

Not all the studies reviewed centered only on BN or Methadone used for MAT, in the study "
"Randomized, Placebo-Controlled Pilot Trial of Gabapentin During an Outpatient,
Buprenorphine-Assisted Detoxification Procedure" (Sanders, N. C., Mancino, M. J., Gentry, W.

B., Guise, J. B., Bickel, W. K., Thostenson, J., & Oliveto, A. H. 2013). The research looked at traditional methods for tapering off opioids, methadone and buprenorphine and from their review of literature concluded that both were similar in relieving withdrawal symptoms and the intensity of withdrawal symptoms. The studies focus was then to examine how gabapentin was tolerated and its ability to impact withdrawal and opioid use in volunteers in a detoxification from buprenorphine. The subjects came from central Arkansas during the months of October 2010 and January 2011 through December 2011, a total of thirty three individuals seeking treatment for opioid dependency agreed to participate and attend the program 6 days per week for 30 to 60 minutes in duration. A five week randomized double blind study was developed with week one being screening and recruitment where patients were inducted onto buprenorphine, during week two gabapentin or placebo begin. At week three a ten day taper began with all participants tapered off by week five. During this trial all participants met with a research counselor weekly for 30 to 60min. The findings of Sanders et al. suggests that gabapentin may improve the outcomes of patients undergoing a ten day buprenorphine detoxification, they indicated that patients taking gabapentin reported less opioid use over time. It is important to include that they did not find scores related to withdrawal to differ between the two test groups and they cite an open label study that showed Gabapentin did decrease withdrawal symptoms scores. (Sanders, N. C., Mancino, M. J., Gentry, W. B., Guise, J. B., Bickel, W. K., Thostenson, J., & Oliveto, A. H. 2013). The need for a larger clinical trials was suggested for further study exploring the efficacy of gabapentin.

Another study looking at alternative medications for opioid detoxification is titled "A double-blind, randomized, parallel group study to compare the efficacy, safety and tolerability of slow-release oral morphine versus methadone in opioid-dependent in-patients willing to undergo

detoxification" (Madlung-Kratzer, E., Spitzer, B., Brosch, R., Dunkel, D., & Haring, C. 2009), the study looked at the safety and effectiveness of slow-release oral morphine (SROM) compared to methadone for patients going through detoxification. 208 patients from three psychiatric inpatient detoxification hospital departments in Austria participated with a total of 202 remaining eligible for the final analysis; each had previous treatment with SROM or methadone by history. Over a period of 16 days, a randomized, double blind, parallel group model was used with the results showing completion rates of at 51% for the SROM group and 49% for the methadone group, this was explained as a high degree of patients voluntarily withdrawing from treatment. (Madlung-Kratzer, E., Spitzer, B., Brosch, R., Dunkel, D., & Haring, C. 2009). Further findings showed no statically significant differences for SROM or methadone in terms of signs or symptoms of withdrawal or for any reported cravings for opiates. Both medications were well tolerated by patients and they conclude that SROM in "non-inferior to methadone" (Madlung-Kratzer, E., Spitzer, B., Brosch, R., Dunkel, D., & Haring, C. 2009), All studies reviewed so far looked at the specific medications that are or can be used to treat opioid dependency during the detoxification process. In the next study titled "Opioid dependence and substitution therapy: thymoquinone as potential novel supplement therapy for better outcome for methadone maintenance therapy substitution therapy" (Mohd Adnan, L. H., Abu Bakar, N. H., & Mohamad, N. 2014) explored and highlighted the potential using prophetic medicines, Nigella sativa, as a supplement for patients involved with opioid substitution therapy to reduce feelings of withdrawal and ease dependency to opioids. The article explains brain neurochemistry related to opioids and methadone and suggests that focusing on L-type calcium channel blocking substances found in medicinal plants including the Nigella sativa where the active ingredients of thymoquinone could "be the starting point to answer the question of opioid

dependency and withdrawal for better retention of patients involved with MMT." (Mohd Adnan, L. H., Abu Bakar, N. H., & Mohamad, N. 2014).

The specific type and use of the medication continues to be the focus within the reviews looked at to this point, the next study titled. "An intervention targeting service providers and clients for methadone maintenance treatment in China" (Li et all. 2013) discussed the rapid increase of MMT programs in China starting in 2004 with the first program and growing to 716 clinics serving 333,000 clients, the effects on both service providers and clients during this period with the limited training and support for providers has created challenges to overcome including high dropout rates and concurrent heroin use. Many providers struggle to understand the client's needs during treatment. By assessing outcomes of interventions targeting the providers by training them to conduct individual counseling sessions to support methadone usage the outcomes of the clients should improve. Using two components, first group session with the providers and individual session delivered by trained providers with clients, and second brief motivational interviewing session with three to six clients (Li et all. 2013). Results from the study were positive with the interventions being well received by the providers and improved avoidance behavior with a reduction of concurrent drug use at 3 month follow ups with patients.

Abstinence Based Therapy:

Is medication the only way to approach this every growing world problem? ABT is a form of treatment where the focus is based on the disease model of addiction. No cure exists for the disease of addiction. Through counseling and continued support, the addicted person can recover as long as he or she maintains lifelong abstinence from drugs and alcohol. The next studies reviewed begin to look at alternatives to medication as the primary focus for opioid dependence therapy.

In the next study the idea of a reward based system, in the study "Cost-effectiveness of prize-based contingency management in methadone maintenance treatment programs" (Sindelar, J., Olmstead, T., & Peirce, J. 2007). the goal is to understand if a prized based contingency management (CM) is cost effective and if it improves treatment outcomes. Three hundred eighty eight participants chosen form six methadone treatment programs randomly were assigned to usual care (UC) or CM groups. The UC group had 190 participants and the CM had 198 participants. The results indicated that those in the CM group drug use significantly decreased compared to those in the UC group, "the longest duration of abstinence was more than twice as long for CM compared to UC and the number of negative urine samples was 60% higher for CM as compared to UC" and prized based CM proved better patient outcomes than UC but required additional cost to the program." (Sindelar, J., Olmstead, T., & Peirce, J. 2007).

Another study utilizing CM is titled "Contingency management is efficacious in opioid-dependent outpatients not maintained on agonist pharmacotherapy" (Petry, N. M., & Carroll, K. M. 2013) explored the use of CM with opioid dependent patients in intensive outpatient psychosocial treatment at two community based clinics. Patients were randomly assigned to the CM group where patients were compensated \$40.00 for every follow up evaluation or to the standard care (SC) group, where the SC group consisted of counseling, life skills training and 12-Step oriented therapy. The findings of the study indicated that patients on MMT attended treatment on fewer days and achieved less abstinence than those who were not on MMT. CM was found to improve retention in the program and abstinence among patients. CM may be an effective intervention for patients not involved with MMT.

The next study reviewed continued exploring compensation to patient's involved with treatment and the success rates compared to traditional therapies. In the study "A comparison

between low-magnitude voucher and buprenorphine medication contingencies in promoting abstinence from opioids and cocaine" (Groß, A., Marsch, L. A., Badger, G. J., & Bickel, W. K. 2006) where a comparison between low-magnitude monetary vouchers versus Bupernorphone detoxification based on drug abstinent urine samples was explored. Two randomized groups were established, the first being a voucher-based system involving reinforcing negative urine drug screens immediately after testing with a point-based system that in time translated into monetary compensation. The buprenorphine group received two half doses each day being told the first dose was for attending the day and the second for remaining abstinent from opiates as tested with urine samples. All group received behaviors drug counseling that was developed for outpatient treatment during the entire study. The results of the study indicated no significant difference between the groups and it was speculated that the small sample size and the short duration of the study made it difficult to detect any group differences. (Groß, A., Marsch, L. A., Badger, G. J., & Bickel, W. K. 2006).

Continuing with voucher-based research, the study"A meta-analysis of voucher-based reinforcement therapy for substance use disorders" (Lussier et all. 2006) investigated how effective voucher based reinforcement therapy was when working with patients with substance use disorders through a detailed literature review utilizing Medline, PsychINFO, PREMEDLINE, and a number of other search tools. Sixty three studies were identified in which VBRT was used, the research results indicated that VBRT significantly improved treatment outcomes when compared to control conditions. The meta-analysis conducted on this collected data provided further evidence supporting VBRT when used for substance use disorders. (Lussier, J., Heil, S., Mongeon, J., Badger, G., & Higgins, S. 2006). Secondary findings also

indicated that when VBRT was given immediately after verifying abstinence it resulted in significantly higher effects with patients.

(Christensen, D. R., Landes, R. D., Jackson, L., Marsch, L. A., Mancino, M. J., Chopra, M. P., & Bickel, W. K. 2014) explored in their research study "Adding an Internet-delivered treatment to an efficacious treatment package for opioid dependence" the idea of using vouchers for those submitting negative urine drug samples and adding an internet-based community reinforcement approach to treatment of opioid addicted patients. They believed that by adding internet-based CRA to the voucher approach, patients rates of abstinence would increase. Recurring patients form the Little Rock Arkansas area using radio and newspaper ads for referrals, one hundred and seventy participants were recruited ranging in age from 20 to 63, they all received buprenorphine and counseling during the 12 week study. The findings indicated that using internet-based CRA showed a decrease in dropout rates for patients and improved treatment completion rates when compared to CM with vouchers alone. (Christensen, D. R., Landes, R. D., Jackson, L., Marsch, L. A., Mancino, M. J., Chopra, M. P., & Bickel, W. K. 2014).

In the next studies reviewed, the researchers looked at non-medication models used to support opioid addicted patients, in the study "Self-detoxification from opioid drugs" (Ison J, Day E, Fisher K, Pratt M, Hull M, Copello 2006), the study wanted to address a number of questions about self-detoxification from opioids, how many previous attempts with SD had been made and what were their reasons for doing so, why do they attempt SD, which mental and physical methods did they use and how did they work and what led the patient to return to using opioid drugs. The study recruited one hundred and thirty four patients from outpatient opioid detoxification programs in Birmingham between 2002 and 2004. Through the use of a designed

questionnaire data was collected to answer the research questions. Of the total patients recruited one hundred and fifteen or 85% did report one or more attempts at SD in the past year. The most common reasons given for attempting SD included 81 patients indicating they were fed up with the lack of money, 80 patients reported they chose to attempt SD for self reason, 70 patient just wanted to stop, and 66 patients indicated worries about their health and they received pressure from others. Reasons given for attempting SD without MMT included 65 patients stating wait times to get into MMT was too long, 22 felt they didn't need any help and 21 felt they didn't want to take another medication. Methods used for SD included 74 patients reporting staying busy to keep their mind off drug use, 70 patients chose to avoid drug using people, 67 isolated from others and 54 used other illicit drugs and received support from others they knew. Reasons for relapsing to opioid use were physical temptations with 61 patients, boredom with 49 patients, 48 indicated they felt they could control their drug use and 46 reported the drugs were available to them. (Ison J, Day E, Fisher K, Pratt M, Hull M, Copello 2006)). In all the authors concluded patients tried a variety of SD techniques with some success. Treatment programs should learn these reported reasons to better develop successful strategies into MMT and to improve treatment retention. The authors sited a small sample size with a majority of participants being men living in suburban England limiting the diversity of the study and that the data collected was from the recollections of past events creating questions regarding the honesty of the data.

Expanding on this idea of detoxification success of patient's, researchers in the study "Abstinence-contingent recovery housing and reinforcement-based treatment following opioid detoxification." (Tuten, M., DeFulio, A., Jones, H. E., & Stitzer, M. 2012). explored the use of abstinence-contingent recovery housing with or without day treatment addictions programming following residential detoxification. Participants were randomly assigned to possible groups,

living in the recovery housing with no additional support, RH with reinforcement based treatment (RBT) or usual care. Patients would receive the housing and treatment based on urine drug screens that were drug free. The findings from the study concluded that 37% of those in the RH alone group were drug abstinent, RH with RBT had drug abstinent rates at 50% and those in usual care had drug abstinence rates at 13%. The use of abstinence-contingent recovery housing improves abstinence rates with opioid dependent adults and when adding RBT improvement rates are even higher. (Tuten, M., DeFulio, A., Jones, H. E., & Stitzer, M. 2012).

Conclusion and Recommendations

Treatment options remain limited for the opioid-dependent population as was stated at an earlier point within this paper. This may be a truthful statement with the qualification that options are being explored around the world to improve current treatment modalities as well as develop new was to support individuals seeking a sober lifestyle from opioid-dependency. From the research reviewed, the conclusion drawn would have to be that each treatment modality, whether used independently or blended with other modalities offers those seeking a drug free life a better chance then doing nothing at all. Medication assisted therapy functions well with non medication assisted therapies offering the best of both modalities. Participants are able to individualize a specific recovery program that meets their unique needs and in time gain the skills to live drug free. Having options to explore all modalities is a key factor and the findings of this review of the literature and the recommendations from the review would be that a need for further research is needed to improve on the methods and medications utilized for the opioid dependent population. More education and training is needed for treatment programs and the staff that work

in the programs to offer the most current treatment ideas and medications to this population. Another recommendation that can be made is the need to explore alternative options to standardized treatment protocols to develop creative new ways to engage those in need of treatment and ways to keep them engaged in treatment long term. The future of recovery is going to need to come from and out of the box way of thinking as the opioid problem is growing. A final recommendation is the need for greater funding on all levels, from local communities, individual states, at the federal level in this country and at a world level. Research reviewed indicated that the opioid dependency problem is a world problem, the best minds should be brought together with the needed funding to address this "epidemic" like any other world health problem. This paper is a contribution to that cause and can serve as another piece in the fight to find a cure for the disease of addiction.

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