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Original article

Hemodialysis Patients' Experiences of Diet and Fluid Restriction: A Qualitative Study

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Abstract. *Study Objective:* Adherence to diet and fluid restriction is one of the most important elements of hemodialysis (HD) treatment. The aim of this study was to explore the methods used by HD patients in adhering to diet and fluid restrictions, and the sources of motivation and experiences affecting adherence. *Methods:* A qualitative design underpinned by a phenomenological hermeneutical approach was applied. The study was conducted with 14 patients undergoing HD, using the face-to-face interview method. Sound recordings were transcribed to written form and content analysis. *Results:* Four themes were determined as a result of the content analysis. These were self-management, sources of motivation, existential struggle and future expectations. In the study, an analysis was made of the difficulties in the socio-cultural field which the HD patients had in adhering to diet and fluid restrictions and their adherence to diet and fluid restrictions in order to meet their expectations for the future, to live well in the present and to remain alive and to meet the expectations of their friends and families. *Conclusion:* It is important in this sense for nurses to evaluate their patients in all dimensions and contribute to their care.

Key words: Hemodialysis, Diet and fluid restriction, Adherence, Qualitative research

Introduction

In the treatment of end-stage renal disease, hemodialysis (HD) therapy continues to be the most widely used renal replacement therapy in the clinic. Hemodialysis treatment allows a patient to remain alive but does not provide a cure. This is a treatment that affects daily life in many ways, including diet, fluid intake, more than one therapeutic intervention, and self-management, necessitating a care plan. Hemodialysis patients face an intrusive and difficult burden that affects not only their physical and mental health, but also their families, their lifestyle, their ability to work and their quality of life (1-4).

Among the most important treatment elements in order to reduce the mortality and morbidity of HD patients and to prevent complications during dialysis is adherence to dialytic fluid intake and diet restriction (5,6). Adherence is a dynamic, relatively complex and multi-dimensional concept and in HD it means expecting patients to restrict interdialytic fluid intake, conform to diet recommendations, use medication regularly and to go for dialysis at planned intervals (7). It has been found that non-adherence to HD programs in different ways is at a rate of 50% or higher (7). There is no gold standard to assess diet and fluid restriction, but it is generally evaluated by weight gain and biochemical parameters (8). Geographical and cultural differences are important factors affecting adherence to diet and fluid restriction in HD patients. Eating and drinking are basic human needs, and are related to socio-cultural structure and traditions and therefore it is difficult to get people to change their established eating and drinking habits (9).

The HD team is a group of nurses who are mostly in a one-to-one relation with patients (10). Hemodialysis nurses help patients to change their lifestyles and eating and drinking habits and to conform to these changes by the education and care which they give. To conform to fluid and diet restrictions, patients make use of the recommendations of HD nurses and the team and also methods that they devise. Knowing these methods which patients develop for themselves and examining the reasons and experiences which motivate lifelong adherence to these restrictions can be of benefit to HD nurses and the team in developing an individual diet and fluid restriction method. Thus, the aim of this qualitative study was to show the strategies and methods used to conform to fluid restriction by patients receiving HD in Turkey, the sources of motivation affecting adherence and their experiences. It is thought that the data obtained from this study will be of direct or indirect benefit in planning care, treatment and education content in improving the quality of life of patients.

Materials and Methods

In this study, a hermeneutic phenomenological research perspective with a qualitative approach was used to explore the experience of HD patients on their dietary and fluid restriction. According to van Manen, phenomenology is not only a description, but is a hermeneutical process by which the researcher interprets the meaning of lived experiences. In this study, van Mann's hermeneutical phenomenology was adopted because it was an intermediary between lived experiences which affect adherence to diet and fluid restrictions which are the most important factor in the treatment of HD patients and the researcher's interpretations (11).

Study Setting

The study was carried out in the HD unit of a state hospital located in the Central Anatolia region of Turkey, which has a high prevalence of HD. The HD unit has a total of 23 dialysis points and serves an average of 45 patients per day. It is staffed by six HD nurses and five dialysis technicians.

Participants

The sample of the research consisted of 14 HD patients. The criterion sampling technique, a purposive sampling method, was used in selecting the sample. Individuals were included in the study who were aged 18 or more, had no hearing or speaking problems, could understand Turkish, could speak and write, had been receiving HD treatment for at least a year and agreed voluntarily to participate. To increase data variety, care was taken to include a broad sample with regard to age, gender and duration of treatment. The sample size in qualitative studies is determined by when data saturation is reached (11,12). Following the interviews, data saturation was discussed among the researchers. Because concepts that could answer the research questions had begun to be repeated, no new patients were selected and the study sample was 14 patients (Table 1).

Data collection

A semi-structured interview form was prepared in line with an examination of the literature and the knowledge and experiences of the researchers. This form included questions on sociodemographic characteristics, clinical information and diet and fluid restrictions. The questions on diet and fluid restrictions were prepared as open-ended questions. The draft interview form was shown to HD nurses working in the unit and revisions were made according to their views and recommendations. The interviews were conducted in the HD unit by the first and third researchers, individually and on a face-to-face basis, and sound recordings were made. At the same time, field notes were made by the first writer. It took 25-45 minutes to complete the interview with each participant. Patients were asked questions about the education received on diet and fluid restrictions, things that were difficult for them and which motivated them, methods which they used for adherence, health personnel and family members who helped them and their expectations for the future.

Statistical Analysis

An analysis of study data was made with content analysis. The aim of content analysis is to determine the

concepts and relationships which will explain the data collected. Creswell's data analysis stages in qualitative research were used as the basis of this study. These are preparing data for analysis, reading all data, coding data, forming the themes, establishing connections between themes and interpreting themes (11). The sound recordings made of the study data were carefully transcribed word for word into writing, preserving the original, by the first and third researchers. This was then subjected to content analysis using the computer-supported qualitative data analysis program MAXQUDA 18. The researchers read all of the data independently and made notes on anything which occurred to them while reading. Later, the dataset was coded with the program MAXQUDA version 18 in line with the aims of the research with intense discussion between the three researchers, taking into account previous studies in the literature, concepts, theories, and the notes which they had taken while reading (6,13,14). After this, the data forming a meaningful whole were brought together in the first stage to provide internal consistency, and categories (subthemes) were formed. In the second stage, these different subthemes were coded thematically so as to form a meaningful whole among themselves. Taking account of the internal and external consistency of the thematic coding, the whole dataset (interview findings, observations, documents, etc.) was carefully analyzed to determine whether the themes formed represented the dataset. The MAXQDA 18 hierarchical code-subcode divisions model was used in visualizing the themes and sub-themes obtained as a result of content analysis (Figure 1). Regarding rigor, the research team discussed and interpreted the findings until a consensus was reached. Also, immediately after collecting the data, the results and comments obtained were confirmed with the participants. To increase the external reliability (confirmability) of the research, confirmation examination was conducted by presenting to an expert who was outside the team all of the researchers' data collection instruments, raw data, the coding made at the analysis stage and the perceptions, notes, writing and deductions on which the report was based (11). To secure a one-to-one comparison of the participant's data in the research with readers' data, it was transferred without adding comments and by remaining faithful to the nature of the data.

It has been stated that researchers who adopt a phenomenological approach have command over the characteristics relating to the phenomenon which they are working on and can pursue their research in a more focused and clear way (15). The first researcher is a woman and works as a doctoral member of the teaching staff. In her doctoral thesis studies, she worked on diet in HD patients, and continues that work. The second researcher is also a woman and works as a doctoral member of the teaching staff. She has worked for ten years as a HD nurse in private and state hospital dialysis units. Also, she studied fluid restriction in HD patients in her doctoral thesis. She has experience with the concepts under discussion in this study. She has received education on Qualitative Research Methods and analysis. The third researcher is a woman and an emergency nurse. She has experience with Acute and Chronic Renal Failure patients coming to the emergency service. Because they have an interest in this field, it was possible to conduct the study impartially, conducting interviews and carrying out analysis in which they gave their scientific views and experience. The researchers had had no relationship with the participants before they began the study, and gave information to HD patients who participated voluntarily in the study on such topics as the aim, topic, importance and confidentiality of the research, and the length of the interviews.

Ethical Considerations

Approval to conduct the study was obtained from the University Ethics Committee (IRB approval number 12.10.2018-52) and the institution in which the study was set. Study data were collected between February and May 2019. The patients who participated in the study were informed about the study before their written consent was obtained. All procedures were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Results

The participants in this study were 14 HD patients, who were of the same religion and the ethnic

background (Table 1). In the content analysis, four themes and ten sub-themes were analyzed, and these are given in Figure 1. The themes are self-management, sources of motivation, existential struggle and future expectations.

Theme 1: Self-management

Self-management is the total of all methods and options by which individuals can effectively realize their goals without external intervention. One of the most important steps of HD therapy is adherence to dietary and fluid restrictions. Because patients with chronic disease must deal with their disease long-term, self-management becomes a part of their daily life and they play a central role in their care (16). Therefore, this theme emphasized the self-care behaviors patients used to manage the dietary and fluid restrictions, and the methods of autonomy that they employed.

Subtheme 1: Self-care

Self-care is defined as what a person needs to do individually to preserve health and wellbeing. Self-care implementation in HD patients is of great importance in controlling the progress and symptoms of the disease. The participants discussed the self-care behaviors they had developed during the process of adhering to dietary and fluid restrictions.

"*I have two cups. I use those cups to drink water. I feel physical discomfort when I drink two cups of water in one night. I want to drink more but I drink a maximum of one cup of water. And I drink it sip by sip.*" (P02)

" I *generally keep in mind what I've eaten, and what I do eat, I eat in small portions. The only exception is eggs, which I eat one or two of a day. By egg, I mean the egg white.*" (P11)

Changes in patients' accustomed eating and drinking habits, that is, the development of behavior changes, play an important role in increasing adherence to diet and fluid restrictions. In this theme, an analysis was made of participants' self-care behavior which they needed to perform in order to adhere to diet and fluid restriction,

Subtheme 2: Autonomy in fluid and diet management

Autonomy is the capability of a person to make a decision or manage him/herself independently of another person or situation. In this subtheme, an analysis was made of participants' ability to manage for themselves their diet, fluid and medication according to what they knew of their bodies over the years, and the symptoms which they had experienced

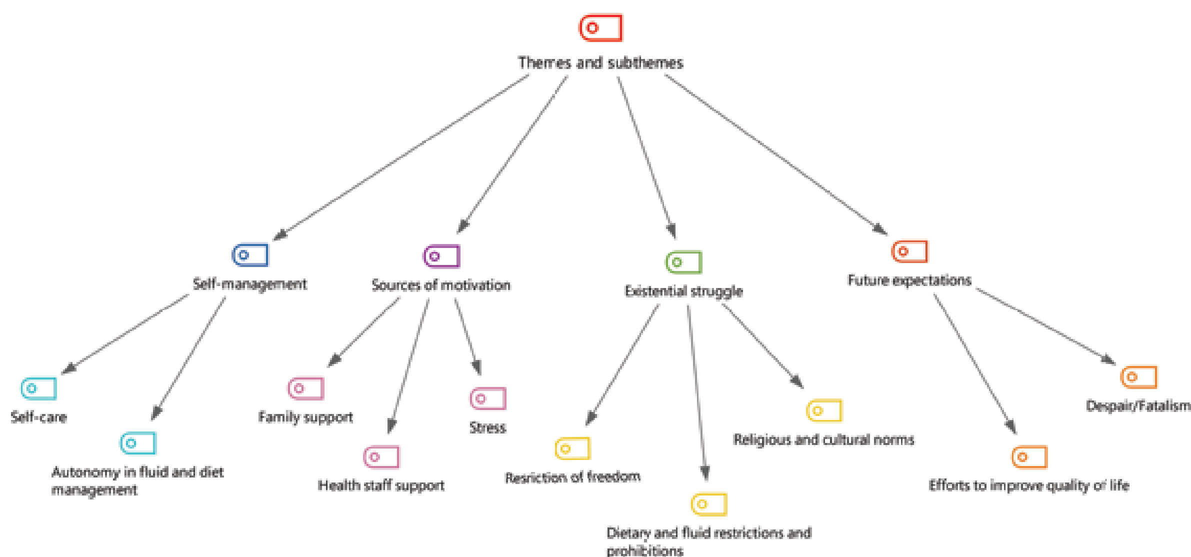

Figure 1. Themes and subthemes

Table 1. Characteristics of the Participants

Patient	Age	Gender	Marital status	Education	Job	Comorbidity status	Duration of Hemodialysis therapy (years)
P1	52	Male	Married	High school	Civil Servant	Hypertension	15 years
P2	59	Male	Married	High school	Civil Servant	Glomerulonephritis	7 years
P3	68	Male	Married	Primary education	Retired	Glomerulonephritis	4 years
P4	69	Female	Single	Literate	Housewife	Diabetes Mellitus	5 years
P5	65	Female	Married	Literate	Housewife	Hypertension	7 years
P6	58	Male	Married	Primary education	Retired	Diabetes Mesllitus	8 years
P7	33	Female	Single	High school	Housewife	Hypertension	14 years
P8	57	Female	Married	Primary education	Housewife	Hypertension	16 years
P9	34	Male	Married	Primary education	Civil Servant	Hypertension	1 years
P10	58	Male	Married	High school	Retired	Hypertension	9 years
P11	67	Female	Single	Literate	Housewife	Hypertension	8 years
P12	29	Male	Single	Licence	Civil Servant	Hypertension	2 years
P13	48	Female	Maried	Licence	Retired	Glomerulonephritis	6 years
P14	40	Female	Married	High School	Civil Servant	Glomerulonephritis	11 years

when they drank too much fluid or did not adhere to their diet.

"*Consuming too much fluid is harmful to us. It even makes it hard to sleep at night. I cannot breathe. It disturbs my sleep routine. When I take in too much fluid I try to walk to sweat it off.*" (P10)

"*I listen to my body and act accordingly. At home I know when my potassium or phosphorus levels are high. Too much phosphorus food makes me itch. You realize it immediately. I increase my dose of phosphorus medicine between meals.*" (P14)

"*I've been coming to dialysis for 15 years, so I've learned what affects me a lot, what raises my potassium and what raises my phosphorus. I immediately know when my potassium or phosphorus rises. I've found out by trying it for myself.*" (P02).

Participants know when they have taken too much fluid or when they have not adhered to their diet by the symptoms which they experience. They can manage this by the interventions which they perform for themselves.

Theme 2: Sources of motivation

Adaptation to chronic diseases is a physical, psychological and social process, and in chronic renal failure, HD treatment alone is not enough. This disease necessitates continuous treatment and care, and in this, support from the family and the health team is very important.

Subtheme 3: Family support

It is known that family support is important for a patient's capacity to cope with problems. Beginning HD treatment causes lifestyle changes for the patient and family. Along with the patient, the social lives of family members are also disrupted, and their lives are arranged around dialysis sessions. As patients and their families attempt to continue their lives with a long-term illness, the patient is helped in coping with daily activities such as personal hygiene, interpersonal communication, eating and sleeping. At the same time, the patient is supported psychosocially. However

many self-management strategies are explained to patients, it is reported that the spouse and children in the family encourage them to adhere to their diet and fluid restrictions, and even support them by eating in accordance with the diet.

"*At home, my children and spouse encourage me to stick to my diet. They cook without salt. They don't eat the things that are forbidden for me when they are with me.*" (P09)

"*My brother's wife helps. She cooks salt-free food for me. She supports me, like 'Watch out, that'll be bad for you."* (P07)

In Turkish society, older adults and the chronically ill generally live with their families and do not stay in nursing homes or other care facilities. Living with their families and receiving biopsychosocial support from them increases adherence to diet and fluid restrictions. In particular, eating and drinking together with the spouse and children provided support.

Subtheme 4: Health staff support

The members of the health team with whom HD patients spend the most time are HD nurses, and these help to maintain adherence to fluid and diet restrictions by making behavior easier, reducing stress, and helping to ensure adherence psychologically.

"*The nurses, dieticians and doctors keep drumming it into my head, always telling me don't eat this, only eat a little of that."* (P03)

"*When the monthly blood tests come out, we talk to our doctors, nurses and dieticians about what we should eat and what we've let slip more. For example, if I've eaten a lot of cheese, my phosphorus goes up. Another month I pay attention to that and eat less of it."* (P08)

Patient education and nursing care have an important place in solving actual or potential problems of patients receiving HD treatment and in the process of achieving treatment adherence. For this reason, HD nurses must guide to patients in changing their accustomed eating and drinking habits, which is in developing behavioral changes, they must make recommendations, and support patients in developing an individual self-care strategy and taking on their self-care.

Subtheme 5: Stress

Another subtheme is stress. The participants talked about the complications which they experienced during and after dialysis in connection with excess UF when they came to dialysis with too much fluid.

" *If you don't eat or drink, you're fine. If you eat and drink, you come out of dialysis half dead. You spend the whole of the rest of the day in bed."* (P13)

"*There is a big difference between low fluid intake and excessive fluid intake. If you come with low fluid, you come out fine. But too much and the machine kills you. Your blood pressure falls. You feel weak."* (P05)

"*If you come with two kilos, you walk out how you came in. If you come with 5 or 6 kilos, you can't even find the door when you're done with dialysis."* (P01)

Patients' worries about acute complications relating to excess UF, particularly hypotension, listlessness and fatigue caused stress. They described these complications as death. It was found in the analysis that fear of reliving these complications caused stress and increased the motivation to adhere to diet and fluid restrictions.

Theme 3: Existential Struggle

This theme addressed the main challenges HD patients face in relation to cultural and social dimensions and how they contend with these challenges. Three subthemes were identified: dietary and fluid restrictions and prohibitions, restriction of freedom, and religious and cultural norms.

Subtheme 6: Dietary and fluid restrictions and prohibitions

One of the factors affecting diet and fluid restriction is cultural beliefs and habits. Eating local foods in particular, has special importance in Turkish culture.

"*The pan börek is famous. And it's made with minced meat. If we eat too much of it, our urea increases. It is also oily. I cannot eat much of it. Küpecik cheese is salty and phosphoric, and tarhana soup is not allowed at all."* (P06)

"*You can't eat cherries and melons in the summer, because of potassium. We can't eat too many legumes because*

of phosphorus. I want to drink water to my heart's content but I can't." " (P09)

Culture is something that changes with time. These changes are not very rigid, and do not much affect an individual's lifestyle. Nurses should take account of these cultural characteristics and changes, and should support a patient's nutritional method and adherence (diet+fluid), and focus on changing eating habits.

Subtheme 7: Restriction of freedom

After the start of dialysis, a new way of life begins for the patients. Many of their days are taken up with coming and going between home and the dialysis center. Their social lives are not as active as before.

" *I would always be tied to this place. I would die if I didn't come [to HD] and I knew it. From now on I wouldn't be able to go where I wanted and eat and drink what I wanted. I was not free."* (P08)

"*I try not to attend wedding and funeral receptions or Ramadan dinners because when I do, I cannot stop myself from eating. It is difficult to turn away from."* (P06)

"*When I meet my friends in a cafe or a restaurant, they have drinks like cola and fruit juice, while I drink water. And even that I only drink a little. When I order food, I try to make sure it doesn't have potassium or too much meat"* (P07).

Being dependent on a health institution and a machine causes a restriction in patients' lives. In the same way, the prohibitions related to adhering to diet and fluid restrictions make them reluctant to participate in social activities. In social situations, they cannot hold themselves back even when they know the prohibitions relating to diet and fluid restrictions.

Subtheme 8: Religious and cultural norms

It is stated in the literature that one method of coping with chronic illness is through religion and religiosity. It has been reported that it has a positive effect on patients' physical and mental health. The HD patients stated that because of diet and fluid restrictions, they could not fast or eat the food offered at mevlüd meals, and therefore felt inadequate.

" *I seldom attend wedding and funeral receptions. I only go if the person is a close relative."* (P11)

" *We can't fast. At Ramadan dinners, the tarhana smells so good and the table has a unique beauty. We cannot experience those things. And I can only do my prayers when I feel good. May God forgive me for that."* (P06)

Even when patients are unable to perform religious rituals, the meaning of life and hope which religious belief gives to patients has a positive effect on their continuation of dialysis treatment and their wish to stay alive, even if their symptoms of chronic illness are bad.

Theme 4: Future Expectations

In this theme, the patients expressed a desire for their health not to deteriorate further and to feel good while they lived. It can be seen that the participants saw their future as being like their present. Their perceptions of the future were more related to the present. Also, despite not having expectations for the future, they held on to life with their beliefs.

Subtheme 9: The effort to increase the quality of life

The World Health Organization (WHO) defines the quality of life as the individual position in which people feel themselves to be within the culture and value system in which they live, with regard to personal expectations and connections. In this theme, participants emphasized that they adhered to the diet and fluid restrictions to pass the day well and not to be indebted to anyone. This was analyzed as an effort to improve their quality of life.

"*I take care, so I don't get any worse. It doesn't get any better than this anyway. It's all done, there is no turning back. I can handle my tasks myself. My son helps me, too. Thank goodness for my current condition."* (P04)

" *I never think about the future. We can't get better, anyway. Our disease has no cure. I am careful so that I don't have a bad day, so I don't feel bad during dialysis."* (P12)

To improve the quality of life of HD patients, nurses should make routine individual physiological and psychological diagnoses and determine their quality of life with dialysis-specific measures, and plan and implement nursing care focusing on the results.

Subtheme 10: Despair/Fatalism

Patients generally show an accepting attitude. However much their diet and fluid restrictions are difficult, burdensome or oppressive for them, they are forced to conform to them in order to stay alive. It was seen that they sheltered in their beliefs about life and displayed a fatalistic approach with statements such as Anyway, we'll live as long as we live.

" *Nobody can extend the period of life granted by God. But they can help. There is a saying that goes, 'May God protect.' God protects you but only if you protect yourself. That means we have to be careful about what we eat and drink. We can only live as long as God allows us to."* (P01)

" We are here and then we're gone. When the life that God has granted us comes to an end, we will die just like everyone else." (P03).

The fatalistic approach seen in Turkish society is an important factor affecting behavioral change. Belief in fate and belief that it comes from God are factors making it easier to cope with an illness. Nurses must evaluate belief and their approaches when ensuring adherence to diet and fluid restrictions. They should recognize even the slightest effort by the patients and encourage the development of patients' self-care strategies.

Discussion and Conclusion

In this theme, patients described how they managed their self-care behaviors according to their symptoms and the challenges they faced in adhering to the dietary and fluid restrictions. Self-management is the process by which a person makes observations, shares information, makes collaborative decisions, defines an objective, plans actions, and responds realistically in order to properly manage a task (17). For HD patients to have control over the disease process and symptoms, they must conscientiously practice self-care activities, which form the foundation of self-management. HD patients' self-care behaviors include having a suitable diet, taking medication regularly, adhering to fluid restrictions, and being able to cope with stress (18). In our study, we determined that patients developed and implemented various personal self-care behaviors in their adherence to dietary and fluid restrictions, such as increasing their medication when they consumed too much phosphorus and coping with thirst by sipping water, melting ice in the mouth, eating unsalted food, and eating less. Studies have demonstrated that HD patients have a moderate level of self-care agency (19-21). In our study, we also determined that the patients physically noticed the symptoms that occurred when they failed to adhere to their diet or consumed too much fluid. It is believed that this awareness contributes to patients' autonomy and control when managing dietary and fluid restrictions or practicing self-care behaviors.

The family is a system with internal homeostasis. When a family member has a serious illness, the system tends to adapt to the new circumstances, and the emotional energy of the family is directed to the reestablishment of this balance. Many previous studies have reported that patients who have family support show better treatment adherence (5,6,22,23). Consistent with the literature, participants in our study emphasized the role of family support, saying that it was a source of motivation for them. Also in parallel with the literature, male patients said they depended on their wives to manage the dietary and fluid restrictions, and that spouses were helpful in that regard (17, 24, 26, 27). Another source of support mentioned by our patients was support from healthcare staff. Many studies in the literature have also emphasized that the support received from healthcare staff positively influences self-care practices (6,14,28). Stress was another source of motivation for the patients to adhere to the dietary and fluid restrictions. Concerns about experiencing acute complications related to excessive ultrafiltration during HD caused the patients to feel stressed when managing fluid intake. The patients clearly expressed this stressor with statements such as "you come out half-dead" and "you can't even find the door" if you come for HD with excess fluid. When this stress is managed constructively, it generates a counterbalancing impetus to exhibit conscious and positive behaviors in managing dietary and fluid restrictions (22). We believe that the stress felt by the participants in our study had a favorable impact on their adherence to the dietary and fluid restrictions.

Another factor that affects adherence to dietary and fluid restrictions is cultural beliefs and habits.

These beliefs and habits influence people's behaviors, attitudes, and tendencies. After starting dialysis, patients gave importance to changing many of their eating habits from the food culture they had before and made drastic changes to their culinary life (22). Our findings in the patient group also support the literature (6,29), with patients stating that they could not eat the local food and specialties and even the food offered at funeral or wedding receptions. Another issue is limitations. Recognizing their limitations is an important process in the patient experience. Because the patient must establish a new lifestyle in the face of these restrictions to mitigate the burden of chronic disease. The patients in our study talked in particular about their inability to travel or go out with groups of friends. The same findings were reported in another study conducted among HD patients (30). People use various methods to cope with stressful situations. One of these is turning to religious activities (31). In a study of 95 HD patients, it was concluded that spirituality and religion had favorable effects on patients' physical pain, vitality, social functioning, and mental health (32). The patients in our study were Muslim and stated that they could not fully carry out their religious practices due to post-dialysis weakness and fatigue and were unable to fast or eat the local dishes in the evening meal during Ramadan due to dietary and fluid restrictions. Al-Zaben et al. (2015) determined in a study that a quarter of the patients (26%) were able to fast during the month of Ramadan, while three-quarters of the patients were able to participate in the obligatory religious practices. Those who could not fast or engage in religious practices cited poor health as the reason (33).

Dietary and fluid restrictions are some of the factors that are problematic for HD patients. During this stressful process, they practice self-care via self-management in order to survive and improve their quality of life. Although the restrictions imposed provoke feelings of anger, annoyance, and despair in patients, they still adhere to these restrictions to increase their quality of life (6,34,35). Another important factor is that the fatalism seen in Turkish society affects behavioral change. When patients receiving dialysis see their disease as fate and believe that everything comes from God, they express thankfulness. Believing in fate and that the disease is God's will is a factor that helps them cope (36). According to the findings from hospital records, patients state that despite their lack of hope, they adhere to their self-care activities in order to enhance their quality of life. In that sense, our results support the literature.

Although the restrictions imposed on HD patients are sometimes challenging and elicit fatalistic feelings, the patients have developed self-care strategies in order to survive. In this study, we highlight previously unaddressed aspects of these difficulties from the perspectives of patients. The present study is the first to be conducted in Turkey using an in-depth phenomenological approach to investigate the experiences and perceptions of HD patients' regarding dietary and fluid restrictions, which represent one of the most important elements in their treatment and care. These restrictions are influenced by numerous factors including sociocultural and religious factors, environmental factors, disease perception, and self-management. Nonadherence leads to many complications for the patient, adversely affecting their quality of life and potentially increasing mortality. To improve the results of dietary and fluid restrictions and mitigate these adverse effects, all aspects of adherence must be addressed. It is important in this sense for nurses, who are key players in holistic patient care, to evaluate their patients in all dimensions and contribute to their care.

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