Research Article

Comparison of the Effect of Schema Therapy and Cognitive Group Therapy on Depression in Women Engaging in High-Risk Sexual Behaviors Who Were Referred to Hamadan Health Center

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Abstract

Background: Treatment for psychological disorders is generally based on signs and symptoms, and research in this area has shown that major depression has become one of the most significant psychiatric disorders of the last decade.

Objectives: This study was conducted to compare the effects of schema therapy and cognitive group therapy on women with depression who were engaging in high-risk sexual behaviors and were referred to the Hamadan Health Center for AIDS testing.

Patients and Methods: This research was done at the Hamadan shohada infirmary from 2015 to 2016 and was confirmed by the ethics committee of Hamadan University of Medical Sciences. It was a semi-experimental study using single stage cluster sampling. The statistical sample consisted of 500 women ranging in age from 20 to 60 years old with at least a diploma. The women were engaging in high-risk sexual behaviors and were referred to the health center for AIDS testing. Psychologists and a physician conducted a diagnostic interview, and 217 subjects were randomly chosen using a sample volume formula, in addition to Depression Anxiety Stress Scales (DASS). Eighty five of the subjects were diagnosed with depression, of whom 45 were chosen randomly and divided into three groups of 15 consisting of two experimental groups and one control group. Twelve sessions of cognitive group therapy and 12 sessions of schema therapy were implemented for 90 minutes per session. At the end of the training period, the three groups were post-tested and depression components were then investigated in the pretest and post-test results.

Results: The findings support the idea that a significant difference exists in terms of the mean of depression between schema therapy and cognitive therapy, as follows: $F(1, 41) = 60.650$ $P < 0.01$.

Conclusions: The results show that schema therapy is more effective than cognitive group therapy for treating depression in women engaging in high-risk sexual behaviors.

Keywords: Schema Therapy, cognitive therapy, Depression

1. Background

Iran is currently facing a third wave of AIDS, this one primarily caused by sexual transmission, which at present is the cause of 21.1% of all cases (1). The increasing number of women worldwide who are succumbing to AIDS has been declared a global challenge by WHO, as the condition has a severe impact on fertility health (2). In a bid to combat this trend, two general aims are being promoted by WHO in 2016, namely, a 90% reduction in the number of women newly infected with AIDS and a 50% reduction in the mortality rates of AIDS-infected women (3). One of the groups of women at highest risk of contracting AIDS is women who engage in prostitution (4, 5). AIDS and other contagious diseases are primarily behavior related, and various studies carried out by experts suggest that understanding the motivation of this group to engage in risky sexual behaviors relating to AIDS will play a key role in re-ducing its incidence (6-9). Health education experts use behavioral science theories as suitable strategies to identify the beliefs and values underlying our understanding of risky behaviors, and to motivate new and sustainable behaviors (10). After the danger posed by transmission through injection, high-risk sexual behaviors are known to be the next most decisive factor in the transmission of contagious diseases such as AIDS (11). The results of one study showed that risky behaviors are common among Chinese addicts who inject drugs, and most of them are vulnerable to the transmission of infectious diseases (12). The high-risk behaviors most likely to exacerbate the spread of AIDS include unprotected sex, sexual intercourse with numerous partners, and the sharing of infected needles by drug addicts (13).

To address this issue, more attention must be paid to high-risk individuals. Although intervention in the form

of specialized groups cannot prevent epidemics, the implementation of treatment and educational programs is considered to be a suitable strategy (14). It is not uncommon for people in this at-risk group to experience severe psychiatric disorders. Indeed, depression is a common disease, and has led to disempowerment of people all over the world (15). Although depression can often be treated, about 20% of those affected by major depression go on to develop chronic depression (16, 17). The average age of onset of chronic depression is 20 years old, and in the case of sufferers committing suicide or being hospitalized, it becomes similar to non-chronic depression (18, 19).

The new generation of psychoanalytic approaches can result in the improvement of psychiatric disorders, including depression and anxiety, when implemented individually and in groups.

A key factor in successful and effective treatment is group therapy. Possibly the first person to become aware of this was Maxwell Jones, who realized that there were insufficient resources available to treat veterans suffering from war neuroses during and after world war II. He found out that people can be treated quite effectively in treatment groups. In line with the emergence of new treatments, belief in the effectiveness of treating people in groups remains to this day, and other groups were formed for the introduction of more humanistic treatments, such as Gestalt therapy and interactive analysis. With the implementation of behavioral therapy in the early 1960s, efforts to apply desensitization methods in groups became successful. Cognitive therapy subsequently paved the way for similar treatment. In fact, two milestones in the development of behavioral therapy were the publication of a study in 1977, and a treatment guide. Since then, cognitive-behavioral therapy (CBT) has become the dominant psychotherapy method in most Western countries, and it is used as a benchmark in many empirically validated treatments (20).

Moreover, according to a survey on group CBT used to improve adherence to medication and to alleviate depression among HIV-positive clients, the group showed significant improvement in both areas over three months. The authors drew the conclusion that CBT was a potentially effective method for combating depression and for improving poor adherence to medication in HIV clients (21). In one study, an investigation was carried out on the efficiency of 10-week interventions of group cognitive-behavioral stress management on 210 HIV-positive heterosexual and homosexual men. Group cognitive-behavioral stress management interventions were shown to reduce stress and depression, increase psychological adjustment, enhance coping skills, increase social support, and improve quality of life (22). In another study on stress management training using cognitive-behavior techniques among women in the early stages of breast cancer, it was shown that women tested on the stress management training had positive feelings in response to their breast cancer examination, coincidentally resulting in late improvements to immunity and cellular immunity (23).

In research on the efficiency of schema therapy in women affected by severe depression, it was shown that the Beck mean score of depression was reduced, and depression signs were also reduced (24). In the last 40 years, there have been two major leaps in theory and treatment for depression and anxiety. The first is the use of medication to reduce depression and anxiety symptoms, and the second is cognitive-behavioral therapy (25). The major point in Ellis' emotional-logical treatment is that emotional reactions are inner conversations that individuals hold with themselves; these conversations sometimes reflect an unexpressed need for things that will make their lives meaningful. Such treatments aim to remove self-inflicted beliefs by investigating them logically. Ellis believes that people interpret what they see around them, which may result in emotional disturbance. Therefore, psychologists must pay more attention to these beliefs when it comes to treatment (26).

Today, one of the challenges of cognitive-behavioral therapy is its effectiveness for chronic and hard-to-treat diseases. Some patients with Axis I signs referring to health centers fail to be treated or their symptoms recur (27). Although interventions and therapeutic techniques are aimed at continuing factors, clinical experience shows that the ground factors must first be given attention. The approach with Young's schema therapy is to focus on ascertaining the root of people's psychological problems and the initial inefficient schemata formed in their minds at a young age and repeated. It is through these schemata that they learn to adapt to others. These issues are usually manifested through underlying signs of disorder such as depression. A change in lifestyle is the most important objective of schema therapy. The patients can link their cognitive beliefs in the wrong schemata to changed beliefs in the right ones (28). In short, negative schemata can cause severe psychological problems, and schema therapy is effective in dealing with those problems. Due to the amount of research on the efficiency of schema therapy, and on the relationship of depression with emotional deprivation, dependency, failure, and social isolation, schema therapy is being used a lot more in depression referrals (29). In research on the efficiency of group cognitive treatment, signs of depression decreased in spinal cord patients (30).

2. Objectives

One of the problems with our society is lack of information about high-risk behaviors, and the socioeconomic damage their effects can impose on family and society. It is believed that high-risk behaviors do not happen accidentally but are the result of a systematic model that is far from one-dimensional in nature. The best way to prevent the spread of AIDS is to evaluate the causes and effects of high-risk behaviors and attempt to minimize them. In this regard, psychological, social, and medical interventions are of paramount importance. The current research aims to compare the efficiency of schema therapy and cognitive group therapy in addressing the depression of women engaging in high-risk sexual behaviors who were referred to the Hamadan health center.

3. Patients and Methods

This research was done in Hamadan Shohada Infirmary between 2015 and 2016. It was confirmed by the ethics committee of Hamadan University of Medical Sciences and recorded in the Iranian registry of clinical trials center. The inclusion criteria were women with depression who were engaging in high-risk sexual behaviors, and the exclusion criterion was the absence of high-risk sexual behavior. All ethical research principles were observed, including privacy, informed consent, and permission to be excluded from the research. The clients were informed about the confidentiality of the data collected and that their names would be replaced with codes.

This was a semi-experimental study using single stage cluster sampling. The statistical sample consisted of 50 women, ranging in age from 20 to 60 years old with at least a diploma, who were engaging in high-risk sexual behaviors and were referred to the health center for AIDS testing. Psychologists and a physician conducted a diagnostic interview, and 217 subjects were randomly chosen using a sample volume formula. Stress, anxiety, and depression scales were also run. Eighty five subjects were diagnosed with depression, of whom 45 were chosen randomly and divided into three groups of 15 consisting of two experimental groups and one control group. Twelve sessions of cognitive group therapy and 12 sessions of schema therapy were implemented for 90 minutes per session. At the end of the training period, post-testing was carried out on the three groups, and the anxiety element was investigated in the pretest and post-test.

The depression anxiety stress scales (DASS) questionnaire was the diagnostic tool used by the researcher.

Each of the subscales had seven questions, the final score for which was obtained through the sum of the related questions. Each question was scored using a scale of zero (it does not satisfy me at all) to three (it satisfies me thoroughly) as an abridged form of the main scale (42 questions were used), and the final score for each subscale had to be doubled. The DASS scale is a set of three self-reporting scales to evaluate negative emotional states regarding depression, anxiety, and stress.

The most important application of this scale is to measure the severity of the main signs of depression, anxiety, and stress. To fill the questionnaire, the subject must specify the signs experienced in the previous week. As this scale can provide a comparison of sign severity during different weeks, it can be used to assess the treatment process over time. The test has 21 questions. In fact, DASS-21 can provide the most accurate results in the shortest length of time.

The recovery validity of this questionnaire was measured by Samani and Jokar (1986), as follows: 0.77, 0.76, and 0.80 for reliability of the depression, anxiety, and stress scales, respectively, and 0.81, 0.74, and 0.78 for Cronbach's alpha of the depression, anxiety, and stress scales, respectively.

A factor analysis was carried out on this scale, and the results showed three factors of depression, anxiety, and stress, when 68% of the variance of the whole scale was assessed (31-33). All analyses were conducted using SPSS software for Windows. The data obtained were analyzed through descriptive statistics of mean, graph, and standard deviation ($\pm$ SD), and deductive statistic multivariable covariance analysis was also used

4. Results

An investigation of the demographic features of the study sample showed that a total of 45 subjects participated in the research, and the average age of the participants was 40. The greatest age density was 20 to 40. Subjects with diplomas and associate of arts degrees accounted for most of the participants, while divorced women made up the greatest number in terms of marital status.

To determine the research hypothesis, a covariance analysis statistical test was used following the survey of hypotheses. A hypothesis test was considered to establish whether there was a linear relationship based on which pretest and post-test variables and depression-dependent variables were correlated. The Levine test was then used to investigate sameness of variance. Based on the assumption of a linear relationship, sameness of variance and uniformity of the regression line slope were obtained, and the researcher was able to use covariance analysis.

The results show that the depression mean in the pretest for schema therapy was 23.20, with SD = 1.568. Con-

Table 1. Participants' Demographic Features

Levels of Variables	Frequency	Percentage
Age groups		
20 - 30 years	20	44.5
30 - 40 years	14	31.2
40 - 50 years	8	17.8
50 - 60 years	3	6.7
Education level		
Diploma and Associate of Arts	39	86.7
Associate of Arts and Bachelor	5	11.2
Bachelor and above	1	2.3
Marital status		
Single	5	11.2
Married	2	4.5
Divorced	23	51.2
Remarried	4	8.9
No response	11	24.5

versely, the depression mean in the pretest for cognitive therapy was 22.73, with SD = 1.580. Also, the depression mean in the pretest for the control group was 24.07, with SD = 1.534.

For schema therapy, the depression mean was 14.60, with SD = 1.502, and in the post-test for cognitive therapy, it was 17, with SD = 2.449. The data showed that the depression mean in the post-test for the control group was 23.13, with SD = 1.807. The initial results indicate that schema therapy outperforms cognitive therapy in reducing depression.

As seen in the tabulation, the significance level of the depression variable is 0.0001, which is smaller than the alpha level of 0.01. Therefore, the value of the calculated F is statistically significant. At a probability of 0.99, we conclude that schemata treatment of group cognitive treatment affects depression, as follows: $F_{(2, 41)} = 67.940$; P < 0.0; Partial $\eta^2 = 0.768$

As the calculated F of depression was statistically significant, we turned to the follow-up test of Lametrix to compare the difference in the mean of depression for the schemata treatment and the group cognitive treatment in order to show which one is more effective in reducing depression. The results are reported in Table 4.

Based on the results of Table 4 for depression, as P = 0.0005 with $F_{(1, 41)}$, the significance level of the depression variable is 0.0001, which is smaller than the alpha level of 0.01. Therefore, the value of the calculated F is statisti-

cally significant. The post-test scores for depression in the schema treatment and the group cognitive treatment were significantly different. Comparing the mean difference for depression in the two groups, it is known that -2.565 is significant at a level of 0.01, which indicates that the efficacy of the schema treatment is greater in the reduction of depression. Due to the significance of the mean difference, at a probability of 0.99, it can be stated that the research hypothesis schema therapy is more effective than group cognitive therapy in reducing depression is confirmed, as follows: $F_{(1, 41)} = 13.359$; P < 0.01.

5. Discussion

This results of this research are consistent with those relating to psychological treatment and methods of behavior control. In a study in China, students' awareness of behavior control programs was the most important factor in their use of condoms (34). Major contributors to high-risk sexual behaviors in women include poverty, illiteracy, and gender discrimination (35).

The identification of effective strategies such as self-control and assertive skills through psychological intervention is important (36).

Yang's study (2013) shows that behavioral intervention to prevent high-risk behaviors must focus on educating people in life skills so that they can attain self-efficacy (37). Self-efficacy plays an important role in dealing with and accepting the health patterns associated with sexual behavior (38).

In examining this topic, it seems that psychological interventions play a significant role in helping clients attain self-efficacy and instilling a positive attitude in them. However, as is shown in the research literature, women who engage in high-risk behavior are typically at a low socioeconomic level, which can bring about feelings of failure, deficiency, and isolation along with low self-efficacy and depression.

In schema therapy, the main aim is to weaken initial incompatible schemata and to create healthy schemata. In schema therapy, the practitioner helps the patient to make safer choices and to relinquish self-damaging behavioral patterns and incompatible confronting behaviors (28).

Studies show the involvement of initial incompatible schemata in mental damage such as anxiety and depression (39, 40). Some studies have confirmed the efficacy of schema therapy on mental disorders such as overwhelming anxiety disorders, personality disorders, and drug abuse (41-44). In parallel with the results of this study, cognitive therapy reduces depression in patients with obsessive personality disorders (45, 46). Moreover, some

Table 2. Mean and Standard Deviation of the Pretest and Post-Test for Depression

Group	Pre-Test		Post-Test	
	Mean	SD	Mean	SD
Schema therapy	23.20	1.568	14.60	1.502
Cognitive therapy	22.73	1.580	17	2.449
Control group	24.07	1.534	23.13	1.807

Table 3. Covariance Analysis (ANCOVA) of the Efficacy of Treatment Schemata and Group Cognitive Treatment on the Depression-Dependent Variable

Variable	Sum Square (SS)	Degree of Freedom (DF)	Mean Square (MS)	F	P	Effect Size Eta
Intragroup	492.524	2	246.262	67.940	0.0001	0.768
Intergroup	148.614	41	3.625			

Table 4. Covariance Analysis (ANCOVA) of the Efficacy of Treatment Schemata and Group Cognitive Treatment on the Depression-Dependent Variable

Variable	Sum square (SS)	Degree of Freedom (DF)	Mean Square (MS)	F	P	Effect Size Eta
Intragroup	48.553	1	48.553	13.395	0.01	-2.565
Intergroup	18.614	41	3.625			

studies show that schema therapy also has a significant effect on chronic depression and bipolar disorder (47, 48).

In explaining this fact based on the psychoanalysis theory, the cognitive schema theory states that unconscious processes influence the thoughts, emotions, and behavior of individuals.

However, in contrast with the concept of the unconscious mind in the psychoanalysis theory, schemata affect the thoughts, emotions, and behavior through unconscious processing and not through unconscious motivations and instinct drives. One research study on high-risk behavior showed that psychological treatment had the effect of reducing methamphetamine and crack abuse in men (49). Another study pointed out that depression is remarkably prevalent in the elderly, especially in women and those who have led an inactive or sedentary life (50).

The schema therapy approach is a comprehensive approach that focuses on different treatment concepts, such as behavioral, cognitive, and empirical. The aim of the schema therapy approach is to enable patients to focus on momentary changes in awareness of emotions and feelings; typically, their negative emotions are a result of their relationships with their parents. The practitioner's aim is to defend and protect the vulnerable patient child in a sympathetic manner. The child is helped to remember the events relating to the negative feelings while looking back at them as an adult. Cognitive techniques are used to challenge irrational thoughts, and these include the down-

ward arrow, the schema historical test, and positive inventories, as well as behavioral techniques such as reinforcements, incentives, and training cards for psychosomatic relaxation. Based on scientific texts, schema therapy has a greater influence on Axis II disorders than other forms of therapy.

This research shows that schema therapy also influences Axis I disorders, which is partly due to the fact that it addresses the deprivation, deficiency, and harm in clients' lives. Depression symptoms are generally chronic, and in cognitive treatment, there is less impact on the signs and symptoms of patients because of the short-term duration, specificity, and concentration of the cognitive approach.

In the schema therapy approach, on the other hand, patients with signs of depression seem to suffer from schemata of deficiency, emotional deprivation, unstable schedules, dependence, and inadequacy. The approach helps them to recognize these incompatible schemata and become aware of the methods they use to perpetuate their own schemata, including avoidance, surrender, and over compensation. These patients are helped to return to their childhoods through image techniques where they express positive emotions towards authority and have safe relationships with adults.

5.1. Conclusions

The results showed that schema therapy is more effective than cognitive group therapy for treating women

with depression who engage in high-risk sexual behaviors. Based on the results obtained, it seems that psychological interventions can play a significant role in enhancing mood, reducing negative attitudes to the world and the future, and increasing individuals' insight into the negative outcomes of high-risk behaviors.

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Footnotes

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