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The Effectiveness of Group-Therapy Intervention on Quality of Life and Hope of Women Infected with Human immunodeficiency virus

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Abstract

Background: Human immunodeficiency virus (HIV) is one of the most important causes of death in the world and the affected patients, in addition to physical problems, experience various psychological problems, especially symptoms of depression such as hopelessness, isolation, and social isolation. Therefore, the aim of this study was to determine the effectiveness of group-therapy intervention to improve the quality of life and hope in women with HIV. **Materials and Methods:** In this study, 24 HIV-positive patients were selected based on the hope scale and quality of life (QOL) inventories and were randomly divided into two experimental and control groups. Intervention based on hope therapy protocol was executed on the experimental group for eight weeks. Post-tests were taken for both groups after intervention. For data analysis, multivariate analysis of covariance was used. **Results:** The results showed that there were significant differences in psychological health ($t=-5.491$, $P<0.01$) and social relationships ($t=-6.092$, $P<0.01$) between experimental and control groups in quality of life (QOL) pre and post-test. There were also significant differences in both subscales of hope, pathways ($t=-6.257$, $P<0.01$) and agency ($t=-5.56$, $P<0.01$) at 99% confidence interval. **Conclusion:** Covariance analysis indicated that hope therapy significantly increases hope in HIV- positive patients and can improve their quality of life (QOL) in the both psychological health, social relationships dimensions. [GMJ.2016;5(3):139-146]

Keywords: Group Therapy; Quality of Life; Hope; Human Immunodeficiency Virus

Introduction

Human immunodeficiency virus (HIV) is one of the most important global health problems with about 34 million HIV-positive patients and 1.8 million deaths in 2010 [1]. In Iran, in 2012, there were 27014 HIV-positive patients based on Iranian AIDS community information. The incidence rate has been rising during the past decade and also contaminat-

ed women's population. As women are more susceptible to HIV contamination via sexual relationship and they can transmit the virus to their children through vertical transmission, any intervention which could affect this cycle would be very useful in controlling virus contamination. Besides women are more vulnerable to the psychological effect of HIV infection than men such as anxiety and fear of new symptoms, depression, sadness, decreased

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self-esteem, guilt feeling, embarrassment and shame, feeling of worthless, hopelessness, suicidal thoughts, social isolation, loss of social support, isolation from family and others [2, 3]. Therefore, they need more psychiatric care than men [2].

Various research conducted indicated that HIV, as a fatal chronic infectious disease, can affect the quality of life of the patient and decrease the quality of life of these patients [3-6]. Patients who have a high socio-economic status and better efficacy earned higher scores in quality of life [7]. The HIV is associated with psychological disorders, the most common of which include anxiety disorders, major depressive disorders and, to a lesser extent, disseminated anxiety disorders and obsessive-compulsive disorder [8]. Regarding the association between psychologic health and high-risk behaviors, improvement in the psychologic health of HIV-positive patients by psychotherapy and medications can reduce the high-risk behaviors and the risk of HIV transmission by the infected patient [9].

Different kinds of psychological intervention have been used for HIV-positive patients. Regarding the need for psychotherapy interventions for HIV-positive patients, various studies in different parts of the world with different approaches have reported effective results in reducing anxiety, depression or stress of social labels [10-14].

In a study by Chibanda *et al.* [15], psychological interventions used to treat psychological problems of patients with AIDS have been investigated and these interventions were compared in patients with low and middle economic situation; 190 studies were examined, and it was concluded that psychological intervention with cognitive approaches are effective in reducing psychological problems in HIV-positive patients. In another research, Ruckajaer *et al.* [16] reported that HIV-positive individuals with higher self-esteem and more efficient coping mechanisms had lower depressive symptoms and considered group-therapy with the problem-solving approach as an effective short-term treatment.

According to the theory of hope and the definition of hope structure, by Lopez *et al.* [17], hope therapy is designed as a short-term and

semi-structured treatment with the core treatment attention on transparency and access to the current goal of the individual with the purpose of educating authorities to manage their problems. Khosravi-zad in 2010 Quoted from mohammadpour investigated the relationship between hope and quality of life in HIV-positive patients and reported that hope was associated with quality of life in these patients, but less important for men than women [1]. Life quality has a wide range of definitions. Some believe that it is the ability of an individual to manage life from his/her standpoint, as such, fertility status and its factors can put social and psychological pressures on the person. It lowers sexual pleasure and life satisfaction, meaning a decline in quality [18].

In this research, we face two hypotheses: (1) the intervention of group-therapy with hope therapy approach is effective in improving the quality of life in women with HIV; (2) the intervention of group-therapy with hope therapy approach is effective in improving HIV-positive women's hope. Thus, the present study aimed to answer the following question: Is group-therapy with hope therapy approach effective in enhance the quality of life in women with HIV. So, the aim of this study was to determine the effectiveness of group-therapy intervention to improve the quality of life and hope in women with HIV.

Materials and Methods

1. Subjects

In this quasi-experimental study, the study population included all HIV-positive women with the age-range of 20-60 years old, referring to Healthcare Center of Mashhad University of Medical Sciences

2. Sampling Size

Sampling was based on purposive sampling method from patients referring to Healthcare Center of Mashhad from 2013 to 2014, which resulted in 24 patients who were randomly divided into experimental and groups (12 patients in the experimental group and 12 patients in the control group).

Inclusion criteria include education level of higher than junior high school, hope score be-

low 16, and infected with HIV by intercourse. The HIV-positive women who got infected by other ways of virus transmission, patients with obvious mental disorders such as major depression, bipolar, which could interfere with the goals of the intervention and non-cooperative or being absent for more than 2 sessions were excluded from the study.

3. Data Collection

3.1. Schneider Hope Scale

A hope scale of 12 questions by Schneider [19] was designed for individuals older than 15 years and includes two subscales of passage and motivation. In a study conducted Somi et al. in 2007 [20], the obtained Cronbach's alpha coefficient was 0.89. Snyder hope scale is a 12 question questionnaire designed for adults more than 15 years old. The score range between 8-32, the mean score 16.4 question assesses pathway subscale (1,4,6,8). 4 questions for agency subscale (2, 9, 10, 12) and 4 nonrelative questions.

3.2. The World Health Organization (WHO) Quality of Life Questionnaire (Iranian 26-questioned norm questionnaire)

The questionnaire consists of 100 questions. The four subscales in the following areas are included in the questionnaire: physical health, psychological dimension, areas of social relationships and life environment. In the results reported by the designers of Quality of Life Scale of World Health Organization, conducted in 15 International Centers of the organization, have reported Cronbach's alpha coefficient of 73% to 89% for the four subscales and total scale. In Iran, Nasiri in 2006, used three methods of retest, reliability, and Cronbach's alpha in three-week intervals and the results were 87%, 67%, and 84%, respectively.

3.3. Hope Therapy Protocol

Hope therapy protocol has two main stages and each stage has two steps. The first step is the hope creation or stimulation that includes two steps. First: finding hope and the second step: hope consolidation that acts through the third step: facilitation of increasing hope and the fourth step: maintaining hope (Table-1). Before the group-therapy intervention, all the participants (24 participants; 12 patients in the case group and 12 in the control group) completed the quality of life questionnaire, and the researchers tried to match the groups regarding the socio-economic status, educational level, and transmission method. Group-therapy intervention with hope therapy approach was designed in 8 sessions of 90 to 120 minutes.

Each group therapy session consisted of four sections:

1. For first 30 minutes, group members discussed their activities and weekly assignments.
2. The second 30 minutes, psychological education was provided based on hope therapy protocol. At this section, group members learned a new skill related to different dimensions of hope therapy (goals, pathways, and agency).
3. For about 40-50 minutes, group members discussed using the learned technique in their daily life (Table-2).

4. Statistical Analysis

Data were analyzed using spss 16 software. To compare the quality of life and its components in both experimental and control groups with controlling pretest scores, multivariate analysis of covariance was used for analysis of the research data, descriptive and inferential statistical methods such as multivariate analysis of covariance (MANCOVA) test was used.

Table 1. The Main Stages of Hope Therapy Protocol

The first stage	finding hope	The first step	hope creation or stimulation
	hope consolidation	The second step	
The second stage	facilitation of increasing hope	The third step	increasing hope
	maintaining hope	The fourth step	

Results

Among the participants, in the experimental group, 25% were between 20 and 30 years, 41.66% between 30 and 40 years, 25% between 40 and 50 years and 8.33% were between 50 and 60 years.

Before performing MANCOVA, assumptions of normality and homogeneity of variances in both experimental and control groups were studied. Kolmogorov-Smirnov test (K-S) showed normal distribution of data of quality of life scores. Levine's test results also showed the homogeneity of variance in the two groups. The results revealed that the box test was not significant ($P = 0.485$, $F = 0.951$), which indicates that the variance-covariance matrix matched with each other, therefore, according to the assumptions, MANCOVA was used to test the above hypothesis. The significance of MANCOVA, i.e., Wilks' Lambda ($F=16.59$, $P<0.01$) confirmed that in the confidence interval of 99%, there was a significant difference at least in one of the components of quality of life. The results of post hoc tests showed that among the components of quality of life, there was a significant difference in psychologic health ($t = -5.491$, $P < 0.01$) and social relations ($t = -6.092$, $P < 0.01$) at a confidence level of 99% between the two groups. Considering the higher mean scores of these components in the experimental group than the control group, it can be stated that group-therapy of hope had a significant impact on improving the psychologic health and social relations in women infected with HIV. The results of the post hoc tests showed that among the components of quality of life, there was no significant difference in physical health ($t = -.190$, $P > 0.05$) and environment ($t = 1.148$, $P > 0.05$) in both groups (Table-3). The results of post hoc test showed that components of hope, passage ($t = -6.257$, $P < 0.01$) and operator ($t = -5.56$, $P < 0.01$) at 99% confidence interval have a significant difference between the experimental and control groups. Considering the higher mean scores of these components in the experimental group than the control group, it can be stated that null hypothesis of the research (no significant difference between two groups) is rejected; thus,

hope group-therapy had a major impact on improving hope in women infected with HIV (Table-3).

To compare hope and its components in the experimental and control group with controlling the pretest scores, MANCOVA was used. Before performing MANCOVA, assumptions of normality and homogeneity of variance in both experimental and control groups were studied. Kolmogorov-Smirnov test results showed normal distribution of data of hope scores. Also, Levine's test results also revealed that homogeneity of variance in the two groups. The box test results were not statistically significant ($P = 0.894$, $F = 0.203$), which indicates that the variance-covariance matrix are matched with each other, therefore, according to the assumptions, MANCOVA was used to test the above hypotheses. The significance of MANCOVA, i.e., Wilks' Lambda ($F=47.182$, $P < 0.01$) confirmed that in the confidence interval of 99%, there is a significant difference at least in one of the components of quality of life. Thus, post hoc test was used to check the differences in components between the two groups.

Discussion

The results of the first hypothesis test showed that among the components of quality of life, psychological health, and social relations, there is a significant difference between the two groups in 99% confidence interval. Considering the higher mean scores of these components in the experimental group than the control group, it can be stated that hope group-therapy had a significant impact on improving psychological health and social relations in women infected with HIV. The finding of this study is in line with the results of the survey by Ghezelsoflu and Esbati in 2011 [21]. Literature review showed that hope therapy can help increase the quality of life of many affected patients in the society, such as patients with AIDS [1], hypertension [22], spouses of veterans with post-traumatic disorders [23], women with diabetes [24], patients with schizophrenia [1,4,25], clinical variables, quality of life, and proximity to treatment in HIV-positive patients were investigated.

Table 2. The Details of the Sessions of Hope Therapy Protocol

Session	Aim	Exercise
First	Familiarizing members and guidelines for participation, introducing programs and group goals, building relationships and empathy	The participants were asked to write a story of their life, including a failure or win, in summary in maximum 4 pages, and bring in the next session with them.
Second	Working on stories and anecdotes of life of members of the group and identifying hope components: goals, passages and operating forces in the stories	The participants were asked to write about their goals in life and categorize them into three main goals of short-, medium- and long-term and speak about them in the next session if the person has no purpose and no goal.
Third	Discuss about goals and identifying the characteristics of proper goals, including educating how to prioritize major goals, accessibility of goals, and measurability of goals	The group members were asked to speak about their written goals according to the training received and re-assess and re-write them and speak about them in the next session.
Fourth	Preparing a list of paths and identifying appropriate passages to achieve the goals (meaning that the goals changed from abstract mode to concrete)	To increase the passage thought, the members are asked to write all possible and efficient ways to reach their goals and speak about them in the next session.
Fifth	Increasing the operating power by positive thinking. Here, positive thinking means having perpetual hope to find a solution	The members are asked to use this technique in their daily lives and to use it in daily interactions. Then, register the type of event, type of positive thinking and the obtained results in a table and provide them in the next session.
Sixth	Identification of obstacles to increase the operating power: the group members spoke about events, in which they were unable to use positive thinking and increase the operating power	The group members were asked to provide a list of obstacles and negative self-reports and the associated factors during the week.
Seventh	Teaching to deal with barriers, by creating a successor to passages in an innovative way	The group members were asked to write a summary for progress of goals in the first session, the ways to achieve them, based on the theory of successor to passages and increasing the operating power by dealing with barriers and innovative thinking and speak about them in the next session.
Eighth	Introducing the G-power concept (Goal obstacles with evaluation received), summation, conclusions of the meetings and final celebrating	The members were asked to suggest positive feedbacks and future steps of aimed process to each other.

Table 3. The Results of the Post Hoc Test of Quality of Life and Hope Variable

	Predictor variables	B	Standard error	T	P
Quality of Life	Physical health	-0.44	2.33	-0.19	0.85
	Psychologic health	-16.51	3	-5.491	<0.01
	Social relations	-16.03	2.63	-6.092	<0.01
	Environment	3.21	2.8	1.148	0.26
Hope	Passage	-2.04	0.326	-6.257	<0.01
	Operator	-1.92	0.346	-5.56	<0.01

The results by Reis *et al.* indicated that life level (patients' quality of life) of patients is associated with the mentioned factors. Patients without clinical symptoms and better access to treatment showed a higher life level [4]. In explaining the finding mentioned above, it should be noted that HIV-positive patients are in trouble and crisis in the quality of life. They have difficulty in social relationships because of problems such as unemployment, reduced work capacity, financial problems, family quarrels and social labels. Studies also show that the labels are associated with personal and social consequences. For example, Abaei *et al.* [26] argues that individual outcomes include: isolation, shame and guilt, negative self-image, fear of death and lack of adherence to treatment. Social outcomes include: rejection, discrimination and social isolation, the feeling of hatred with compassion, fear of daily contacts, lack of acceptance and economic weakness and both of these consequences will ultimately result in human rights violations and lack of adherence to treatment. Further studies show that fear and complication of social labels are associated with higher rates of psychological disturbances [27, 28]. On the other hand, these problems cause psychological problems such as anxiety, depression, negative thoughts [6], distrust to the future, psychotic disturbance, etc. For example, Zunner *et al.* [29] showed that HIV-positive women are frequently subjected to violence by their husbands, because of betrayal accusation and these individuals mainly have symptoms of depression, anxiety and suicidal thoughts and need psychologic care. In the current study, two main issues can be considered: the first issue group-therapy and the second issue, which is more important, the specific effect of each stage of hope therapy on improving the quality of life of patients suffering from HIV. On the other hand, one target of hope therapy is adjusting the habitual and futile ways to get closer to the previous problematic goals. Here, the therapist cannot facilitate the problem just by using insights and intuition. Training action is necessary to change the automatic and chronic thinking patterns. The researchers also proved that patients can change by optimistic ideation [1]. Javidi *et al.* in 2013

showed that the training program on how to manage emotions can play a significant role in improving family functioning in couples [30]. In the present study, homework was given after each session, and this factor caused a change in these patients and improved their lives. Also, review mental exercises give the managers an opportunity to anticipate potential obstacles and visualize solutions to these problems; therefore, possibly, an increase in problem-solving skills was a factor to improve the quality of life for these patients.

The results of the second hypothesis also suggest that there is a significant difference in both components of hope, navigational and operating, at 99% confidence level between the experimental and control groups. In the research conducted by Shekarabi *et al.*, in 2012, the effect of hope group-therapy on the amount and depression of mother of children with cancer were studied in Tehran [31]. The results showed that after the interventional therapy hope increased and depression has decreased in mothers of these children. The studies have shown that hope treatment could increase hope in the affected community; hope therapy could increase hope for patients with AIDS, breast cancer [1, 32], schizophrenia, mothers of children with cancer and diabetics [6].

If patients with HIV can adjust their mental cognitive distortions, based on the basic and theoretic concepts of the hope therapy in the view of Schneider, can identify different routes and set side inefficient routes, strengthen their willpower and patience, and look for new and efficient ways to deal with obstacles by brainstorming methods rather than desperately. In this case, motivation is increased, and positive emotions are created; thus the quality of life increased, and sense of hope for the future flows into one's life. In the present study, interventional sessions could create such an environment for subjects infected with HIV and significantly increased the quality of life and hope in them. In other words, chronic diseases such as cancer and AIDS affect patients both physically and psychologically. The findings of important Implications is for future research, prevention, psychopathology and treatment of sexual health behaviors in cou-

ples [33, 34]. On the one hand, AIDS destroy the immune system and cause physical problems and on the other hand; it leads to psychological diseases such as anxiety, depression, loss of sense of social support, stress, etc.

Conclusion

Hope therapy uses patients' abilities instead of focusing on their dysfunctions. Positive self-talking, hopeful imagination, powerful agency are some characteristics of a hopeful individual. Our result showed that hope therapy is a short-term cost effective therapy which can increase hope and affect the quality of life in HIV-infected patients. We recommend that

medication coupled with short-term behavioral intervention such as hope therapy would be more effective and can help them to increase their quality of life and more powerful goal focus behavior in HIV-positive patients.

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Conflict of interest

Authors declare that they do not have any conflicts of interest.

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