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Factors influencing the improvement of self-management behavior in hemodialysis patients

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ABSTRACT

Introduction: Hemodialysis (HD) patients encounter several challenges. They require strong attention to behavioral and lifestyle changes.
Objectives: The purpose of this study was identifying factors that influence the improvement of self-management behavior in a group of HD patients.
Patients and Methods: This is a cross-sectional survey conducted with participation of 420 patients in HD centers in Urmia University of Medical Sciences in 2017. For data collection, a self-designed questionnaire was designed.
Results: The most important factors which are effective to improve self-management behavior were related to psychosocial support (4.66), patient education and empowerment programs (4.58), religious beliefs (4.50), active participation of family members (4.43), expanding role providers for self-management patient (4.36), and patient literacy and readiness (4.30) respectively.
Conclusion: For the promotion of self-management behavior, healthcare providers should increase the abilities of patients for disease management. Therefore, it seems that self-management training for HD patients is a crucial element of the care process.

Implication for health policy/practice/research/medical education:
It is important that healthcare providers know the factors that influence the self-management of patients. The results of our study indicated that psychosocial support, patient education or empowerment programs, proper communication between providers and patients have a significant impact on the success of self-management behavior.
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Introduction

Hemodialysis (HD) patients encounter several challenges including ongoing symptoms, physical and psychosocial stresses, several treatments, depression, anxiety, and special limitations (1-3). For successful treatment of HD patients, it is crucial to adhere to the prescribed treatments (4). Unfortunately, it has been found that 33% to 50% of patients are non-adherent to their medications (5). There is a strong attention to behavioral and lifestyle changes in HD patients (6,7).

Alt and Schatell believed that the best care with an excellent outcome could not be achieved without the patient's understanding of his own health (8). Psychosocial support to help patients cope with lifestyle restrictions and to enhance personal control through self- management strategies are critical (9,10). Therefore, self-management for HD patients is inevitable (5). Self-management is defined as patient's skills to handle the symptoms, treatments, physical and psychosocial impacts and to adopt the style of living with a chronic condition (11-13). Several studies have indicated that patients who are self-managing their care process, improved coping and adjustment with long-term health problems, treatment adherence, quality of life, physical and psychological well-being and reducing the risk of morbidity and mortality (3,5,12,14). In order to achieve high-levels of self-management, patients should be able to develop skills and capability for active involvement in their care process and also improve communication with healthcare providers to reduce the side effects of the disease in their lives (15-17).

The recent research results showed that self- management education and psychosocial support are most important

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interventions which promote self-management of patients undergoing HD (18-20). Another research showed that successful self-management requires many cognitive and behavioral skills and information literacy (21).

Li and colleagues demonstrated that patient education, the capability of self-care, social support and depression were the main components that influence self-management (22).

It is important that healthcare providers know the factors that influence self-management of patients and acquire proper approaches to promote them.

Objectives

The purpose of this study was identifying factors that influence the improvement of self-management behavior of patients in HD centers of Urmia University of Medical Sciences.

Patients and Methods

Study population

This is a descriptive cross-sectional study conducted in 2017. The studied population consisted of HD patients from two dialysis centers of Urmia Medical Sciences of University which were 420 individuals in total. For data collection, a self-designed questionnaire was developed. The questionnaire included the participants' demographic information (gender, age, educational level, marital status, employment status, the cause of end-stage renal disease [ESRD], time on dialysis and history of transplant) and factors affecting the patient self-management. For each of the factors, the scale ranged from 1(strongly disagree) to 5 (strongly agree).

Ethical issues

Human rights were respected in accordance with the Helsinki Declaration 1975, as revised in 1983. The informed consent was taken from the HD patients. The study was approved by the Ethics Committee of Urmia University of Medical Sciences (Ethical cod# IR.UMSU.REC. 1393.268). This article resulted from research project No 94-1643 funded by the Research and Technology Deputy of the Urmia University of Medical Sciences.

Statistical analysis

The validity of the instrument was evaluated using the content in the valid scientific texts and comments of a group of different experts (including nephrology, dialysis nurses and medical educational professionals). The determination of reliability was undertaken using the Cronbach α coefficient and was estimated to be 0.82. The statistical analysis of data was done using the Statistical Package for Social Sciences (SPSS, version 16).

Results

Around 420 questionnaires were distributed out of which 280 (66.6%) were completed and returned. About 58% of respondents were female and 42 % male. Their mean age was 53.8 years. Most respondents (38.7%) had diploma for their educational degree. Around 72.5% of patients were married and 61.73% were unemployed and only 8.5% of patients had history of transplant. The most common cause of ESRD were hypertension (30%) and diabetes mellitus (25%) (Table 1).

The most important factors which are effective to improve self-management behavior were related to psychosocial support (4.66), patient education and empowerment programs (4.58), religious beliefs (4.50), active participation of family members (4.43), expanding role providers for self-management patient (4.36), and patient literacy and readiness (4.30) respectively (Table 2).

Discussion

The findings of the current research showed that psychosocial support, patient education programs, active participation of family members and healthcare providers, patient literacy and economical-social position of the patient were the most important factors affecting the improvement of self-management behavior.

Li et al conducted a descriptive study to identify factors affecting self-management in HD patients. The results of the study revealed that three demographic factors, that is, age, gender, and education affect the level of self-management of people undergoing HD. This study

Table 1. Demographic characteristics of patients (n = 280)

Characteristics	Related cases	No. (%)
Gender	Male	118 (42.15)
	Female	162 (57.85)
Age (y)	<30	15 (5.36)
	30-40	22 (7.86)
	40-50	31 (11.07)
	50-60	67 (23.93)
	≥60	145 (51. 78)
Educational level	Illiterate	35 (12.50)
	Elementary school	86 (30.71)
	High school (diploma)	108 (38.57)
	University	51 (18.22)
Marital status	Married	203 (72.50)
	Single	20 (7.14)
	Divorced, widowed	57 (20.36)
Employment status	Employed	43 (15.39)
	Unemployed	173 (61.73)
	Retired	64 (22.88)
Primary cause of ESRD	Hypertension	84 (30)
	Diabetes	70(25)
	Uronephropathy	18 (6.42)
	Glomerulonephritis	31 (11.07)
	Unknown	54 (19.28)
	Others	23 (8.21)
History of transplant	Yes	24 (8.58)
	No	256 (91.42)

Table 2. Factors influencing the improvement of self-management behavior (range 1-5)

Effective factors	Mean ± SD
Psychosocial support	4.66 ± 0.57
Patient education and empowerment programs	4.58 ± 0.61
Active participation of family members	4.43 ± 0.65
Motives for self-management	4.27 ± 0.78
Expanding role and skills providers for participation	4.36 ± 0.71
Patient literacy and readiness	4.30 ± 0.67
Economical-social position	4.22 ± 0.76
Culture-making fit	3.89 ± 0.63
Religious beliefs	4.50 ± 0.66
Patient participation in self-management programs	4.19 ± 0.93
Proper communication between providers and patients	4.35 ± 0.72
Social support for self-management	4.14 ± 0.91
Identify the key skills needing patients to self-management	4.18 ± 0.78
Availability of information recourses	3.92 ± 0.75
Evaluation of self-management patients and Feedback	4.07 ± 0.88
Developing information systems and education portals	3.78±0.92

indicated that patients who have suitable support are making proper utility of accessible resources to solve dilemmas (22). In a study, Kugler et al showed that factors such as psychological condition, awareness, and social interactions were the key facilitators in patient self-management (23). Additionally, Murphy et al showed that self-management adoption in diabetes patients to control their diseases rely on 5 factors; education, skill, incitement, relationship, and healthcare provider support (24). Our results showed that psychosocial support, patient education programs, active participation of family members and healthcare providers lead to success of self-management in patients.

Harvey et al reported that patients perceived that lack of support and weakness in communication with clinicians did not encourage them to be good in sustaining self-management (25).

Kendall et al identified that we should support patients to participate actively in handling their lifestyle changes and healthcare professionals should reform traditional perspectives on their role. The patients need to comply with clinical instruction which is in relation to patients' readiness to direct their own situations. Additionally, healthcare providers need to expand their roles as educators and guides in patients' skills development (26).

The results of the study by Browne et al showed that fundamental obstacles to adult HD patients' self-management include socioeconomic variables, psychosocial factors, health knowledge, patient performance, and healthcare provider assumptions (27).

The results of our study indicated that economical-social position, proper communication between providers and patients, role-expanding and providers' skills have a significant impact on the success of self-management behavior.

Conclusion

The HD patients are required to change lifestyle and control diet and activity to prevent disease complications. It is very important that they have self-efficacy and self-management skills. For the promotion of self-management behavior, healthcare providers should increase the abilities of patients for disease management. It is necessary that family members have an active role to help patients to manage their own health. Therefore, it seems that self-management training for HD patients is a crucial element of the care process. Healthcare providers should enhance their competence in effective supporting of patients to develop the knowledge, skills, and confidence.

Limitations of the study

This is a single city study with a limited proportion of patients. Also some patients because of illiteracy or lack of desire did not participate in the study.

Authors' contribution

MJ and KhM designed the study, observed accuracy and validity of the study. MJ collected the data and follow the study. MJ wrote the paper. KhM edited the final manuscript.

Conflicts of interest

The authors declared no competing interests.

Ethical considerations

Ethical issues (including plagiarism, data fabrication, double publication) have been completely observed by the authors.

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