

The effect of empowerment program on empowerment level and self-care self-efficacy of patients on hemodialysis treatment

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ABSTRACT

Background: Patients with end-stage renal disease (ESRD) who receive dialysis confront the burdens of long-term illness and numerous physical problems.

Materials and Methods: This was a quasi-experimental study. The selected patients from Gorgan Dialysis Centre were randomly assigned into an empowerment group ($n = 40$) and a control group ($n = 40$). Instruments comprised scales of Empowerment and the Strategies Used by People to Promote Health (SUPPH). Data were collected at baseline and at 6 weeks following the intervention. The data were analyzed by descriptive and inferential statistics through SPSS (version 17).

Results: The results indicate that scores of the empowerment ($P \leq 0.001$) and self-care self-efficacy ($P = 0.003$) in the empowerment group showed a significantly greater improvement than the control group.

Conclusions: The study supports the effectiveness of the empowerment program to promote empowerment level and self-care self-efficacy of hemodialysis patients.

Key words: Empowerment, end-stage renal disease, hemodialysis, Iran, nursing, self-care self-efficacy

INTRODUCTION

Chronic renal failure (CRF) is a process of noticeable consistent and irreversible decrease in the number of nephrons, which can lead to end-stage renal disease (ESRD).^[1] The number of these patients is increasing by 15% annually in Iran.^[2] Patients with a chronic disease face numerous challenges in their daily life. They should not only know about the disease and its treatment, but also handle it and adapt to various changes in their lifestyles and behaviors in their life.^[3] Coping with this disease, its treatment complications, and promotion of patients' quality of life need patients' participation in treatment and care, which is a product of an increase in their knowledge, a change in their attitude, and attaining self-care skills.^[4] Education is an appropriate tool in promotion of patients' abilities.^[5] Numerous researches have already shown that patients' education brings about health provision and

decreases complications of the chronic diseases.^[6] In the past, most of the health-related professional education used to be designed based on a medical model to solve acute problems in health provision.^[7] Traditional education designed for CRF patients focuses on provision of knowledge and skills.^[8] Meanwhile, former researches have constantly shown that the patients cannot follow the lifestyle decided and defined by others.^[9] CRF patients' education has gradually moved from mere knowledge toward interactive method in self-care and decision making.^[10] Anderson *et al.* (1990) suggested the approach in which the role and responsibility of the patients in their daily care is increased, which is now known as patients' Empowerment Program Training model versus traditional medical model.^[6] Jones and Meleis (1993) defined empowerment as a concept of social process in detection, promotion, and enhancement of individual's ability in confrontation with needs, as well as problem solving and getting equipped with the necessary resources to manage their life.^[11]

Fanel *et al.* (1999) respect empowerment philosophy as enabling the patients to make informed decisions and play an active role in programming and decision making in their health-related activities.^[12] Based on Bandura's self-efficacy theory, an individual's perception from their abilities brings about their attaining self-care behavior to achieve the desired results.^[13,14] The patients who are

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self-confident about their abilities in administration of self-care are more interested in doing these duties.^[15] Although empowerment researches are limited in ESRD patients, the results of administrated empowerment programs have proved their effect in CRF patients.^[16] In a study of Tsay and Hung (2004), the effect of empowerment program on empowerment level and self-care self-efficacy in patients undergoing hemodialysis was shown.^[17] Now, this study has tried to answer the question of “How much do the patients feel capable of following self-care behavior if they attain empowerment?”

MATERIALS AND METHODS

This was a quasi-experimental study conducted in 2010. The population studied included 80 male and female CRF patients who had a file in dialysis center of Panje Azar Hospital in Gorgan, Iran, referring to the center for dialysis. The sample size was calculated as 80 subjects based on the article of Tsay and Hung with a power of 80% and *P* value of 5%.^[17] Convenient random sampling was utilized to select the subjects. After obtaining consent from the selected subjects, they were randomly divided into two groups of study (*n* = 40) and control (*n* = 40). The data were collected by a three-section questionnaire: 1) Personal characteristics and the data about the disease (age, sex, education level, marital status, occupation, and the time of undergoing dialysis); 2) Empowerment Scale (ES); and 3) the Strategies Used by People to Promote Health (SUPPH).

The questionnaire of empowerment was designed in English by Michigan Diabetes Research and Education centre in 2000.^[18] In the present study, the brief form of diabetes empowerment questionnaire (an 8-item tool) was used.

In the study of Tsay and Hung,^[17] this tool was used for the patients undergoing hemodialysis, after some lexical changes and confirmation of validity and reliability were made. To calculate validity based on the standard method, the questionnaire was first translated to Persian and then back translated to English.

The respondents, based on the answer related to their condition, chose a number from 1 to 5 (absolutely disagree = 1 to agree = 5). The second questionnaire (SUPPH) is a 29-item five-option tool.^[14]

This questionnaire was also translated to Persian and back translated to English, and finally its level of consistency was calculated. Validity of the questionnaires was confirmed after translation by 10 academic members.

Reliability of the questionnaires was tested through random distribution of the questionnaires to 20 patients undergoing

hemodialysis, who were different from the study and control groups.

Internal correlation of empowerment and SUPPH questionnaires were $r = 0.86$ and $r = 0.93$, respectively. Educational intervention included empowerment program in which Anderson and Funnell five-study process was used (problem precise search, emotions expression, detecting long-term goals, designing a program to achieve the goals, and evaluation).

The patients were divided into educational groups, and educational sessions were held for them twice a week for 1 month. The sessions tried to provide the patients with more opportunities to learn through their struggles about the disease, its related emotions, and efficient strategies. The filled questionnaires were picked up once before the intervention and once 6 weeks after that. The data were analyzed by descriptive and inferential statistics through SPSS (version 17).

RESULTS

The subjects comprised 80 patients undergoing hemodialysis. Demographic characteristics of the subjects have been presented in Table 1.

The subjects' mean age was 47.9 (12.62) years, and 57.5% of the subjects were females, 75% were married, and 40% were jobless. About 53.8% were illiterates or had primary school education, and 31.3% used to undergo hemodialysis

Table 1: Demographic characteristics of the subjects

Variables	Study (n=40)		Control (n=40)	
	N	%	n	%
Sex				
Female	25	62.5	21	52.5
Male	15	37.5	19	47.5
Marital status				
Single	4	10	5	12.5
Married	31	77.5	29	72.5
Widowed/divorced	5	12.5	6	15
Occupation				
Worker	4	10	9	22.5
Employee	12	30	10	25
Jobless	17	42.5	15	37.5
Self-employed	6	17.5	7	15
Education				
Illiterate and primary school	21	52.5	22	55
Middle and high school	15	37.5	13	32.5
High school diploma and higher	4	10	5	12.5

for over 36 months. There was no significant difference between the study and control groups ($P > 0.05$). The variables before and after intervention have been presented in Table 2. As indicated in the table, the mean scores of empowerment level of these patients in CRF are low in both groups ($M = 53.21$). Mean score of self-care self-efficacy was $M = 53.21$, which is low. Pearson correlation test was used to investigate the association between empowerment level and self-care self-efficacy. This test showed that there was a direct significant association between empowerment level and self-care self-efficacy of the patients studied before intervention ($r = 0.54$, $P \leq 0.001$) so that patients' self-care increased by increase of empowerment level. The t -test was used to investigate the effect of intervention on empowerment level. Comparison of differences in total scores in both groups revealed that the increase of empowerment level scores in the study group was significantly different compared to the control. Mean score differences of empowerment level before and after intervention was 4.8 in the study group and -0.5 in the control group ($t = 6.3$, $P \leq 0.001$). The t -test was used to compare the mean scores of self-care self-efficacy in each group (study group showed a higher mean after intervention). Mean score differences of self-care self-efficacy before and after intervention were 7.99 and 0.63 in the study and control groups, respectively ($t = 3.09$, $P = 0.003$).

DISCUSSION

One of the hypotheses of the present study was "when the study group receive empowerment program, the subjects would benefit from a higher empowerment level and a better self-care self-efficacy," which was proved as there was a significant difference in mean scores of empowerment level and self-care self-efficacy. This difference can be as a result of the effect of empowerment program on the subjects, which concurs with the results of Tsay and Hung's study.^[17]

Table 2: Comparison between mean and SD of empowerment and self-care self-efficacy in study and control groups before and after intervention

Variables	Study (n=40)		Control (n=40)		P value
	Mean	SD	Mean	SD	
Empowerment					
Before	20.8	3.1	20.65	5.51	0.88
After	256	3.2	20.15	4.42	≤ 0.001
Before-after difference	4.8	0.1	0.5	1.09	t -test=6.3, df=78
Self-care self-efficacy					
Before	54.13	13.32	52.3	15.5	0.58
After	62.12	1.72	52.93	15.42	0.003
Before-after difference	7.99	2.6	0.63	0.08	t -test=3, df=78

Anderson *et al.*^[6] studied a group of diabetic patients who attended empowerment educational sessions and attained better power to cope with socio-psychological concerns accompanied with diabetes.

It should be noticed that the level of empowerment in the present study was lower before intervention compared to other studies from other countries. For instance, in the study of Tsay and Hung, the level of empowerment was reported to be moderate, but in the present study, this level was lower. Superficial and inadequate education can be the reason for this issue, which can be absolutely promoted through new methods such as empowerment.

In the present study, the patients who underwent empowerment program experienced higher level of self-care self-efficacy, which is consistent with study of Tsay and Hung.^[17] As a tight association was observed between self-care self-efficacy and the level of empowerment, it can be concluded that the empowered patients were more confident about their abilities in self-care. Aujoulat *et al.*^[19] argue that self-management and self-efficacy are among the empowerment process outcomes which are related to the disease and treatment. Lev and Owen^[20] also reason that the patients who are more assured about administration of self-care behavior are more interested to follow that.

The results of this study showed that the level of empowerment and self-care self-efficacy was increased after conducting empowerment program. It can be concluded that nurses should consider that patients' education based on empowerment program is a modern educational method in which the patients can exchange their experiences in addition to having active participation in learning.

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