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Comparing the effect of supportive-expressive and cognitive-behavioral psychotherapies on depression and adherence to treatment in hemodialysis patients focusing on improving physician-patient relationship

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Abstract

Introduction: The purpose of this study was to compare the effect of supportive-expressive and cognitive-behavioral psychotherapies on depression and adherence to treatment in hemodialysis patients with a focus on improving the physician-patient relationship.

Materials and Methods: This clinical trial was performed as pretest and posttest with randomized sampling control group. Participants were 45 hemodialysis patients, aged 20-50 years, in Imam Reza hospital of Mashhad and Taleghani hospital of Torbat Jam in 2018-2019 who completed these 3 questionnaires: Beck Depression II, Karami and Keyvanara Physician-Patient Relation Patterns and End-Stage Renal Disease Adherence Questionnaire (ESRD-AQ). The patients with moderate to severe depression divided into 2 experimental groups and one control group (n=15). Data were analyzed using SPSS-23 software and repeated measures analysis of variance (ANOVA) and Bonferroni post hoc tests**.**

Results: Findings in multivariable indicators showed a short-term effect (pretest-posttest) equal to 0.81 and a long-term effect (pretest-4 month follow-up) equal to 0.83 in supportive-expressive therapy group compared to the control group. In the cognitive-behavioral therapy with the same significance level, the short-term and long-term effects were 0.70 and 0.14. Finally, by using Bonferroni test and average comparison profiles, the short-term and long-term effects of supportive-expressive therapy were more than cognitive-behavioral therapy.

Conclusion: It seems that supportive-expressive therapy with focusing on improving the relationship has more significant effects to reduce depression and increase adherence to treatment than the other therapy.

Keywords: Adherence to treatment, Depression, Hemodialysis, Psychotherapy.

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Introduction

Despite various diseases and known remedies, people are still searching for the causes of many diseases, especially depression, which is a mental illness. Depression, the most common disease of the century, is one of the most serious diseases that attracted the experts (1). The development of science and technology, as well as the improvement of health, nutrition and social-cultural facilities, make treatment easier

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and reduce their destructive and fatal side effects, but life span of many people with chronic illnesses has increased with increasing life expectancy in today's world. One of the physical diseases leading to depression and one of the most chronic, which has severe and widespread destructive effects on the physical and mental health of patients and their families and is in urgent need of alternative therapies, rehabilitation and specially particular education, is chronic renal failure which causes hospitalization of the patient in dialysis and treatment centers. It is worth noting that chronic kidney failure and its treatment affect all aspects of one's life more than other diseases. Numerous studies found that symptoms of depression are very common in hemodialysis patients and they have showed an increase in psychological problems, especially symptoms of depression among patients with chronic renal failure. Medical treatment of these patients is unfortunately associated with physical and especially specific psychosocial complications that affect the course of the disease and slow down the medical treatment. In the patient, due to mental problems and special treatment side effects as well as problems arising from illness, behavioral disorders (including: non-adherence to diet and treatment as well as rest, exercise and sleep) and cognitive disorders (thinking, learning, memory and concentration) are created (2-5).

Lack of progress in treatment, long-term treatments, physical/sexual complications, and decreased individual abilities lead to major depression in these patients, which suppresses medical therapy in the patient (6). Cukor considers severity of disease as one of the main causes of depression in these patients (7). In one study, Morakinyo and Aganwa showed that the prevalence of mental disorder among hemodialysis patients was clearly higher than the other groups (8). Also, Kimmel and his colleagues reported that hospitalization due to psychological disorders (and especially depression) in hemodialysis patients was twice as much as other chronic diseases such as diabetes and heart disease (9). Regarding depression and its treatment, attention to the adherence to treatment seems to be essential, and reducing mood and lack of effective communication with the therapist can also impair adherence to treatment, and this cycle is completely two-sided. In this regard, the issue of communication between physician and patient must be raised, which is at the key of medicine and is the axis of all clinical practices and poor communication skills has detrimental effects on physical, mental, social and economic dimensions of health care (10). If the disharmony between physicians and patients and their beliefs and opinions about the disease is not diagnosed, it leads to misunderstanding, patients' failure to follow the physicians' instructions, dissatisfaction and other adverse outcomes (11). In this way, improving the physician-patient relationship can lead to increased adherence to treatment and it can come true by simultaneous education to service providers and patients, and considering the barriers to adherence (12).

Effective communication enhances patient adherence to prescribed therapeutic plans and has other beneficial effects that one of the most important one of them is the proper communication between physician and patient, patients' satisfaction with the treatment/adherence process, and consequently improving their mood (10). There are several point of views on the type of communication, but in this study we have discussed a model proposed by Hollender and Szasz, who believed that the type of communication that forms between the patient and the physician depends on the their cooperation status and their beliefs about the optimal position of responsibility and power. This relationship has one of these three basic forms: activity-passivity pattern, guidance-cooperation pattern and mutual participation pattern. They believed that each of these relationships was influenced by the technical procedures, intervention ways, and the social centers in which the relationships took place. In the first pattern defined by activity-passivity concepts, the physician is considered as the father and the patient as an infant, such as when the patient is in anesthesia or delirium (13). The second pattern, named guidance-cooperation, is conceptualized as father-adolescent relationships. In fact, in this model, the patient is able to apply some of the physician's instructions and to some extent apply his or her opinion.

In the third pattern, the partnership is reciprocal, such as adult-adult interaction, and this type of communication model is used to manage chronic diseases such as hypertension and diabetes. In this model, mutual participation is more likely. In fact, the physician and the patient do not see each other except in urgent cases, and the physician's role is limited to teaching the patient to perform his

or her necessary tasks, but at the time of meeting, the best quality of communication is formed (14). It is worth noting that patients also play an operative role in effective interaction between physician and patient. Patients who play an active role in their health care receive better care, and the physicians' intimacy and encouragement to explicit communication and attention to patients' concerns also lead to greater patient satisfaction and they are more likely to follow the recommendations and report better feeling (15).

One of the important reasons for doing this research is that no research has been done focusing on the relationship issue, especially in these two models of treatment and for this group of patients so far, while one of the major problems of these patients which also affects their mood, is the non-adherence to treatment, which is directly related to the communication problem, and these effects are quite bilateral, and besides, supportive-expressive therapy, with the exception of a few researches done in this method, has not been widely used by therapists and due to the lack of recognition of its effective aspects in the treatment of chronic diseases and its supports in the field of palliative care has been abandoned. One of the researches done on these patients is a study by Rafiee Verdanjani et al. titled adherence to hemodialysis therapy and its relationship with some factors in hemodialysis patients referred to Hajar Training Center in Shahrekord. They showed that patients' adherence to treatment was moderate, and it was related to the chronic nature of the disease, economic and livelihood problems and a lack of awareness of these patients and consequently, more attention was needed to the causes of non-adherence to treatment which in the present study, the adherence issue is considered as an influential aspect (16).

In another study by Saeedmanesh et al. the results showed that the use of psychological interventions, especially cognitive-behavioral stress management, can reduce the level of stress, anxiety and depression in dialysis patients (17), but the relationship between physician and patient has not been considered as an effective factor. In the study of Sookhk et al. the results showed that this intervention affects adherence to treatment but this study did not pay attention to patients' mood as an influential factor on adherence which is focused in this study (18). Also, Azimian et al. concluded that mindfulness-based cognitive-behavioral therapy leads to reducing depression, anxiety and using pain management strategies in hemodialysis patients. This study also did not pay attention to the communication issue (19).

In the present study, a supportive-expressive psychotherapy intervention program focusing on improving physician-patient relationship and a cognitive-behavioral psychotherapy intervention program focusing on improving physician-patient relationship has been done in 15 ninety-minute sessions, once a week, with the aim of comparing the effects of these two methods on depression and adherence to treatment in hemodialysis patients.

Materials and Methods

This clinical trial was done in three groups (two experimental and one control group) with pretest-posttest design. The statistical population consisted of hemodialysis patients who were present in selected hospitals (Mashhad Imam Reza/Torbat-e-Jam Taleghani) in the second half of 1397 (2018-2019) for treatment. The patients aged 20-50 years. Among the eligible patients, 45 patients were selected using Cochran Formula. In terms of gender status, the number of men and women (with one person difference, men more) was attempted to be equal, and only those who were willing to cooperate were reported as the sample. After completing Beck Depression II questionnaire, the sample was diagnosed with mild to severe depression, then the adherence to treatment questionnaire and the physician-patient relation questionnaire were completed and for homogenization based on the scores, the classification was started from the highest score and the individuals were divided between two experimental and one control group in order and three homogeneous groups were formed based on the order of the scores for evaluation, so the sampling method was purposive random sampling.

Inclusion and exclusion criteria:

Be Iranian and resident in Mashhad and suburbs, have consciously written consent to participate in the study, be under hemodialysis treatment for at least 4 months, do not have other known chronic diseases such as: AIDS, hepatitis, cancer, tuberculosis and chronic obstructive pulmonary disease, do not have a stressful or sad event causing major depression over the past 6 months, do not have a severe mood disorder that impedes effective communication (for answering the

questionnaire), do not graduate in psychology or medical Sciences, do not be addicted to substances and alcohol, include patients who have moderate to severe depression. Exclude patients who miss more than one session (fortunately, no patients was excluded from the treatment in this study).

The two experimental groups were treated by a researcher who was a Ph.D. student in health psychology and had the required treatment skills. Due to ethical principles, the control group was also programmed to hold sessions with preferred treatment if they so desired. The following ethical cautions were taken into consideration in the present study to avoid any legal and ethical limitations and problems: Representing an official letter from the University of Medical Sciences to selected hospitals and centers.

Obtaining permission from the treating physicians and supervisors of the relevant departments providing necessary explanations on the subject and method of research to all of research units so that their participation in this study is with full awareness and with their consent and without any obligation Obtaining consciously written consent from patients. Assuring all of research units that all information collected including identification and treatment information were completely confidential and only their overall results would be announced.

After doing post-test, the treatment was cut for four months after which the patients were followed up and the results were evaluated in order to determine the consistency of the treatments including more effective treatment.

Research instrument

A) Beck Depression Inventory-II (BDI-II): It consisted of 21 questions with selective sentences that the sum of the scores given to the subjects' responses assesses the extent of their depression. The internal consistency of the questionnaire reported as 0.95 and it found that this inventory usually can be used widely for the diagnosis of depression symptoms (20-22). Its reliability coefficient in Iran is 0.73 and its Cronbach's alpha coefficient is 0.90 (21).

B) Karami and Keyvanara Physician-Patient Relation Patterns questionnaire: It was designed and approved for the first time in 2009. The validity of the questionnaire content was calculated by experts and its internal consistency reliability was calculated by Cronbach's alpha coefficient of 0.81 (23).

C) Treatment Adherence Questionnaire for the Chronic Kidney Patients: It consisted of 5 main sections and the first part consisted of general information (5 questions), the second part is about acceptance of treatment with hemodialysis (14 questions), the third part is related to the acceptance of drug treatment (9 questions). The fourth part is about fluid restriction (10 questions) and the fifth part is about recommended diet (8 questions) (24). Validity score of the whole content was calculated to be 0.98 for the questionnaire items, which is a desirable score in terms of content validity. The reliability of the questionnaire was 0.85 after completing it by 10 hemodialysis patients at two weeks interval with retest. The reliability of the original questionnaire was reported 0.83 by Kim et al. studies with retest (25). This questionnaire was used in Iranain study with Cronbach's alpha coefficient of 0.75 (26).

For each group, the specific treatment protocol was performed. In the supportive-expressive approach and at the beginning of treatment, after obtaining a history, the therapist pays special attention to supporting the formation of a therapeutic alliance, because the patient will likely remain in the treatment with such an alliance and therefore it increases the possibility of a good outcome. During the first few sessions, the therapist should try to understand the patient's major complaint and his/her clinical symptoms and pay attention to his/her weaknesses, strengths, mechanisms he/she uses, and his/her level of self-esteem. Based on these data, the therapist combines formulation with the hypothesis of the areas of acute and chronic deficits in self-defense, adaptive skills and their own performance that supportive interventions should directly perform" Assessment, Case Formulation, Goal Setting". Then, after the therapist and the patient have come to a common understanding of the treatment process, depending on the type of case, it ranges from expressive to supportive and in addition to own techniques, it uses most of the therapeutics' components together. In this way, the therapist allows the patient to know the road map when needed and such treatment is considered as a rational and collaborative process. In the middle of the treatment phase, understanding and supporting the client or patient and this acceptance can help him or her as a corrective emotional experience and after that, the goals are specifically paid attention. The final phase will begin only if the patient

feels that he or she no longer needs to continue working with a partner and is able to resolve the present conditions on its own, which does not occur in the different patients and clients at the same meetings. During this course of treatment, in addition to resolving the underlying problem, new goals may arise for the patient in a field such as life events or adaptive performance issues that we will pay attention as promptly as possible according to the request of the client. At the end of the formal treatment, the achievements are summarized and the instruction to continue the process is given to patient or client, and treatment is organized as a series of courses, with a beginning, middle, and end (27). In the process of doing this research, special focus was on improving the relationship between physician and patient.

Table 1 shows the summary of cognitive-behavioral treatment protocol.

Data were analyzed using SPSS-23 software and repeated measures analysis of variance (ANOVA) and Bonferroni post hoc tests.

Table 1. Cognitive-behavioral treatment protocol

Session	Used strategies
First Session	Introducing the therapist and the patient to each other. Rules of meetings. Introducing cognitive-behavioral approach to depression. Describe the biological, psychological, social model of depression, and outline five important components. Homework: Complete the sheets about the biological, psychological, social model and study the accompanying instructions.
Second Session	Goal Determination. Identify behavioral changes to achieve these goals. How to achieve these goals and monitor progress. Introducing the relationship between mood and behavioral states. Introducing the mood-emotional scoring system. Demonstrate the relationship between activities and moods (for example, what activities improve moods and what activities make m oods worse). Homework: Completing an activity plan with activities and grading mood.
Third Session	Behavioral interventions: Repairing behaviors to improve mood. 1. Introduce the concept of mastery (feeling efficiency) and pleasure and happiness using examples from the past to illustrate such ac tivities. 2. Focus on combining happy activities with mastery to prove balance in reinforcement. Homework: Completing and doing a new activity or activities plan that is added to it and rating the mood
Fourth Session	Consider the results and consequences of behavioral adjustment and adjust what is needed. Determine "mood changes" that will be targeted by cognitive interventions. Naming and grading of the emotions experienced in difficult situations in the examples, especially interpersonal ones. Homework: Complete the first two columns of the thoughts record sheet (Situations and Emotions).
Fifth Session	Examination of items and examples in thought record sheets: Description the emotion situation, diagnosis and determination. Describes the interpretation of "self-talk" as the relation between situation and emotion, using patient examples. "Hot Thoughts" and Automatic Thoughts: Focus on the thoughts that have the most relationship with emotion. Homework: Complete the first three columns of the thoughts record and hot thoughts sheets.
Sixth Session	Consider the examples in thoughts record sheets: description of situation, mood and thoughts. Determine the hot thoughts in the examples. Introducing evidence technique, finding evidence, and evidence "for" hot thoughts. Evaluating the Evidence of Hot Thoughts. Homework: Complete the first four columns of thought record sheets (adding evidence in the field of hot thoughts).
Seventh Session	Examine examples in thought record sheets: situation, mood, thoughts, and evidence about hot thoughts. Introduce "opposing evidence" by asking questions to come up with new facts that do not support hot ideas. Using patient examples Homework: Complete five columns of thoughts record sheets (adding evidence that is "opposite" of hot thou ghts).
Eighth Session	Introduce a list of "Thought Distortions" to prove that thinking biases may occur systematically. Examine examples of cognitive errors found in thought record sheets. Homework: Complete the first seven columns of the thought record sheets and determine thought distortions.
Ninth Session	Introducing "Alternative Thoughts" and how to record them. Using problem solving in alternative thoughts including forgetting evidence , misidentifying hot thoughts, activating pivotal and important beliefs. Homework: Complete thoughts record sheets.
Tenth Session	Examine examples in thoughts record sheets that contain enough information to conclude. Introducing experiments: When the evidence is inadequate and we need more information, suggest a way to gather the required infor mation. Designing an experiment that is homogeneous with the patient's example or case.Homework: Testing and reviewing its resu lts and consequences.
Eleventh Session	Consider thoughts record sheets that contain a problem that needs to be resolved. Introducing problem solving strategies when evidence i ndicates that there is an unsolved problem. Use one of the individual examples to create a plan and problem solving program. Homework: Completing problem solving homework.
Twelfth Session	Introducing "deep recognitions", the concept of conditional assumptions and pivotal and important beliefs. Demonstrate deep recognition using the upside down arrow. Describes the upside down arrow method as it is used for conditional assumptions about oneself, others, and the world. Homework: Complete and do the upside down arrow practice.
Thirteenth Session	Describes the relationship between conditional assumptions and pivotal and underlying beliefs. Demonstrate continuity model of pivotal and underlying beliefs and emphasize possible techniques for changing these pivotal and underl ying beliefs. Homework: Creating a continuum of pivotal and underlying beliefs and moving along the path of evidence for alternative pi votal and underlying beliefs.
Fourteenth Session	Introducing coping strategies related to pivotal and underlying beliefs. Using patient examples to illustrate the self-harming nature of cop ing strategies. Suggest alternative coping strategies to patient Homework: Applying alternative coping strategies and monitoring the results of these strategies.
Fifteenth Session	Introduce the concepts of disease recurrence and return. Introducing strategies to counter these returns and recurrences. Planning patient-specific strategies for coping with recurrence.

Results

In terms of demographic characteristics, only age and gender were considered in this study. The mean age was 38 years and standard deviation was 5.23 years and for gender, equality of number of males and females was attempted and due to the 15-member groups, number of men became one case more in each group. The scores of depression in 3 groups and in 3stages are presented in Table 2.

Table 2. Descriptive indices of depression scores in experimental and control groups in pre-test, post-test, and follow-up

Variable	Group	Pretest		Posttest		Follow-Up	
		Mean	SD	Mean	SD	Mean	SD
Depression	Supportive-Expressive Focusing on Relationship	42.7	13.9	27.7	7.4	26.5	6.9
	Cognitive-Behavioral Focusing on Relationship	33.4	11.16	27.9	9.5	27.5	9.3
	Control	33.5	10.5	34	9.7	31.1	7.8

In the pretest of depression, groups' average differs. In both groups, depression declined substantially after treatment, and this decrease was also sustained in follow-up.

In the control group, there was no significant difference in post-test. At follow-up, the rate of depression decreased.

Table 3. Descriptive indices of treatment adherence scores in experimental and control groups in pre-test, post-test and follow-up

Variable	Group	Pretest		Posttest		Follow-Up	
		Mean	SD	Mean	SD	Mean	SD
Adherence to Treatment	Supportive-Expressive Focusing on Relationship	705	147.05	953.3	77.3	988.3	79.5
	Cognitive-Behavioral Focusing on Relationship	671.7	159.8	748.3	162.7	728.3	152.6
	Control	755	178.8	818.3	188.1	793.3	203

In the pre-test of adherence to treatment, the mean scores of groups were different. In the supportive-expressive treatment group after treatment, adherence to treatment had a significant increase, which continued to increase in follow-up too. In the cognitive-behavioral treatment group, there was a significant increase in adherence to treatment, but in the follow-up, the adherence score decreased compared to posttest but remained above baseline. In the control group adherence to treatment increased while it decreased in follow-up.

Table 4. Multivariate indices of the effect of supportive-expressive treatment

Effect	Test Type	Index Value	F Ratio	Degree of Hypothesis Freedom	Degree of Error Freedom	Significant Level	Effect Size
Short-Term	Wilks' lambda	0.19	53.8**	2	25	0.001	0.81
Long-Term	Wilks' lambda	0.17	59.3**	2	25	0.001	0.83

The Wilks' lambda index is significant for the short-term (pretest-posttest) and long-term (pretest-follow-up) effects. This finding means that the overall profile of depression and adherence to treatment are significantly different between the two groups of supportive-expressive treatment group focusing on the physician-patient relationship and the control group. The effect size of supportive-expressive treatment focusing on the physician-patient relationship on these variables was 0.81 for short-term and 0.83 for long-term effect, indicating a large effect size.

Table 5. Multivariate indices of the effect of cognitive-behavioral treatment

Effect	Test Type	Index Value	F Ratio	Degree of Hypothesis Freedom	Degree of Error Freedom	Significant Level	Effect Size
Short-Term	Wilks' lambda	0.3	29.22**	2	25	0.001	0.70
Long-Term	Wilks' lambda	0.6	8.56**	2	25	0.001	0.41

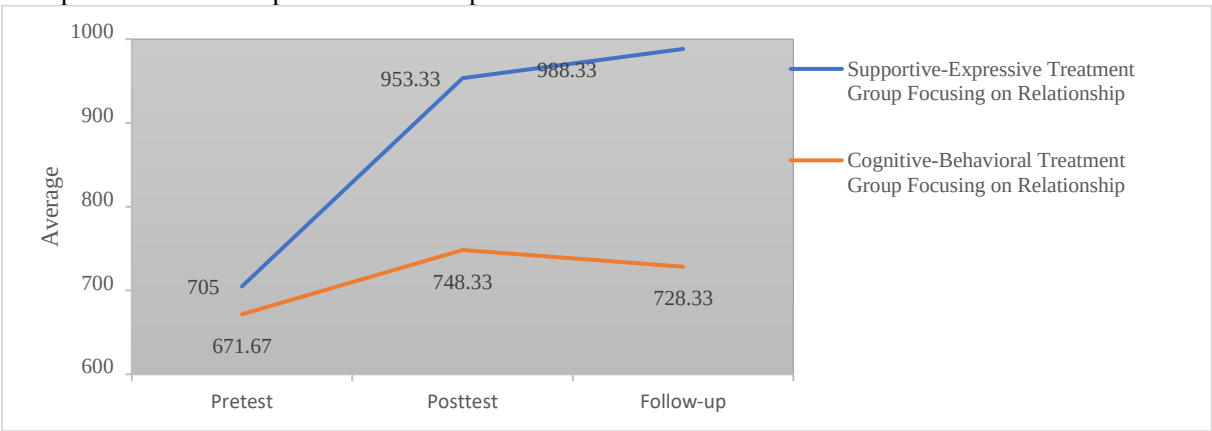
The Wilks' lambda index is significant for the short-term (pretest-posttest) and long-term (pre test-follow-up) effects.

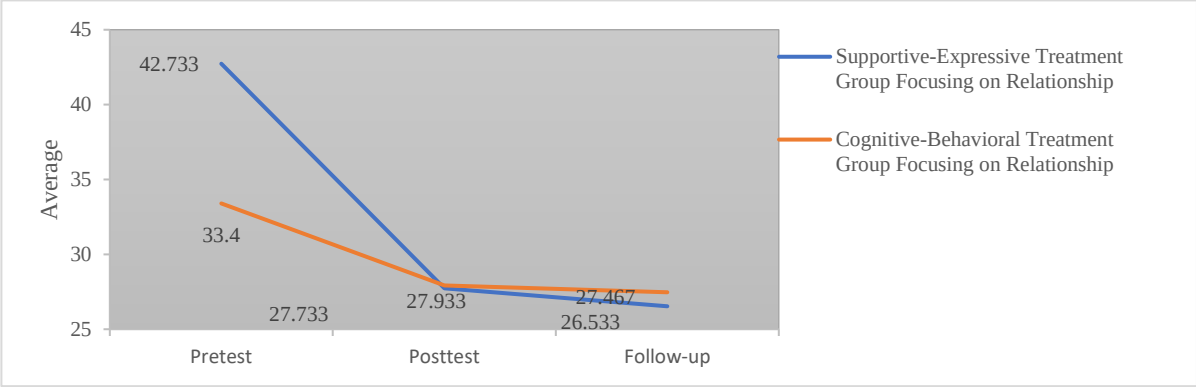
This finding means that the overall profile of the studied variables, depression and adherence to treatment, are significantly different betwee n the two groups of cognitive-behavioral treatm ent group focusing on the physician-patient rel ationship and the control group. The effect size of cognitive-behavioral treatment focusing on t he physician-patient relationship on these varia bles was 0.70 for the short-term and 0.41 for the long-term effect, indicating a moderate effect size.

Table 6. Multivariate indices of the difference between the effect of supportive-expressive treatment focusing on physician-patient relationship and cognitive-behavioral treatment focusing on physician-patient relationship

Effect	Test Type	Index Value	F Ratio	Degree of Hypothesis Freedom	Degree of Error Freedom	Significant Level	Effect Size
Short-Term	Wilks' lambda	0.37	21.38**	2	25	0.001	0.63
Long-Term	Wilks' lambda	0.29	31***	2	25	0.001	0.71

Table 7 shows the difference between the effe ct of supportive-expressive treatment focusing on the physician-patient relationship and cogni tive-behavioral treatment focusing on the physi cian-patient relationship. Since the comparison of the two groups is better with the comparison profiles of the averages, the following results h ave been interpreted to compare the profiles of the two groups.





Finger's 1, 2: Indicates adherence to treatment, indicates the scores of depression in 2 experimental groups.

Bonferroni test showed that the short-term eff ects of treatment (pretest and posttest comparis on) were different between the two groups. Co mparison of the averages showed that supporti ve-expressive treatment focusing on improving physician-patient relationship had more short-t erm and long-term effects on reducing depressi on and increasing adherence to treatment rathe r than cognitive-behavioral treatment focusing on improving physician-patient relationship.

Discussion

The results of this study showed that supportive-expressive treatment focusing on improving relationship had a greater short-term and long-term effect on reducing depression and increasing adherence to treatment rather than cognitive-behavioral treatment focusing on improving relationship. This finding suggests that supportive-expressive treatment focusing on improving relationship can be particularly effective in reducing the psychological symptoms of hemodialysis patients.

Among the studies that have investigated the effect of psychological interventions on improving patients' condition and their results are in agreement with the findings in this study, are as follows: In the study of Sookhk et al. titled "the effect of cognitive-behavioral interventions on adherence to the medication regime of hemodialysis patients", the results showed that this intervention had a significant impact on adherence to treatment (18), and in this study, we compared this treatment with focusing on the problem of relationship with another treatment to determine more effective treatment. Results of another study done by Jabbarz, Gorganinejad and Moshizi, titled "the effectiveness of cognitive-behavioral therapy in reducing emotional maladaptation in hemodialysis patients in Kerman", showed that cognitive-behavioral treatment had a significant effect on reducing emotional maladaptation in Kerman hemodialysis patients and this confirms that psychological treatments for these patients can have a significant effect on improving their moods which in the present study, we pay attention to the issue of depression and adherence to treatment in these patients as the two way attention (29).

Another research in this field is an innovative research titled "comparison of the effectiveness of two supportive-expressive and cognitive-behavioral psychotherapies on depression in hemodialysis patients which conducted on 45 patients referring to Mashhad hospitals. The results of this study showed that both treatments were effective in reducing depression and also the result of supportive-expressive treatment has been stable in follow up (30). According to this finding and necessity to pay attention to the relationship issue that are effective matters in chronic patients and their mood improvement and adherence, the researcher decided to pay attention to this group of patients.

Also, Hadian et al. in a study titled "the most important causes of non-adherence in patients on dialysis in 2018" showed that the most important causes of non-adherence to treatment in this group were mental and psychological factors, lack of awareness and attitude of dialysis patients and lack of social support. Based on this finding, the necessity to prioritize this research is determined (31).Mehrotra et al. in their study titled "comparative efficacy of therapies for treatment of depression for patients undergoing maintenance hemodialysis" showed that medical therapy was more effective than cognitive-behavioral treatment in the improvement of depressive symptoms in these patients and this has brought to mind the need for additional psychological treatment for those patients who did not follow medical therapy for their psychological problem (2).

This research had some limitations such as some patients were hardly able to initially answer the test questions to determine their depression level due to their physical impairment due to their illness and they had difficulty understanding the concept of the questions due to cognitive problems and needed more help which slowed down the response rate. Also, there is the lack of community-based studies in the country. Legal issues and the need to comply with them which initially wasted a lot of time.The lack of research in this field as well as the limited availability of these resources made it difficult for the researchers to compare the findings of this study with other findings.

According to the high prevalence of depressive disorder and the decrease in adherence to treatment among hemodialysis patients, and the results of this study which confirm the effect of supportive-expressive psychotherapy focusing on improving the physician-patient relationship on reducing depression and increasing adherence to treatment in these patients, It is recommended that psychological interventions, including treatments that relate to palliative care and emphasize the importance of the

relationship, applied and further studies is needed on other psychotherapy interventions in this group of patients. Also, in future researches, with increasing therapeutic sessions and longer follow-up period, a more detailed study of the effect of supportive-expressive treatment on depression will be done, and such studies will be performed on other specific diseases and the results will be compared.

Conclusion

It seems that supportive-expressive therapy with focusing on improving the relationship has more significant effects to reduce depression and increase adherence to treatment than the other therapy.

Acknowledgment

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References

1. Bronze D. [Why depression? Cognitive therapy]. Hariri N. (translator). 1st ed. Tabriz: Vanguard of Science Publications; 1994: 42. (Persian)
2. Barzin A. [Comparison of mental image of body in kidney donors and recipients before and after transplantation in Isfahan and Tehran hospitals in 1996-97]. Journal of Kerman University of Medical Sciences 1998; 1(6): 25-17. (Persian)
3. Brock M. Uncertainly, information needs and coping effectiveness of renal families. ANNA J 1990; 17(3):242-5.
4. Watnick K. Depression in patients undergoing hemodialysis. Available from: www.Depression and ESRD.com.2000-2001.Pdf research.1-3.
5. Mahmoudabadi A. [Chronic kidney failure and dialysis].Mashhad: Kordegari Publications; 2017:53.(Persian)
6. Saffari M, Shojaeizadeh D. [Principles of health education and health promotion]. Tehran: Samat publication; 2014: 115. (Persian)
7. Cukor D. Use of CBT to treat depression among patients on hemodialysis.Am Psychiatr Assoc 2007;58(5):711-2.
8. Aganwa HS, Morakinyo O. Psychiatric complication of hemodialysis at a kidney center in Nigeria. J Psychosom Res 1997; 42(5): 445-51.
9. Kimmel PL, Thamer M, Richard C. Psychiatric illness in patients with end stage renal disease. Am J Med 1998; 105(3): 214-21.
10. Zali M. [New principles of patient-physician relationship]. Tehran: Legal publications; 2007: 245. (Persian)
11. Zamani A, Shams B, Siadat ZD, Adibi P, Salehi H, Saneii H. [The effect of communication skill training on clinical skill of internal medicine and infectious disease]. Journal of Isfahan University of Medical Sciences 2006; 2(8): 98. (Persian)
12. Taylor Sh. [Health psychology]. Badiee Aval M, Rafiei Shafiq M, Seyyed Zadeh Z. (translators). 1st ed. Mashhad: Faraangizesh Publications; 2017: 351-4. (Persian)
13. Ghadiri Lashkajani M, Zolfaghari M. [Patient-physician relationship]. Tehran: Iran University of Medical Sciences; 2000: 35. (Persian)
14. Soltani Arabshahi K, Ajami A, Siyabani S. [Investigation of doctor-patient communication skills teaching: Medical learners' perception (stager-intern) and staffs of Iran University of Medical Sciences and Kermanshah University of Medical Sciences]. Journal of Iran University of Medical Science 2004; 11(41): 423-32. (Persian)
15. Sanderson K. [Health psychology]. Jomhuri F, Maschi F, Sodagar Sh, Samari AA, Hejir F, Sobhi A, et al. 2nd ed. Tehran: Sarafraz publications; 2013: 148-50. (Persian)
16. Rafiee Verdanjani L, Parvin N, Mahmoodi Shen Gh, Mollai E, Shariati A, Hashemi Nia A. [Adherence to hemodialysis therapy and its relationship with some factors in hemodialysis patients referred to Hajar Training Center of Shahrekord]. Journal of clinical nursing and midwifery 2013; 4(2): 18. (Persian)
17. Aeedmanesh M; Masoodi Z, Yadegari S, Shams M. [The effect of stress management training on reducing anxiety and depression of patients undergoing dialysis in Shahid Sadoughi Hospital in Yazd]. Proceeding of the 3rd International Conference on Modern Research in Education and Psychology and Social Studies in Iran.Tehran. Soroush Hekmat Mortazavi Center for Islamic Studies and Research, 2018: 52. (Persian)
18. Sookhk F, Zolfaghari M, Asadinoghabi A, Haghani H. [The effect of cognitive-behavioral interventions on adherence to the medication regime of hemodialysis patients. Hayat 2014; 3(20): 85-94. (Persian)
19. Azimian S. [The effectiveness of mindfulness-based cognitive therapy on depression and anxiety in hemodialysis patients]. MA. Dissertation. Tehran: School of Social Welfare and Rehabilitation Sciences, 2016: 93-112. (Persian)

20. Beck AT, Brown G, Steer R.A. Manual for the Beck Depression Inventory-II. San Antonio, TX: The Psychological Corporation; 1996.
21. Fathi Ashtiani A, Dastani M. [Psychological examinations]. Tehran: Besat publications; 2010: 336- 9. (Persian)
22. Mohammadian Y, Shahidi Sh, Mohammadi A, Mahaki B. [Effect of poetry therapy on signs of depression students]. Scientific journal of ILam University of Medical Sciences 2009; 18(2): 9-16. (Persian)
23. Karami Z, Keyvan Ara M. [Investigating patterns of physician-patient relationship among patients referred to Shahid Beheshti Hospital Clinic in Isfahan in 2007]. Journal of Medical Education Development and Research Center 2007; 2(6): 149-56. (Persian)
24. Kim Y, Evangelista LS. Relationship between illness perceptions, treatment adherence, and clinical outcomes in patients on maintenance hemodialysis. Nephrol Nurs J 2010; 37(3): 271-80.
25. Kim Y, Evangelista LS, Phillips LR, Pavlish C, Kopple JD. The End-Stage Renal Disease Adherence Questionnaire (ESRD-AQ): testing the psychometric properties in patients receiving in- center hemodialysis. Nephrol Nurs J 2010; 37(4): 377-93.
26. Khalili F, Eslami AA, Farajzadeghan Z, Hasan Zadeh A. [The association between social- psychological factors and treatment adherence behaviors among maintenance hemodialysis patients in Isfahan, Iran: A conceptual framework based on social cognitive theory]. Health system research 2011; 7(3): 278-90. (Persian)
27. Winston A, Rosenthal R, Robert L. Learning supportive psychotherapy: An illustrated guide. 2nd ed. New York: American Psychiatric Association Publishing; 2019: 192-8.
28. Khodayari Farad M, Abedini Y. [Cognitive-behavioral therapy]. Tehran: Tehran University Press; 2015: 48-49. (Persian)
29. Amiri Jabbarz B, Gorganinejad Moshizi M. [The effectiveness of cognitive-behavioral therapy in reducing emotional maladaptation in hemodialysis patients in Kerman]. Studies in psychology and education 2016; 4: 43-9. (Persian)
30. Badiee Aval M. [Comparison of the effectiveness of two supportive-expressive and cognitive- behavioral psychotherapy on depression in hemodialysis patients]. MA. Dissertation. Torbat-e-Jam: Islamic Azad University, Torbat-e-Jam branch, 2015: 48-54. (Persian)
31. Hadian Z, Rafiee Vardanjani L, Barimnejad L. [The most important causes of non-adherence in patients on dialysis]. Clinical excellence 2017; 2(5): 84-97. (Persian)
32. Mehrotra R, Cukor D, Unruh M, Rue T, Heagerty P, Cohen SD, et al. Comparative efficacy of therapies for treatment of depression for patients undergoing maintenance hemodialysis: A randomized clinical trial. Ann Intern Med 2019. (In press)