

# Education of Patients, Living on Hemodialysis

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*Abstract:* Globally, the number of patients with chronic renal diseases is increasing, as well as of those who maintain their lives due to dialysis techniques for blood purification. In Bulgaria patients under dialysis are growing with 150-170 cases/million population per year. With the initiation of dialysis treatment, substantial changes occur in the normal way of living, which requires special organization for its performance. In most of the cases, patients do not even know that they are ill and they appeared to be unprepared and incapable to take care of themselves. Therefore, educational sessions are recommended, aiming to give information about life on hemodialysis and thus, the patients are involved in the process of treatment. They are taught to overcome the difficulties, motivate themselves and adapt to the new situation. Knowledge helps them to achieve control of the disease and its treatment and improves their quality of life. After completing the education, positive results are observed in the patients' behavior and in their self-care.

*Key-Words:* education, patients, chronic kidney failure, dialysis treatment.

## 1 Introduction

Chronic kidney diseases are among the most common ones, which cause disabilities and reduce permanently and significantly the quality of life [4]. Such diseases tend to affect more and more patients both in Bulgaria and worldwide. At the end of 2017, the number of patients undergoing hemodialysis is about 3800 and they are treated in 80 hemodialysis units (60 of them are supervised by the Ministry of Health and 20 units are private).

In Bulgaria, dialysis patients are increasing with 150-170 cases/million population per year and the same tendency is in the European countries. A high percentage of patients (55-60%) learn about their disease by accident, usually after a viral infection or after visiting their physician. They have not been supervised by a nephrologist and they have not been informed about the outcomes of their kidney disease. Every patient is an individual, who has the right to get information about the possible methods of treatment in order to have an adequate life [7]. Patients' treatment is related to various problems and in order to find solutions, a qualified,

continuous and complex nurse care is required. Educating patients in self-care with the new regimen and life style on hemodialysis are also included. Education itself is a complex process, especially concerning elderly patients with renal disease who need treatment for the rest of their lives. Many of them refuse to assist, because they feel discouraged and doomed with their chronic suffering.

## 2 Statement

With the increase of the average life expectancy, elderly patients who need special attention and care are increasing in number as well. In spite of their individual features – sex, age, education, interests, religion, it is sometimes very hard to involve such people to any kind of educational process. Some of them are sure they know everything and they can manage themselves and others believe it is not worth living and ask what the point is. But there is a point and it is always worth it, because these are patients, who continue to work, who have families and children and their life does not end with the start

of the kidney – replacement therapy. When they learn how to live with their kidney disease and know the appropriate methods of treatment, then less complications and unexpected situations occur both during dialysis sessions and at home.

Unplanned dialysis treatment and the necessity to connect the patient to the dialysis machine urgently cause worse clinical results. Insufficient information of the disease is the reason for initiating educational sessions both with the patients and their relatives and assistants.

With reference to the World Kidney Day, every year nurses and nephrologists from the Nephrology Unit at the Winchester Medical Centre, Virginia, organize events, aiming to improve population's knowledge about kidney diseases and their prevention. Free health screening is performed for everybody, but it is mainly focused on the high – risk groups [3].

All day education for new dialysis patients is performed in the USA, discussing the possibilities for a transplantation within 45 days after starting hemodialysis [12]. According to study, involving twenty six dialysis units from six European countries, the education held has positive results and it is worth the cost [5]. After an educational course for ambulatory patients, performed in the Diagnostic Centre at Ahvaz Golestan Hospital, it was concluded that the nurse's main role is to teach patients how to take care of themselves with regards to their new way of life. After the education, the patients showed a positive outcome which reduced dialysis complications [2].

In order to receive an effective dialysis treatment, patients should be aware of the procedure itself as their life is becoming dependent on a machine and to many of them this is for the rest of their lives. These patients need quality care, individual approach and attitude and dealing with such patients requires a lot of attention, patience and love. The most important aspects while adjusting to the disease are: patients should learn to talk about it, they should proceed with their social contacts and they should not interrupt their social activities, maintaining their quality of life [1; 11]. Patients who are better informed about their kidney disease, about the need to follow a diet, a regimen and so on, show better results in their struggle with the disease [10].

With the beginning of hemodialysis treatment, many of the patients believe their life ends and they are afraid of the future. Dialysis sessions cause many limitations, requiring adjustment to a schedule. According to the Bulgarian standards they are performed three times a week and each session

lasts four hours minimum. This change frightens most of the patients and they need time to realize it and adjust to it. At the same time, the role of the medical staff as well as the emotional, moral and psychological support of the family, relatives and friends are essential.

Patients' understanding of their health situation and the medical staff's support help to improve their daily life, their rehabilitation and quality of life. Every change in the way of life requires specific efforts in order to handle the initial stress from the determined diagnosis [9].

Following a diet and living with a kidney disease are a challenge for each patient, starting hemodialysis. Diet is important to maintain energy and vitality. The surrounding medical staff has the essential task to provide complete information of the disease and its treatment options [6]. A program called "Life on hemodialysis" was applied to 65 patients, treated in "Kanev" University Hospital, town of Ruse, Bulgaria in 2017. Its main aim was a long - term education of patients in order to reduce complications during the dialysis session, to improve the quality of life, to help them understand the need of following a diet, cares for the vascular access and ways to improve the social activities. During these individualized and group sessions, an effective dialogue and emotional support were achieved both by the staff and between the patients. Thus, the patients developed self-control and they learnt to follow proper regimen and way of life [8]. Adherence to nutritional recommendations was associated to a large extent to patients' health condition and relieved it.

The program lasted a month. The educational sessions included topics, which introduced patients with the kidney functions, what chronic kidney failure was, treatment options, types of vascular access and cares, nutritional regimen in hemodialysis treatment, how to live a quality life with hemodialysis. In spite of the short period, 20 % (n=13) of the participants changed their regimen and way of life completely. A high percentage of patients changed their usual everyday activities – 75,4% (n=49). The comparative analysis showed a significant statistic change in regards with the energy ( $\alpha=0,002$ ), as well as in regards with the quality of life ( $\alpha=0,001$ ).

In spite of the positive results, achieved as a whole, there was a small percentage of patients who were rather not satisfied with their quality of life (1,6%) after completing the program. This fact shows that there is still something more to wish. It is worth struggling even for one patient.

It is important not only to educate patients, but to observe their change of behavior, which shows to what extent they have acquired and applied in practice the new knowledge and skills in life with hemodialysis treatment.

**Aim:** The aim of this study is to observe the patients, participating in the Program “Life on hemodialysis”, to what extent they apply their knowledge and skills in life with hemodialysis.

## 2.1 Material and Methods

The study enrolled 60 participants from the

experimental group. Five of the patients from the group, initially created in 2017, have died as a result of complications of the disease. The follow-up period was from August to October, 2019. All the patients gave their consent prior to the study. Once a month, a Health report card was filled in, monitoring each patient’s health status (Table 1) and assessing weight, blood pressure; amount of fluid intake; residual diuresis; prohibited food intake, alcohol consumption, cigarettes; subjective complaints during the dialysis session and between dialysis sessions. After the end of the observational period, the given results were analyzed.

**Table 1. Health report card for monitoring health status of the patient.**

### Health card used to monitor health status of hemodialysis patients

Name:..... Year.....

Criteria		Visit №1	Visit №2	Visit №3
Weight/ Ultrafiltration				
Arterial Hypertension				
Subjective complaints during hemodialysis				
Subjective complaints between hemodialysis sessions				
Monthly blood test results	Hb			
	H-t			
	Urea			
	Creat.			
Daily fluid intake	Up to 500 ml			
	Up to 1000 ml			
	Up to 1500 ml			
Foods, high in K <sup>+</sup> intake between dialysis sessions				
Alcohol use (daily)	Liquor up to 100 ml			
	Beer up to 330 ml			
	Wine up to 200 ml			
Number of smoked cigarettes (daily)	1-2 cigarettes			
	Up to 5 cigarettes			
	Up to 10 cigarettes			
	Up to 20 cigarettes			

## 2.2 Results and Discussion

With the beginning of dialysis treatment, patients should alter the way they think and re-organize their lifestyle and life as a whole. During the so-called adjustment period, which may last about a year, patients come across many problems, they must

accept their disease and learn to live with it. The study concerning patients’ adherence to the prescribed regimen two years after completing the Program shows the degree to which they have adjusted to the new situation and have used the obtained information, which directly explains the purpose and meaning of the education. The health

report card assesses the degree to which a patient follows correctly the regimen and diet.

Body weight and blood pressure levels show whether the nutritional regimen is correct. During the observation, all the patients were established (n=60) weight gain to 3-3,5 kg between dialysis sessions. The initial levels of blood pressure were 130/80 and 120/80 and there were no sharp increases or decreases. Maintaining relatively normal levels of blood pressure reduced complications during dialysis treatments. 100% of the patients followed the rule of daily fluid intake (n=60) and hyperhydration was not determined.

The diet requires restricting food, high in potassium. Smoked meat and nuts were consumed by 46.6% (n=28), as 16,6% (n=10) of them had subjective complaints at home in the days between dialysis sessions. During the sessions, the patients were calm and had no complaints (n=60).

Patients with chronic kidney failure undergoing hemodialysis treatment are not recommended to drink alcohol and smoke or if they do so, they should reduce the quantity. The study concludes that those patients who have such bad habits, have not changed them. By way of excuse, one of the patients said that 50 ml of cognac after dialysis made bad feelings go away.

According to good clinical practice hemodialysis patients are performed blood tests each month. The results show good general state of health. Patients' subjective condition reported in the health card shows the positive effectiveness of the completed education.

### 3 Conclusion

Diagnosing a patient with chronic kidney failure and starting dialysis treatment cause much stress. For that reason group and individualized educational sessions are needed in order to teach the patient in self-care and self-control. Acquiring information helps patients to take control of the disease and treatment, improves their life satisfaction and makes them strictly follow doctor's advice.

When a person accepts himself as he is, believes in himself and his abilities, he has the power and wish to change himself, to change his life and deal with all the challenges, which life brings and gradually to improve his quality of life. Due to the educational programs and sessions as well as to the supporting role of the nurses, the health cards for monitoring the health status reports a positive change in the patients.

According to the observational studies made, it was found that the patients had adjusted to hemodialysis sessions and they had affiliated their kidney disease to their everyday life.

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