

# Patient education: a study on the present situation and factors affecting success of patient education in hemodialysis

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## Original Article

### Abstract

**Introduction:** The hemodialysis patients face with multiple physical problems and psychosocial and social challenges. The proper interventions in the field of their education have a positive impact on the reduction of complications and improvement of the quality of their life. Despite the potential benefits of patient education, its success depends on various factors. The purpose of this study was determined present situation and factors affecting success of patient education in hemodialysis centers of Urmia University of Medical Sciences.

**Methods:** This is a cross-sectional descriptive study conducted in 2015. The study population included 420 patients in hemodialysis centers in Urmia University of Medical Sciences. Data were collected using a self-structured questionnaire which was estimated as both reliable and valid. The data were analyzed by SPSS 20 software descriptive statistics and analytical statistics.

**Results:** The most common of patients education methods in hemodialysis centers under study included handout-pamphlet (37%), oral conversation (26%) and workshop (18%). The most factors affective in hemodialysis patients education were related to patient education based on learning needs (4.85), ease of learning educational content (4.77), Proper communication between providers and patients (4.61), Skills of educators (4.50) and patient participation in the planning and implementation of education (4.44) respectively).

**Conclusion:** The hemodialysis patients need education in order to adapt to their condition and perform self-care behavior. So, physicians and nurses should provide education based on learning needs of patient through effectively communicating with patients and applying various methods. It is necessary that continuing education for healthcare provider conducted and also the quality of patient education evaluated and motivation of health care providers increased.

**Key words:** Patient Education, Factors Affecting, Success, Hemodialysis

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## Introduction:

ESRD is today one of the major public health problems all over the world that over eighty thousand people annually lose their lives due to suffering from the disease (1). The incidence rate of ESRD is 242 cases per million people in the world that annually 8% are added to this rate (2). The rate of prevalence and incidence of ESRD in Iran have been reported as 435.8 and 63.8 cases per million persons, respectively (3). Patients without renal function can survive by dialysis for years. This treatment is usually done 3 times a week for 3-4 hours each time. This; in turn results in a change in the individual lifestyle, health status as well as his role in the community (4-7). Such patients face with multiple physical problems and psychosocial and social challenges (8). The earlier studies show that proper interventions in the field of patient education have a positive impact on the reduction of complications and improvement of the quality of their life (9-11). In fact, patient education is the process of achieving skills and changing effective behavior for maintaining and improving health which aims to encourage the active participation of the patient in self-management and self-care (10-12). Based on adult learning theory, new models for patient education include the assessment of patients' needs, identification of common objectives of clinicians and patients, the efficiency of self-education, previous experiences of patients, and motivation required (13). Because of the complexity of the process of dialysis and the need for patient participation in their health care, patient education should be considered as an important component of health promotion and care management programs (14). Therefore, essential educations are needed to be given to these patients for preserving the quality of life, regularly following treatment advices, and changing lifestyle so that it will result in the preparation and sense of better compatibility for them (15-18). Education provided to patients at the appropriate moment can alleviate feelings of anxiety (16). Despite the potential benefits of patient education, its success depends on various factors (17). Indeed, patient educational success means that meeting the learning needs of patients to take an active role in managing care and improvement of the quality of their life (19).

In his study, Klein suggested that to develop patient education, patient assessment, planning, and evaluation are essential (18). Researches show that proper communication of healthcare providers with patients, focus on learning needs of patients, skills and interest of trainer, easy access to sources of knowledge, igniting patient motivation, and participation of family members in patient education are among the factors affecting the success of patient education (17-20). The purpose of this study was to identify present situation and factors affecting success of patient education in hemodialysis centers of Urmia University of Medical Sciences.

## Methods:

This is a cross-sectional descriptive study conducted in 2015. The study population included of all patients (420 patients) under Hemodialysis treatments from dialysis ward of Emam Khomeini and Taleghani hospitals of Urmia University of Medical sciences. Data was collected by the use of a self-structured questionnaire. The first part of the questionnaire was about the respondents' demographics including sex, age, educational level, marital Status, occupation, primary cause of ESRD, time on dialysis and history of transplantation. The second part addressed the current situation of patient education, in the final part, factors affecting in patient education determined through a five-point Likert scale (from strongly agree to strongly disagree). The validity of the instrument was determined based on concepts in the valid scientific texts and comments of experts (including nephrology, dialysis nurses and medical educational professionals). The reliability was assessed by calculating Cronbach's alpha 0.82. Data were analyzed by SPSS 20 and descriptive statistics used to show current situation of patient education and factors affecting in it. In addition, we declare that have no conflict of interest in this study and subjects were surveyed in agreement with the research ethics.

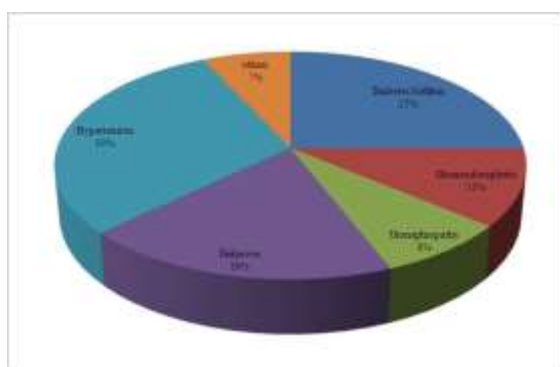
## Results:

Out of 420 distributed questionnaires, 280 ones (66.6%) were collected. 57.3% of respondents

were female and most of them (51.8%) were in 50-60 years age group. most respondents' educational degree (38.7%) were Diploma. 72.5 of patients married and 61.73 Unemployed. Only 8.5% had history of transplantation. (Table1).

**Table 1. Demographic characteristics of patients (N=280)**

| Characteristics          | Related cases                    | N (%)       |
|--------------------------|----------------------------------|-------------|
| <b>Gender</b>            | Male                             | 118 (42.15) |
|                          | Female                           | 162 (57.85) |
| <b>Age (years)</b>       | < 30                             | 15 (5.36)   |
|                          | 30-40                            | 22 (7.86)   |
|                          | 40-50                            | 31 (11.07)  |
|                          | 50-60                            | 145 (51.78) |
|                          | ≥60                              | 67 (23.93)  |
|                          | Illiterate                       | 35 (12.50)  |
| <b>Educational level</b> | Elementry school (under-diploma) | 86 (30.71)  |
|                          | High school (Dimloma)            | 108 (38.57) |
|                          | University                       | 51 (18.22)  |
|                          | Married                          | 203 (72.50) |
|                          | Single                           | 20 (7.14)   |
| <b>Marital status</b>    | Divorced,widowed                 | 57 (20.36)  |
|                          | Employed                         | 43 (15.39)  |
|                          | Unemployed                       | 173 (61.73) |
| <b>Occupation</b>        | Retired                          | 64 (22.88)  |
|                          | < 1 year                         | 25 (8.93)   |
|                          | 1-3                              | 123 (43.93) |
| <b>Time on dialysis</b>  | 3-5                              | 97 (34.64)  |
|                          | ≥5 years                         | 35 (12.50)  |
|                          | <b>History of transplant</b>     | Yes         |
| No                       |                                  | 256 (91.42) |

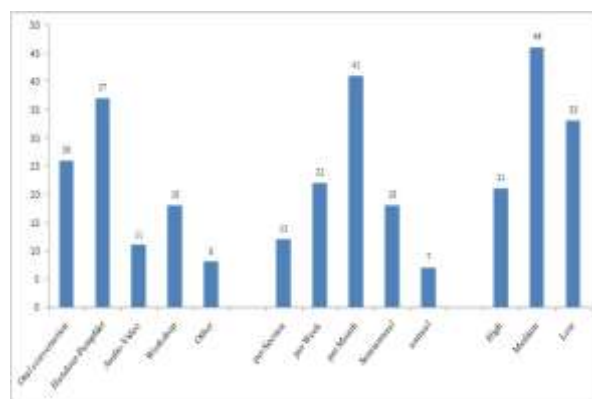


**Figure 1. Primary Cause of ESRD**

Based on the above diagram, in terms of primary cause of ESRD, the maximum rate was related to hypertension (30%) and Diabetes mellitus (25%).

42% of patients believed that education provided satisfies their learning needs.

The most common of patients education methods in hemodialysis centers under study included handout-pamphlet (37%), oral conversation (26%) and workshop (18%).



**Figure 2. Present situation of patient education (Methods, Timing and Usefulness)**

Also 41% of patients mentioned that education provided Monthly and 67% of them consider patients education as useful.

According to the table above, the most factors affective in hemodialysis patients education were related to patient education based on learning needs (4.85), ease of learning educational content (4.77), appropriate communication between providers and patients (4.61), Skills of educators (4.50) and patient participation in the planning and implementation of education (4.44) respectively.

**Limitations:**

The study was conducted in two large referral hospitals in Urmia; thus, the findings should be interpreted in light of this context. Also some patients did not participate in study because of illiteracy or lack of desire.

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**Table 2. Factors affecting success of patients education in hemodialysis (range 1-5)**

| Effective factors  | Mean | SD   |
|--|------|------|
| Skills of educators  | 4.50 | 0.87 |
| Patient interest and participation in education                                  | 4.44 | 0.69 |
| Documentation of patient education in medical records                            | 3.96 | 0.93 |
| Patient education based on learning needs  | 4.85 | 0.75 |
| Assigning time and specific location for patient education                       | 4.34 | 0.71 |
| Use of training aid tools for patient education                                  | 4.05 | 0.67 |
| Selection and training of specific people for patient education                  | 4.22 | 0.76 |
| Culture-making fit   | 3.83 | 0.63 |
| Ease of learning educational content   | 4.77 | 0.72 |
| appropriate communication between providers and patients                         | 4.61 | 0.62 |
| Motivate health care providers to educate patients                               | 4.08 | 0.80 |
| Educating the patient's family   | 4.18 | 0.78 |
| Evaluation and Feedback patient education in hemodialysis center                 | 4.05 | 0.83 |
| Increase the number of nurses and physicians in hemodialysis center              | 3.87 | 0.88 |
| Patient literacy and readiness   | 3.92 | 0.75 |
| Self-management education programs   | 3.23 | 0.66 |
| Explanation of patient education in the job description of nurses and physicians | 3.78 | 0.92 |
| Use of smartphone applications or education portals                              | 3.50 | 0.68 |

**Conclusion:**

From the perspective of nurses, in their study, Hakari and Mohamadzade (2011) reported that the most important barriers to patient education included: the large number of patients (65.6%), high workload of nurses (62.8%), lack of tools for patient education (40.9%), lack of interests for patient education by nurses (38.6%), lack of cooperation and coordination among various members of the health team (38.2%), lack of support of managers concerning patient education (36.5%), and lack of nurse’s knowledge and information on educational issues (35.6%) (21).

In this research the most affective factors for hemodialysis patients education were related to patient education based about learning needs (4.85), ease of learning educational content (4.77), Proper communication between providers and patients (4.61), Skills of educators (4.50) and patient participation in the planning and implementation of education (4.44) respectively.

In a study, Cook et al (2003) showed that patient education will not be effective in his health and lifestyle changes unless both learning needs of the patient and the documentation of provided educations are considered (22). Our results showed

that patient education based on learning needs, and documentation of education lead to successful of patient education.

The results of the study by Mardanian et al. showed that three factors facilitating patient education include designation special nurse for training, dedicating time for training, and presence of written information guidance for training a particular subject, respectively (23). Hemodialysis patients in the present study also emphasized the assigning specific people, time and location for patient education as well as Use of training aid tools.

The results of the study by Deccache, Ballekom revealed that in developing countries, the main factors of success for performing education programs to patient include: organizing training as an important part of the care, supervising the implementation of education, motivating of education providers, and preparing patients for receiving education (24). These results are consistent with the results of our research.

Heshmati et al. (2012) conducted a quasi-experimental to identify the effect of implementing Clinical Supervision Model on the patient education outcome. The results showed that implementing

clinical Supervision improved patient satisfaction from education and quality of patient education documentation (25,26). The results of our study indicated that Evaluation and Feedback and documentation have significant impact on the success of patient education.

The hemodialysis patients need education in order to adapt to their condition and perform self-care behavior. So, the creation of required opportunities through the establishment of the required facilities, increase in skills of educator, and dedication of convenient time and place for patient education is critical. On the other hand, physicians and nurses should provide education based on learning needs of patient through effectively communicating with patients and applying various methods. It is necessary that continuing education for healthcare provider conducted and also the quality of patient education evaluated and motivation of health care providers increased.

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## آموزش بیمار: مطالعه وضع موجود و عوامل مؤثر بر موفقیت آموزش بیمار در همودیالیز

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### چکیده

**مقدمه:** بیماران همودیالیز با مشکلات جسمی متعدد و چالش‌های روانی و اجتماعی روبرو هستند. مداخلات مناسب در زمینه آموزش بیمار می‌تواند تأثیر مثبت بر کاهش عوارض و بهبود کیفیت زندگی آنها داشته باشد. علیرغم مزایای بالقوه آموزش بیمار، موفقیت آن بستگی به عوامل مختلف است. هدف از این مطالعه، تعیین وضعیت موجود و عوامل مؤثر بر موفقیت آموزش بیمار در مراکز همودیالیز دانشگاه علوم پزشکی ارومیه می‌باشد.

**روش کار:** این مطالعه از نوع توصیفی - مقطعی می‌باشد که در سال ۱۳۹۴ انجام گرفت. جمعیت مورد مطالعه شامل ۴۲۰ نفر از بیماران مراجعه‌کننده به مراکز همودیالیز دانشگاه علوم پزشکی ارومیه می‌باشد. داده‌ها با استفاده از یک پرسشنامه خودساخته که روایی و پایایی آن بدست آمد، جمع‌آوری گردید. داده‌های گردآوری شده از طریق نرم‌افزار SPSS 20 و آمار توصیفی و آمار تحلیلی مورد بررسی قرار گرفت.

**نتایج:** رایج‌ترین روش‌های آموزش بیماران در مراکز همودیالیز مورد مطالعه شامل پمفلت (۳۷ درصد)، گفتگوی شفاهی (۲۶ درصد) و کارگاه (۱۸ درصد) می‌باشد. مهم‌ترین عوامل مؤثر بر موفقیت آموزش بیماران همودیالیزی شامل آموزش بر اساس نیازهای یادگیری (۴/۸۵)، سهولت محتوای آموزشی (۴/۷۷)، برقراری ارتباط مناسب بین ارائه‌دهندگان و بیماران (۴/۶۱)، مهارت‌های آموزش دهنده (۴/۵۰) و مشارکت بیمار در برنامه‌ریزی و اجرای آموزش (۴/۴۴) تعیین گردید.

**نتیجه‌گیری:** بیماران همودیالیز برای سازگاری با شرایط خود و انجام رفتارهای خودمراقبتی نیازمند آموزش می‌باشند. بنابراین، پزشکان و پرستاران باید از طریق برقراری ارتباط مؤثر با بیماران، آموزش‌های لازم بر اساس نیازهای یادگیری بیمار و با استفاده از روش‌های مختلف ارائه دهند. لذا ضروری به نظر می‌رسد که در این زمینه آموزش مداوم برای ارائه‌کنندگان خدمات انجام یابد و همچنین کیفیت آموزش بیمار ارزیابی شده و انگیزش‌های آموزش بیمار در ارائه‌دهندگان مراقبت‌های بهداشتی افزایش یابد.

**کلیدواژه‌ها:** آموزش بیمار، عوامل مؤثر، موفقیت، همودیالیز

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