

A Qualitative Study Exploring Self-Management Behavior of Patients with Chronic Kidney Disease During COVID-19

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SUMMARY

Chronic kidney disease (CKD) is a significant public health issue. COVID-19 immensely affects people with chronic diseases, including patients with CKD. We aimed to explore the factors that might impact the self-management of patients receiving haemodialysis (HD) and patients with kidney transplants (KTx) during COVID-19 using the Health Belief Model (HBM). A qualitative phenomenological research design was used to build evidence on the effects of the COVID-19 pandemic on the self-management behavior of patients with CKD. Data were analyzed using framework analysis to identify critical factors influencing patients' perceptions regarding the self-management of their conditions during COVID-19. Eighteen patients with KTx and seven with HD were interviewed during the lockdown. Having CKD was discussed as a major factor contributing to the perception of susceptibility. The fear of death expressed by the participants had a profound impact on self-management. Delays in check-ups and monitoring, staying at home, the financial burden of treatment, lack of trusted information, safety of test sites, and fatalistic attitudes of patients were identified as barriers to the self-management behaviors of patients. External and internal triggers were the motivators of adopting self-management behavior. This study provides an in-depth view of factors impacting the adoption of self-management behavior of patients with CKD during COVID-19 and may offer healthcare providers and policymakers knowledge about factors contributing towards compromised patient care.

Key Words: COVID-19, chronic kidney disease, health belief model, qualitative research, self-management.

COVID-19 Sürecinde Kronik Böbrek Hastalarının Öz Yönetim Davranışlarını Araştırılan Nitel Bir Çalışma

ÖZ

Kronik böbrek hastalığı (KBH), önemli bir halk sağlığı sorunudur. COVID-19, KBH hastaları da dahil olmak üzere kronik hastalığı olan kişilerin yaşamını büyük ölçüde etkilemektedir. Bu çalışmada, Sağlık İnanç Modeli kullanılarak, COVID-19 sırasında hemodiyaliz (HD) ve böbrek nakli (KTx) olan hastalarının öz yönetimini etkileyebilecek faktörleri keşfetmek amaçlanmıştır. KBH hastalarının öz yönetimini etkileyen COVID-19 pandemisinin etkilerini belirlemek için nitel bir fenomenolojik araştırma tasarımı tercih edilmiştir. Veriler, nitel yöntemler kullanılarak COVID-19 sürecinde hastaların öz yönetimlerine ilişkin algılarını etkileyen temel faktörleri belirlemek için analiz edilmiştir. COVID-19 pandemisi karantinası döneminde on sekiz böbrek nakli hastası ve yedi hemodiyaliz hastası ile görüşülmüştür. KBH'na sahip olmanın COVID-19'a karşı duyarlılık algısına etki eden temel bir faktör olduğu anlaşılmıştır. Katılımcılar tarafından ifade edilen ölüm korkusu, öz yönetim üzerinde derin bir etkiye sahiptir. Hekim kontrollerinin ve hastanedeki tetkiklerin gecikmesi, evde kapalı kalmak, tedavinin finansal yükü, güvenilir bilgi eksikliği, test merkezlerinin güvenliği ve hastaların kadenci tutumları, çalışmada hastaların kendi kendilerini yönetim davranışlarını engelleyen faktörler olarak belirlenmiştir. Dış ve iç tetikleyiciler, öz yönetim davranışlarını benimsemenin motivasyon kaynaklarını oluşturmaktadır. Bu çalışma, COVID-19 sürecinde KBH hastalarının öz yönetim davranışlarını etkileyen faktörlerin derinlemesine bir şekilde anlaşılmasına katkı sunmaktadır ve sağlık hizmeti sunucuları ile sağlık politika yapıcılara, hastaların öz bakımlarının teblikeye girmesine neden olan faktörler hakkında bilgi sağlamaktadır.

Anahtar Kelimeler: COVID-19, kronik böbrek hastalığı, sağlık inanç modeli, nitel araştırma, öz-yönetim.

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INTRODUCTION

Chronic kidney disease (CKD) is defined as abnormalities in kidney structure or function that last longer than three months, with significant health consequences ('Summary of Recommendation Statements', 2013). CKD is a major public health issue whose global prevalence is predicted to be 13.4% (Murton et al., 2021). A study by Süleymanlar et al. shows that the prevalence of CKD in Turkey is around 15.7% (Süleymanlar et al., 2011). According to the 2020 Turkish Society of Nephrology (TSN), the total number of patients receiving chronic hemodialysis (HD) in Turkey was 60,558, and patients with kidney transplantation (KTx) are 19,405 (Seyahi, Koçyiğit, Ateş, & Süleymanlar, 2022).

Based on the 2020 TSN report, the COVID-19 pandemic resulted in remarkable changes in treatment offered to patients with CKD in Turkey. Many kidney transplant centers were forced to halt their operations, resulting in a considerable drop in the number of kidney transplants and a disruption in the follow-up of transplant patients compared to prior years (Seyahi et al., 2022). It is well established that individuals with chronic conditions are more vulnerable to the COVID-19 virus (Yang & Wang, 2020). In accordance with the data of the same report, the incidence of COVID-19 was 19.6% in patients receiving hemodialysis (HD) and 8.7% in patients with KTx, while the mortality rate due to COVID-19 was 24.4% in patients receiving HD and 11.3% in patients with kidney transplant (KTx) (Seyahi et al., 2022). Other studies demonstrated that individuals with CKD were more susceptible to COVID-19 and had a higher risk of death from the virus than healthy individuals (Al Raiisi et al., 2019).

A high level of patient engagement and interest is a requirement for long-term CKD treatment management, both in decision-making and in the implementation of care (Peng et al., 2019a). Treatment adherence is vital in patients with CKD, due to the use of excessive medications and the need for frequent

hospital visits during the treatment process (Cukor, 2017). Many comorbidities, including hypertension and diabetes, are common in patients with CKD, and on average, these individuals reportedly use around 8-10 tablets of medication per day (Nielsen, Juhl, Feldt-Rasmussen, & Thomsen, 2018). During COVID-19, social distancing, health service disruptions, and lockdowns were reported to impact treatment and management, potentially leading to adverse outcomes due to lack of follow-up (Al Raiisi et al., 2019; Iwashita et al., 2018; TC Sağlık Bakanlığı, 2018). Thus, self-management of patients with CKD gained importance during COVID-19.

Self-management behavior in patients with chronic diseases is defined as the dedicated commitment of patients to healthcare activities aimed at maintaining a satisfying quality of life. This includes solving problems, controlling the chronic disease, and adjusting daily life to monitor their own condition and emotions (Ma et al., 2022). Self-management in patients with CKD may include spotting initial warnings, self-adjustments of home-care regimens, and adhering to medication, exercise, and diet recommendations (Peng et al., 2019a). Since CKD is irreversible and patients with HD and KTx need lifelong therapy and, their self-management behaviors play a critical role in determining their life quality and quantity (Ma et al., 2022). However, how people value and make changes to adopt these self-management practices is crucial for the success of such management plans.

The Health Belief Model (HBM) was the mainly used model to understand how patients with CKD view health threats, adherence, and self-management behavior (Chironda, Bhengu, & Manwere, 2019; Kung, Yeh, Lai, & Liu, 2017; Nooriani et al., 2019; Peikani, Shahgholian, & Kazemi, 2018; Sutherland et al., 2021). The HBM states that an individual's adoption of appropriate behavior to prevent a health problem may be influenced by certain individual factors such as perceived susceptibility (beliefs about the possibility

of getting a disease or condition), perceived severity (subjective assessment of the severity of a health problem and its possible consequences), perceived benefits (perceived benefits of an action to decrease the risk of disease), perceived barriers (belief about the obstacles of taking action), cues to action (perceived motivators towards taking action), and self-efficacy (an individual's confidence of his or her competence to perform a behavior successfully) (Champion and Skinner, 2008).

The aim of this study was to explore factors that might have an impact on the adoption of self-management behavior of patients with CKD during COVID-19 by using the HBM in Turkey.

MATERIALS AND METHODS

Study Design

As this study aimed to explore the in-depth views and perceptions of patients with CKD, it utilized a qualitative phenomenological research design to investigate the effects of COVID-19 on the self-management behavior of these patients.

Study Population, Setting, and Recruitment

Criteria

The study population consisted of patients with CKD who were receiving treatment or follow-up at the Nephrology Clinic of Ibn-i Sina Hospital, Ankara University, at the beginning of the study. The patients who met the inclusion criteria of receiving HD or a KTx were included in the study. The participants were informed about the purpose of the study and the expertise of the researchers. Patients under 18 years old and/or who cannot decide for themselves were excluded from the study. The interviews were conducted within the Nephrology Clinic of the Ibn-i Sina Hospital in Ankara, Turkey, during the

COVID-19 pandemic lockdown period.

This study received ethical approval from the Ankara University School of Medicine Human Research Ethics Committee (approval date: 17/06/2021; protocol number: İ6-397-21). Written informed consent was obtained from each participant. Data confidentiality was ensured, and all data were anonymized.

Data Collection

Data collection was carried out with a qualitative method using semi-structured face-to-face interviews between July and December 2021. The semi-structured interview allows for conveying the participants' perceptions or experiences about a certain phenomenon of interest to the researcher(s) (Willig, 2013). The interview guide was designed by three authors (MBU, GG, AP) after reviewing relevant literature, and investigating the impacts of previous pandemics on chronic patients' behavior related to disease management. The framework of the HBM guided the development of the interview guide and was also used as a guiding framework for presenting data in this study (Table 1.). The interview guide was piloted by interviewing two patients to assess the face and content validity. No changes were made. These interviews were not included in the study sample for analysis. The interviews were conducted by three authors (MBU, AP, GG) and lasted for 15 minutes to 45 minutes. Participants provided written consent before the interviews. Audio-recording of the interviews was taken after obtaining participants' consent and participants who did not accept to take part in the study were excluded. Data was collected till data saturation was agreed upon by the authors conducting interviews.

Table 1. General outline of the interview guide mapped onto the Health Belief Model

Theme/HBM Components	Questions
Opening Questions	What do you think about the relationship between COVID-19 and chronic patients?
Perceived Threat	How do you consider the severity of COVID-19 for people who do not have any chronic conditions?
Perceived Severity	How do you consider the severity of COVID-19 for people who have a chronic condition?
Perceived Susceptibility	Have you tested positive before? If yes, please describe your experiences and their effect on your health. If no, what would be the impact on your health if you were to get COVID-19?
Self-Efficacy	How did you manage your treatment during the pandemic? Can you explain your confidence in managing your treatment? Were you confident in managing your treatment when you tested positive? Do you think you would be confident in managing your treatment if you were to test positive?
Perceived barriers to self-management	Have you experienced any barriers to managing your treatment during this pandemic? If yes, how did you feel and how did you solve the problems you faced? If no, what did you need to solve the problems you faced?
Perceived benefits of self-management	What were the benefits of self-managing your treatment during the pandemic?
Cues to Action	What were the driving factors that activated you to engage with your treatment management during the pandemic? Did you get any support from somewhere or somebody?
Closing Questions	Do you think there are missing points you want to bring up?

Data Analysis

The framework analysis was performed for data analysis by three authors manually (MBU, GG, AP). The framework analysis was applied in a six-step approach adopted from (Gale, Heath, Cameron, Rashid, & Redwood, 2013): transcription, familiarization, coding, applying a framework, charting the data and, interpreting the data. First, all interview recordings were anonymized using a protocol number (coded as ‘DP’ for haemodialysis patients and ‘TP’ for transplant patients) and a sequence number for each interview [e.g. TP4]. All the interviews conducted in Turkish were transcribed verbatim. Second, a naive reading of the verbatim transcripts was done to become familiar with the data. Third, the authors (MBU, GG, AP) independently assigned codes to transcripts capturing underlying concepts of the HBM and charted them into a framework matrix. Charting is where data is deductively coded and summarized, each column being the construct of HBM and each row representing participants. The similar data codes were grouped into sub-themes and discussed every two weeks. With the consensus of the entire research team, the reviewed sub-themes were mapped to the constructs of the HBM. Finally, a detailed report was drafted by MBU, AP, and GG to give an overview of

the exploratory findings of the study. The research principles of COREQ for reporting qualitative research were closely followed in this study (Tong, Sainsbury, & Craig, 2007).

Data Trustworthiness and Validity

Trustworthiness was achieved through credibility, dependability, and transferability. Credibility was attained by using data triangulation and recruiting both HD and KTx patients. Additionally, to ensure credibility, a peer debriefing was used to get feedback not just on data analysis but also on the various details of the research. Dependability was established by reviewing and comparing the research procedure with other studies (Amin et al., 2020). Additionally, a transparent description of study procedures, data collection, and analysis by three independent authors provides the dependability of this study. In addition, the four authors who analyzed the data provide different expertise due to their diverse backgrounds in social pharmacy, clinical pharmacy, and internal medicine (nephrology), which contributes to the reliability and confirmability of the findings. Thick descriptions of the phenomena, setting, and participants’ quotes have been provided, which assist researchers in making judgments about transferability (Schwandt, Lincoln, & Guba, 2007) of the study findings to other contexts.

RESULTS AND DISCUSSION

Results

Eighteen patients with KTx and seven patients receiving HD were interviewed. The interviewed patients consisted of nine women and sixteen men. The patient's mean age was 44.7, ranging from 19-74. Considering the employment status of the patients, eleven patients were retired, seven patients were actively working, and seven patients were not working. Of the patients who participated in the study, six were elementary school graduates, twelve were high school graduates, and six were university graduates. Twenty-

three of the patients interviewed had received the COVID-19 vaccine, while two of them had preferred not to get vaccinated. No participants withdrew from the study.

The results of the study show the perceived susceptibility due to COVID-19, the perceived severity of COVID-19, the perceived barriers to self-management behavior, the perceived benefits of self-management, self-efficacy, and cues to action underpinned by the essential components of the HBM which can be seen in (Figure 1.). Quotes related to constructs and sub-constructs were provided in Table 2.

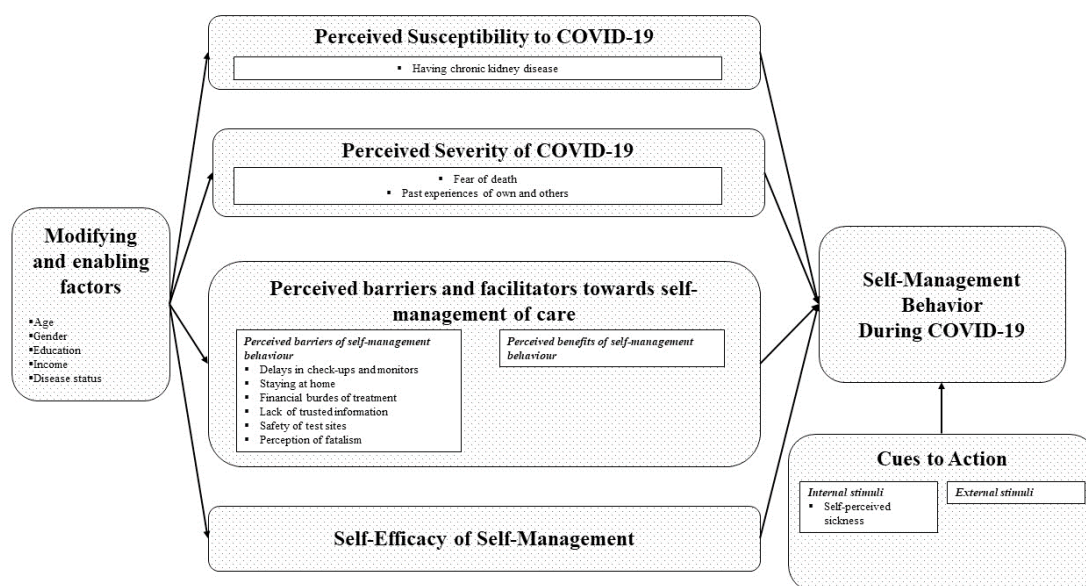


Figure 1. Constructs of self-management behavior of patients with CKD during COVID-19

Perceived Susceptibility to COVID-19

Having chronic kidney disease

Most of the participants (16) were aware of the symptoms of COVID-19, and they had a perception that having a KTx or receiving HD would increase the risk of experiencing the symptoms of COVID-19 worse. Patients shared that they felt susceptible to the worsened effects of COVID-19.

Perceived Severity of COVID-19

Most of the participants (14) perceived COVID-19 as more severe when they adopted self-management behavior. Two sub-themes were identified that had an

impact on the participants' perception of the severity of having caught COVID-19.

Fear of death

Participants highlighted that they had to cope with the constant feeling of losing their lives due to COVID-19.

Past experiences of own and others

Patients who had terrible memories, such as kidney transplant rejection in their past, were more likely to perceive COVID-19 as severe. Moreover, losing friends or loved ones due to COVID-19 had an impact on the perception of severity.

Perceived Barriers to Self-Management Behavior During COVID-19

The following factors were identified by the participants that could have an impact on the patients' self-management behavior during COVID-19.

Delays in check-ups and monitors

Some patients (5) shared that they had to either delay or cancel their regular hospital visits due to the fear of catching COVID-19. This led to a disruption in their treatment, and they felt that they were unable to self-manage the process on their own.

Staying at home

Patients shared the impact of staying at home voluntarily or being in quarantine due to COVID-19 on self-management behavior. They shared that changes in dietary habits, sedentary lifestyles, and lack of exercise caused them to gain weight. Patients felt that being unhealthy was a factor they perceived was going to become an obstacle toward CKD self-management. Some of the patients expressed that staying at home impacted their mental health.

Financial burdens of treatment

Participants shared that increased health-related expenditures due to COVID-19 were a barrier against self-management. Some patients (4) mentioned the financial burden of COVID-19, which they experienced while traveling and trying to find a suitable place to stay near the hospital where they received treatment.

Lack of trusted information

Patients shared that too much information on COVID-19 left them uncertain about what information to believe. People shared that having access to information from various sources seemed to have a negative impact on the self-management including whether to be vaccinated or to use alternative medicines to boost their immune systems.

Safety of test sites

Participants expressed that they were self-managing their testing to continue their dialysis

during COVID-19. They mentioned that they were aware that they had to be tested to continue their dialysis during COVID-19. Patients shared that while getting dialysis, because of the high risk of COVID-19, they were advised against using testing sites that were conveniently located inside the hospital. This was an additional challenge, and patients believed it impacted their usual care.

Perception of fatalism

Patients shared that the perception of fatalism negatively affected their self-management behavior towards CKD. If patients believed that there is nowhere to run from destiny, this behavior has been called the fatalism effect. This attitude also impacted their behaviors to get vaccinated, paying attention to social distancing, and following home-care regimens. Some patients shared a resignation and shared there might be no escape from COVID-19.

Perceived Benefits of Self-Management Behavior During COVID-19

Some of the participants (4) shared that they believed in the benefits of practicing self-management behaviors such as exercising and following a proper diet during the pandemic.

Self-Efficacy of Self-Management Behavior During COVID-19

Participants shared that as they have been coping with CKD for many years, they feel more in control and self-efficient in handling unfortunate circumstances and difficulties in assessing care pathways and facilities.

Cues To Action

The following subthemes show participants' views on external and internal factors triggering their self-management behaviors:

External Stimuli

Participants reported that getting moral support from families, relatives, and their workplaces helped them to cope with the burden of the pandemic and its effect on their health. Some of the participants (3) who were employed shared they needed a supportive

approach regarding flexibility of working hours when their work performance decreased due to COVID-19.

CKD patients expressed that due to COVID-19 related impact on their ability to work and earn a livelihood, having government funds for chronic patients might help support them financially and avoid any health-related impacts.

Internal stimuli

Self-perceived sickness

Self-perception of illness had an impact on one's motivation to adopt self-management behavior during the pandemic. Patients who considered themselves in a more high-risk situation felt obliged to adhere to routine check-ups, COVID-19 protective behaviors, and develop a healthy lifestyle.

Table 2. Quotes representing constructs and sub-constructs

Construct or sub-construct	Quotes
Having chronic kidney disease	"This is a fearful process for us! Lots of drugs like immunosuppressants make us delicate. For instance, if I'm caught... I think I have only a ten percent chance to survive." (TP23)
Fear of death	"I have been on dialysis for seventeen years and in the end had a chance to be transplanted... There were times that I found myself in fear... If I get this virus, would I be hospitalized? Maybe I will die before losing my kidney..." (TP11).
Past experiences of own and others	"A friend next to my bed got COVID-19. He passed away... it wasn't easy to handle. We, all in the dialysis unit, were very negatively affected... This was a turning point for me!" (DP24)
Delays in check-ups and monitors	"The last time I came for a check-up was in October 2019. I haven't been here [means hospital] since the pandemic started. I tried to control my urine at home by not using the toilet and collecting it in a bottle to check if its colour was abnormal, but these tasks were difficult to manage at home." (TP23)
Staying at home	"I am always eating across the TV and do not want to go outside even for shopping." (TP11) "...very boring, depressing atmosphere at home. You cannot see your friends and go out for a dinner. When you become stressed, it hits your whole body, especially us." (TP13)
Financial burdens of treatment	"I took out a loan and bought a car, which put me in a tight spot... and when we come to this city for hospital bits, we must stay at a hotel... There's no other place to stay in a pandemic. Some of our friends who cannot afford to stay at a hotel had to spend the night in the hospital garden. What a shame!" (TP22)
Lack of trusted information	"I have congenital kidney disease. Someone says the vaccine causes infertility, the other says it damages the kidney, and I'm a little bit nervous about what to believe." (TP14)
Safety of test sites	"Hospital staff warned me that the test place was extremely contagious as there were a lot of COVID-19 patients inside. He said, "We can't get your test here, because you have kidney disease. Let's direct you to the dialysis unit, they can take the test and send your sample to us". When I got the unit, they turned me down. They referred me to give my test in the emergency room at midnight. I was tired of rushing around and became angry. It shouldn't take too long to find a suitable place!" (DP25)
Perception of fatalism	"There was fear in the first three months of the pandemic, but now I am relaxed... Allah Almighty has given me this life and will take it back. No matter how cautious you are, COVID-19 will find you anyway." (TP13)
Perceived Benefits of Self-Management Behavior During COVID-19	"I know monitoring myself has benefits for my chronic conditions... I am also trying to maintain my diet to live healthier." (TP6)
Self-Efficacy of Self-Management Behavior During COVID-19	"The pandemic did not affect my treatment process much. I could manage... have trust ... because I have been diagnosed for a long time." (TP14)
External stimuli	"I feel so lucky that my colleagues at work, especially our managers, are not complaining while putting up with me as I couldn't come to the office several times. We need to see tolerance (patience) for our decreased work performance." (TP10) "If the government helped us to cover some of our expenses, that would have been nice!" (TP10)
Self-perceived sickness	"I am a newly transplanted patient and I know I am at risk. My values are constantly fluctuating. I had to come to the hospital every weekend, I couldn't put off my visits... I am coming with a double mask, with these things (means face coverings and shields)" (TP10)

Discussion

Deeply exploring the factors affecting the self-management of patients with CKD has allowed us to understand the needs of patients during the pandemic as well as the barriers and triggers that have an impact on the adoption of self-management behavior.

In this study, as observed in some other studies, patients with CKD had a strong sense of perceived susceptibility toward getting infected with COVID-19 and were found to be seemed anxious during this period due to their susceptibility to COVID-19 (Jiang et al., 2021; Rabb, 2020). This is congruent to other study findings that also report being a patient with CKD increased patients' perception of susceptibility to COVID-19 (Duculan et al., 2021; Kirchberger, Berghaus, von Scheidt, Linseisen, & Meisinger, 2021). This has been reported in a study that shows that patients with CKD in COVID-19 experienced an increased risk of hospitalization, severity in COVID-19 symptoms, admission to intensive care units, and high mortality rates (Jdiaa et al., 2022).

In our study, the perceived severity of COVID-19 was a major concern among the study population and was reported to have an impact on the adoption of self-management behavior, which was mostly related to the fear of death. This is also reported in a study exploring the self-management of people with diabetes, which found that COVID-19 was related to an increase in fear of death and its impact on the self-management of individuals (Kaplan Serin & Bülbüloğlu, 2021). Even though there are studies (Frontini, Sousa, Ribeiro, & Figueiredo, 2021; Luo, Ghanei Gheshlagh, Dalvand, Saedmoucheshi, & Li, 2021) showing fear as a motivator of adopting a self-management behavior in the face of COVID-19, further research is needed to explore the difference in the perception of the severity of COVID-19. In this study, patients who had witnessed people suffering due to COVID-19 were more likely to perceive and fear death from COVID-19. This is shown in another study where the perceived severity of leptospirosis

was reported to be reinforced by seeing other patients die or having experienced severe consequences due to leptospirosis infection (Sukeri et al., 2020).

This study reports that people might delay follow-up or monitoring for CKD during COVID-19. People with CKD also shared that they might be able to self-manage their CKD despite the inability to visit hospitals regularly (Jiang et al., 2021; Okoro, 2021; Rabb, 2020). Our study reports that people with CKD might be experiencing mental health issues due to COVID-19, which remains consistent with other studies reporting the negative effect of COVID-19 on mental health during quarantine (Mattioli, Ballerini Puviani, Nasi, & Farinetti, 2020; Vindegaard & Benros, 2020; Xiong et al., 2020).

Apart from delayed follow-ups and the mental consequences of quarantine, patients shared that the reduction in physical activity and lack of a healthy diet were inhibiting their self-management. This has also been reported in other studies, which discuss how staying in quarantine may be inhibiting people from adopting and practicing better health behaviors (Louvardi, Pelekasis, Chrousos, & Darviri, 2020; Mattioli et al., 2020).

COVID-19-related financial burden was also a barrier to self-management in this study. This is also reported in another study from Turkey, which reported that patients receiving HD with high incomes were better at managing their treatment (Bağ & Mollaoğlu, 2010). Similar challenges have been reported in people with cancer, where financial incompetence was related to reduced healthcare visits during the pandemic and recommended government support vital for chronic patients (Chan, Ho, Li, Tam, & Tang, 2021; Ou et al., 2022).

People in this study also shared their confusion and mistrust in available information, which compromised their ability to self-manage their disease. This issue has also been reported in other studies (Jimenez et al., 2020). As a unique finding of our study, the perception of fatalism caused patients

with CKD to be unresponsive to events and feeling a state of belief, of not having control over their lives. This was reported to be a sign of a lack of interest in self-management and losing the opportunity to self-manage their condition and could potentially lead to patient harm.

Previous studies show the perceived benefits of self-management might have a direct impact on self-management behaviors (Sharifirad, Azadbakht, Feizi, Kargar, & Mohebi, 2013). Self-management can enhance the well-being of patients with CKD by helping with weight and blood pressure control, encouraging regular exercise, and improving mental health (Lin, Liu, Hsu, & Tsai, 2017; Peng et al., 2019b). Since perceived benefits are one of the predictors of engaging in positive health behavior (Sulat, Prabandari, Sanusi, Hapsari, & Santoso, 2018), informing patients with CKD about the benefits of self-management is crucial.

Previous studies examining the self-efficacy of patients with CKD to self-manage reveal that several factors, including age, marital status, family support, stage of disease, and education level, have an impact on self-efficacy (Curtin et al., 2008; Qalawa, Eltahry, & Aly, 2022). This study adds that years of experience with CKD might be another factor affecting the self-efficacy of patients with CKD in self-management during COVID-19. Furthermore, studies exploring how fatalism might lead to low self-efficacy, which in turn affects perceived severity (Jimenez et al., 2020) might be a future direction for researchers to understand the causality between self-efficacy, perceived fatalism, and severity among CKD patients.

Supportive behavior from family and relatives was determined to encourage patients to adopt self-management behaviors positively (Qalawa et al., 2022). Moreover, having flexibility in the employment sector is more likely to prompt patients with CKD to be able to self-manage. Although some are in favour of flexibility in the working environment (Nerobkova, Park, Park, & Jang, 2022), others mentioned that shifts

in work hours and flexibility can lead to increased work stress, fatigue, burnout, and time conflict (Golden, Henly, & Lambert, 2013). New studies should look at understanding the relationship between flexibility in work schedules and employee well-being in CKD and other chronic patients. Internally, the self-perception of illness might act as a motivator for adopting new behaviors such as self-management. In a study exploring diabetes patients' decision-making process regarding contraceptive usage by using HBM, patients who identified themselves as having poor health are avoiding pregnancy and have a likelihood to use contraceptives as a cue to action (Johnson et al., 2021).

Strengths and limitations

This study extends previous work by exploring the self-management behavior of patients receiving a KTx and HD during COVID-19. The thick rich descriptions give exemplars that may be valuable to clinicians, researchers, and health policymakers who might wish to reflect on their daily practices.

This study provides valuable insights into the self-management of patients with CKD during COVID-19. The findings in this study have shed some light on the factors affecting the adoption of self-management behaviors in patients with CKD. This study was conducted during the COVID-19 pandemic; therefore, factors impacting self-management behavior may be examined differently now that COVID-19 has reduced its impact on individuals, societies, and cultures. Future studies should also carefully consider the factors identified in the study to help inform policymakers to develop scientific emergency measures. New interventions, self-management care pathways and virtually supporting and monitoring of people with chronic conditions could lead to reduced patient-related mortality and morbidity and help reach better patient outcomes.

The demographic limitations of this qualitative study on CKD patients' self-management behavior

include potential biases stemming from the sample's limited diversity. The participants may predominantly represent certain age groups, ethnicities, socio-economic statuses, or geographic regions, which can affect the generalizability of the findings.

The study was conducted across a single hospital in Turkey and hence the findings may not be transferable to the other parts of the country. Due to the sampling methodology used to recruit patients, the data collection phase of this study was conducted at the dialysis units. The researchers could not spend extended time with the participants due to COVID-19 restrictions in the hospital at that time. The participants' expressions might have been limited due to restrictions on both interviewer and interviewees.

The COVID-19 pandemic is a period of rapid change. This study was carried out during a period when quarantine measures were strict due to the pandemic. Therefore, the resulting structure is suitable for explaining the quarantine period of the pandemic and may be insufficient to explain the entire pandemic period.

CONCLUSION

Patients with CKD perceive themselves as susceptible to excessive harm from COVID-19 and expressed a fear of death. Many factors in a patient's care pathway, both external and internal, may impact the self-management behavior of people with CKD. The knowledge of this study highlights the need for patient inclusivity and their respective needs to be considered by healthcare teams while designing therapeutic regimes. Policymakers should develop protocols and guidelines for people with chronic conditions in case of emergencies like COVID-19 and ensure patients are offered full access and support to treatment and lifesaving facilities.

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AUTHOR CONTRIBUTION STATEMENT

MBU: Conceptualization, Methodology, Investigation, Interviewing, Data Curation, Data Analysis, Writing—Original Draft Preparation

GG: Conceptualization, Methodology, Investigation, Interviewing, Data Curation, Data Analysis, Writing—Review & Editing

AP: Conceptualization, Methodology, Investigation, Interviewing, Data Curation, Writing—Review & Editing

ŞŞ: Conceptualization, Writing—Review & Editing Supervision

CONFLICT OF INTEREST

Authors declare that there is no conflict of interest.

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