

The Relationship between locus of control with Success in Methadone Therapy in Substance Abuse Disorder

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Abstract

Introduction: Today, substance abuse and addiction have turned into a social therapeutic problem. Methadone therapy is a handy and useful method but time-consuming and costly. Since success in therapy with methadone conservation depends on different personality factors, determining these factors seems essential. Therefore, present study considers the relationship between the locus of control and success in methadone therapy. Identifying specifications of the people who show a better respond to such a treatment along with correct planning can cause to save families' time and cost.

Methods: The study is a field research and ex post facto. The sample population is composed of the subjects who have all the related criteria whit substance abuse in DSM, IV, and TR. Also they have been under treatment for six months with methadone in one of the treatment centers of Tehran. The sampling method has been purposeful. 87 subjects were chosen randomly and divided into two groups after a urinalysis (i.e. group1=48 successful subjects in methadone therapy and group2=39 subjects who were unsuccessful and used the substance again).

Results: Utilizing Rater's locus of control test in group 1, 41.7% of the people had internal locus of control and 58.3% had external locus of control. In group 2, 48.7% of the subjects had internal and 51.3% of the subjects had external. Calculating the results using SPSS and Independent T-test with $df=85$ in $p<0.05$, it turned out that there is not significant difference between the groups ($T_{group1}=1.042$ & $T_{group2}=1.070$).

Discussion: The results show that there is no meaningful relationship between locus of control and success in methadone therapy. Since recognizing the factors effective in success of methadone therapy as a conserving factor lead to save time and cost, it should be noted that there might be other influential factors contribute in success of methadone therapy.

Key words: locus of control, Methadone therapy, Substance abuse disorder

Introduction

Today, addiction is known beyond the medical treatment borders and has become a social treatment issue. It seems that addiction to narcotic drugs has become a widespread concern and is not a serious physical, psychological and social health problem.¹ Drug addiction could be pointed out through two aspects; physical and mental (behavioral) addictions. Addiction to narcotics is referred to a set of physiologic, behavioral and cognitive symptoms in which indicate the continuous consumption of semi-narcotics despite the existing difficulties in drug consumption. Generally, diverse etiology perspectives mostly offer single-dimensional and often incomplete comments to understand addiction problems. Hence, conducted researchers can be categorized into the following models: Social/ environmental model mostly knows addiction as a reflection of the social environment around a person (i.e. poverty, lack of education, etc.).^{2,3} Personality/ intrapsychic model knows the dependence as a result of failure in character and will of the person.⁴ Social learning model knows addiction as obedient of coping behavior of individual and impact of patterns based on peers' and patterns' role.^{5,6,7} Strengthening / conditioning model seeks for the environment to find amplifiers are clues that cause addiction.⁸ However, there is no developmental model or united history path which can determine addiction acquisition.⁹ Since drug dependence is a complicated phenomenon which is yielded by interaction of several factors and forming a united theory for dependence is not the aim but researchers try to resolve this problem from different approaches.¹⁰ Addiction and drug abuse are considered as one of the major health concerns in Iran.¹⁰

Much higher than average prevalence of addiction in comparison with global statistics and specific medicinal, cultural and ethnic features of addiction in Iran have increased necessity of a native attempt in this field. The major age distribution of addiction in workforces' age range as well as community efforts and expanding scientific knowledge and prevention and treatment facilities of such a disease in leading global scientific centers have made serious intervention in this disease so cost effective.¹¹

Although the issue of drug abuse and drug dependence in the country is considered as a social and non-compliant habit, society is the main and different social classes are involved with this issue seriously. According to optimistic statistics, the number of people with drug dependency is 1,200,000 people and the number of those who taking drugs fancy is estimated of 800,000 people.¹² Therefore, the importance of this issue has led researchers to explore various aspects of the issue to perhaps do a useful step in the etiology, prevention and treatment and dependence of drugs.¹²

Addiction in Iran has had an increasing trend in recent years. According to the statistics, there are about two million dependent and recreational addicts in Iran among which about 73% are below 40 and their average age is 35 years old. Their education has no substantial relationship with addiction level.¹ Although numerous have took to combat drug addiction and recovery in Iran as well as entire the world, no method has found to cure addicts permanently and definitively because after withdrawal from drug addiction, we cannot hope that addicts do not again use drugs and they may reach to use drug use by reusing drugs and sometimes some conditions are occurred much worse than before addiction treatment so that such conditions may result in death. Probability of return to drugs has been forecasted 50% optimistically, though it varies up to 90%. Currently, maintenance therapy with long-acting opioids (including Methadone) is taken into account as an important method to treat addiction dependence in many parts of the world especially in Iran. In this method, opioid use will not be interrupted but it only changes from illegal form to legal, low-loss, standard and medical

form.¹ Case of considering complete and quick treatment will not be surprising, plenty of drug users run treatment away and many others will be left with intolerable pain, a feeling of emptiness and anxiety. Hence, preparing opioids dependence treatment protocol is one the measures of health deputy in order to regulate the treatment and reduce harms resulted from substance abuse in recent years. Harm reduction policy, which is affected by increasing HIV infection among injecting drug users, increases importance of Methadone therapy.¹³ In this regard, identifying the factors predicting success/stability in treatment can play an effective role to improve Methadone therapy plans. Since, psycho-social treatments are also of important part of substance abuse treatment, identifying personality factors can be taken into account as a necessary option to improve maintenance treatment. Narko et al (1995) concluded that locus of control growth has a potential impact on drug reuse prevention.¹⁴ Therefore, identifying specifications of the people who show a better respond to such a treatment along with correct planning can cause to save families' time and cost.

One of the important issues at the forefront of Iranian Studies is drug addiction. The following causes can be taken into account for drug addiction:

1. Wide range of problems related to drug addiction includes including family problems, corruption and crime associated with addiction on the one hand, and the consequences such as economic, political, and social instability as well;
2. Average daily consumption of approximately one ton drugs in Iran;
3. 58% of registered AIDS cases in Iran are due to intravenous drug abuse;
4. Offenses related to drugs constitute the largest percentage of offenses and 47% of prisoners have been detained in relation to drug;
5. According to some studies, the average cost of supplying heroin for each addict is 50,000 Rials per day, assuming 250,000 addicts with heroin in Iran, monthly and annual heroin consumption cost is 375,000,000,000 Rials and 4,500,000,000,000 Rials, respectively and this is major cause of drug trafficking in Iran.¹⁵

According to an anti-drug campaign that was published in 2008, during the past two years about 100,000 people in Iran have entered the maintenance treatment thereby now more than 115,000 people in Iran are receiving long-term methadone treatment. This sudden growth was expectable given the rapid increase in the number of maintenance treatment centers and the training of over 1,400 physicians at the National Center for Addiction Studies of Iran.¹¹

Risk factors

Identifying risk factors for drug use motivating can be an important step in addiction treatment prevention.¹⁶ Unfortunate increased use of stimulants during the past decade and changing view of consumption of narcotics, opium and heroin, a highly purified form of sap to the crack caused to make a more comprehensive understanding of addiction concept. Emerging drugs result in deprivation, feelings of intense craving, drug-seeking behavior and preoccupation with the drug proceeding, despite of physical signs control.¹⁷ Hence, the need for psychotherapy besides detoxification is clear for such patients and the necessity of

knowing patients' personality aspects can be also an important factor in success of Methadone maintenance treatment. Although these concepts are not novel and new in addiction knowledge, in Iran given the dominant culture opium and sap, it is been neglected so far and need to know personal factors seems to be more necessary in current world of Iranian addiction, such an importance is due to changing face of drug abuse in Iran. Surely, within next years, we will see increased severe need to non-pharmaceutical interventions in Iran and this status will be enhanced by serious presence of stimulant drugs in Iranian addiction market.¹⁷

Besides, since psychological-social treatments are considered as a major part of drug abuse treatment, and awareness about the personality factors of individuals (for instance, source of control index) can be very useful about how to plan psychological treatments. Effective predictive factors in treatment process success using Methadone are known as deficits of treatment systems.¹³

Previous Research

In a research study conducted by Norco et al in modification of locus of control and viewpoint respect to drug consumption, it was concluded that internal locus of control growth has more contribution in preventing addicted individuals from drug consumption as well. However, there have been no evident of significant correlation between locus of control and tendency to further drug consumptions in research studies conducted by Henry¹⁸ and Woodbum¹⁴.

In another study conducted by Henry regarding impact of locus of control on heroin addicted patients in the methadone-therapy program, 220 individuals were selected for the test. Test results revealed that those individuals with internal control locus had been more successful compared to those ones with external control during a 6-months period¹⁸. The study performed in Zanzan Hospital was designed with the aim of review the status of internal control in addicts where both inventories of demographical information and Ratter control resource were used. Test samples were 62 patients with mean age of 34 years old among which 42 percent had internal source of control and 58 percent had external locus of control. Also, 60 percent of the addicts caused by their friends to get addiction had external locus of control.

Treatment

Foundation of treatment centers for addicted persons is one of the actions taken to handle the addiction issue so that volunteer addicted individuals would utilize services provided by the Welfare Organization.¹⁹ Based on WHO definition drug addiction is referred to a type of syndrome in which consumption of that type of drug privileges to other drugs for an individual.²⁰ Opiates include some materials such as opium, syrup, heroin, morphine and codeine. Opiates and Opiates-like materials are counted as debilitating materials of central nervous system since they slow function of central nervous system.²⁰

Etiology of Methadone

Methadone is of receptor agonists of opiates family which is used in psychiatry for heroin detoxification and other opiates-like materials and also maintenance treatment of dependence to opiates and opiates-like materials. Maintenance treatment through this drug is appropriate for addicts who are not able to maintain a constant refrain of opiates-like materials; those who replace use of this drug with one of such materials, acute physical thirst of drug is met on them, but overcoming the debilitating psychological dependence on drugs is performed gradually.²¹ Methadone is obtained only through specific clinics called to have maintenance treatment with Methadone, hospitals and prisons and its precisely prescribing is under special federal regulations and rules. Consumption dose is advised to be 20-80 mg a day to fix the patient state. Having membership in Methadone plan can reduce death hazardous up to 70 percent, invalid use of opiates and other materials decreases drugs abuse, reduces criminal activity, lowers risk of all infectious diseases, especially HIV and hepatitis and reduces the risk of infant mortality in pregnant women; the use of maintenance treatment with methadone is often lifelong.²⁰ Methadone is an artificial semi-narcotic edible drug that could be used as the heroin replacement or other narcotics such as opium. Methadone is given to addicted people instead of the narcotic drug they used to consume and obviate the addiction symptoms. It was produced for the first time in Germany while there was no access to Morphine. At the time, the drug was used as an analgesic. For the first time, Isabelle et. al (1984) used Methadone for addicts with Morphine and showed that people can tolerate high dosage of Methadone provided on gradual increase and precise inspection. The first reported use of methadone to treat addiction to opiates-like materials was published by Dall and Niswonder in 1960; and hence using Methadone has been adopted for this purpose.²¹

Among applicants of the treatment centers, there are some people who become addicted and use narcotic drugs again during the treatment process. This issue may waste the treatment costs and could bring about familial paradox and contradictions.¹⁹

Also drugs re-use (slip) means a negative event or process including return to drug use in form of increased used drug dosage and/or restarting the tasks and behaviors that show imminent relapse.²²

Based on the studies made in analysis of hesitation causes and further drug consumption of addicted people who had undergone successfully the methadone-therapy treatment procedure it could be pointed out to the self-confidence, social tact and adaptive skills and sense of control on life. Locus of Control is one of the main concepts proposed by Rater. The control locus concept is the same probability of behavioral event. The individuals with the internal control believe in their behavior as a consequence of their efforts while those individuals with external control assume their behavior as a consequence of exogenous factors such as chance, opportunity and fortune. Also these people believe that their efforts have least contribution in behavioral changes and have miserable feelings.²³ According to what Rater says: 'locus of control is a continuum where on one hand there are "internals" who believe that reinforcement is originated from their own personality characteristics and also there are "externals" who believe that reinforcements are specified by fate, chance, and interested parties.²⁴ Generally, individuals show more positive reactions on the positions that they suppose have control over, even those who feel they have control over their environment, seem working conditions more suitable and describe an enjoyable work place.

Besides, routine performance will be better whenever someone think have control over conditions, even if there is no such a control in fact.²⁵ Control concept is concerned with the individual understanding of the reinforcement followed by his/her behavior. The individuals

who are characterized by internal source of control personality variable are believed that the reinforcement received by them is under control of their own characteristics; such people are convinced that they are unable to communicate with the external forces.²⁶ Physical, mental characteristics and various social fields (including cultural, economic, cultural and political aspects) play important roles to expand this phenomenon. Absolutely awareness of unknown dimensions of this phenomenon, according to the culture of each community, can be helpful in setting strategies for this problem.¹⁶

Therefore, the locus of control of people as a major influencing factor may guarantee the long-term treatment success using methadone-therapy. Regarding the correlation between external locus of control and the failure of methadone-therapy, it seems reasonable to analyze the individual locus of control as a criterion in advance of getting into the treatment center so that cut expenses and prevent wasting of time. Therefore the objective of the present study could be stated as identification of locus of control of successful people in methadone-therapy compared to those ones who failed the treatment and began drug consumption again after a 6-month period. Assumption of the present study could be summarized as follow: further drug consumption as a factor is correlated to locus of control of addicted patients who went under 6 months of methadone-therapy.

Methods

The study type is assumed as a post-event research. Statistical data include all patients addicted to DSM-IV-TR drugs that have undergone the methadone-therapy in treatment centers of Tehran Province. Sampling theme was objective-oriented that selected 87 male individuals limited to minimum 18 years old, education level of primary school certificate and contribution in methadone-therapy for 6 months. Questionnaire surveys are utilized here as the research tool and identifying Rater's locus of control as well as urine test. Stability coefficient factor of the Rater questionnaire estimated to be 0.73 together with validity level of 0.81. The procedure has carried out as follow; urine test was made from 87 individuals who undergone 6 months methadone-therapy. The individuals then divided into 2 groups. 48 of people were successful and the resting 39 individuals consumed drugs again. The Rater questionnaire for locus of control distributed among the 39 individuals and results were analyzed using SPSS software and t-test as well as 95 percent certainty level ($P < 0.05$).

Results

As indicated in table 1 people who were successful in methadone-therapy revealed to be 41% attributed with internal control and 58.2% with external control. While, people who used drugs again divided into 47.7% with internal locus of control and 51.3% with external locus of control.

Table 2 shows mean and standard deviation of locus of control in 2 groups. Mean of group 1 is 9.08 and mean of group 2 is 8.23. Scores of T-test and F-test are shown in Table 3. Amount of T-test=1.042, $df=85$ and $p < 0.05$ is not significant mainly 2 groups are not different in terms of internal or external locus of control. Also, F-test has been done to show variance equality in 2 groups ($f=1.771$, $p < 0.05$). Finally in table 3, t-test revealed that there has been no significant difference between these two groups.

Discussion

According to the obtained statistics, addiction relapse is equal to 80 percent among clients of self-representation addiction treatment center. It has been shown that although Methadone maintenance treatment method may not cause to complete cessation of drug addiction, it will result in improvement of addicts' social functioning, greatly reduced physical complications of addiction, crime, loss in education, job and economy and also psychological complications of addiction including depression and social and family instabilities associated with addiction.¹³ Addiction is a biological, psychological and social disease, several factors are effective in etiology of drug abuse and addiction which interactively cause to drug abuse and then addiction. Effective individual factors, the environment, and all integrated factors which effect on each other.²⁷

Conclusion

Regarding results obtained from two groups of 48 and 39 individuals (who were successful and failed respectively the methadone-therapy) there have not been significant differences in locus of controls, that is, the control source (internal or external) isn't the determinant success factor in the methadone-therapy process. Considering previous researches conducted by Norco, growth of internal locus of control revealed to be influential in methadone-therapy.

Besides, studies made by Henry concluded the internal locus of control as the main success factor in methadone-therapy which is not in accordance with results of the present research. The present study indicated that the endogenous nature of locus of control has shown no correlation with the individual's success in methadone-therapy and there has been no difference in internal or external locus of controls between successful individuals and those who consumed drugs again. There might be other factors that provoke addicted people (under treatment) to further drug consumption. People with the external locus of control could utilize methadone-therapy as much as those individuals with internal locus of control. Exogenous nature of the locus of control cannot be the predictive factor for the individual further drug consumption after methadone-therapy. Constraints of the present study could be summarized as time limitation and lack of cooperation of treatment centers for addiction which prevents access to additional samples. Taking the drug again can be investigated in two aspects: slip and relapse. The reasons behind to not observe significant differences in the research findings can be such a fact that in present study slip is taken into account which should be considered as a part of natural process of treatment. The patients who, in contrast to relapse during treatment, allow to themselves to use drug only once, probably intend to control their ability to use drug. Although slip is dangerous in the first time of use and is an opportunity for subsequent slips, its risk is lower than full relapse. A person who has suffered a slip can still carry on treatment, but initially he/she should take its responsibility and make himself charged to have active collaboration to resolve problems in treatment plans, therefore information about patients' individual characteristics can be useful.

Future Research

Present research has considered slip in patients; in next studies, relapse of drug use can be taken into account and also effective factors on slip can be assessed, since slip is a bridge for relapse whose prevention is of high importance. It is suggested to consider extra personal and behavioral features contribute in success of methadone-therapy along with the individual's locus of control as well as other protective factors such as family, social and financial supports. It should be noted that there might be other influential factors contribute in success of methadone therapy.

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Conflict of Interest: None

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Table 1: Frequency of persons in 2 groups on the basis of locus of control

	Group1		Group2	
	Frequency	Percent	Frequency	Percent
Internal locus of control	20	41.7	19	48.7
External locus of control	28	58.3	20	51.3
TOTAL	48	100	39	100.0

Table 2: Mean value of Locus of Control in 2 groups

	Groups	Mean	Standard deviation
Locus of Control	Group1	9.08	4.19
	Group2	8.23	3.24

Table 3: Comparison of locus of Control means in 2 groups

	F- Test		T-Test		
	F	P value	T	Degree of freedom	P value
Locus of Control	1.771	0.187	1.042	85	0.300
			1.070	84.814	0.288