



# The effect of peer support group on self-transcendence in patients undergoing haemodialysis

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## Abstract

**Introduction:** Self-transcendence helps patients undergoing haemodialysis to organize the variety of challenges caused by the disease in order to make them feel well. This study was conducted to determine the effect of counterpart group on improving self-transcendence level in patients undergoing haemodialysis. **Materials and Methods:** This clinical trial was conducted with two groups of intervention and control, with 55 patients undergoing hemodialysis. The samples were divided in 2 groups of intervention and control through block randomization. Two-hour counterpart group sessions were held for eight weeks for intervention group. The session's topics were based on the patients' needs and interests. Research tools were questionnaire, demographic information and "Reed's Self-Transcendence Scale (STS)". The descriptive and inferential statistics were used for data analysis using the SPSS v18. **Results:** There was a significant difference between self-transcendence scores in two groups of intervention and control ( $P < 0.05$ ). A significant increase in the level of self-transcendence in both groups was seen at the end of the study compared to basal status ( $P < 0.05$ ).

**Conclusions:** According to the study results, attending the counterpart groups improved self-transcendence in patients undergoing haemodialysis. The results can be used in nursing education and management. Training Self-transcendence evaluation is recommended for other chronic diseases with the emphasize on participating in counterpart groups for assessing its efficiency.

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## Keywords

Counterpart group, Haemodialysis, Self-transcendence

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## Introduction

End stage renal disease is one of the significant reasons of death and disability all around the world (Smeltzer et al., 2012). Prevalence of the end stage renal disease is increasing in the world. The number of End stage renal disease (ESRD) patients undergoing treatment in 2009 was 2.456.000 among which 1,895,000 were under dialysis (Fresenius-Medical-Care, 2009). It is estimated that the dialysis population will reach 3,500,000 by 2020 (Davids, 2007). Haemodialysis is the most common therapy for ESRD (Aliloo et al., 2011). By starting therapy, the patient's overall health will improve and finally their life span will be increased. However, haemodialysis therapy may provide some side effects as well (Phipps et al., 1999). The patients that undergo haemodialysis are exposed to a large rank of physical, psychological and social problems (Tayyebi et al., 2010) and the psycho-social disorders caused by disease such as changes in imaginations, behavioral changes and etc. and causes exposure of patients to daily tensions (Rafiee et al., 2011). These patients are often worried about their unpredictable future and suffer from depression and death fear because of their chronic disease (Eslami et al., 2014; Kirby, 2013).

The life quality level of dialysis treated patients is lower than the other people in society (Lindqvist and Sjoden, 1998). The chronic and weakening nature of disease, the long-lasting and dynamic therapy and patients' actual and potential problems (Rahimi et al., 2006) show their need to support (Tayyebi et al., 2010). The findings indicated that self-transcendence will effect increase of self-care and the life quality of chronic patients (Jadid-Milani et al., 2014). The word self-transcendence refers to spiritual facts and is adopted from Reed's Self Transcendence Theory (Reed, 2009). Self-transcendence is a nursing descriptive theory designed by Palma J. Reed in 1991 and it's aim is understanding the health status of the people who are vulnerable or close to death (Reed, 2008). Self-transcendence theory was first developed on mental health and welfare in the elderly and then many researches have been done on this field and other

fields (Kausch and Amer, 2007). This theory has been used in all age groups from childhood to adulthood in all cultures from America to Asia during the past years (Reed, 2008).

Self-transcendence is defined as the expansion of self-boundaries in the following dimensions:

1. Inner: self-acceptance and goal discovery
2. Outer: communicating with others and environment and considering other's welfare
3. Temporally: Your past and future develops your presence through this dimension and you are attached to a higher dimension by this one

Therefore, self-transcendence is the expansion of self-boundaries and being aware of the dimensions beyond self. It is formed as a developmental talent (or maybe a survival mechanism) from a person's experiences of health and illness (Reed, 2008).

As a person transcends, he feels that the around boundaries are without any physical or temporal limitations (Coward and Kahn, 2005). Self-transcendence is gained by helping others (Gulliver, 2007). It helps a person to organize the challenges caused by illness inside some meaningful systems to make person feel better (Jafarzadeh et al., 2015) and accept death as a part of life and find spiritual meanings in life (Reed, 2009). Nursing interferences can be a facilitator of patient's internal sources and others support to reach self-transcendence and a higher level of health (Reed, 2008). Interpersonal approaches like face to face contact, phone and internet that focus on people's communication with others, can facilitate self-transcendence. Consultation with counterparts and other supportive groups are among the approaches that a nurse can provide for patients (Reed, 2009). Supportive groups are often one of the effective communicating ways for those who have difficult situations in their lives. The supportive groups gather people with the same experiences and facilitate group member's communication, sharing experiences, transferring information about strategies of compliance with problems, and making a situation to help each other in order to reach self-transcendence (Kausch and Amer, 2007; Messmer Uccelli et al., 2004; Nichols and Jenkinson, 2006).

Researches showed that supportive groups increased self-transcendence level in patients undergoing prostate cancer (Chin and Fernsler, 1998) and MS (Jadid-Milani et al., 2014). However, the study on improving the self-transcendence level and positive attitude to take care of the elderly in nursing students showed that the self-transcendence level had no meaningful changes before and after intervention (Chen and Walsh, 2009; Lamet et al., 2011). The studies showed that self-transcendence has a significant effect on increasing self-care in patients (Mellors et al., 1997; Upchurch and Mueller, 2005), having goals in life (Nygren et al., 2005), and life quality in patients with incurable diseases (Jadid-Milani, 2012).

Therefore, considering the controversies about the quality and quantity of nursing intervention on self-transcendence level in studies, this study was conducted to determine the effect of supportive counterparts group on improving self-transcendence of patients undergoing hemodialysis.

## Materials - Methods

This randomized clinical trial was approved by the Ethics Committee of the Sabzevar University of Medical Sciences. This research was conducted on end-stage renal disease patients referring to the hospital under the supervision of the Sabzevar University of Medical Sciences in 2013. Among 110 qualified patients (having at least 6 months haemodialysis therapy and aged over 18), 64 patients were selected randomly regarding the sample volume with the confidence coefficient of 95. Patients were divided into two groups of intervention and control group using the block randomizations.

Foursome blocks were used so that "A" was defined as control group and "B" as intervention group. Different forms that can be used for forming tertiary groups was written as below: **AABB, ABBA, BAAB, ABAB** and then each block was written in a paper and was thrown inside a dish and the first block was chosen randomly and it was continued so for all the samples.

On the first day of the study, the objectives, data collection methods and regulations of the study were explained to participants and informed written consent was obtained from all participants. The 26 ethics codes were also accomplished. For control group, routine care of dialysis department was done and the counter parts group was designed for intervention in the intervention group. The most appropriate group size for health changes is 8 to 12 (Jadid-Milani, 2012). So the sessions were held on 3 groups according to sample volume. About 10 to 12 individuals were selected for each group, then if there was sample withdraw, there would remain at least 8 individuals in each group. As well as 10 individuals remained in group 1, 10 individuals in group 2, and 12 individuals in group 3. The groups' wrappings were due to patient's haemodialysis program. In order to prevent bias, the intervention and control groups were arranged in separate shifts for dialysis in order that they do not meet each other. Group sessions were scheduled for 8 sessions in 8 weeks (Mohr et al., 2005; Uccelli et al., 2004) and each session was 2 hours per week. Those who were absent followed the topics by calling the researcher or from other members of the group. While, more than 2 sessions absence, meant person's data omission. The formation and management was the same for all counterpart groups and cultural and ideological issues were noticed in the classes. Also, a transportation company was coordinated for patient's communication to the sessions place. All three counterpart groups discussed topics were gained by health problems that were asked from patients based on their need and interest. The other seven session topics were chosen based on priority of

patients at the first session. Discussed topics were determined based on Reed's self-transcendence scale (STS). According to Reed theory, the items in STS can be used as a guidance for education and spiritual attitude in the members of counterpart groups (Smith and Liehr, 2013). While talking about mental and physical disorders in each session, approaches such as adapting with physical changes and its difficulties, adapting with the present situation, building new concept of life and using others' experiences and opinions were emphasized. To observe ethics, at the end of the study after completing the questionnaire, the items that were taught in the sessions for intervention group, were given as pamphlets to the group.

The study tools include demographic questionnaires and self-transcendence scale (STS). The tools designed by Reed (STS1986) consists of 15 items and it gains 15 to 60 scores according to Likert scale. Higher score means higher self-transcendence. The Cronbach alpha coefficient has been 0.72 to 0.93 in the recent studies and has been localized and translated into Persian at Milani et al new study (Jadid-Milani, 2012). In this study, the test-retest method was used for determining the reliability of self-transcendence scale, the tool was given to patients during one week interval and the correlation coefficient was 0.81 for self-transcendence scale which indicates the scale's reliability. The tools were completed at baseline and end of the intervention by patients themselves in both groups (intervention and control group). the questionnaire was done by the researcher for illiterate patients. .

During the sessions, three participants were omitted due to renal transplantation, four participants because of absence more than two sessions, and two participants because of refusal to continuing. Finally, the data of 28 participants of intervention group and 27 ones of control group were analyzed. The SPSS version 18 software and descriptive and inferential statistics were used for data analysis, the independent T test was used for self-transcendence comparison between two groups at the end of study, paired T test was used for internal test and the ANOVA was used for analyzing the contextual variables effect. Significant stage equaled confidence interval of 0.95% ( $p < 0.05$ ).

## Results

The demographic information of the results of the study on 55 patients in two groups (28 intervention and 27 control group) has been shown in **Table 1**. According to **Table 2**, the means score of self-transcendence developed in intervention group after intervention. Statistically, there was a significant difference between baseline and post intervention ( $p < 0.0001$ ). The self-transcendence score was also increased at the end of the study in control group and this was statistically significant in before and after the intervention status

( $p=0.006$ ). There was a significant difference between control group and intervention group at the end of the intervention ( $p<0.0001$ ).

**Table 1. The relative frequency of research units based on demographic characteristics**

Demographic information	Groups		P values
	Intervention	Control	
<b>Age (Mean,SD) (Year)</b>	47.04±13.29	48.04±13.20	<b>0.65</b>
<b>Sex</b>			
Men	25%	22.2%	<b>0.80</b>
Women	75%	78.8%	
<b>Marital status (%)</b>			
Single	82.1%	85.2%	
Married	14.3%	7.4%	
Widow	0	7.4%	<b>0.42%</b>
Divorced	3.6%	0	
<b>Education (%)</b>			
Illiterate	7.1%	11.1%	
Primary school	35.7%	33.3%	
Secondary school	39.3%	37%	<b>1</b>
High school	17.9%	14.8%	
University	0	3.7%	
<b>Employment status (%)</b>			
Worker	25%	14.8%	
Employer	7.1%	7.4%	
Housewife	21.4%	25.9%	<b>0.95</b>
Self employed	14.3%	14.8%	
Unemployed	25%	29.6%	
Retired	3.6%	7.4%	
Student	3.6%	0	
<b>Income (%)</b>			
Good	3.6%	7.4%	<b>0.67</b>
Average	39.3%	29.6%	

Weak	57.1%	0.63%	
<b>Dialysis history (Years)</b>	2.08±2.6	1.25±2.3	<b>0.98</b>

**Table 2.** Comparison and distribution of self-transcendence before and after participating in counterpart group, in intervention group, and in control group in patients undergoing haemodialysis

Study variables	Research time groups				T-test results btw. two groups
	Before intervention Mean ± SD	After intervention Mean ± SD	Before intervention Mean ± SD	After intervention Mean ± SD	
Self-transcendence	43.18±5.3	48.64±3.09	42.7±3.31	43.18±3.16	p <0.0001
T test results	p<0.0001		p=0.006		

Moreover, in ANOVA analysis, it was found that participating in counterpart group will increase the self-transcendence mean score of haemodialysis patients up to 4.33 units which is significant in range of confidence interval of 0.95 (p<0.0001). The self-transcendence mean score is also significant according to the age (p<0.05) and increases 0.76 units by aging. Other contextual variables did not have any significant effect on predicting self-transcendence score (p>0.05).

## Discussion

The result of recent study showed that the mean score of the self-transcendence was promoted after participating in counterpart groups in the intervention group and there was a statistically significant difference after and before the intervention. Few studies have been performed interventionally about self-transcendence and Reed's theory, or at least they have not been available. But the available studies show that the results of this study are consistent with the new study of Milani et al (2014) performed on patients with Multiple Sclerosis (Jadid-Milani et al., 2014). It is similar to the studies of Femsler and Chin-A-Loy (1998) (Chin and Fernsler, 1998). However, the study was inconsistent with the study of Chen and Walsh (2009) that examined the effects of nursing interventions in development of self-transcendence and positive perspective towards elderly care in the nursing students in the University of USA and

showed that the nursing intervention didn't improve self-transcendence level of the students significantly (Chen and Walsh, 2009). Also in Lamet et al. study which assessed the intervention effect for developing perspective of nursing students in elderly care, there was no significant difference before and after the intervention in self-transcendence (Lamet et al., 2011) and this difference can be related to the target group of Reed's theory that was the nursing students. Nursing students experience situations of taking care of the elderly during their education repeatedly that can be the reason of the lack of student's self-transcendence increasing level, but in this study and Jadid-Milani's et al. study, there were patients who had more vulnerability because of their chronic diseases and they felt more self-transcendence to reach higher life quality (Jadid-Milani et al., 2014). Self-transcendence improving in this study can be a reflection of community's activities, sharing problem and solving it in counterpart group. Counterpart group sessions helped participants to develop individual boundaries by contemplating themselves and accepting their own situation.

Having a sense of responsibility and concern about others during the period and using others' experiences and hope to the future helped them to improve their situation.

The mean score of self-transcendence changed in control group and showed statistically significant difference before and after the intervention ( $p=0.006$ ). The significant increase of self-transcendence was less in control group which is similar to Coward's study (2005) in the USA performed on women with breast cancer. In their study, eight weeks after counterpart group formation, the self-transcendence score, the cognitive welfare and physical performance increased in both groups of intervention and control, but no significant differences were seen between these three variables (Coward and Kahn, 2005). Moreover, in Diener's study (2003) with the aim of determining the personal narration effect during illness on self-transcendence in patients with chronic disease, no significant difference was seen in self-transcendence of control group after intervention (Diener, 2003). The cause of self-transcendence increase in control group in our study can be related to two months of disease experience and dealing with its hardships. The difference in self-transcendence score of two groups is because individuals in intervention group can reach to a better result by using each other's experiences in shorter time and with less costs. Therefore, their health problems are less as well and the significant difference in two groups indicates that.

The results indicate that there was a significant difference between self-transcendence of intervention and control groups at the end of the intervention. Based on the results, it is shown that the self-transcendence score of haemodialysis patients increases by participating in counterpart group. Patients find out their situation, will notice other's welfare by communication with others, and would share their experiences by adapting others' experiences with their own experience and concern about the future and also they will improve their



situation. On the other hand, finding an acceptable feeling by other group members would improve self-transcendence in patients (Nguyen et al., 2009).

According to the results of the present study, the contextual variables had no role in predicting patient's self-transcendence changes undergoing haemodialysis before and after intervention. The contextual variables had also no role in predicting self-transcendence difference in patients with MS in Jadid Milani's study (2012). However participating in counterpart group improved self-transcendence in patients (Jadid-Milani, 2012). The results of this study confirmed the effect of counterpart group on self-transcendence level. The results has some finding which can be useful for education and management field in nursing, but using these findings is not useful without managers' support. Also, the findings of the present study can be used in in-service training curriculum for nurses by nursing managers for designing nursing process for patients and with other critical conditions with the focus on self-transcendence. Forming counterpart groups by nurses (which is one of their responsibilities) for haemodialysis patients and other chronic patients in community, can be effective on promoting self-transcendence level. On the other hand, forming counterpart group for patients' families causes better understanding of families about the patient status, and reduces their tiredness at home.

## Limitation

The possibility exchanging information in the intervention and control groups during dialysis. In order to prevent errors, the intervention and control groups were arranged in separate shifts for dialysis to ensure that they don't meet.

## Conclusion

The nursing interventions will effect individuals internal sources for self-transcendence without cost and high clinical services by forming counterparts group and self-transcendence makes new concepts for patients undergoing haemodialysis and the patients will learn how to cope with disease from other peers and by raising their knowledge about the diseases and its symptom's controlling ways and treating manners and mixing them with their own experiences, they can deal better with their concern about the disease and this knowledge improvement would change patients attitudes and as well the health status will also promote. So, the nurse can form interventions for developing patients undergoing haemodialysis conditions by self-transcendence theory.

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## **Author contribution**

MJM and AKK contributed to the design of the research. MJM,PA and MV collected the data. HS and AMK conducted analysis and interpretation of data. All authors drafted the first version. MJM, HS and AMK edited the first draft. All authors reviewed and commented on final draft.

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