



## Home hemodialysis

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**Received:** 30 July 2024

**Accepted:** 19 August 2024

**Published:** 11 October 2024

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Dear Editor;

Chronic kidney disease (CKD) is a public health problem with increasing prevalence worldwide and is associated with significant morbidity and mortality [1]. According to 2022 data, there are a total of 13725 patients receiving renal replacement therapy (RRT) for end-stage renal disease (ESRD) in Turkey. Hemodialysis (HD) accounts for a large proportion of patients receiving RRT with 10287 patients [2]. Although kidney transplantation is the best treatment option for patients with ESRD, the majority of patients do not have access to this treatment for various reasons. Most patients are treated with HD and peritoneal dialysis (PD), which are traditional methods of RRT. HD has two modalities: conventional HD and home hemodialysis (HHD) [3].

Compared to conventional center-based HD, HHD offers patients more liberal treatment options, such as frequency of administration, long hours of administration (6-8 hours), and the ability to be administered at night. In conventional HD, patients can receive 4-hour dialysis three days a week, while in HHD, patients can receive 6–8-hour dialysis six nights a week or daily short dialysis treatments. HHD is also known to be less expensive than other RRT modalities [1]. In addition to its cost advantage, several studies have shown that HHD has advantages over conventional HD, such as improved blood pressure control, better fluid and phosphate control while allowing a more liberal diet, regression of left ventricular hypertrophy, improvement in obstructive sleep apnea, and reduction in maternal and fetal complications in pregnant women. HHD has also been shown to be associated with improved quality of life [4]. However, as with any treatment modality, HHD has drawbacks such as vascular access complications and patient/caregiver burnout symptoms. Vascular access remains essential for HD patients. The main reason why

You may cite this article as: Kavraz Tomar O. Home hemodialysis. *Cerasus J Med.* 2024;1(3):215-216. doi: 10.70058/cjm.1525144

patients do not prefer HHD is the fear of not being able to perform vascular cannulation. Patients should be supported in this regard, and daily personal hygiene, use of appropriate antibiotic ointment for vascular access, and signs and symptoms of infection should be explained to all patients [4].

Patient selection is an important issue in HHD. Patients with ESRD should be told about the HHD option along with other RRT options. Preferably, they should be medically stable patients with learning ability and motivation. In addition, these patients should not have severe cardiovascular disease, should not have visual impairment, and should not have an obstacle to heparin use [5]. The frequency and duration of the HHD method can be tailored by the patient and nephrologist according to the patient's residual renal function, employment status and biochemical parameters. Studies have also shown that dialysis sessions of 6-8 hours 5-7 days a week regress left ventricular hypertrophy and improve ejection fraction, stabilize left ventricular remodeling and reduce or eliminate the need for antihypertensive drugs [4].

The patient planned for HHD has a training process that varies between 3-6 weeks. In this training process, the patient/assistant is first trained at the center. This training includes intravenous access, initiation and termination of dialysis, administration of heparin and serum, monitoring of vital signs, and documentation of the procedure. In addition, the patient/assistant is informed about the storage of the material, what to do in case of an emergency, and how to contact the technical team. The patient who has completed the training process performs dialysis 1-2 times in the center under the supervision of the training nurse. After the patient starts dialysis at home, the group consisting of the training nurse and the technical team visits the patient's home every three months and performs the necessary checks. For these patients, the center is responsible for performing monthly routine biochemical tests and semi-annual bacteriological and chemical analyses of the water system, as in central HD. Home visits include assessment of personal hygiene, control of the water system, supplies, and treatment area [5].

In patients requiring RRT for ESRD, HHD, which provides a survival benefit similar to that of deceased kidney transplantation, should be made available to all

patients and encouraged in appropriate patients. This study was written to raise awareness of this issue.

**Funding:** There is no institution or person supporting this study.

**Conflict of Interest:** No conflict of interest.

**Authors' contribution:** It is a single author article.

**Ethical Declaration:** N/A.

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