Effect of group logotherapy in reducing depression and increasing hope in drug addicts
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Abstract
Today, addiction is a major problem in human society, threatens health of the community, family, and individual, and leads to loss of personal, occupational, family and social achievements. This experimental pretest-posttest study with control group aimed to determine the effect of group logotherapy in reducing depression and increasing hope in drug addicts. From a total of 70 addicts, 60 were selected by random sampling method, and finally 20 were selected with the highest scores in Beck's depression inventory and the lowest scores in Snyder’s adult hope scale, who were then randomly divided into control and trial groups. The trial group received 10 sessions of group logotherapy, and the control group received no intervention at all. Data were analyzed using descriptive and inferential (covariance analysis) statistics. Results showed significantly lower mean depression scores, and significantly higher mean hope scores in posttest in trial group compared to control group. According to results, it can be concluded that group logotherapy is effective in reducing depression and increasing hope in drug addicts.

Keywords: Addiction, Depression, Hopefulness, Logotherapy, Opiates

Introduction
Drug addiction is a global problem, and somehow involves every country; each adopting different solutions according to its own economic, social and cultural infrastructures [1]. In today's world, addiction is the biggest social problem, with increasing spread among the youth. Use of addictive substances has a long history in Iran, and the plants from which substances such as opium and cannabis are produced are native to Iran; however, according to statistics and reports from international institutions such as the world health organization, adolescents’ needs, tendencies and behavioral patterns are changing in parallel to progress of societies, and the pattern of drug abuse among youths is rapidly changing from traditional to industrial drugs across the globe, including in Iran and its capital, Tehran. UN office on drugs and Crime in Iran has warned about the spread of industrial drugs in Iran [2]. Nothing has ever threatened human society like addiction. Despite dangers and side-effects of addiction,
victims of this deadly trap are increasing daily, and witnessing its frightening scenes is not deemed serious by other people, especially the youth [3]. Given the lowering age of addiction, human and material costs of fighting the supply and distribution of drugs, physical and psychological complications, spending a lot of time and money, low success rate, and lack of rehabilitation motivation for addicts who receive treatment only to relieve withdrawal symptoms, has led to unfavorable outcomes of addicts’ treatment. Moreover, studies show that 20% to 90% of addicts undergoing medication therapy relapse [4]. Review of previous studies shows that without psychosocial interventions, maintenance medication therapy is not very successful, due to emphasis on medication only [5]. It seems rehabilitation and harm reduction centers need psychological therapies to change attitude of drug abusers. Thus, the need for psychological and non-medication therapies is felt more than ever before [6].

Beck defines depression as a disorder that involves changes in emotional, motivational, behavioral, cognitive, and physical domains. Depression is a state of sadness and boredom, and as an illness, it involves a wide range of mood disorders with many forms. The central features of depression include profound loss of desire for normal pleasurable activities such as friendly talks, leisure, exercise, food and libido. Anhedonia is a penetrating and persistent state, and its severity depends on the number of symptoms and their depth. In some people, facing obstacles causes a kind of depression, in which a sense of abandonment, vacuum, and harsh memories of separations are revived [7]. Aging, loss of dear ones, especially spouses, distance from children, chronic diseases, use of various medications, cognitive decline, and natural and biological factors are all predisposing factors for depression and anxiety in the elderly [8]. The theory of hope was proposed by Snyder, and provides an important framework for understanding hope in counseling and clinical works [9]. Hope is one of the concepts in teachings of Quran and Islam. Hope is a set of personal capabilities for creating paths toward desired goals, and necessary motivation for using these paths. Hope is powerful only when it includes worthwhile goals, and when there is possibility to achieve them in medium-term, despite challenging but feasible obstacles [7]. Hopelessness causes the individuals to be passive, so they cannot assess their different situations or make decisions about them. Hopelessness leaves the individuals defenseless and trapped against stressors, and weakens their problem-solving skills. It further makes them constantly assess their experiences negatively and incorrectly, and consider worrying outcomes for their problems [10].

One of the strategies to reduce hopelessness and depression in people is through logotherapy, which is an existential approach that provides an excellent philosophical and theoretical context for teamwork. Group logotherapy can prepare the conceptual structure to help patients in the challenge to find meaning in their lives [11]. Thus, logotherapy is a method that steers the patient toward finding meaning of life. The principle of logotherapy is an endeavor to find meaning in life, which is the most essential motivational force in human being [12]. Frankl argues that there is nothing in the world that can help mankind more than finding his existential "meaning" [13]. Frankl is of the opinion that a sense of meaninglessness is a major existential neurosis in modern life. Meaninglessness leads to emptiness or a condition that Frankl refers to as existential emptiness. Since there is no predetermined plan in life, people are faced with the task of creating their own meaning. Sometimes, people with a sense of emptiness, avoid any attempt to create a purposeful life. Experiencing meaninglessness and forming values that are part of a meaningful life are issues that should be raised in counseling sessions. The new concept of "logotherapy" was created to help patients to find meaning in life [14]. Yalom and Frankl basically expect that like pleasure, meaning should be implicitly sought. Finding meaning in life results from engagement that is a sense of
commitment to creating, loving, working, and constructing [15].

Results of a study by Mohrinejad and Rajabi-Moghadam on the efficacy of logotherapy in increasing hope in addicts passing a short-term rehabilitation program confirmed the efficacy of logotherapy [16]. Results of a study by Garfami et al, on the effect of group logotherapy in reducing symptoms of psychological problems in women with breast cancer showed reduction in psychological disorders including depression in these women [17]. Similarly, Moshtaghi et al [18], study on the effect of group logotherapy in improving psychological health of the blind in Isfahan showed enhanced psychological health and reduced depression in this group [18]. In a study by Shoaa-Kazemi and Saadati [12], hopelessness in women with cancer was reduced after teaching them logotherapy dimensions (responsibility, freedom, value, and ...) [12]. In Gholami et al [19], study, life and general health were improved and depression was reduced in female thalassemia patients as a result of group logotherapy [19]. Results of a study by Ghanbari, Zarandi and Godarzi [20] showed improved general health and reduced depression (as a dimension of general health) in women victims of earthquake (in Zarand city) through group counseling with logotherapy approach [20].

Since logotherapy and attending groups are effective in creating a sense of empathy and preventing loneliness, researchers decided to use these techniques and study their effects in reducing depression and increasing hope in addicts. Since addiction is likely to cause hopelessness and depression, it is essential to have knowledge of appropriate therapies, including group logotherapy to plan appropriate actions, improve psychiatric health services and develop related policies in the community. Such knowledge is beneficial in providing psychological help for these patients, so that depression may be reduced and hope can be increased in these patients. Thus, the present study aims to find answers to the following questions: "Is group logotherapy effective in reducing depression in drug addicts" and "is group logotherapy effective in increasing hope in drug addicts"?

**Method**

This is a pretest-posttest experimental study with a control group. Study population consisted of 70 drug addicts attending methadone-therapy center in Gharveh (the west of Iran) 2013, of whom, a sample of 60 was randomly selected according to Chrissie-Morgan Table [21]. Then, 20 with the highest scores in depression scale and the lowest scores in hope scale were selected, who were then randomly divided into control and trial groups. The trial group received 10 sessions of group logotherapy based on Frankl theory, but the control group received no intervention.

Study instruments: In this study, data were collected using two questionnaires:

1. The revised Beck's Depression Inventory (BDI-II): A 21-item, self-reporting questionnaire, designed to assess depression, with 4 options for each item, and scores ranging from 0 to 3, with overall score from 0 to 63. Beck believes that the revised version is able to show severity of depression in patients and normal population, including adolescents and adults. Internal consistency of this tool has been reported 0.73 to 0.92 with mean 0.86 and Cronbach's alpha 0.86 for patients, and 0.80 for non-patients [7]. In this study, reliability was found 0.81 by Cronbach's alpha.

2. Adult Hope Scale, designed by Snyder et al to measure hope, contains 12 items in self-report form [22]. Of these items, 4 assess agency thought, 4 assess pathways thought, and 4 are diversion items. Therefore, this questionnaire measures two subscales of agency and pathways. Mean validity and reliability coefficients of this tool was reported 0.91. Internal consistency of the whole test is 0.74 to 0.84, and test-retest reliability 0.80, which can increase further with intervals of 8 to 10 weeks [23]. In a study on 660 female students in Tehran, Cronbach's alpha for this scale was found 0.89 [24]. In the present study, reliability was found through Cronbach's alpha as 0.84.
Group logotherapy:
Session 1: Determination of group objectives and rules, introducing members, counseling and discussing addiction, and presenting group charter and therapy contract.
Session 2: Problem statement, discussion about addiction and its effect in causing mental disorders
Session 3: Briefing on the concepts and sources of meaning, and accountability
Session 4: Change of attitudes and eliciting meaning through exploration of meaning
Session 5: Eliciting meaning from creating values and accountability
Session 6: Drawing meaning from experience of values, and from wishes and hopes
Session 7: Meaning of death, life, freedom, and responsibility
Session 8: Responsibility, self-support, social interest and overcoming despair, increased hope
Session 9: Members’ supporting one another emotionally, completion of unfinished statements for the interaction of members, members’ emotional support of one another, and encouragement of members to ask for emotional support from one another
Session 10: Summarizing and conclusion, talking about learning within the group, and filling out depression and hope scales

Data were analyzed using descriptive and inferential statistics (covariance analysis test).

**Results**

The present study aimed to assess the effect of group logotherapy in reducing depression and increasing hope in drug addicts. Descriptive data relating to pretest and posttest depression and hope scores in the trial and control groups and results of covariance analysis on mean scores of these tests, results of homogeneity of gradients test are presented below:

Scores in each scale were added up to calculate the whole scale score. Thus, the scale used was minimum interval. According to data presented in table 1, pretest and posttest mean and SD of hope were 16.9±1.91, and 20±1.7 respectively in the trial group, and 17.2±1.75, and 17.9±1.37 respectively in the control group. Pretest and posttest mean and standard deviation of depression scores were 40.4±1.57 and 32.7±3.74 respectively in the trial group, and 37.6±5.06 and 37.77±6.9 respectively in the control group.

According to results in Table 2, homogeneity of gradients was not significant for depression with F (1,16)= 2.092. Thus, assumption of homogeneity of regression gradients is realized for depression. Given the above results, covariance analysis was used to assess the hypothesis, and results are shown in Table 3.

Table 1 Descriptive information on depression and life expectancy in the pretest and posttest in the experimental and control groups

<table>
<thead>
<tr>
<th>Group</th>
<th>Stage</th>
<th>Life expectancy</th>
<th>Depression</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD (±)</td>
<td>Mean</td>
</tr>
<tr>
<td>Experimental</td>
<td>Pretest</td>
<td>16.9</td>
<td>1.91</td>
</tr>
<tr>
<td></td>
<td>Posttest</td>
<td>20.01</td>
<td>1.7</td>
</tr>
<tr>
<td>Control</td>
<td>Pretest</td>
<td>17.2</td>
<td>1.75</td>
</tr>
<tr>
<td></td>
<td>Posttest</td>
<td>17.9</td>
<td>1.37</td>
</tr>
</tbody>
</table>

Table 2 The homogeneity of slopes assumption test

<table>
<thead>
<tr>
<th>Group</th>
<th>Sum of Squares</th>
<th>d.f</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group</td>
<td>7.96</td>
<td>1</td>
<td>7.96</td>
<td>0.72</td>
<td>0.409</td>
</tr>
<tr>
<td>Pretest</td>
<td>322.53</td>
<td>1</td>
<td>322.53</td>
<td>30.04</td>
<td>0.001</td>
</tr>
<tr>
<td>Pretest group</td>
<td>23.16</td>
<td>1</td>
<td>23.16</td>
<td>2.09</td>
<td>0.167</td>
</tr>
<tr>
<td>Error</td>
<td>177.11</td>
<td>16</td>
<td>11.07</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 3 shows a significant difference between the trial and control groups in posttest (F= 22.26 and significance level
0.001). Thus, results suggest the effect of group logotherapy method in reducing participants' depression. In other words, group logotherapy was able to reduce depression in the trial group participants.

Results presented in table 4 show homogeneity of gradients with $F(1,16)=0.576$ was not significant for hope. Thus, assumption of homogeneity of regression gradients in variable of hope was realized. According to these results, covariance analysis was used to assess the hypothesis, and results are presented in Table 5.

Table 5 shows a significant difference between the trial and control groups in posttest ($F=37.49$ and significance level 0.001). Thus, results obtained suggest the effect of group logotherapy in increasing participants' hope. In other words, group logotherapy was able to increase hope in the trial group participants.

**Discussion**

The present study aimed to assess the effect of group logotherapy in reducing depression and increasing hope in drug addicts, and this was confirmed according to results obtained, which agrees with results in other studies [16-20]. Importantly, group therapy has many advantages that facilitate and accelerate treatment process. It helps people learn effective social skills, and test their learning on one another [25]. They are heartened and comforted by seeing other people's problems similar to or worse than their own [26]. This effect can be explained in that logotherapy emphasizes the root of depression and hopelessness is meaninglessness of life. In other words, when someone believes life is meaningless due to problems in life, they become depressed and hopeless. They see life through fear, which they cannot overcome, and see themselves entrapped in life events. An addict sees life meaningless, and feels he has reached end of the line, without exploring values and objectives of life. Purpose and hope in life reinforce mental health. Purpose
Group therapy on depression and life hope

and meaning in life can help the individuals overcome depression and hopelessness, and be responsible for their life and existence by relying on freedom of will. In Frankl's logotherapy, it is assumed that the individual will be able to overcome depression and hopelessness, and mental disorders with purpose and meaning in life, and can be responsible for their life and existence by relying on freedom of will. Logotherapy tries to make the individual aware of their responsibility, and that it is their duty to choose for whom and for what they are responsible. This method has been effective in reducing depression and increasing hope. Through logotherapy, patients learn to let go of worry and concentrate on other things. In practice, Frankl was totally successful in switching patients' attention from neurotic worries to more essential issues of life and meaning. Therefore, logotherapy eliminates symptoms of illness and enables the individual to face difficulties in life and reach mental well-being and health, which can lead to reduced depression and increased hope in an addict [27].

One of the main objectives of logotherapy is to help people find meaning in life. When they do not think in this way, they become depressed. Thus, depression occurs when we believe life is meaningless [28]. A prominent attribute of human is the effort to understand meaning and purpose in life, and logotherapy provides a conceptual framework for people to challenge meaning in their own lives, and put aside old values, and create a new value system according to their existence. Accordingly, human suffering can be turned into success depending on the individual's stance. In this method, people who suffer from guilt, hopelessness and death can deal with their hopelessness, and succeed. Finding meaning in life results from engaging in a sense of commitment to creating, loving, working and constructing [11]. According to Beck's theory, people ruin their thoughts by excessively generalizing a few negative events [29]. Participation in such educational sessions, emphasizing meaning, purpose and values in life, and also interacting with peers increases accountability in the individual. By accepting this responsibility and their current circumstances, they are encouraged to try and improve themselves. This paves the way for increased hope and reduced depression. According to cognitive theories, participation in such meetings can correct many cognitive distortions such as "musts" and "obligations" and replace them with "sometimes", relieve the person from personal choices and assumptions, and make them more flexible toward the environment. According to counseling and psychotherapy theories in Rogers’ client centered therapy, the principle of accountability is particularly important in Bender’s Gestalt-therapy and Frankl logotherapy. With a sense of responsibility, people feel they are in control of life events and able to control situation by taking responsibility. A feeling of authority over life events and changing internal control to internal control leads to frustration in achieving desired outcome. These interventions help patients not consider their current situation unimportant, and not fear the future.

Considering the growing trend of drug use across the country, it is recommended that comprehensive studies be conducted on level of drug use. To familiarize people with addiction and its complications, educational workshops should be held, and authorities and experts should develop a comprehensive program for reducing drug use in the community. A variety of prevention, treatment and preventing relapse programs such as restricting drug supply by the government; the important role of mass media in increasing people's awareness of addiction complications; important role of parents in their interaction with each other and with children; teaching people to say no; teaching resistance to peer pressure etc. are among other recommendations.

Study limitations included a lack of follow-up due to unavailability of participants. Briefly, knowledge and counseling techniques can reduce problems of people on the verge of addiction and reduce the incidence of addiction that is unfortunately growing today. This
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means that people should be taught not to be trapped in negative propaganda and addiction. The aim is to prevent addiction that is a barrier to reaching desired goals in societies. The present study results are applicable and have many benefits for family counselors, therapists, psychiatrists, and university authorities in dealing with addiction.

Conclusion

Group logotherapy is an effective method for reducing depression and increasing hope in drug addicts. Since hopelessness may be a personal factor affecting addiction, and a barrier to quitting that can cause relapse; reducing depression and increasing hope are highly important. Group logotherapy leads to finding meaning and accountability, and reinforces plans to achieve goals, which reduce depression and increase hope.

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Contribution

Study design: MKH
Data collection and analysis: MKH, MH
Manuscript preparation: MKH, MYA, HM

Conflict of Interest

"The authors declare that they have no competing interests."

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