



RPCPE

ISSN 2613-943X (print)
ISSN 2620-5572 (online)

Journal Homepage:
<https://jurnal.ugm.ac.id/rpcpe>

Review of Primary Care Practice and Education
(Kajian Praktik dan Pendidikan Layanan Primer)

Management of Thirst in Hemodialysis Patients in Primary Services

Sri Lestari¹, Iri Kuswadi¹, Heru Prasanto¹

¹Kidney & Hypertension Division; Department of Internal Medicine; Faculty of Medicine; Public Health and Nursing; Universitas Gadjah Mada / RSUD Dr.Sardjito; Indonesia

Corresponding Author:

Sri Lestari; Department of Internal Medicine; Faculty of Medicine; Public Health and Nursing; Universitas Gadjah Mada.

Email: srilestari75@mail.ugm.ac.id

To cite this article:

Lestari S, Kuswardi I, Prasanto H. Management of thirst in hemodialysis patients in primary services. *Rev Prim Care Prac and Educ.* 2021; 4(3): 56-58.

INTRODUCTION

The incidence and prevalence of chronic kidney disease (CKD) has increased worldwide and in Indonesia. There were about 53,940 people with stage 5 CKD based on data from the Indonesian Renal Registry (IRR) in 2018. Incidence crude rate is 251 per million population and prevalence crude rate is 499 per million population for the entire population¹. The prevalence of CKD has almost doubled in 5 years, from 2% in 2013 to 3.8% in 2018. Hemodialysis (HD) is a renal replacement therapy modality that is in great demand by the public compared to the other two modalities, namely peritoneal dialysis and kidney grafts. In 2018, there was a consistent increase in the number of new patients and active HD patients. Active patients is the total number of patients (either new or old patients) who are still undergoing routine HD. The number of new patients has doubled compared to 2017. This also resulted in a sharp increase in the number of active patients compared to the previous year¹.

Hemodialysis Patient Compliance

Hemodialysis is a stressful type of therapy because of its unique and complex dialysis regimen. HD patients are required to comply with various medical advice that may interfere with their normal routine. In addition to having HD sessions twice a week, the patient takes a lot of medication, adheres to a diet and strictly limits fluid intake². Adherence to diet and fluid restriction is fundamental in the treatment of renal failure³ and plays an important role in determining the success of HD therapy⁴. Adhering to the recommended dietary and fluid restrictions is one of the most important issues in the treatment of CKD patients. Adherence to treatment has a significant effect on health maintenance, quality of life, and patient survival⁵.

Non-adherence is a common problem in HD patients. Non-compliance can be found in all aspects but fluid restriction is the most difficult aspect for most patients⁶. Previous

studies have shown that although patients are aware of the complications, about 80% of patients refuse to comply with fluid restrictions⁷.

Non-compliance with fluid restriction can lead to weight gain between large dialysis periods. Weight gain between dialysis times (Interdialytic Weight Gain / IDWG) is an indicator to determine the amount of fluid intake during the period between dialysis time and patient compliance with fluid management in HD patients. Weight gain between dialysis periods should be less than 4.0–4.5% of dry weight⁸. Dry weight is the weight at which the patient feels comfortable, and there are no clinical signs of fluid retention. In fact, many patients have a high IDWG and some even have an IDWG of 10-20% of dry weight⁹. The clinical impact of excessive IDWG is evident from the large number of patients who come to the dialysis unit with obvious signs of fluid overload such as swelling of the legs, swelling of the eyes, ascites, while some even require emergency dialysis due to acute pulmonary edema. Increased IDWG will lead to chronic fluid overload, which can lead to hypertension, increased cardiovascular morbidity such as acute pulmonary edema, congestive heart failure and death. It can also lead to additional dialysis sessions with the consequences of decreased quality of life and increased costs¹⁰.

Thirst in Hemodialysis Patients

Thirst is a subjective perception that gives humans and animals the urge to drink fluids. It is part of the components of the body's fluid homeostatic defense mechanism and is ultimately essential for survival. This urge to drink fluids can be elicited by a variety of reasons, including habitual, cultural, and psychogenic factors in response to fluid deprivation, extracellular fluid hypertonicity, or increased circulating concentrations of dipsogenic hormones^{11,12}. Thirst can be experienced and expressed by patients in a

variety of ways. This thirst can be so strong that the urge to drink becomes unbearable and causes distress. Thirst is a major obstacle to effective management of IDWG, and is a source of non-adherence to fluid intake restriction which is very common in HD patients¹³.

Thirst also causes distress in HD patients and their families. Distress is defined as suffering and discomfort caused by a symptom. Distress caused by thirst in HD patients occurs because the patient is prescribed fluid restriction but also experiences a persistent sensation of thirst. In HD patients there is an increase in plasma osmolality due to sodium retention during the period between dialysis which stimulates thirst. Another possible trigger is the combination of hypotension and hypovolemia immediately after HD¹⁰.

Thirst also frustrates routine HD patients. On the one hand they know that they have to limit their fluid intake and on the other they suffer from thirst. This causes guilt, anxiety and discomfort. The quality of life of HD patients is greatly affected because they experience distress because they continue to feel thirsty and are not allowed to drink fluids. High thirst was associated with a significantly lower quality of life. Thus, understanding the sensation of thirst in HD patients can help determine the best way to prevent and treat this symptom¹⁴.

The Role of the Primary Service Physician

As kidney disease progresses, more and more patients are undergoing HD. Patients undergoing HD often feel that the nephrologist is the only doctor who has to treat all their medical problems. There are many clinical problems in patients with CKD during the pre-dialysis period and the period of renal replacement therapy. These medical problems can be related to CKD, but not always. Therefore, nephrologists often provide primary care or non-kidney-related medical care to pre-dialysis patients or patients undergoing chronic HD, since these patients frequently visit the centers of these nephrologists. Patients also often feel that the nephrologist must treat even their acute illness, because the nephrologist is the first to make the diagnosis of the acute illness.

Once a patient is on dialysis therapy, the role of the primary care physician differs from country to country. In the United Kingdom, HD patients are seen by a nephrologist once a month, so primary care physicians have an important role to play. In Belgium, HD patients are examined three times a week by a nephrologist¹⁵. In Indonesia, the number of nephrologists is very limited, and not every HD service center has a nephrologist. HD patients rarely see a nephrologist, therefore primary care physicians are expected to have a major role.

Optimal collaboration between primary and secondary care physicians should be developed for CKD patients. The shared care model enables better and more cost-effective service coordination. At the stage of CKD patients who have undergone dialysis therapy, primary care physicians still have a role even though nephrologists have the main role. Even at this stage, good cooperation between primary

and secondary care doctors can provide the best outcomes for patients and society¹⁵.

Primary care physicians need to be given a strengthening understanding of their role at each stage of CKD patients, starting from the stage of recognizing risk factors related to CKD, recognizing the early signs of CKD, monitoring and evaluating patients and the right time for referral to a nephrologist¹⁶. Doctor education is very important to achieve the best results¹⁷.

Adherence to dietary and fluid restrictions and medical treatment is an important part of the complex and difficult treatment process in dialysis patients. The results showed that there was an important relationship between social support and dietary compliance and fluid restriction in hemodialysis patients. Social support is the provision of assistance, support and enthusiasm that is manifested in the form of information, behavior, material and emotional supports when individuals face difficulties or problems that make them uncomfortable. Having access to social support, whether from a partner, family member, friend, colleague or community, is consistently associated with better health outcomes in patients with various chronic diseases⁶.

Because of the relationship between adherence to dietary and fluid restrictions, with social support, whether provided by friends, family, medical personnel in dialysis patients, medical personnel need to find strategies to improve communication with patients. This is done to help the patient adhere to the treatment regimen and to encourage family members, friends and significant others to be involved in the patient's treatment process. In addition, efforts should be made to provide more effective support for dialysis patients. Educating the patient's family is one useful approach to providing this support¹⁷.

REFERENCES

1. Indonesia PN. 11th Report of Indonesian renal registry 2018. Jakarta: Perhimpunan Nefrologi Indonesia. 2018.
2. Mistiaen P. Thirst, interdialytic weight gain, and thirst-interventions in hemodialysis patients: a literature review. *Nephrol Nurs J.* 2001;28(6):601-4.
3. Moonaghi HK, Hasanzadeh F, Shamsoddini S, Emamimoghadam Z, Ebrahimzadeh S. A comparison of face to face and video- based education on attitude related to diet and fluids: adherence in hemodialysis patients. *Iranian Journal of Nursing and Midwifery Research.* 2012;17(5):360-364.
4. Kimmel PL, Varela MP, Peterson RA, Weihs KL, Simmens SJ, Alleyne S, et al. Interdialytic weight gain and survival in hemodialysis patients: effects of duration of ESRD and diabetes mellitus. *Kidney International.* 2000;57(3):1141-51.
5. Kugler C, Vlaminc H, Haverich A, Maes B. Nonadherence with diet and fluid restrictions among adults having hemodialysis. *Journal of Nursing Scholarship.* 2005;37(1):25-9. doi:10.1111/j.1547-5069.2005.00009.x
6. Kara B. Determinants of thirst distress in patients on hemodialysis. *International Urology and Nephrology.* 2016;48(9):1525-32. doi:10.1007/s11255-016-1327-7
7. Khalil AA, Darawad M, Al Gamal E, Hamdan-Mansour AM, Abed MA. Predictors of dietary and fluid non-adherence in Jordanian patients with end-stage renal disease receiving haemodialysis: a cross-sectional study. *Journal of Clinical Nursing.* 2013;22(1-2):127-36. doi:10.1111/j.1365-2702.2012.04117.x
8. Workgroup KD. K/DOQI clinical practice guidelines for cardiovascular disease in dialysis patients. *American Journal of Kidney Diseases: The Official Journal of the National Kidney Foundation.* 2005;45(4

Suppl 3):16–153. doi:10.1053/j.ajkd.2005.01.019

9. Wong MM, McCullough KP, Bieber BA, Bommer J, Hecking M, Levin NW, et al. Interdialytic weight gain: trends, predictors, and associated outcomes in the International Dialysis Outcomes and Practice Patterns Study (DOPPS). *American Journal of Kidney Diseases*. 2017;69(3):367-79. doi:10.1053/j.ajkd.2016.08.030
10. Bossola M, Calvani R, Marzetti E, Picca A, Antocicco E. Thirst in patients on chronic hemodialysis: what do we know so far?. *International Urology and Nephrology*. 2020;52(4):697-711. doi:10.1007/s11255-020-02401-5
11. Giovannetti S, Barsotti G, Cupisti A, Morelli E, Agostini B, Posella L, et al. Dipsogenic factors operating in chronic uremics on maintenance hemodialysis. *Nephron*. 1994;66(4):413-20.
12. McKinley MJ, Johnson AK. The physiological regulation of thirst and fluid intake. *Physiology*. 2004;19(1):1-6. doi:10.1152/nips.01470.2003
13. Bellomo G, Cocchetta P, Pasticci F, Rossi D, Selvi A. The effect of psychological intervention on thirst and interdialytic weight gain in patients on chronic hemodialysis: a randomized controlled trial. *Journal of Renal Nutrition*. 2015;25(5):426-32. doi:10.1053/j.jrn.2015.04.005
14. Kara B. Validity and reliability of the Turkish version of the thirst distress scale in patients on hemodialysis. *Asian Nursing Research*. 2013;7(4):212-8. doi:10.1016/j.anr.2013.10.001
15. Rosenberg M, Kalda R, Kasiulevicius V, Lember M. Management of chronic kidney disease in primary health care: position paper of the European Forum for primary care. *Quality in Primary Care*. 2008;16(4):279-94.
16. Coritsidis GN, Linden E, Stern AS. The role of the primary care physician in managing early stages of chronic kidney disease. *Postgraduate Medicine*. 2011;123(5):177-85. doi:10.3810/pgm.2011.09.2473
17. Ahrari S, Moshki M, Bahrami M. The relationship between social support and adherence of dietary and fluids restrictions among hemodialysis patients in Iran. *Journal of Caring Sciences*. 2014;3(1):11-19. doi: 10.5681/jcs.2014.002.