# Effectiveness of Hope-based Group Therapy on General health and Happiness of Hemodialysis Patients

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## ABSTRACT

Background: The patients undergoing hemodialysis often suffer from depression, anxiety and sadness as the result of lifestyle changes due to disease and therapy arrangement. The situation in addition to worsening the patient's quality of life can be a reason for leaving therapy and even cause the patient's death. Therefore considering the importance of addressing psychological issues of such patients, the present study is done to determine the effect of group therapy on hemodialysis patient's general health and happiness.

Materials and Methods: In this randomized clinical trial study 46 hemodialysis patients are admitted to hospitals in the city of Yazd. Hope-based group therapy program is implemented on the intervention group (22 patients) during eight90-minute sessions. While the control group (n = 24) are still under routine care. The data collection tool is a questionnaire. The data are analyzed by SPSS V 15 with descriptive and inferential statistics (chi-square test, Independent and dependent t tests).

Results: According to the results mean ± standard deviation the happiness scores of the intervention and control groups have been $55.05 \pm 12.72$ and $58.46 \pm 8.18$ which is not statistically significant (P - value> 0.05). But at the end of the study they have been$66.28 \pm 9.24$ and $60.82 \pm 6.57$ which has significant difference (p <0.05). The mean ± Standard deviation of general health of patients in intervention and control groups have been $29.68 \pm 13.98$ and $33.29 \pm 10.43$ but at the end of the study they have been $19.44 \pm 9.33$ and $26.05 \pm 10.34$ respectively. Symptoms of anxiety and depression are reduced in the group under the hope-based group therapy but they are not statistically significant (P- value> 0.05).

Conclusion: The results of the study revealed the fact that participation in hope-based group therapy sessions could promote happiness and general health of hemodialysis patients. Therefore given the known effects of cognitive behavioral therapy and especially hope-based group therapy on other groups and the results of the present study this therapy can be proposed as a therapy option for nurses and doctors of the hemodialysis department. In addition conducting extensive study in this area is recommended.

**KEYWORDS**: hope-based group therapy, happiness, general health, hemodialysis

## INTRODUCTION

According to global statistics, more than one million of the 50 million renal failure patients undergo hemodialysis. In Iran the numbers of patients is over 13 thousand people, and there is a 15% increase annually (1). Kidney disease and hemodialysis are among the problems that can severely affect a person's physical and mental health (2) in other words the severe and chronic renal dysfunction by mental and physical problems can affect the general health of the patient (3). These patients are suffering from depression as the result of lifestyle changes due to therapy practices and exposure to psychological- social stress (4). Dialysis patients suffering from depression experience a drop in quality of life and have a higher rate of mortality than others (5). In addition, depression in hemodialysis patients can stimulate the abandonment of therapy stages and lead the patient to severe renal complications and death. Therefore, patients with this disease as well as other chronic diseases need for compatibility due to the stress.

In this regard, one of the best supports for people coping with problems is feelings of joy and happiness (6). Happiness leads to a positive attitude to life, a positive self-concept and enjoyment of physical (7), mental and emotional balance and increases hope for the future. Also it is followed by better performance of the immune system against stress, better sleep and creativity among people (8). Although happiness cannot restore health in patients

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with severe problems, it can enhance the life expectancy and improve health (9). In addition, it is obvious that increasing is effective in patients with high blood pressure (10).

Happiness is a psychological concept and means how human being could have a better life and what makes him more satisfied (11). Happiness is the product of mental health and they have a strong relationship with each other. It is recognized that there is a direct correlation between lack of anxiety and depression and happiness. Experience of stress reduces happiness and threatens the mental health (12). While positive emotions, life satisfaction and lack of negative emotions, positive relations with others, a purposeful life, personality development and love for others are the necessary conditions to achieve happiness (9). In this regard, although the happiness of patients is less considered by the researchers, depression as a common psychological disorder in hemodialysis patients is reported with a prevalence of more than 30% (4). Therefore, a progressive increase in patients with chronic renal failure undergoing hemodialysis in the world indicates the importance and necessity of providing scientific and practical solutions in dealing with psychological problems and promoting happiness in this class of patients.

Duarte et al after the study of the effects of cognitive-behavioral group therapy among dialysis patients concluded that this intervention resulted in a reduction in depression (2). Hope-based group therapy is among other effective interventions known to create hope and happiness in the therapy of patients. Bijari et al. in a study on 20 cases with breast cancer have considered hope-based therapy effective on reducing depression among these patients (5). In the study conducted by Ghasemi et al. hope-based group therapy led to the increase in elderly's happiness (13). In addition, the effect of hope and happiness in the therapy of renal failure and patients' dialysis outcome has also been reported (14). But information about the effectiveness of hope-based group therapy on the happiness of these patients is limited. Accordingly based on the importance of psychological issues of hemodialysis patients and to emphasize the important role of nurses in counseling ill patients with chronic status, this study is aimed to determine the effect of hope-based group therapy on the happiness and general health of hemodialysis patients.

## MATERIALS AND METHODS

This study is a randomized clinical trial. The subject consisted of 46 hemodialysis patients admitted to hospital in the city of Yazd selected by simple purposive sampling.

The subject size is calculated by Cohen formula. Then initial subjects are classified into the therapy and control groups by random allocation software in equal proportions. Inclusion criteria are: patients aged between 18 and 65 years treated with hemodialysis for at least three months with informed consent to participate in research. Exclusion criteria included the patients' bad condition and disability to participate in the group therapy program and recent history of psychological stress such as the death of relatives and first degree relatives, divorce and bankruptcy. The absence of more than three days in the intervention group and lack of willingness to continue to cooperate is considered as loss. Thus two losses happened in the intervention group due to lack of cooperation of the two women after a first and second sessions. Hope-based group therapy program (Table 1) for intervention group is implemented by a nurse during eight 90-minute sessions for a month (twice a week) in the Trauma Research Center Council Chamber at the Shahid Rahnamoon hospital under the guidance of a doctoral student in clinical psychology with work experience in this area. The control group is under routine care.

Table 1 - The contents of the hope-based group therapy program sessions

| Session | Subject | Purpose |
|---|---|---|
| 1st | Interactive acquaintance with the instructor and explaining objectives and rules | Evaluating the hope and health of participants (pre-test) – acquaintance with the members and guidelines for participation, introducing programs, familiarity with the goals of the group, communication and empathy |
| 2nd | Introducing the basics of hope and its components to the hemodialysis patients | Hemodialysis patients' acquaintance with the foundations of knowledge about hope and its components |
| 3rd | Helping the hemodialysis patients to understand hope and its components and finding better hope | Finding hope in patients with hemodialysis |
| 4th | Determining the promising therapy objectives and strengthening hope components and barriers | Increasing hope in hemodialysis patients |
| 5th | Strengthening and development of advancement power | Increasing hope in hemodialysis patients |
| 6th | Strengthening and developing the willpower, internal releasing factors and winning the dos and don'ts | Increasing hope in hemodialysis patients |
| 7th | Reassuring to resolve recurrent problems as well as minor obstacles | Maintaining hope in hemodialysis patients |
| 8th | Ending the training and assessment | Determining the effect of hope- based interventions |

Data collection tools are three-part questionnaires demographic characteristics of the subjects, Oxford Happiness Inventory and general health test. Oxford Happiness Inventory has 29 questions with four point Likert scale (with the score range of 0-87) and five domains of life satisfaction, self-esteem, subjective well-being, satisfaction and positive mood. The general health test with four point Likert scale (with the score range of 0-84) had four domains: physical symptoms, anxiety symptoms, social function and depression. Data are collected during the two sessions, immediately before the commencement of therapy and after completion of the intervention group therapy sessions and the interviews are conducted by a research assistant. The data are analyzed with SPSS version 21 using descriptive statistics (mean and standard deviation) and inferential statistics (analysis of covariance, chi-square and dependent and independent t).

## RESULTS

In this study a total of 46 hemodialysis patients are studied before and after the intervention in the intervention and control groups. The average age of patients in the intervention group is $45.14 \pm 14.13$ and that of the control group is $53.83 \pm 9.8$ years (P-value= 0.021). 71.7% of the subjects are male, 78.3% are marries and 69.6% of them had under high school education (table 2).

Table 2 – Comparing the hemodialysis patients' demographic information

| Group | | Intervention group | | Control group | | P-value X2 test result and Fisher test |
|---|---|---|---|---|---|---|
| | | Frequency | % | Frequency | % | 0.035 |
| Gender | Male | 19 | 86.4 | 14 | 58.3 | |
| | Female | 3 | 13.6 | 10 | 41.7 | |
| Marital status | Single | 5 | 22.7 | 5 | 20.8 | 0.578 |
| | Married | 17 | 77.3 | 19 | 79.2 | |
| Level of education | Below average | 12 | 54.5 | 20 | 83.3 | 0.034 |
| | Average or higher | 10 | 45.5 | 4 | 16.7 | |
| Employment | Unemployed | 16 | 72.7 | 21 | 87.5 | 0.187 |
| | Employed | 6 | 27.3 | 3 | 12.5 | |
| Economic status | Average | 11 | 50 | 7 | 29.2 | 0.148 |
| | Weak | 11 | 5. | 17 | 70.8 | |
| Happy activity | Yes | 8 | 36.4 | 2 | 8.3 | 0.025 |
| | No | 14 | 63.6 | 22 | 91.7 | |
| | Total | 22 | 100 | 24 | 100 | |

Mean ± Standard deviation of happiness scores before and after intervention in the intervention group are $55.05 \pm 12.72$ and $66.28 \pm 9.24$ and are $58.46 \pm 8.18$ and $60.82 \pm 6.57$ in the control group.

The obtained results indicate that the changes in the mean scores before and after the intervention in all areas of happiness except the positive mood is statistically significant in the two groups (P-value <0.05) (Table 3).

Table 3 - Comparisons of average happiness score in the subjects of two groups before and after intervention in different domains

| Happiness areas | The group under study | Analysis time | |
|---|---|---|---|
| | | Before intervention | After intervention |
| Life satisfaction | Intervention | 16.23±4.01 | 19.44 ± 2.87 |
| | Control | 17.29 ± 2.66 | 17.68 ± 2.46 |
| | P-value | 0.3 | 0.043 |
| self-esteem | Intervention | 12.45 ± 3.08 | 15.39 ± 2.79 |
| | Control | 12.46 ± 2.55 | 12.86 ± 1.64 |
| | P-value | 0.996 | 0.001 |
| subjective well-being | Intervention | 8.77 ± 2.35 | 10.72 ± 1.96 |
| | Control | 9.17 ± 1.69 | 9.91 ± 1.23 |
| | P-value | 0.514 | 0.118 |
| satisfaction | Intervention | 8 ± 2.67 | 9.67 ± 1.71 |
| | Control | 9.25 ± 1.73 | 9.41 ± 1.59 |
| | P-value | 0.064 | 0.626 |
| positive mood | Intervention | 9.59 ± 2.58 | 11.06 ± 2.01 |
| | Control | 10.29 ± 1.97 | 10.95 ± 1.65 |
| | P-value | 0.303 | 0.862 |
| P-value of changes in positive mood | | 0.095 | |
| Total happiness score | Intervention | 55.05 ± 12.72 | 66.28 ± 9.24 |
| | Control | 58.46 ± 8.18 | 60.82 ± 6.57 |
| | P-value | 0.281 | 0.035 |
| P-value of changes in total happiness score | | <0.001 | |

Mean ± Standard deviation of general health scores before and after intervention in the intervention group are $29.68 \pm 13.98$ and $19.44 \pm 9.33$ and that of the control group are $32.29 \pm 10.43$ and $26.05 \pm 10.34$.

The results show no significant differences at baseline between the two groups in the various fields of general health (P- value> 0.05). Changes in mean scores before and after the intervention in the area of social functioning and general health of the two groups are statistically significant (P-value <0.05) (Table 4).

Table 4 - Comparing the mean scores of general health in both intervention and control groups
before and after intervention

| general health scope | | Before intervention | After intervention | Changes |
|---|---|---|---|---|
| **Physical symptoms** | Intervention | 22.8 ± 4.48 | 5.77 ± 3.9 | −2.77 ± 4.41 |
| | Control | 9.79 ± 4.18 | 7.77 ± 4.08 | −1.68 ± 3.13 |
| | P-value | 0.227 | 0.125 | 0.365 |
| **Physical symptoms** | Intervention | 8.914 ± 5.45 | 6.33 ± 4.63 | −2.88 ± 2.82 |
| | Control | 10.45 ± 5.05 | 8.91 ± 4.97 | −1.13 ± 3.58 |
| | P-value | 0.323 | 0.101 | 0.1 |
| **Social function** | Intervention | 9.31 ± 4.25 | 6.05 ± 2.38 | −3.94 ± 3.22 |
| | Control | 8.33 ± 3.64 | 7.36 ± 2.68 | −0.68 ± 2.03 |
| | P-value | 0.403 | 0.115 | <0.0001 |
| **Signs of depression** | Intervention | 3.22 ± 3.64 | 1.27 ± 1.6 | −2.33 ± 4.29 |
| | Control | 3.71 ± 2.92 | 2.45 ± 2.8 | −1.18 ± 1.73 |
| | P-value | 0.612 | 0.123 | 0.297 |
| **Total** | Intervention | 29.68 ± 13.98 | 19.44 ± 9.33 | −11.94 ± 9.66 |
| | Control | 32.29 ± 10.43 | 26.05 ± 10.34 | −4.68 ± 6.57 |
| | P-value | 0.474 | 0.031 | 0.008 |

## DISCUSSION

This study aimed to determine the effect of hope-based group therapy on hemodialysis patient's happiness and general health. The results suggest that hope-based group therapy in the intervention group, the average happiness score increased significantly and considerably. This result is consistent with the previous studies. Ghasemi et al. in a study entitled "Effect of group training based on Snyder hope theory on happiness and life expectancy on of the elderly" showed that holding of hope-based group therapy sessions increases happiness and life expectancy in the elderly (13). Also Jamal Zadeh et al. by performing hope-based group therapy sessions in 8, one hour and half sessions confirmed the effectiveness of this method in increasing happiness and life satisfaction of older women (15). Therefore, as already indicated positive psychology interventions including hope-based therapy with moderating role in reducing psychological problems can contribute to an increase in happiness and general health in hemodialysis patients.

Moreover, by comparing the average score of happiness in various domains of life satisfaction, self-esteem, subjective well-being, satisfaction and positive mood, the results show that the changes in mean scores before and after the intervention is statistically significant in all areas of except positive mood in the control and group under hope-based group therapy (P-value<0. 05). This result can be justified as the change in positive mood might need more time and alternative method.

In this study, the average happiness score based on the Oxford Inventory (ranging from zero to 87) is 56.82 in all dialysis patients before the intervention. Looking at the various sources it becomes clear that this score has been reported in studies with large fluctuations because it is affected by many variables. In Alipur et al., by analyzing 369 Iranians based on Oxford Inventory the average happiness score is reported as 42.07 (16). AlsoKeshavarz reported the average happiness score of 59.61 (17).

Earlier in 2015, Rahimpoor et al. by performing a clinical trial presented the effect of hope-based group therapy on anxiety and depression among hemodialysis patients in Isfahan where 50 dialysis patients were divided randomly into two groups. Hope-based group therapy sessions were held once a week for 8 sessions for intervention group during dialysis. Pre- and post-intervention questionnaires for depression, anxiety and stress were completed by both groups. The researchers reported inconsistent results with the present study because hope-based therapy had a significant relationship with decrease in depression and anxiety (P-value <0.001) (18).

Results obtained in the study showed that there were no significant differences at baseline between the two groups in the various fields of general health (P- value> 0.05). General health scores of the intervention and control groups in the areas of somatic symptoms, anxiety symptoms, social function and depression indicates that hope therapy of mean changes were significant in the area of social functioning and general health (P-value <0.05). Although the symptoms of anxiety and depression in dialysis patients participated in the hope-based therapy are reduced, this change is not statistically significant (P-value> 0.05). The effectiveness of hope-based group therapy on improving the health-related quality of life in cancer patients by Farhadi et al showed that hope-based therapy has

been effective in increasing the general health in these patients that the results of the present study are consistent with it (19). Probably other factors have been involved in achieving these results. In the study conducted by Alaeddini et al titled "the effect of hope-based group therapy on the level of hope and mental health", no significant relationship is observed between hope-based group therapy and reduction in anxiety which is consistent with the present study (20). However, in this study, unlike the results, hope-based therapy has been effective in reducing depression. But Movahedi et al did not obtain the same result by analyzing the effect of hope-based therapy on the life expectancy and depression of cancer patients and concluded that hope-based therapy has a significant effect on all there areas of general health (P-value <0.05) .

Given that higher score in happiness indicate higher happiness and higher score in general health indicates disorder in the health, the results of the present study indicate an inverse relationship between the scores of general health and happiness and this indicates that with better general health, happiness level is higher. The linear correlation general health and happiness scores is statistically significant (P-value <0.001). So there is a direct relationship between general health and happiness and thus the hope based therapy has increased both indicators in dialysis patients. This result is consistent with Omidian et al. They analyzed the general health status and happiness among Yazd University students (21). thus, exposing patients to hope therapy can be a rmedy for handling depression and increasing hope therapy in individual (22).Total general health score and its subscales have a significant inverse relationship with happiness.

## CONCLUSION

In this study, by analyzing the effect of hope based group therapy on mental health and happiness of hemodialysis patients it is concluded that the group therapy program can lead to increased happiness among patients undergoing dialysis. Thus, according to the results of this study and in confirming the results of other studies based on the effectiveness of psychological intervention methods in improving general health, mental health and reducing anxiety and depression of chronic patients it is possible to propose hope based group therapy as a useful intervention for promoting happiness of hemodialysis patients. Nurses of the hemodialysis sectors should always consider this treatment method as an option to support their own patients. In addition, it is recommended to perform further studies at broader levels to analyze the efficacy and application of the intervention in group and individually in hemodialysis patients and other groups of disease.

Among the limitations of this study included the low number of subject and cultural, social, ideological and belief differences in the subjects. This factor might have been effective on the results and out of the hands of researchers. On the one hand, collecting data through interviews by the researcher for the conformity of the subjects has been effective in distorting the responses of the participants. To control this variable it is attempted to win the confidence of subjects.

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