



Effectiveness of Logotherapy Intervention Program in Reducing Drug Cravings and Preventing Relapse among Males with Substance Dependence in Ahvaz

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Abstract

Background: Given that the important characteristics of drug abuse are high relapse rate and craving, the use of new therapeutic interventions that help drug dependents can be very important. The present study aimed to investigate the effectiveness of logotherapy intervention program in reducing drug cravings and preventing relapse among males with substance dependence in Ahvaz in 2019.

Methods: The research method was quasi-experimental with a pretest-posttest design and a control group. The statistical population included all the males with addiction disorder who were referred to treatment centers in Ahvaz city during 2018. Using convenience sampling, we selected 30 males with addiction disorder willing to participate in the study and randomly divided them into experimental and control groups ($n=15$ per group). The research instruments included Gorski's warning signs of a relapse and the craving questionnaire. The experimental group underwent eight sessions (90-minute sessions per week) of the logotherapy intervention program. Multivariate analysis of covariance (MANCOVA) was used to analyze the data. SPSS version 22.0 was further used to analyze the data.

Results: The mean \pm SD of the drug craving for experimental and control groups in the post-test phase was 36.46 ± 6.77 and 49.06 ± 12.95 , respectively. The results showed that intervention programs were effective in reducing drug craving and relapse in males with drug addiction (P value=0.001).

Conclusions: Training logotherapy was shown effective in reducing drug cravings and preventing relapse in males with substance dependence, and thus it can be used in drug rehabilitation centers to prevent relapse in clients.

Keywords: Logotherapy, Drug craving, Preventing relapse, Drug abuse, Health.

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Craving is a risk factor for substance-use behaviors. After reaching abstinence in the treatment process, a strong urge for substance use is observed, making them vulnerable to relapse. Craving is often defined as an unwanted and inevitable mental experience of a strong urge to use a drug. The extent of this desire may be exacerbated when the person tries to change the dose.^{5,6} Craving is a mental and persistent experience, which is seen even in rehabilitated patients. It is an uncontrollable desire for drug use, which may have psychological and bodily consequences, such as weakness, lack of appetite, anxiety, insomnia, aggression, and depression.^{7,8}

Relapse prevention or minimization is the prerequisite of any attempt to facilitate long-term changes in addictive behaviors.^{9,10} The principal element of treatment is relapse prevention. The combination of temptation, craving, lapse, and lack of coping skills may lead to relapse. Relapse is defined as drug-taking or misbehavior after a period of abstinence. Relapse may lead to more adverse consequences, such as overdose, greater drug dependence, using a diversity of drugs, an increase in criminal behaviors, and imposing health system to additional costs.^{11,12}

Given that the important characteristics of drug abuse are high relapse rate and craving, which inhibit successful treatment and lead to failure of treatment programs, the use of new therapeutic interventions that help drug dependents find personal meaning in their life can be very important. Logotherapy is one of these therapeutic approaches. Logotherapy is a therapeutic process that seeks the ability to achieve real self and expands the view of self and the surrounding world that gives meaning to one's present and future life.^{13,14} It aims to enable the client to discover the unique meaning of self. This therapeutic approach is based on a powerful theory that encourages adaptive and effective decisions and supports individuals that test whether their choices fit their values and concentrate on behavioral values.¹⁵ Logotherapy is an existential therapy designed to increase the purpose in life by emphasizing the choice, responsibility, and life of the individual following his/her values.^{16,17} Evidence from humanistic and existential psychology indicates that addiction is a response to fatigue, loneliness, meaninglessness, and other forms of existential struggle, which help clients find a meaningful life.¹⁸ Drug addicts live a life that is engaged in serious struggles with existential challenges. For example, the self-perception of being alienated from oneself and others has been described as an incentive to use substances.^{19,20} From the view of logotherapy, addiction has a problematic dialectic

Introduction

Drug addiction is a serious clinical concern with a huge financial, social, and personal burden and is related to the exhibition of excessive self-destructive and harmful health behaviors.¹ Based on the diagnostic and statistical manual of mental disorders, the core characteristics of each type of drug addiction and drug use disorder include a set of cognitive, behavioral, and physiological symptoms that indicates a person would continue drug use despite being aware of serious problems associated with such behaviors.² According to previous studies, the rate of relapse is between 20%-90% among substance users under treatment.^{3,4}

function. In other words, addiction is not only the outcome of a hedonistic life, which continuously seeks temporary pleasures, but also a way to escape from responsibility and suffering in a meaningful social life.²¹

Studies indicate the positive effect of existential therapy on people with addiction. Thompson showed that logotherapy was effective in improving interpersonal relationships and internal incentives among drug addicts.¹⁸ Thompson believed that logotherapy can act beyond avoidance and harm reduction. It was shown effective in preventing relapse and reducing craving in female drug addicts.²² This is because defining higher goals in life can be an important aspect of treatment for people with cocaine addiction. Esalati et al.²³ showed the effectiveness of Frankl's logotherapy in reducing addiction potential and improving psychological well-being. Yaghubi et al.²⁴ reported the effectiveness of spiritual psychotherapy in reducing morphine consumption.

Given the high rate of drug addiction, the urgent need for medical facilities to have psychotherapeutic programs for drug use prevention and reduction, and scant studies on psychological interventions, such as logotherapy and its role in relapse and craving reduction in people with drug addiction, the present study was conducted to establish whether logotherapy is effective in reducing craving and preventing relapse among male drug users in 2019.

Materials and Methods

The research method was quasi-experimental with a pretest-posttest design and a control group. The statistical population included all 20-50-year males with substance dependence visiting medical facilities across Ahvaz in 2019. The sample consisted of 30 males with addiction disorder willing to participate in the study selected by convenience sampling. We randomly divided the participants into experimental (n=15) and control (n=15) groups. The inclusion criteria were voluntary attendance in the study, age range of 20 to 50 years, drug abuse diagnosis based on diagnostic and statistical manual of mental disorders criteria fifth edition, no serious psychiatric illnesses, and male gender. The exclusion

criteria were more than two absences from the treatment sessions and reluctance to continue the treatment process. The experimental group received eight sessions (90-minute sessions per week) of the logotherapy intervention program while the control group did not receive any treatment. After the training sessions, the post-test was done in the experimental and control groups. For ethical considerations, the researchers received written consent from the participants for participation in the research. Multivariate analysis of covariance (MANCOVA) was used to analyze the data. SPSS version 22.0 was further used to analyze the data. The significant level was set at 0.05.

Gorski's Warning Signs of a Relapse: It is a 35-item 5-point Likert-based scale with four subscales of behavior, attitude, feeling, and thought to measure the psychological status of a drug addict. More symptoms are associated with greater exposure to physical, psychological, and social factors during the rehabilitation period, which increases the chance of relapse.²⁵ Niknam et al.²⁶ reported the Cronbach's alpha of 0.84, 0.82, 0.76, 0.80, and 0.78 for the overall questionnaire, and its four subscales, respectively. Miller and Harris²⁵ reported the Cronbach's alpha of 0.92 for the questionnaire that indicates the good reliability of the questionnaire.

Craving questionnaire: The questionnaire measures the craving for drugs at the present moment. It has 14 questions and three factors, namely desire and intention, desire to enjoy, and severity of lack of control. It is scored on a 6-point Likert scale from -3 to +3. Option 3 means full agreement and option -3 means full disagreement and lack of craving. Therefore, a high and positive score means more craving.⁵ In a study using internal consistency, Cronbach's alpha coefficient was 0.86 for three factors of the questionnaire on opioid abusers for the total score, and 0.78 for methamphetamine abusers respectively.²⁷ Amiri et al.⁵ reported an alpha Cronbach's coefficient of 0.85 for the questionnaire.

Logotherapy intervention program: Logotherapy sessions were planned based on Frankl's logotherapy model.²⁶ This intervention was performed for the experimental group in eight 90-minute sessions once a week. Table 1 presents a summary of sessions.

Table 1. A summary logotherapy sessions

Session	Topic of session	Content of sessions
1	Introduction, creating a therapeutic alliance, agreement on treatment objectives, regulations, and treatment expectations	Introduction, creating a therapeutic alliance, agreement on treatment objectives, discussing expectations of the members of participation in the treatment, improving motivation for treatment.
2	Finding meaning, the meaning of events, Creating meaning for life	Discussion about meaningful events in life, addressing the role of meaning in life in the past, present, and future given addiction consequences.
3	Teaching three important sources of meaning	Making a list of positive and negative outcomes of addiction, teaching three sources of creative values, experimental values, and attitudinal values.
4	Describing some important elements of logotherapy	Discussing the power of the human will, freedom, and accountability and the importance of these concepts in life and accepting difficult living conditions.
5	Training in the art of reminding and the power of indoctrination	Discussing temptation and its characteristics, examining the list of anxious, disturbing, and tempting conditions, describing reminding and the power of indoctrination, deep self-exploration.
6	Discussing and describing techniques, Logotherapy	Describing techniques of attitude correction, contradictory intent, and dereflection, along with an example, and investigating it in a real-life.
7	Looking to the future and goals	Discussing objectives and programs of future life, discussing the effects of new positions and attitudes on them, discussing next programs and objectives.
8	Summarizing and making a conclusion	Investigating achievements of the group, reviewing and summarizing previous sessions, scheduling follow-up sessions, appreciation, and goodbye.

Results

According to the descriptive statistics, the participants in the experimental and control groups were in the age ranges of 20-50 years. The demographic variables of the participants are shown in table 2.

The mean±standard deviation (SD) of the drug craving for experimental and control groups in the post-test phase was 36.46±6.77 and 49.06±12.95, respectively. Moreover, the mean±SD of relapse for experimental and control groups in the post-test phase was 67.53±5.80 and 102.45±1.69, respectively (Table 3).

To test the normality of the collected data about the significance of Z value, the Kolmogorov-Smirnov test revealed

that the drug craving ($Z=0.551$) and relapse ($Z=0.560$) had a normal distribution. According to table 4, the scores of craving and relapse reduced more in the experimental group compared to the control. The multivariate ANCOVA and the Bonferroni correction were used to measure the significance of differences in mean values.

According to table 5, the multivariate ANCOVA and Wilks' lambda were significant ($\eta^2=0.883$, Wilk's lambda=0.117, $F_{2,25}=94.13$, $Pvalue=0.0001$). As a result, there was a significant difference between the experimental and control groups in the adjusted mean value of the dependent mix variable (craving and relapse) with a probability of 99%. In conclusion, logotherapy was effective in reducing craving and preventing relapse in drug-dependent males.

Table 2. Demographic variables of the participants

Variables		Experimental group		Control group		Total	
		n		n		n	Percent
Age (years)	20-35	7		5		12	40.00
	35-50	8		10		18	60.00
Marital status	Single	11		8		19	63.33
	Married	4		7		11	36.66
Duration of drug dependence	Less than 10 years	2		7		9	30.00
	10 – 20 years	12		6		18	60.00
	More than 20 years	1		2		3	10.00
Education	High school	11		13		24	80.00
	Higher education	4		2		6	20.00

Table 3. Mean and standard deviation of dependent variable in experimental and control groups in pre-test, and post-test

Variable	Phases	Experimental group		Control group	
		M±SD		M±SD	
Drug craving	Pre-test	50.13±15.38		51.60±13.66	
	Post-test	36.46±6.77		49.06±12.95	
Relapse	Pre-test	101.10±11.71		109.20±2.95	
	Post-test	67.53±5.80		102.45±1.69	

M. Mean; SD. Standard deviation

Table 4. The adjusted mean of research dependent variables after the intervention

Variable	Groups	Mean	SD	95% CI	
				Lower limit	Upper limit
Drug craving	Experimental	35.29	1.48	32.23	53.38
	Control	48.24	1.48	18.45	51.30
Relapse	Experimental	70.66	1.52	67.53	73.80
	Control	99.13	1.52	95.99	102.26

SD. Standard deviation; 95% CI. 95% confidence interval

Table 5. The results of multivariate analysis of covariance in the post-test phase

Variable	Value	df	Error df	F	Pvalue	η^2
Pillais trace	0.883	2	25	94.13	0.0001	0.883
Wilks lambda	0.117	2	25	94.13	0.0001	0.883
Hotelling's trace	53.70	2	25	94.13	0.0001	0.883
Roy's largest root	53.70	2	25	94.13	0.0001	0.883

Discussion

The present study aimed to investigate the effectiveness of logotherapy intervention program in reducing drug cravings and preventing relapse among males with substance dependence in Ahvaz city. The first research finding indicated that logotherapy reduced craving. This finding is consistent with the research results of Niknam et al.²⁶ To explain this finding, it can be said that logotherapy entails a specific philosophical view that helps the person seek meaning for his/her life under difficult and undesired circumstances. Logotherapy helps the person cope with difficult situations. However, care must be taken to avoid factors, such as the negative view of society towards these people and the lack of proper support from family and others, cause a relapse. Concepts that exist in the life of a person with addiction, such as frustrating, boring, horrible, and caught, are targeted by existential treatments. People with addiction typically have a strict routine life and show some of the following behaviors: 1) Retreat from the world, 2) Few contacts with others, 3) Low physical activities, 4) Seeking too much pleasure and spending too much on leisure activities such as watching TV, and 5) Monotony. Their living spaces are limited to their houses. It seems that people with an addiction live in their imaginary internal world.²⁸ The logotherapy-based techniques revive the freedom of will and sense of personal responsibility and regard life problems as a strong incentive for development. In these techniques, personal responsibility and a sense of integrity are among the important factors for addiction recovery.²⁹

The second research finding indicated that logotherapy reduced relapse among male drug addicts. One of the most important concepts in logotherapy is “meaning-centered will.” Understanding this concept teaches the person that he/she can discover and understand the meaning of his/her life through changing his/her attitude towards different life situations, particularly under undesired conditions. It allows them to endure their sufferings as a very meaningful part of life. By helping them to obtain freedom in their will, logotherapy assumes that people accept their responsibilities to inevitable life sufferings and arrive at a conclusion that there is a meaning in every tragedy. To show how logotherapy affects thought and mind, Khaledian et al.³⁰ ascertain that logotherapy helps people through four messages of 1) People are spiritual beings (this dimension activates the fighting power of the human’s spirit, help them to overcome current life situations, and cause healing and life-giving changes); 2) People are unique (there are always situations and opportunities for people to experience their uniqueness in interpersonal relations, creativity, etc.); 3) Humans practice transcendence themselves (by transcending previous constraints, they attempt to achieve a goal and make interaction with other human beings to realize the meaning of their life); and 4) Humans can change their attitude (when they are exposed to inevitable suffering and cannot change their position, they learn to change their viewpoint). Humans are free to take a stand against an unchangeable situation. In other words, they bravely impose their attitude towards the situation on the situation.

The present study was conducted on drug-dependent people and its results cannot be generalized to their relatives

with addiction to other substances. Given the research time and site limitations, because of the COVID-19 pandemic, it was not possible to hold a treatment reminding session and examine the effectiveness of the therapeutic approach in the follow-up stage. Future studies are recommended to hold treatment reminding sessions between the post-test and follow-up stages and evaluate the follow-up results in the time intervals of 3 months, 6 months, and 1 year. Given that this study was conducted on drug-dependent males, it is recommended to investigate their female peers to make the results generalizable to other groups.

The results indicated that logotherapy can be an important element in reducing craving and preventing relapse among drug-dependent males in Ahvaz. Therefore, in addition to the use of different therapeutic techniques, logotherapy can be implemented in rehabilitation centers for more achievements in helping drug dependents recover, and have a healthy and productive life in society. These people even can guide their addicted relatives to drug addiction recovery.

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Conflict of Interest

The authors declare that they have no conflict of interest.

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