



ORIGINAL ARTICLE

## Effects of Opioid agonists (Methadone, Loometadil, buprenorphine) on the outcome of Treatment of addiction to Opiates

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### ABSTRACT

*The word "addiction" has a special meaning obscene and degrading the meaning of drug abuse as a medical disorder does not. This was a quasi-experimental intervention study with a control group. The study population included all male patients referred to the clinic for treatment of opiate dependent drug abuse and addiction centers in Ilam city in 2014 (in terms of exposure to methadone maintenance treatment, and buprenorphine Loometadil (based on the protocol Health, Ministry of Health and Medical Education in 2006) and was the inclusion criteria). 100 patients who met the above requirements. The study sample included the same individuals. The Addiction Severity Index, the mean differences in occupational status and family status / social baseline stage and treatment was not significant. In both psychiatric and substance use scale situation, there was a significant trend line.*

**Key words:** opiate agonist, addiction, methadone.

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### INTRODUCTION

World Health Organization has defined medicine as "the drug is any substance that enters the body when a change or modification of the properties of the organism or organism is acted". There are medications that can relieve withdrawal symptoms. These drugs can be easier and more tolerable experience deprivation and increase their chances of success [1].

In 1964, the World Health Organization concluded that the term "addiction" (Addiction) is another terminology and drug dependency (drug dependence) is recommended instead. The concept of substance dependence, in addition to decades of formal semantics is very simple and has many meanings. Basically, in relation to the definition of the concept of dependence is associated behavioral and attachment behavior, the activity of fact and evidence related to pathological eating patterns is emphasized. Physical dependence on the physical effects (ie, physiological) word addiction (Addiction) and words related to "Addicted" (Addict) has some "dependency" relationship. The word "addiction" has a special meaning obscene and degrading the concept of drug abuse as a medical disorder does not. "Addiction" is also commonly used, such as "addiction to TV", "drug money" has lost its significance. Although the reasons to avoid the word "addiction" in official terminology helped. It May be shared between all the major subfields of anatomical chemical addictions exist, addiction or addiction to other things (such as "gambling, stealing,). These various addictions may have similar effects on the activity of brain reward areas, such as ventricular tegmental area, locus, and have nucleus [2-4]. In recent years, reducing the damage caused by drug abuse is particularly important because, therapists and researchers have found a significant number of patients with substance abuse, interest in the do not care, or in the treatment of, relapses are multiple.

Numbers of patients who abuse drugs by injection are due to non-compliance with hygiene, injection unhealthy and sometimes sharing injecting equipment, particularly HIV and hepatitis are at risk of disease. However, due to the impact caused by reason of such substance, often unhealthy sexual behavior is common in drug addicts. Other injuries such as poisoning caused by excessive drug use are a threat to patients. It must be admitted that some patients do not want or cannot use drugs aside. In the meantime, it

is reasonable to look for ways to harm the patient and those around him, such as cases and thus reduce the whole community [5].

A few years ago, the World Health Organization Regional Office for the Eastern Mediterranean (EMRO), in collaboration with the International Society of harm reduction (IHRA), decided to strengthen the role of community organizations and institutions participated in the training and development of harm reduction. Efforts of officials and experts in this area over the last few years, significant advances in treatment and reduce side effects associated with the drug. Therefore, establishing a network of addiction therapists to develop, coordinate and update substance abuse treatment services across the country seemed necessary, so that the number of general practitioners, psychiatrists and psychologists have a duty to prevent, treat or reduce the symptoms of addiction come across. Set up clinics methadone and buprenorphine Loometadil, triangular clinics and counseling centers and office-based nonpharmacologic treatments and treatment plans to account for advances in this area. Opioid agonist drugs, substances like natural opiates (opium) influence. Methadone and Loometadil (LAAM) receptor agonist hair net. Buprenorphine is a partial agonist at mu receptor partial agonist and kappa receptors are also located in these categories [4]. Substance abuse and other addictive substances, especially due to their pharmacological effects, changes in the physiology and biology of a person creates. Important parts of the central and peripheral nervous system changes to be made. As a result, the physical conditions - a person affects. Drug treatments have gone through many changes over time. One of the most famous conservative treatment (and sometimes to a complete cessation) is methadone, which was originally described in 1966 by clinicians Rockefeller University. Methadone, for the first time in Germany during World War II, when he had access to morphine may be built. At that time, the drug was used as an analgesic. First (Isbell) and colleagues in 1948, morphine and methadone to addicts applied. The first reported use of methadone to treat addiction to opioids, by (Dale) and Nisvander was published in 1960. Thus, the use of methadone to treat addiction to opioids, this decade began. In 1972, the government agency overseeing the medical affairs of America (FDA) approved the use of methadone for this purpose [2, 6].

Methadone, as a biological treatment for detoxification and maintenance treatment of addiction to heroin and other opioids will allow. Methadone is inexpensive, with the power of those in control of physical and psychological dependence on opioids; it is useful in treating drug addicts has become. Until a decade ago, to secure the long-term use of methadone as a drug was prescribed. But research in recent years, introducing harmful effects of these drugs on the brain and cognitive functions of patients that their condition can affect outcomes. Methadone is an opioid receptor agonist's family (Opioid) in psychiatric treatment for heroin detoxification and maintenance treatment of opioid dependence and the dependence on opioids are used. Maintenance therapy with the drug addicts, it is useful to be able to maintain abstinence from opioids is not permanent [5].

Buprenorphine, a potent receptor agonist's morphine and kappa is a weak antagonist. Buprenorphine Indications include severe pain relief before anesthesia, respiratory inhibition induced by fentanyl in anesthesia and to control. Buprenorphine Indications include severe pain relief before anesthesia, respiratory inhibition induced by fentanyl in anesthesia and to control. The drug, currently in clinical testing stages and is likely in the future to overcome the problems and disadvantages that are commonly used for detoxification. However, despite this drug is a drug is prohibited. The free market is a drug that many addicts and the drug addiction treatment centers for unauthorized replacement opioid addiction have previously [7].

Buprenorphine is rapidly absorbed from the gastrointestinal tract. The first transition of liver metabolism to dramatically different ways to the bioavailability of these drugs affects. The first transition hepatic metabolism Hepatic bioavailability of buprenorphine eliminates almost all of them. Thus, buprenorphine in opioid detoxification as liquid or sublingual tablets consumed. Removal of sublingual buprenorphine occurs in two phases: the first phase with a half-life of 3 to 5 hours, and a final phase with a half-life of 24 hours. Buprenorphine slowly binding sites are separated and this may provide prescribed medication every other day. Receptor partial agonist Buprenorphine-U and strong antagonist of kappa receptor agonist or antagonistic effects on receptors and does not [2].

Therefore, considering the above, the aim of this study was to evaluate the effectiveness of opioids receptor agonists (methadone, Loometadil, buprenorphine) in the treatment of opiate addiction in the city of Ilam.

## **MATERIALS AND METHODS**

This was a quasi-experimental intervention study with a control group. The study population included all male patients dependent on opiates referred to a clinic for treatment of substance abuse and addiction centers in the city of Ilam in 2014 that the conditions being treated with methadone maintenance, buprenorphine and Loometadil (based on the protocol MOHME , Treatment and Medical Education, 2006)

and was the inclusion criteria. 100 patients who met the above conditions, so the sample includes the same individuals.

Then, a semi-structured clinical interview (ASI) to determine the selection criteria with each of these people did. Inclusion criteria for this study were: diagnosis of drug dependence, a high school graduate, age 20 to 40 years without serious mental illness, number of previous unsuccessful quit, always taking, receiving MMT, being male, and having the satisfaction of participating in research. The study consisted of three multiple baseline, intervention and follow-up. In the baseline phase, measurement tools were administered to each subject, and the first baseline measurements were obtained. These measurements, performed before any treatment, including medication, then while the subjects were buprenorphine maintenance therapy, measurement tools were administered every 15 days. In this study, the period during which these patients are treated with opioid receptor agonists (methadone, Loometadil, buprenorphine), and 1 month.

Data were collected using the following tools:

Structured Clinical Interview for Axis I disorders in DSM-IV that is flexible interview by sending Spitzer and Gibbons [8] has been developed. All areas of the clinical interview according to DSM criteria specific to various disorders. The tools for integrity and compliance with the criteria of DSM, reliable clinical measures and a standardized and comprehensive diagnostic evaluation, research and legal practice [8]. The validity of this tool in a range of 0.84 and 0.81 has been reported [9].

Complete the form to the six areas of health status outcomes, including employment, family / social, legal, psychological, and family history of substance abuse and psychiatric disorders evaluated. Analysis of survey data using graphical chart data and statistical analyzes ANOVA with repeated measures and comparison of polynomial or trend analysis, were analyzed.

## RESULTS AND DISCUSSION

The mean and standard deviation of participants in the various indicators of outcomes in three stages baseline, treatment and follow-up in Table 1. The table shows that out of all the Addiction Severity Index in the course of treatment, compared to baseline decreased. This reduction is also a follow-up to maintain and even strengthen.

In Table 2, one-way analysis of variance with repeated measures was used to index different outcomes. Tukey test results in mental status, showed that the mean of the baseline - follow-up, there was a significant difference.

Tukey test results in mental status, showed that the mean of the baseline - follow-up, there was a significant difference. The review process results in two status indicators/ social and material consumption, or polynomial trend analysis was used to compare. Trend analysis results are presented in Table 3. As Table 3 shows, in both psychiatric and substance use scale situation, there has been a significant trend line. Thus, we can conclude that the mean of these two areas has improved over time and the shape of the recovery, a linear decrease over time.

Table 1: Mean and standard deviation of the Addiction Severity Index fields in various stages of evaluation

Variable	Baseline		Intervention		Follow	
	Average	SD	Average	SD	Average	SD
Job	3.24	0.32	2.43	0.56	2.43	0.29
Status family / social	3.01	0.187	2.36	0.17	2.09	0.38
Psychiatric Status	2.99	0.212	2.61	0.26	2.41	0.35
substance abuse	2.89	0.312	2.22	0.39	2	0.29

Table 2: One-way analysis of variance with repeated measures for areas Addiction Severity Index

	Mean square	Significant
Status family / social	8.32	6.54
Psychiatric Status	2.32	5.32
substance abuse	4.01	7.23 *
Job	8.93	23.45 **

Table 3: Results for the analysis of trends in drug use

	Mean square (linear in the second result)	Significant F (linear in the second result)
Psychiatric Status	(0.41) 6.87	(0.65) 22.2 **
substance abuse	(0.23) 9.65	(0.76) 145.2 **

The main objective of this study was to evaluate the role of opioid agonists (methadone, Loometadil, buprenorphine) for Opiate Addiction Treatment outcome was. Failure to follow these in our few years of this treatment is used for a wide. Treatment with methadone and other opioid receptors, one type of treatment is to help patients and reduce the health problems of their community is recommended. Methadone treatment, directly and indirectly affects the prognosis of addiction. Methadone is a synthetic material, similar analgesic properties of physiological and euphoric opium and heroin, but it does not count. Prescribe methadone and withdrawal of opium and heroin, drug addiction left her, but is addicted to a substance safer. Methadone maintenance treatment, patients who provide consent for the insertion of opium and heroin consumption, it is easier [10].

In a methadone treatment program, the substance orally in pill or liquid form controlled in certain centers, the patient is delivered. From experts, opium and heroin substitute methadone has at least two benefits:

A) Reduce the prevalence of drug injecting and the frequency of serious illnesses like HIV are also reduced.  
B) The relationship between the distributions of drug addiction have been cut and reduced risk of crime in the community. Because depression is a common disorder associated with addiction, some researchers to evaluate the impact of methadone on depression, studies have to be brought out. During a survey in the occupied Palestinian territory, 75 patients were heroin. Was determined by treating addicts with methadone can be effective in improving depression.

Methadone treatment for depression, this study correlated with the daily consumption of methadone daily in those who consumed more than 120 milligrams of methadone, was more explicit. In the study, 90 patients, all of whom were taking heroin with a 21-item Hamilton scale were examined. Daily methadone dose ranged from 40 to 160 mg. 54% of men and 46% women.

In another study, Australian researchers studied 147 opioid abusers types and found that methadone and buprenorphine treatment for depression in addicts both has a positive impact. Buprenorphine effects on depression, the methadone was more pronounced [10]. No relation was found between daily consumption of drugs in the treatment for depression.

Methadone treatment of the subject in recent years in our country wide popularity and currency of its benefits, it has attracted the attention of many people. On the other hand, in the case of medical treatment, research showing the benefits of methadone; have demonstrated that methadone withdrawal is difficult for many consumers. And they have become dependent on the drug. However, other medicines, especially that due to the nature agonists - which are antagonistic to less physical dependence. In a research on drug treatment in the occupied Palestinian territory, 75 patients were heroin, methadone treatment was found to be effective in improving anxiety drug users [11].

Goudarzi et al [12] in a study entitled The Effectiveness of Group Contracting and Behavioral Activation treatment of opioid dependent patients stated that in all three experimental groups, the index-treatment include improved social functioning, reduce delinquent behavior, improve health increased psychological well-being, reduced psychological distress than the group receiving only methadone treatment was effective

According to these findings, it appears deployment group contracting and behavioral activation treatment significantly the effectiveness of drug therapy in the treatment of opioid dependent patient's increases. In the present study, although the drugs used were effective in the treatment of addiction. However, even the strongest and most effective drugs such as opioid antagonists, shortcomings and limitations that is not sufficient alone to treat addiction. The best outcome is achieved by adding psychosocial treatments [13]. Today, psychotherapy is an important part of treatment for drug dependence and allows clinicians to positive outcomes in a comprehensive treatment of addiction treatment have increased.

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