



The effect of education of health-promoting behaviors on lifestyle in hemodialysis patients

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ABSTRACT

Today improve lifestyle and health promotion is a basic requirement for human society and the need for more tangible factor in the increase in chronic diseases such as chronic kidney disease and hemodialysis process is followed. As life expectancy increases, due to the importance of promoting behavior change. The aim of this study was to evaluate the effect of health promoting behaviors was on the lifestyle of patients undergoing hemodialysis. In this study, 70 patients undergoing hemodialysis training centers - medical Hamadan were selected. That is because Hamedan only two dialysis centers, randomly one of them was selected as a test group and a control group. Of the patients referred to the center for sampling in each group 35 patients were studied. For groups of six 30-minute sessions on an individual basis during hemodialysis, held over three weeks in a row. Data analysis using descriptive statistics and statistical tests of Kolmogorov - Smirnov, T and T were analyzed with SPSS version 16. In the experimental group, health-promoting lifestyle scores before and after intervention showed significant statistical differences ($0.01 / 0 < p$). The mean scores of health-promoting lifestyle intervention and control groups after the intervention, there was a significant difference ($p < 0.05$). Teaching with an emphasis on health-promoting behaviors, hemodialysis patients was improved lifestyle. Develop and implement training programs to improve lifestyle behaviors and health promoting effective step is hemodialysis patients.

Key words: education, health promoting behaviors, hemodialysis patients, lifestyle

INTRODUCTION

Today with the increase in life expectancy, chronic disease has emerged as a major health problem [1]. According to centra management specific disease, there are in total 40 thousand patients with end stage renal disease and their number is increasing on the daily. Basis difference methods are recommended for the treatment of patients with renal deficiency disease in a way that hemodialysis is considered one of the most effective and common methods

[2].although hemodialysis increases the life span of patients with renal failure, it results in numerous problems. While hemodialysis as a part of treatment trend of chronic disease can lead to change in the life style, health situation and playing the social role of the individual and influence not only the physical health but also the mental health of the patient and it can increase the costs of health services and influence the life style of the patients[3,4]. Given the numerous health problems same in this patients, different solution have been suggested for improving their life style including behaviors promoting health [5,6].

Health promotion is the science and art of changing life style for the purpose of achieving perfection and consists of behaviors during which the individual pays attention to appropriate nutrition, regular exercise, avoiding destructive behaviors and improving the performance of the individual despite illness. Controlling emotions and coping with stress and problem caused by disease and independence and consistency [5,7].

In other words, health promotion is empowering individual in identifying effective factors in individual and social health and right decision –making in the selection of hygienic behaviors an in consequence following healthy life style [8,9].

Indeed health promoting behavior consist of actions that lead to empowering individuals toward increasing their control over health and ultimately empowering individual and social health. During this process the individual pays attention to suitable nutrition, regular exercise, avoiding smoking, and act. And these behaviors are promoted through formal an informal instructions [7,10]. Health promoting life style consist of six aspects that included belief in God power toward protecting mental health aspect, feeling responsibility toward health, maintaining interpersonal relations toward promoting social aspect of the health , controlling stress toward preventing from physical and mental disease, exercise and physical activities and following safe nutritional diet toward maintaing health.in the same way the life span of the individuals increases, the importance of the health promoting behaviors rises given the maintained of the individual function and independence and the increase in in the quality of their life is revealed more and more on the daily basis [11,12].

Health promotion behavior is an important concept for nurses since most nursing roles consist of instruction and health maintenance. Nursing knowledge has been guided toward helping the individuals, family and society for the purpose of achieving maximum health power [13].

Health promotion consist of facilitating the use of energy and potential power of individuals, improved life style, being productive and use of individual abilities related to health. Health promotion behavior is indicative of tendency to sublimation that results in optimal. Well-being, personal development and creative life [14,15].

It is obvious that since the purpose of life in individuals affected by chronic disease is not just long life and being alive, but the life style and its effects are important too and given the fact that the role of education has been emphasized by researchers in solving the problems of disease patients, therefore education can play on important role in improving the life style of dialysis patients. Considering the chronic and deabilitating nature of renal failure and the patients need to long use of dialysis and the effect of disease on the life style of the patients, the researcher decided to conduct a study aiminy at the effect of educating health promotion behavior on the life style of dialysis patients with the hope that its results could take a small step toward improving the life style of dialysis patient.

MATERIALS AND METHODS

Present quasi- experimental study was conducted using two groups. That is, pre-test of intervention design in 2014-2015. Due to the limited number of medical center for hemodialysis in Hamadan city, a center was randomly selected as the experimental group and another as the control group. Then the centers were made accessible for hemodialysis patients in two groups: control [35] and experimental [35]. Using sampling method, the sample size was estimated according to the study of aghakhani and colleagues [16] confidence of 95% and test power of 85% and with 10% probability of loss and using following formula:

$$\frac{2(z_{1-\frac{\alpha}{2}} + z_{1-\beta})^2(\sigma^2)}{d^2} = N$$

Inclusion criteria for the study: the criteria for the study consist of following: age range between 18 to 60, ability to communicate verbally. At least a full course of primary education, lack of mental health problems or functional disability, lack of malignancies, having a history of dialysis for at least six months and two or three time of dialysis at a week. Exclusion criteria for the study included: moving the patients to another medical center, death or simultaneous participation in the study were similar. Data collection tool included demographic questionnaire and walker adjusted life style promotion questionnaire for promoting health.

The six part selection of this tool and the number of items in each section were as follow: self –actualization [8 question], responsibility for health [15 item], inter personal support [6 item], stress control [7 item], sports [5item], nutrition [9 item] and it is necessary to explain that some of these categories overlap. To determine the validity and modulate the questionnaire, it was given to some of the professor of nursing a midwifery college and they made the necessary changes in it. In Mohammad zeidi and his colleagues study [2011] the validity and reliability of health promoting life style questionnaire were assessed. Cronbach alpha for the whole questionnaire was 82%. [17]. In this study, the test-retest method was used to determine the reliability of the questionnaire. The correlation coefficient for the whole health promoting life style questionnaire was 84% that was indicative of appropriate necessary permit and referring to the above-mentioned medical center, selected the investigation units having inclusion criteria of patients. Then by introducing himself and stating the objective of the study, he presented explanations on the confidentiality of the data and patient's satisfaction and also obtaining consent from patients, and the demographic data questionnaire was completed and registered. Then the modulated health promoting life style questionnaires were made accessible for the research units of the two groups. For experimental group, six 30 minute session were held in three consecutive weeks in a face to face method with guest ions and answers. After completing six educational sessions, the researcher delivered the topic in the form of health behavior booklets to the patients. The content of the curriculum was fitted to the aspect of health promoting life style including nutritional diet topic, physical activity, sense of responsibility for personal health, given spiritual growth. Interpersonal relation and stress control that were provided according to existing scientific books and references of dialysis [18, 19] and each aspect of the booklets was given to the related expert based on the topic in a way that nutrition aspect, physical activity and responsibility for the health were studied and confirmed by two nephrologist, spiritual growth aspect by religious expert and interpersonal relation and stress control by a master of clinical psychology.

Table 1: demographic characteristics

P-value	Intervention group%	Control group%	Variable level	variable
.516 .4	17[48.6]	20[57.1]	male	sex
	18[51.4]	15[42.9]	female	
.830 .3	27[77.1]	30[85.7]	married	marriage
	2[5.7]	3[8.6]	divorced	
	6[17.1]	2[5.7]	Died	
3.34 .1	11[31.4]	15[42.9]	Ability for writing and study	Education level
	14[40]	7[20]	Under diploma	
	8[22.9]	7[20]	diploma	
	2[5.7]	6[17.1]	College education	
.583 .1	13[37.1]	10[28.6]	Twice in a week	Dialysis session in a week
	22[62.9]	25[71.4]	Three in a week	
.707 .7	16[45.7]	17[48.6]	1-2 years	Dialysis number in a year
	13[37.1]	10[28.6]	3-5 years	
	6[17.1]	8[22.9]	>5 years	
2.796 .780	7[20]	4[11.4]	unknown	Etiology of renal disease
	11[31.4]	9[25.7]	hypertension	
	10[28.6]	10[28.6]	diabetes	
	1[3.9]	3[8.6]	Polycystic kidney	
	1[2.9]	2[5.7]	glomerulonephritis	
	1[2.9]	2[5.7]	Chronic polynephritis	
4[11.4]	5[14.3]	others		
t= -.084 p= .9	48.4±11.4	48.7±11.3	age	
t= -1/383 p= .1	.5±3.3	.5±3.4	Duration of dialysis(hours)	

To encourage them to follow the presented education more and more , they contacted the patients according to the previous coordinated hours and days and answered their questions patients in control group received no intervention. Data were recollected from both groups. At the end of study due to ethical consideration, the developed

or manual was provided for control group. The collected data were analyzed by spss soft ware version 16 and using descriptive statistics and independent statical t-test, even t confidentiality level of 95%.

RESULTS

Information on individual characteristics of the participants have been shown in table 1. According to this table before the intervention, significant statically were not observed between the individual characteristics of the participants. In two control and intervention groups, Result of Kolmogrof-Smerinof were indicative of normal distribution of the data. Thus the pair t- test and independent t-test were used. the main score of health promotion life style of hemodialysis patients and its sub-indexes increased in the intervention group after intervention compared to that op prior to intervention that in terms of statistical test[t-test] was significant [$p < 0.05$] [table 2].

Table 2. Compare the differences between the average score on the lifestyle of health promoting behaviors in hemodialysis patients before and after in two group

Intervention group			Control group			index
P value	after	before	P value	after	before	
.001	15.9 ± 144.6	17.2 ± 133.9	.47	18.9 ± 129.4	19.3 ± 128.4	Health improving behavior
.001	5.5 ± 24	5.8 ± 22.6	.77	4.7 ± 19.5	4.9 ± 19.6	Self actualization
.001	6.1 ± 44.5	6.9 ± 41.2	.56	7.8 ± 40.7	8.1 ± 40.3	Responsibility sense for health
.002	3.7 ± 18.8	4.1 ± 17.7	.69	2.8 ± 17.2	2.9 ± 17.08	Interpersonal support
.001	3 ± 18.8	3.9 ± 17.1	.5	2.7 ± 17	2.6 ± 16.8	Stress control
.001	2.4 ± 11.4	3.05 ± 9.1	.18	3.2 ± 11	3.1 ± 10.6	Physical activity
.001	3.4 ± 27	4.7 ± 25.9	1	5.4 ± 23.9	5.3 ± 23.9	nutrition

Only the mean difference of nutrition sub-index in the intervention group before and after intervention was not significant [$p > 0.05$]. In control group the mean of scores in general and in the domains before and after intervention did not reveal significant statistical difference [$p > 0.05$] (table 2).

Therefore ,based on independent t-test a significant difference was observed between the mean score of health promoting life style score in intervention group and control group after intervention as a whole and in all domains [$p < 0.05$] (table 3) whereas this difference was not significant prior to intervention (table 4).

Table3: Compare the differences between the average score on the lifestyle of health promoting behaviors before intervention in two group

independent t test (p value)	intervention Men ± sd	control Men ± sd	index
1.245 [.21]	17.2 ± 133.9	19.3 ± 128.4	Health improving behavior
2.327 [2.02]	5.8 ± 22.6	4.9 ± 19.6	Self actualization
.519 [.60]	6.9 ± 41.2	8.1 ± 40.3	Responsibility sense for health
.768 [.44]	4.1 ± 17.7	2.9 ± 17.08	Interpersonal support
.352 [.72]	3.9 ± 17.1	2.6 ± 16.8	Stress control
-1.974 [.05]	3.05 ± 9.1	3.1 ± 10.6	Physical activity
1.681 [.09]	4.7 ± 25.9	5.3 ± 23.9	nutrition

DISCUSSION

According to result, education of health promoting behaviors has been effective in increasing health promoting life style in intervention group, meaning that delivering education to patients in intervention group leads to promoting life style toward promoting health. In control group although the mean score of health promoting life style had increase after intervention, the difference in score was not statistically significant before and after the intervention. According to result mentioned it can be concluded that the obvious statistical difference between the score before and after the subjects under study in intervention group could be attributed to health promoting behaviors training

programs that have resulted in significant increase in the health promoting life style. Royani and colleagues state that the health promoting life style is related with self-efficiency and self –care of patients under dialysis treatment and they considered it necessary to focus on education for health behaviors [20].

Table 4: Compare the differences between the average score on the lifestyle of health promoting behaviors after intervention in two groups

Independent t test P value)	intervention Men ± sd	control Men ± sd	index
3.937 [.001]	15.9 ± 144.6	18.9 ± 129.4	Health improving behavior
3.620 [.001]	5.5± 24	4.7 ± 19.5	Self actualization
2.272 [.02]	6.1 ± 44.5	7.8 ± 40.7	Responsibility sense for health
2.048 [.04]	3.7 ±18.8	2.8 ± 17.2	Interpersonal support
2.625 [.01]	3 ± 18.8	2.7 ± 17	Stress control
.673 [.05]	2.4 ± 11.4	3.2± 11	Physical activity
2.598 [.01]	4.3 ±27	5.4 ± 23.9	nutrition

In the studies conducted by researchers , no study was found to the effect of education for health promoting behaviors on the life style of patients under treatment by hemodialysis and most of the studies have focused on other chronic disease.in the study by mohamadpour and collegues using a questionnaire identical to that of present study, it was shown that the health promoting education program leads to significant increase in the life style score promoting diabetic patients after educational intervention compared to that of before intervention [$p<0.05$].

Radmehr and his collogues in the research that studied “the effect of health promoting behaviors education based on pandner theory on the life style of patients by obsessive-compulsive disorder, showed that the mean and standard deviation of life style scores promoting health before intervention was 111.37 ± 21 and after intervention 139.57 ± 14 and the difference in scores was statistically significant [$p<0.05$] [22].

Safabakhsh also revealed that health promoting education program based on pandner theory after three session leads to significant increase in the health promoting life style score after coronary artery bypass surgery [23]. Although the studies mentioned are different from this study in term of sample under study, they indicate that education health promoting behaviors can affected the life style of patient with chronic disease.

Independed t test showed significant statistical difference between the mean score of health promoting behavior between two groups [$p=0.001$]. Result indicates the positive effect of educating health promoting behavior on patients under dialysis. Result of oresent study were consistent with the result of study conducted by Alaeekarahroudy in 2015 , in their study that aimed at studying the effect of health promoting education program on the life style of adolescents with major thalassemia. It was shown that educational intervention resulted in improving the life style of patients with major thalassemia [24]. In spite of difference in target group and method, result showed improvement in the life style after intervention. In the study mohamadipour using a questionnaire identical to that of present study, it was revealed that health promoting education program led to significant increase in the health promoting life style score in diabetic patients after intervention compared to the score before intervention [$p<0.05$][21].

CONCLUSION

Result of present study showed that health promoting educational behavior for dialysis patients led to improvement in their life style. The effect of health promoting behavior training was observed in all domains of life style including: nutrition, sport, responsibility for health, stress control, interpersonal support and self-actualization. This given the effects of chronic disease on the health and health behaviors of the person and need to long term use of dialysis by patients and the effects of disease on the life style and health promoting behavior of the patients. Training health promoting behavior can be one important step in increasing improvement and life style

modification. Among the limitations of this study, effects of other sources including doctors, personnel, media, etc could be mentioned that are out of control of the researcher. Also the tool used is of self report type with different factors such as fatigue, impatience, etc can be effective on its responses. It is recommended that the effect of educational models such as pander health promotion model be use in the next studies in order to study their effects on the life style of dialysis patients.

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